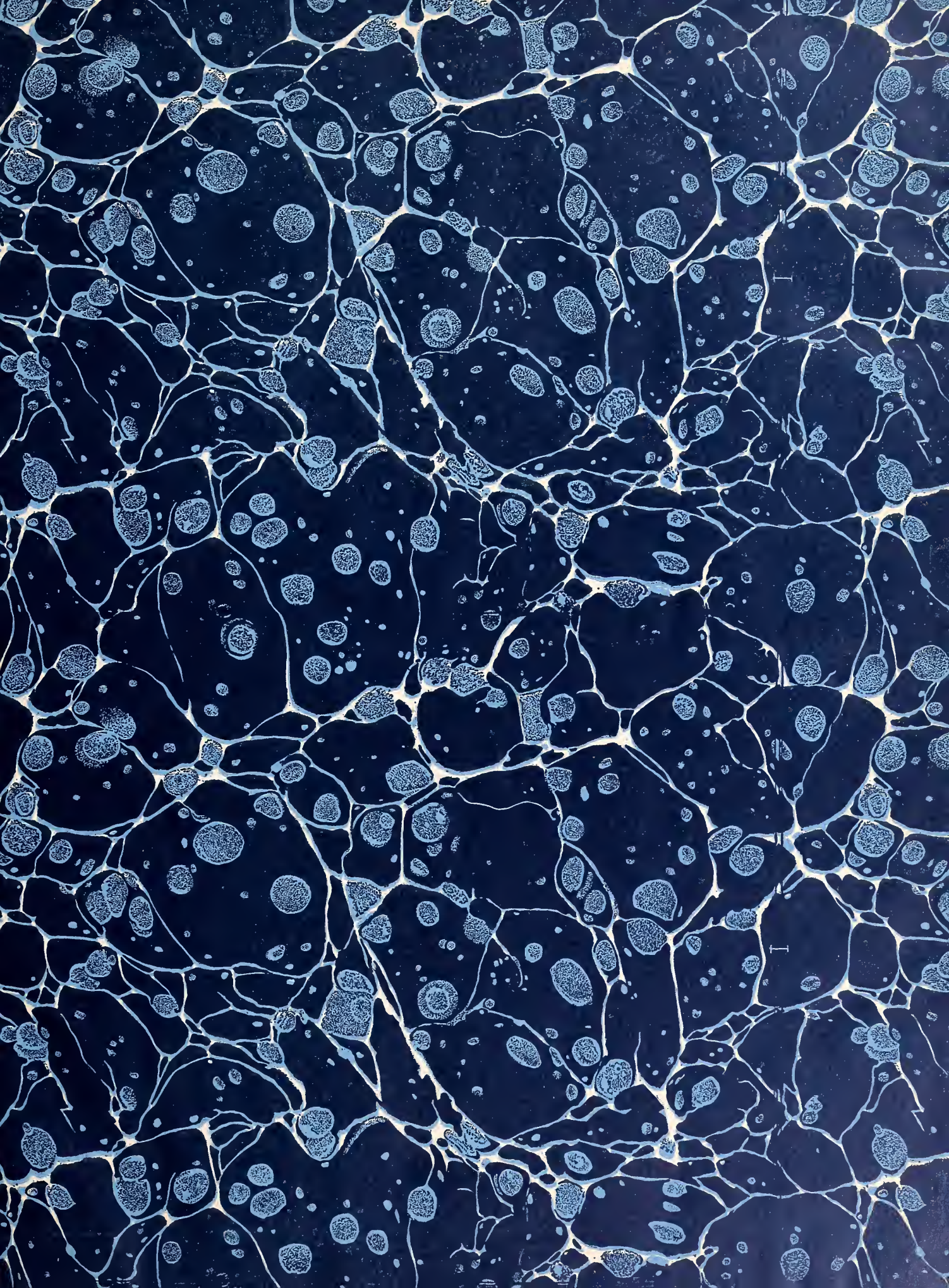


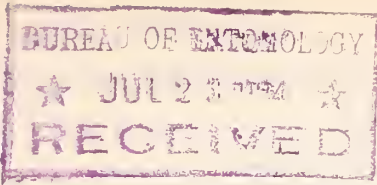
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UNITED STATES DEPARTMENT OF AGRICULTURE

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THE OFFICIAL RECORD

JANUARY 3, 1923—DECEMBER 26, 1923

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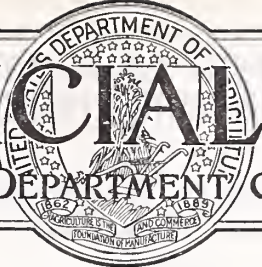
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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., JANUARY 3, 1923.

No. 1.

PROGRESS IN WORK OF BIOLOGICAL SURVEY

Dr. Nelson Estimates Savings Due to Pest Control—Increased Cooperation Shown.

Wild-life resources, capitalized on the basis of a 6 per cent annual income, represent probably more than \$1,000,000,000 to the United States, according to a statement of Dr. E. W. Nelson, biologist and Chief of the Bureau of Biological Survey, in his annual report to the Secretary for the fiscal year 1922.

The work of conserving the native game and fur-bearing animals and birds and of controlling the depredations of bird and mammal pests has formed the chief feature of the bureau's work in this, as in previous years. The bureau's program includes also plans for the increase of game, investigations of the food habits of wild birds, a study of fur bearers in captivity to encourage fur farming in the United States and Alaska, administration of big-game and bird reservations, improvement of Alaskan reindeer, and enforcement of Federal laws affecting migratory birds, Alaskan land fur animals, and interstate commerce in game.

Predatory Animals Cause Losses.

Valuable as the wild-life resources of the country are deemed to be, stock-killing wolves and other predatory species, with the numerous native and introduced rodents, annually destroy forage crops and other property worth more than half a million dollars, a loss which the bureau has found to be largely preventable. Appreciation of the practical value of the methods developed by the Biological Survey for the destruction of predatory animals and injurious rodents is shown by continued financial support from cooperating States, organizations, and individuals, amounting to \$996,379 during the year. It is estimated that as a result of control work conducted, crops

and live stock to the value of over \$10,000,000 have been saved. In operations against predatory animals, the skins or scalps of animals taken were turned in for 687 large gray wolves, 27,185 coyotes, 2,827 bobcats and Canada lynxes, 173 mountain lions, and 114 stock-killing bears, a total of 30,986 predatory animals, and at least 50,000 additional coyotes were estimated to have been killed by poison baits.

Field operations against prairie dogs, ground squirrels, pocket gophers, and jack rabbits are being conducted with a view to the complete eradication of these rodents over great units of land. Many
(Continued on page 8.)

HEARINGS ON THE BUDGET BILL.

Hearings on the estimates of the department for 1924 were begun by the subcommittee of the Senate Committee on Appropriations December 28, and it is expected they will be concluded about January 4, in order to expedite the handling of the bill in the Senate shortly after it is passed by the House. The Agricultural appropriation bill is scheduled to be voted upon in the House January 3.

The subcommittee conducting the hearings in the Senate consists of Senator McNary, Senator Jones of Washington, Senator Lenroot, Senator Capper, Senator Harris, Senator Overman, and Senator Smith of South Carolina. In addition to the Assistant Secretary and the Budget officer, Mr. Jump, of the department, the following representatives of the various bureaus have appeared before the Senate committee: Dr. W. A. Taylor and Dr. K. F. Kellerman, of the Bureau of Plant Industry; Dr. U. G. Houck, of the Bureau of Animal Industry; E. A. Sherman, of the Forest Service; W. G. Campbell, of the Bureau of Chemistry; Dr. C. C. Clark, of the Weather Bureau; J. Clyde Marquis, of the Bureau of Agricultural Economics; and Dr. A. L. Quaintance, of the Bureau of Entomology. The Secretary and Dr. E. D. Ball will appear before the committee January 3.

TO PRESENT COMPOSITE RURAL CREDITS BILL

War Finance Report Issued as House Document—Truth in Fabric Bill Reported.

A brief recess over the Christmas holiday caused a slight lull in legislation at the Capitol this week. Before adjourning over the week end, however, the Senate banking committee had before it Acting Governor Platt, of the Federal Reserve Board, who discussed rural credits legislation now being considered by the committee. At its first meeting immediately after the recess the committee held an executive session and began active work on a composite farm credit bill.

Truth in Fabric Bill Reported.

The Senate Interstate Commerce Committee ordered a favorable report on the Capper "truth in fabric" bill to require manufacturers of woolen, cotton, or silk cloth or garments to mark the percentage of materials contained in their products. The bill would prevent deceit and unfair prices that result from the unrevealed presence of substitutes for virgin wool in woven fabrics. It was given a place on the Senate Calendar.

To the Banking and Currency Committee was referred Senator Norbeck's bill (S. 4229) providing credit facilities for the orderly marketing of agricultural products and for the preservation and development of agriculture and the live-stock industry in the United States. The bill would also extend and stabilize the market for United States bonds and other securities, provide fiscal agents for the United States, provide for Federal cooperative banks, and amend both the Federal reserve and the Federal farm loan acts.

During the week Congress received the annual report of the War Finance Corporation for the year ending June 30, which is printed as House Document 512. The President transmitted to Congress.

with a letter of the Bureau of the Budget, a supplemental estimate of appropriation for the Department of Agriculture for the fiscal year 1923 for cooperative construction of rural post roads of \$25,000,000. It was referred to the House Committee on Appropriations (H. Doc. 517).

Progress of Legislation.

Progress of other pieces of legislation of interest to agriculture in both Houses of Congress during the week was as follows:

H. R. 13492 (Knutson), to assist by loans disabled veterans of the World War in becoming established on self-sustaining farm homes; introduced and referred to Committee on Interstate and Foreign Commerce, December 19.

H. R. 13494 (Merritt), to prevent discrimination in prices, to provide for publicity of prices, and to protect good will; referred to Committee on Interstate and Foreign Commerce, December 19.

S. 4205 (King), to transfer to the Secretary of Commerce the powers, duties, and functions of the United States Shipping Board and the assets, properties, funds, and liabilities of the Emergency Fleet Corporation; referred to Committee on Commerce, December 19.

H. R. 13521 (Raker), for the establishment of a Pacific coast national highway system; referred to Committee on Military Affairs, December 20.

S. 4220 (Norbeck, by request), to provide credit facilities for the agricultural and livestock industries of the United States, to amend the Federal farm loan act, to amend the Federal reserve act; referred to Committee on Banking and Currency, December 21.

S. J. Res. 261 (Townsend), providing for the proportionate distribution among the States of surplus war materials; referred to Committee on Military Affairs, December 22.

H. R. 13552 (Sutherland), to extend the provisions of the Federal highway act to Alaska; referred to Committee on the Territories, December 22.

S. 3220, amending sections 2, 5, 11, 12, 15, 19, 29, and 30 of the United States warehouse act; reported from the House Committee on Agriculture, with Report 1317, and referred to the Committee of the Whole House, December 23.

H. R. 13575 (Summers, Wash.), to provide seed wheat for the drought-stricken areas in the State of Washington; referred to Committee on Agriculture, December 23.

H. R. 13481, the Agricultural appropriation bill, was debated in the House on December 20, 21, 22, and 23. Consideration of the bill was completed by the Committee of the Whole House. A final vote will be taken in the full House on January 3.

S. 1452, providing for shooting grounds for the public, for establishing game refuges and breeding grounds, for protecting migratory birds, and requiring a Federal license to hunt them, was reported from the House Committee on Agriculture with an amendment in the form of a substitute and with Report 1310; referred to Committee of the Whole House, December 21.

S. 1034, for the establishment of a game sanctuary in the watershed of the South Fork of the Flathead River in the Flathead National Forest as a propagating and breeding place for game animals, was reported from the Committee on Agriculture with Report 1311 and referred to the Committee of the Whole House, December 21.

December 28, 1922.

BARBERRY ERADICATION WORK SHOWS PROGRESS

Area Equal to 197 Counties Surveyed—Airplane Studies Made.

Marked progress has been made in all phases of the barberry eradication campaign during 1922 conducted by the Office of Cereal Investigations, Bureau of Plant Industry. With the increased Federal appropriation which became available July 1, and with excellent weather conditions for field operations, an area equivalent to 197 counties was surveyed during the past summer in the 13 cooperating States. This includes 15 counties in Minnesota and 1 county in Iowa which were surveyed on State funds. A total of 209,397 bushes were located on 5,918 properties and 729,721 bushes were removed from 6,408 properties.

Intensive studies have been made of the spread of rust from barberries to surrounding fields of grain and grasses. These areas of local rust epidemics have been mapped and the degree of infection noted at various distances from the barberry bushes.

Special features of the work of the past year have been the use of airplanes in studying spore distribution and the organization of "barberry bees" or eradication days to rid communities of the pest. The barberry days were only one phase of the cooperation that the campaign has also been receiving. Much assistance has been given by cooperators in obtaining desirable publicity. The support and interest of the county farm organizations and the conference for the prevention of grain rust has increased the cooperation on the part of individual property owners.

Hunting Rust With Airplanes.

Airplanes were used to ascertain how far rust spores were distributed by air currents. This investigation was made possible by the cooperation of the Air Service of the War Department, which furnished planes and pilots. Flights were made from fields at San Antonio, Tex.; Fort Crook, Omaha, Nebr.; Fort Sill, Okla.; Minneapolis, Minn. (in cooperation with the Minnesota National Guard); Chanute Field, Rantoul, Ill.; McCook Field, Dayton, Ohio; and Camp Knox, Louisville, Ky. Spores of stem rust were found in the air at altitudes of from 1,000 to 10,000 feet. It is significant that the number of spores caught in the air decreases rather rapidly as the distance from rusted grains and grasses in-

creases. There was no evidence that any appreciable amount of rust developed in the barberry eradication area as a result of spores blown from the south. As far as observations go, in the barberry eradication area the only rust which had developed by the end of the first week in June clearly came from local barberries, from which rust already had been traced directly in some localities to a distance of at least a mile and a half. Apparently, epidemics developing in the barberry eradication area result from spores blown from local infection areas near barberries rather than from spores which are blown from the south.

Barberry Bees.

"Barberry bees" or eradication days have been organized to rid some communities of all barberries, especially in areas where many barberry bushes have escaped from cultivation or where large barberry hedges occur. These gatherings serve not only to get the barberries removed but to educate the members of the community on the relation of barberries to stem rust and give valuable publicity to the campaign. Such bees were held near Pine Island and Red Wing, Minn., and near Mingo, Ohio, and Alert, Ind.

Escaped Barberry Bushes.

The spread of escaped barberries to open woodlands, fence rows, rocky ledges, brushy pastures, and stream banks has become the most serious problem of the campaign. During the past year 133,365 escaped bushes have been found on 830 properties. The great number of these were in the States of Michigan, Ohio, Illinois, Wisconsin, Minnesota, and Iowa. During the entire campaign 3,760,351 barberries were found on farms and only 331,801 of these were cultivated, while 3,428,550 have been escaped bushes. These areas are being carefully mapped in order to facilitate the complete eradication of seedlings and sprouts.

Several Resurveys Necessary.

A complete resurvey has been made in 201 of the 276 counties surveyed in previous years; and a resurvey also has been made in all cities and towns covered in the original farm-to-farm survey. In this resurvey 88,740 sprouts and thousands of seedlings were found and removed during the past year. It has become evident that several resurveys will be necessary.

Experiments on chemical methods of eradication were begun in September, 1921. About 40 different chemicals were tried on large barberry bushes in the field. Two chemicals, rock salt and so-

(Continued on page 8.)

Large Portion of 1922 Yearbook Ready to Print

Two of the articles that are to appear in the Yearbook for 1922 have been sent to the printer. These are the articles on the dairy industry and on the history and study of tobacco culture. The two subjects are considered in the same detailed way in which the four crops appearing in the 1921 Yearbook were handled. Detailed studies of this sort are, of course, possible only through committees composed of representatives from several bureaus.

The article on the dairy industry was prepared by a committee of which Dr. C. W. Larson, of the Bureau of Animal Industry, is chairman, and the other members are:

Davis, L. M., Bureau of Agricultural Economics, "Marketing"; Swarhout, A. V., Bureau of Agricultural Economics, "Cost marketing"; Stine, O. C., Bureau of Agricultural Economics, "History"; Barnes, W. C., Forestry, "Rangers"; Jamieson, G. S., Bureau of Chemistry, "Fats"; McKay, J. H., Bureau of Roads; Bell, W. B., Biological Survey, "Control pests"; Oakley, R. A., Bureau of Plant Industry, "Silage and forestry"; Pistor, A. J., Bureau of Animal Industry, "Meat inspection"; Kierman, O. J., Bureau of Animal Industry, "Tuberculosis"; Langworthy, C. F., "Home economics"; Brand, C. J., "Packers and stockyards"; Ramsey, R. A., Bureau of Animal Industry, "Cattle tick"; Gabriel, H. S., Bureau of Agricultural Economics, "Transportation"; Blanck, F. C., Bureau of Chemistry, "Food control"; Juve, O. A., Bureau of Agricultural Economics, "Cost of production"; Tenny, L. S., Bureau of Agricultural Economics, "Cooperation"; McCrory, S. H., Bureau of Roads.

The tobacco article was prepared by a committee, of which W. W. Garner, of the Bureau of Plant Industry, was chairman. The other members are:

Moss, E. G., Bureau of Plant Industry, "Flue cured"; Olson, Otto, Bureau of Plant Industry, "Cigars"; McIlvaine, T. C., Bureau of Plant Industry, "Burley"; Johnson, James, Bureau of Plant Industry, "Pathology"; Tenny, L. S., Bureau of Agricultural Economics, "Cooperative districts"; Stine, O. C., Bureau of Agricultural Economics, "History of warehousing"; Yohe, H. S., Bureau of Agricultural Economics, "Grading and marketing"; Wilcox, R. H., Bureau of Agricultural Economics, "Costs"; Dorset, M., Bureau of Animal Industry, "Dips for animals"; McCrory, S. H., Bureau of Public Roads, "Shed warehouses"; Quaintance, A. L., Bureau of Entomology, "Insects"; Marbut, C. F., Bureau of Soils.

Articles still in the process of preparation by committees for the Yearbook are: Sugar, Dr. C. O. Townsend, of the Bureau of Plant Industry, chairman; fruits, Dr. L. C. Corbett, Bureau of Plant Industry, chairman; hogs, E. Z. Russell, Bureau of Animal Industry, chairman; wool, D. A. Spencer, Bureau of Agricultural Economics, chairman; small grains, Dr. C. R. Ball, Bureau of Plant Industry, chairman; and timber, E. H. Clapp, Forest Service, chairman.

In addition to the manuscript, 514 charts for use in the book have been finished. It is of interest to know that these were compiled between October and January 1. Some of these will be used to illustrate articles and others will be a part of the Secretary's annual report.

Bureau of Budget Approves Department's Publications

Authority has recently been granted by the Budget Bureau for the publication of "Public Roads," a periodical formerly issued by the Bureau of Public Roads. It is expected that the publication of "Public Roads" will soon be resumed, the size being reduced to regular octavo.

Under the requirements of the sundry civil act approved March 4, 1921, 10 department periodicals were suspended December 1, 1921. They were: The Weekly News Letter, the Clip Sheet, the Special Information Service, Public Roads, Crop Reporter, Market Reporter, Monthly Weather Review, Experiment Station Record, Journal of Agricultural Research, and the National Weather and Crop Bulletin.

On December 7, 1921, the Joint Committee on Printing adopted a resolution, which was amended January 11, 1922, in which it was stated that the term "periodical" would not be applied to strictly administrative or statistical publications. Under this ruling five publications were issued by the department. These were: The Clip Sheet; Weather, Crops, and Markets, which combined the Crop Reporter, the Market Reporter, and the National Weather and Crop Bulletin; the Monthly Weather Review; the Experiment Station Record; and the Official Record, which had not been published previously.

Public resolution No. 57, approved May 11, 1922, authorized the department, with the approval of the Bureau of the Budget, to use the available printing fund for the publication of periodicals. Under a ruling of the Bureau of the Budget it was thought that approval was not required for administrative or statistical publications, and the publication of the Clip Sheet, Weather, Crops, and Markets, the Monthly Weather Review, the Experiment Station Record, and THE OFFICIAL RECORD was continued. Authority was asked for the publication of the Journal of Agricultural Research, which was granted October 19. The first issue of this periodical will appear January 6. The Bureau of the Budget has since advised that authority should be requested for the issuance of any publications at regular intervals, regardless of whether

they are administrative or statistical. Request was therefore made and has been granted for the publication of THE OFFICIAL RECORD, the Clip Sheet, the Experiment Station Record, Weather, Crops, and Markets, and the Monthly Weather Review.

The Bureau of the Budget has also approved the issuance of the Snow and Ice Bulletin, a one-page publication of the Weather Bureau, which has for many years been issued for approximately 18 weeks during the winter season.

RESULT OF FEED RATE HEARING.

The hearing on the proposed increase in the charge for corn at the Chicago Union Stock Yards was held in Chicago on December 14. This hearing had been ordered by the Secretary of Agriculture in connection with the suspension of the schedule filed by the Chicago Union Stock Yards, in which the charge for corn was increased 15 cents per bushel. The period of suspension was for 30 days, and the new charge automatically became effective on December 21. It will probably be several weeks before a decision is made in this matter, during which time the higher rates will be charged by the stockyards company.

In the event that the increase is found to be unreasonable, the patrons of the stockyards will probably have an opportunity to recover to the extent which the new rate is found to be unreasonable.

The hearing on the proposed increase in the charge for corn at the Milwaukee Stock Yards has been dismissed. The order of dismissal came as a result of the action of the stockyards company in voluntarily withdrawing the new schedule.

COUNCILS TO MEET.

Meetings of the spring-wheat council of the terminology committee and of the range committee will be held during the present week in the office of the Assistant Secretary.

A field station will be opened at Brawley, Calif., early in the present month for the issuance of daily market reports during the California lettuce marketing season. The station will continue in operation until the end of the season, which will be some time in April.

E. A. Foley, of the Bureau of Agricultural Economics, has recently made a report on the almond industry in Italy and Spain which has been mimeographed and distributed by the foreign section of that bureau.

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OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

Committee on Terminology to Study Personnel and Organization Titles.

Memorandum No. 396, Supplemental.—December 12, 1922.—In addition to the duties prescribed by Memorandum No. 396, the Department Committee on Terminology is directed from time to time to submit suggestions and recommendations to the Secretary with a view to establishing uniform titles for department workers who hold the same relative positions in the various bureaus, and also to establish uniform names for the different bureau subdivisions, making such surveys as may be necessary for this purpose. Mr. W. A. Jump, of the office of the Secretary, is designated as an additional member of the committee when it is to consider matters under this authorization.

The personnel of the committee with this additional member is as follows:

The Assistant Secretary of Agriculture; Dr. E. D. Ball, director of scientific work; Dr. W. A. Taylor, Chief, Bureau of Plant Industry; Dr. H. C. Taylor, Chief, Bureau of Agricultural Economics; Dr. J. R. Mohler, Chief, Bureau of Animal Industry; Mr. E. C. Powell, chief editor, Division of Publications; Mr. F. M. Russell, in charge press service; Mr. R. W. Williams, Solicitor; Mr. W. A. Jump, Administrative Assistant.

A CAKE WITH ONE CANDLE.

With this number THE OFFICIAL RECORD starts on its second year. Volume 1, No. 1, was an experiment. So is volume 2, No. 1. The RECORD is still in a fluid state, and will hope to remain so until the time is reached when there is no longer any room for improvement in it.

During 1921 the RECORD has been groping around to see how it can best fulfill its mission, which is to serve as a house organ for the Department of Agriculture. It is the RECORD's ultimate ambition to be interesting and instructive both in the same issue.

Does it bring you the information that you want? The RECORD does not pretend to compete with the press. There are certain phases of the department's work that it never touches on at all. Sometimes it attempts to give department workers some supplementary informa-

tion or some news that the press does not carry. As a general thing it is "inside" material and written for the family. It welcomes contributions. If you know of something that you think ought to be printed, send it in for consideration. The RECORD can not be a service publication without cooperation.

There are certain things that the RECORD assumes you are interested in. It wants to keep you posted on what the department is doing. Do you want to know who is important enough to be "mentioned in official orders"? Do you want to know about the activities of the department clubs in various cities? Do you want to read some of the articles written by your fellow workers that are to be found in outside publications? Are you interested in a little résumé of the bulletins issued during the week? Are there some other phases of the department's work that you think should be covered but are not? The RECORD would be delighted to receive your suggestions. Won't you drop us a line? It will help us to make progress before it is time for another candle on that cake.

GREETINGS SENT TO MESSENGERS.

The Assistant Secretary, Mr. Pugsley, who has been much interested in the messenger boys' progress and in the organization they have formed, sent a special Christmas and New Year's greeting to each of them. In it he called attention to the fact that new classes will be started in the free public high schools beginning with January 3, and pointed out the advantages of study and good reading.

"The reading courses which have been established for the boys will be extended to include the boys in all of the bureaus," says the message. "Whether or not you are engaged upon other work in the evenings, you should always have a good book handy ready for reading during your spare time. It has been pointed out that boys of your age can, by reading two good books each month before you are 20 years old, become familiar with a large part of the best literature of the world. This will be of inestimable value to you regardless of what work you may later undertake. Boys who form the habit of saving their time and reading good books are bound to continue to grow and become broad-minded, intelligent, cultured men.

"You would all get much benefit from the gymnasium classes at the Y. M. C. A. Whatever success we may have in life will be of little value and pleasure if we do not have health to enjoy it. There is nothing that will tend to make you strong, healthy men in the future as

much as regular systematic exercise now.

"Some of us get the idea we do not have time for many activities. Experience shows that the men who have succeeded have always done much more than those who failed to succeed could find time for. Somehow, the more worth while things we do, the more time we have for worth while things. I suppose that is because we let those things which are not worth while go. Suppose we make a Christmas present to ourselves of the big idea that we do have time for these things and see how far along the road of progress we will be by next Christmas."

MORE BULBS ALLOWED FREE ENTRY.

Secretary Wallace has authorized the addition of the following eight kinds of bulbs to the list of bulbs permitted unlimited entry under regulation 3 of quarantine 37, for a period not to exceed three years, beginning January 1, 1923: *Chionodoxa* (glory-of-the-snow), *Galanthus* (snowdrop), *Scilla* (squill), *Fritillaria imperialis* (crown imperial), *Fritillaria meleagris* (guineahen flower), *Muscari* (grape hyacinth), *Ixia*, *Eranthis* (winter aconite).

This action is taken as a result of the bulb conference held October 30. Prior to this action the bulb item included the following six kinds of bulbs: *Lilium* (lily), *Convallaria* (lily of the valley), *Narcissus* (jonquil, daffodil, etc.), *Hyacinthus* (hyacinth), *Tulipa* (tulip), *Crocus*. The termination at the end of a period not to exceed three years of the unlimited entry of narcissus bulbs is also authorized.

While importers and others requested that a total of 41 classes of bulbs be added to the free-entry list, the department does not feel justified in assuming so great a risk as would be involved in that number and restricts the additions to the eight classes listed. At the same time, it gives notice that narcissus, heretofore permitted unlimited entry, will be included in this list of bulbs which will be permitted unlimited entry for a period not exceeding three years.

It is thought that within three years adequate American sources of supply can be developed which will render further importations of the nine classes of bulbs unnecessary.

This is in line with the general policy of the department under quarantine 37, which looks forward to the gradual elimination of existing provisions for the unlimited entry of bulbs and other plants as soon as adequate provision shall be made or shall be under way for their production in this country.

U. S. D. A. CLUB ACTIVITIES

BIRMINGHAM CLUB.

The Birmingham association of department employees held an annual business session December 9. Neale F. Howard, Bureau of Entomology, was elected president for the ensuing year; Dr. W. H. Meadors, Bureau of Animal Industry, was elected vice president; and E. C. Horton, Weather Bureau, was re-elected secretary-treasurer.

The work for the coming year was informally discussed, as well as ways and means of stimulating a greater interest and enlarging the membership. It was decided that each member should be made responsible for the program of at least one meeting during the year, and cooperate with the program committee and the secretary in making the announcements.

It is planned to have lectures by various scientists and technical men, not necessarily in line with department activities, with a view to broadening the outlook of the membership.

PHILADELPHIA CLUB.

The regular meeting of the Philadelphia USDA Club was held December 20 in the Weather Bureau offices in the post-office building. About 14 attended the luncheon, which preceded the meeting. The various activities of the club in the past and the future possibilities were discussed at this meeting. It was decided that shortly after the new year the chairman of the club, George S. Bliss of the Weather Bureau, will meet with the chairmen of the program committee and the entertainment committee and the secretary of the club, C. S. Brinton, to make plans for enlarging the activities of the club.

After the business session Dr. Thomas Castor, of the Bureau of Animal Industry, gave a talk on meat inspection work, in which he compared Federal activities with meat inspection by State and municipal authorities.

ATTENDING THE BOSTON MEETINGS.

A number of department representatives were in attendance at the meetings of the American Association for the Advancement of Science, held in Boston last week. Several of them presented papers. Dr. E. D. Ball, director of scientific research, was present and discussed the scientific work of the department.

Among others who attended were: Dr. C. F. Langworthy and Dr. W. A. Hooker, of the States Relations Service; Dr. B. H. Ransom, Dr. Sewall Wright, and Dr. C. D. Marsh, of the Bureau of Animal Industry; Prof. H. J. Cox, of the Chicago office of the Weather Bureau; Dr. R. H. Colley, H. H. McKinney, of Madison, Wis.; Dr. G. N. Hoffer, of Hummelstown, Pa.; John Monteith, jr., and Dr. Charlotte Elliott, of the Bureau of Plant Industry; Dr. G. K. K. Link, of the Bureau of Agricultural Economics; Maj. E. A. Goldman, Dr. W. B. Bell, and H. T. Jackson, of the Biological Survey; and the

following from the Bureau of Entomology: Dr. L. O. Howard, Dr. A. L. Quaintance, Dr. A. C. Baker, Dr. E. F. Phillips, Dr. E. A. Back, Dr. T. E. Snyder, W. R. Walton, S. A. Rohwer, A. O. Larson, J. A. Hyslop, G. W. Ellington, O. I. Snapp, B. A. Porter, C. A. Doucette, C. A. Weigel, C. M. Packard, W. B. Cartwright, Arlo Vance, A. F. Satterthwait, J. R. Horton, W. H. Larrimer, J. A. Wade, W. J. Nolan, C. H. Popenoe, E. G. Smyth, and Mrs. D. H. Blake.

DR. SMITH DISCUSSES COUNTY AGENTS.

In speaking of cooperative extension agents and their work before the annual conference of the Kentucky extension service in Lexington, C. B. Smith, chief, office of Cooperative Extension Work, said: "County extension agents are teachers. They represent a new kind of teaching that is not out of books but out of the things books are made of—the fields, the orchards, the barns, the home, the market place. They teach the practical things of farm life, whereby men and women make a living and build homes and rear children and develop community and national life. Their task is both to teach people to think and to teach people to do." Doctor Smith pointed out in his talk that as teachers, county extension agents must study methods of presenting the information they have to give so as to reach the farming people of the counties with greatest effectiveness. The agent must develop, he indicated, as much voluntary cooperation as possible in extending his teachings and in securing their adoption in general farming and farm household practice. When the community program is developed by the local extension committee, the agent should take advantage of the opportunity to secure the aid of the committee in the selection of local leaders who will make a special study of the projects selected and devote enough time to their promotion to make the work helpful to a large number of farming families in the community. Such community leaders, selected by the local people and recognized as progressive and active men and women by their neighbors, are essential to the development and maintenance of an organized system of county extension teaching. Through them the information and practices brought to them by the county extension agent can be presented in simple and practical demonstration form. In this way a large number of farm families of their communities can be reached, when, as an individual, the county extension agent could not hope to meet and stimulate to improve their practices. By this method, for example, in a county with 2,200 farming people,

some 300 demonstrational leaders might be developed through whom the agent could hope to reach effectively 1,000 to 1,200 people during the year and induce them to improve their everyday farm and household practices.

Increasing Interest Shown In Graduate School Work

The students in the graduate school for departmental workers have nearly completed the first half of the courses offered for 1922 and 1923. That this work is growing in popularity is evident from the increase both in enrollment and in number of subjects offered over last year. During the year 1921-1922 more than 200 members of the department were enrolled, and courses were given in eight subjects. In the first half of the current year 221 individuals were enrolled in the 11 courses being given.

The subjects offered and the number of students enrolled in each are as follows:

General courses: Elementary statistics, 34; principles of writing, 38; advanced statistical methods, 21; library science, 18; taxonomic botany, 13.

Graduate courses: Physical chemistry of the colloids, 40; advanced crystallography, 5; principles of physical chemistry, 6; infection and immunity, 15; plant breeding, 14; and advanced economic theory, 25.

The teachers are as follows: General courses.—Dr. A. S. Hitchcock, Miss Ellen Hedrick, H. R. Tolley, J. Clyde Marquis, G. C. Haas. Graduate courses.—Dr. W. A. Patrick, Dr. A. Parker Hitchens, Dr. H. C. Taylor, Dr. C. L. Stewart, Dr. C. E. Leighty, Dr. E. T. Wherry, and L. H. Adams.

The work of the second semester will begin in February, and the courses to be offered will be announced in the near future.

FRITZ WILHELM WOLL.

Fritz Wilhelm Woll, who for many years reviewed Scandinavian publications for Experiment Station Record of the States Relations Service, and who visited Scandinavia for the United States Department of Agriculture in 1896, died at Berkeley, Calif., December 6, 1922. Doctor Woll was an authority on dairy cattle feeding and was author of a number of books of importance to the dairy industry. He was, at the time of his death, professor of animal nutrition in the University of California, a position he had held since 1913.

The agricultural situation in Rumania has been presented in a mimeographed report made by L. G. Michael, of the Bureau of Agricultural Economics.

PEOPLE MENTIONED IN OFFICIAL ORDERS

Charles J. Brand, consulting marketing specialist of the department, addressed the American Economic Association last Saturday at Chicago on "The relation of the Government to marketing problems."

Col. W. B. Greeley, forester; C. R. Tillotson and Austin Cary, of the Forest Service, attended the annual meeting of the Society of American Foresters held last week in Boston.

E. A. Sherman, assistant forester; Ernest Bateman, and G. M. Hunt, of the Forest Service, will attend the convention of the American Wood Preservers' Association, to be held January 23-25 at New Orleans, La.

W. S. Ballard, of the Bureau of Plant Industry, will attend the Second Annual Grape Institute, to be held by the Sun-Maid Raisin Growers at Fresno, Calif., January 17-19. He will present a paper on methods employed in investigations of obscure vine diseases.

R. W. Trullinger, of the States Relations Service, attended the annual meeting of the American Society of Agricultural Engineers held last week at St. Louis.

H. M. Dixon, of the States Relations Service, attended the meeting of the American Farm Economics Association, which was held in Chicago last week.

Prof. A. S. Hitchcock, of the Bureau of Plant Industry, gave a lecture December 16 before the department of botany of the Brooklyn Institute of Arts and Sciences. The subject was "A botanical trip to the Orient." The lecture was illustrated by lantern slides.

George A. Lawyer, chief United States game warden, of the Biological Survey, addressed a special meeting of the Mecklenburg Game Protective Association, at Charlotte, N. C., on December 28. Plans were discussed for the creation of a State game department for North Carolina and the enactment of a State-wide game and fish law. Up to this time the game laws have been enforced by county officers and the State Audubon Society. The meeting was attended by the governor and by sportsmen from all sections of the State.

Prof. William Stuart, Bureau of Plant Industry, left Washington on December 26 for Boston, Mass., to take part in the annual meeting of the Potato Association of America, held December 27-29, and also to attend the conference called by the department for the consideration of seed certification standards, which was held December 28.

Dr. O. C. Stiué, of the Bureau of Agricultural Economics, went to Boston December 26. He attended the meetings of the American Association for the Advancement of Science and the meetings of the Agricultural History Society at New Haven. At the latter meeting he spoke on "Abandoned farms in New England."

George Butterworth, of the Bureau of Agricultural Economics, will go to Baton Rouge early in January to conduct a two weeks cotton marketing class and demonstrate the official cotton standards at the short course for farmers given at the Agricultural and Mechanical College.

Dr. G. K. K. Link attended the Interstate Conference on Seed Potato Inspection and Certification held in Boston, December 28.

Dr. J. A. Kiernan, of the Bureau of Animal Industry, will address the veterinarians of Wisconsin on "Testing for reaccreditation

and interstate shipment," during the short course to be held at the University of Wisconsin January 24-26.

Dr. E. T. Wherry, of the Bureau of Chemistry, attended the meetings of the Mineralogical and Geological Societies of America, held at Ann Arbor, Mich., last week.

E. W. Sheets, of the Bureau of Animal Industry, will address the annual farm and home convention of Kentucky, to be held at the college of Agriculture at Lexington January 30 to February 2, on "Beef cattle feeding."

VISITORS TO THE DEPARTMENT.

The States Relations Service was visited on December 21 by 10 young women from Belgium—Mesdemoiselles Tameine, Anciaux, Moguez, Giessen, Coole, De Halbe, Nevejan, Desmet, Deljoffe, and Weil—who are studying hygiene and public-health subjects in Columbia University, of New York, and Massachusetts Institute of Technology, of Boston, under scholarships of the Educational Foundation, or "Hoover fund," of Belgium. These students, who are teachers and social workers from various parts of their country, are spending a year in the United States for the purpose of learning methods of carrying on public-health work in both instructional and practice phases used in this country which can be adopted to advantage in their teaching and social work on returning home. They were particularly interested in the dietetic work of the office of home economics and in the methods employed by the office of extension work to extend improved methods of household practices to rural districts.

DR. DORSET RETURNS FROM ABROAD.

Doctor M. Dorset, of the Bureau of Animal Industry, returned December 23 from a trip to France and England made for the purpose of studying veterinary work in those countries and to attend meetings of the International Advisory Commission on Anthrax. While in France Doctor Dorset visited the Ecole Nationale Veterinaire at Alfort, near Paris, and there studied the work of French scientists with foot-and-mouth disease and rinderpest. The French are studying vaccination as a means of avoiding the spread of foot-and-mouth disease, which is constantly present in France. It is now thought that the disease exists in a different form in Germany, and that although the sufferers exhibit the same symptoms the microbe causing the disease is different and immunity from one form does not give immunity to the other.

In England, Doctor Dorset attended the meetings of the International Advisory Commission on Anthrax. The countries represented were England, France, Belgium, India, Australia, Italy, Sweden, Germany, Japan, and South Africa. The object of this commission is to study and report on methods of preventing anthrax among wool and hair workers, and also among tannery workers. An interesting feature of the study

connected with anthrax was a visit to a large governmental disinfection plant at Liverpool, where wool from certain dangerous areas is disinfected before being worked. This plant was erected at a cost of over half a million dollars, but can handle only 1½ per cent of suspected wool coming into that country. The foot-and-mouth disease is not so serious a pest in England as in France. An attempt is being made by the Ministry of Agriculture and Fisheries, of which Sir Stewart Stockman is in charge, to control it by slaughter.

TO HOLD TICK CONFERENCE.

Dr. J. R. Mohler and Dr. R. A. Ramsey, of the Bureau of Animal Industry, will attend the tick-eradication conference which has been called for January 9, 10, and 11, at Fort Worth, Tex. This is a general conference of tick-eradication workers, and methods of work and results of investigations will be discussed. The following field employees of the Bureau of Animal Industry will attend: Dr. H. Robbins, Washington, N. C.; Dr. W. K. Lewis, Columbus, S. C.; Dr. S. J. Herne, Dr. W. P. Martin, Dr. Thomas P. Applewhite, and Dr. Harold V. Porter, Atlanta, Ga.; Dr. R. E. Jackson and Dr. Clyde E. Smith, Birmingham, Ala.; Dr. J. A. Barger, Dr. Wilbur McPherson, and Dr. Roy V. Rafnel, Jackson, Miss.; Dr. C. M. Paxton, Dr. Earl J. Meixel, Dr. Dudley S. Pellette, and Dr. S. H. Still, Baton Rouge, La.; Dr. W. A. McDonald, Dr. Allen W. Rice, and Dr. James T. Mills, Little Rock, Ark.; Dr. L. J. Allen and Dr. William L. Hiatt, Oklahoma City, Okla.; Dr. W. M. MacKellar and D. S. Burch, of Washington, D. C.

RESIGNS TO BECOME GOVERNOR.

An unusual reason for resigning from the position of crop reporter was contained in a letter received by the department last week. The letter was from Jonathan M. Davis, of Kansas, a crop reporter of many years' standing, but who tendered his resignation to devote his time exclusively to the duties of governor of the State of Kansas. Governor Davis expressed his continued interest in the service, however, and recommended that his son be given the position which he has held for a number of years. Governor Davis has been on the township list of the department since 1916, and, according to a statement of the Crop Estimates Division, has made an excellent reporter. His son's name has been placed on the list of crop reporters, as he suggested.

BRIEF REVIEWS OF NEW BULLETINS.

Weevils in Beans and Peas. By E. A. Back, entomologist in charge, stored product insect investigations, Bureau of Entomology, Pp. 35, figs. 29. August, 1922. (Farmers' Bulletin 1275.)

If farmers will plant weevil-free seeds, harvest beans, and peas and cowpeas as soon as possible, treat the crop to kill weevils and store it where seeds can be protected from reinfestation by weevils spreading from infested seeds, a large part of the loss from these insects can be prevented. These weevils which never attack corn and wheat, and but rarely infest velvet beans, soy beans, or vetches, are particularly injurious because they can breed generation after generation in dried seeds in storage. During the hottest summer weather one generation requires only 18 to 30 days for development. The average total number of eggs laid by an individual during her life is about 100. Infested seeds in bulk usually heat, thus producing temperature and moisture conditions most favorable for the rapid development and vigorous breeding of weevils.

Infestations in beans and peas can be quickly and effectively stamped out by fumigation with carbon disulphid, carbon tetrachlorid, or hydrocyanic gas, and by means of heat or cold storage. Weevils can be prevented from breeding in storage by mixing dust or air-slaked lime with the seeds. Concerted action by a community of growers has been known greatly to reduce weevil infestations and is recommended unreservedly for consideration in commercial bean-growing areas.

Foreign Material in Spring Wheat. By R. H. Black, specialist, and C. R. Haller, scientific assistant, grain investigations, Bureau of Agricultural Economics, Pp. 22, figs. 12. December, 1922. (Farmers' Bulletin 1287.)

Grain inspection statistics show that the percentage of dockage found in spring wheat is gradually increasing. In the 1920-21 crop there was approximately 1 bushel of foreign material, or "dockage," in every 22 bushels of spring wheat thrashed, or over 9,500,000 bushels of dockage for the spring wheat crop, according to investigations on which this bulletin was based. Several factors tend to increase the foreign material in spring wheat, the more important of which are the sowing of wheat on land already foul with weed seeds, and the use of seed wheat contaminated with weed seeds. Both of these practices are common in the main spring wheat area. More than 200 kinds of weed seeds are found in spring wheat, but less than 20 of these appear commonly.

Foreign material in wheat is objectionable because it is an economic waste. The growing of weed seeds with the wheat reduces the yield of wheat and increases the cost of harvesting and thrashing. Foreign material occupies valuable space and often has a bad effect on the milling and baking qualities of the wheat. The farm is the logical place to clean wheat, preferably as part of the thrashing operation. Two methods of cleaning wheat are common, both of which are described in this bulletin.

Status and Results of County Agent Work in Northern and Western States, 1921. By W. A. Lloyd, in charge county agent work, office of extension work in the North and West, States Relations Service, Pp. 42, figs. 14. October, 1922. (Department Circular 244.) Price, 10 cents.

If the average rate of increase in county agents that has been maintained during the

past 11 years continues, every county in the Northern and Western States will have a resident agent within three years. Of the 1,616 agricultural counties in these States, 1,239 now have agents, according to this bulletin. County agent work in the United States made a conservative and uniform growth from 1913 to 1917 of about 100 new counties each year. During the stimulus of the war emergency 544 agents were appointed in a period of about 10 months. A crisis came after the conclusion of the war when more than \$1,000,000 of Federal support was withdrawn. The farmers themselves have come to the support of the county agents and have helped to make up for the loss of Federal support. The report says there is gradually developing in some States a definite plan or agricultural program of work looking toward the future and having in mind a permanent agriculture based on the character of the population, soil, labor distribution, and marketing conditions. A considerable part of the report is given over to a discussion of a number of examples of demonstration work covering a wide range of subjects which have served to give the work a reputation for accomplishing results and to establish it more firmly as an activity in agricultural and rural progress.

Soil Survey of Coweta and Fayette Counties, Ga. By David D. Long, of the Georgia State College of Agriculture, and A. L. Patrick, A. M. O'Neal, Jr., and E. H. Stevens, of the U. S. Department of Agriculture, Pp. 34, fig. 1, map. (From F. O. Soils, 1919.) Price, 15 cents.

These counties are in the Piedmont section, which is in the western part of the State a little north of the middle line. The summers are long and the winters short and open, so that crops can grow the greater part of the year. Cotton is the principal crop, with corn second, and cowpeas third. Nearly 80 per cent of the farms are operated by tenants. Little live stock has been grown in these counties in the past, and much money is spent for fertilizer for cotton and corn. Interest in hogs and cattle is increasing, but not enough meat is produced as yet to supply local demands. Dairying has not been developed at all extensively. The bulletin contains a variety of information in addition to that on soils, including a discussion of farm practices, the use of fertilizer, climate, population, and economic development. It also includes a colored map showing the various kinds of soils and their distribution.

TWO NEW FILMS RELEASED.

"The tale of two bulls" and "Pines that come back" are the titles of two films recently released by the motion-picture laboratory of the department. The first of these was prepared in cooperation with the Bureau of Animal Industry and presents the advantages of "better sires" in animated cartoon style. It tells the story of the owner of the scrub bull who is losing money. A visit to a neighbor who owns a pure-bred bull converts him to the better sires movement. Accordingly he dispatches the

scrub and everyone else continues to live happily and prosperously.

"Pines that come back" was made for the Forest Service with the cooperation of the Maryland State Board of Forestry.

This picture concerns the problem of a farmer with a sandy field on which there is a stand of young pine. He has decided to clear it, but the State forester tells him that the land will pay him better in pine than as plow land—and proves it. A personally conducted trip through neighboring forests that are proving profitable on lands worthless for field crops serves to convince the farmer that the forester is right.

"Pines that come back" includes a comprehensive series of scenes illustrative of the growing, handling, and utilization of loblolly pine. While directly applicable to the Eastern Shores of Maryland and Virginia, it may also be of value in a large area of the South where soil conditions are similar.

THE WAY IT IS DONE IN EUROPE.

A recent article in Nature (London) says:

"The use of the cinema as a means of agricultural education among farmers is in contemplation in this country, and at least one organization is understood to be preparing a set of films. A recent announcement in Le Matin indicates that France, however, may be first in the field. It is stated that the Ministry of Agriculture has submitted to the President of the Republic an order authorizing an annual grant of 500,000 francs for the purpose of installing in agricultural colleges and schools and in rural communes cinematographic appliances which would be used for the popularization of scientific agriculture. There is no question that the cinematograph could serve a highly useful purpose; it is not only more attractive than the lantern slide, but it brings out points that could not otherwise be readily shown. It may be doubted whether the ordinary lantern slide could be dispensed with, however, and the lecturer of the future will probably use both films and slides."

The United States Department of Agriculture began the use of motion pictures in 1913 and now is credited with possessing the largest and most extensive library of educational agricultural films in the world.

In planning for the series of 50 marketing schools to be held throughout the State of Oregon this winter by the extension service of the State Agricultural College, Corvallis, Ore., R. S. Besse, specialist in marketing and organization, is contemplating the use of several motion-picture films prepared by the United States Department of Agriculture as one way of illustrating certain fundamental principles of marketing.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Economic principles of Confucius and his school. By Chen Huan-Chang. New York, 1911. (Columbia university. Studies in history, economics and public law. v. 44-45)
- Empfehlenswerte Obstsorten. Ifig. 1-9. Landesobstbauverein für Niederösterreich. Wien, 1912-[22?]
- Enquête sur la reprise et le développement de la vie industrielle dans la région landaise. 2. éd. France, Ministère de la guerre. Bordeaux, 1917.
- Flore complète illustrée en couleurs de France, Suisse et Belgique. fasc. 55. Par G. E. M. Bonnier. Neuchâtel, 1922.
- Hibiscus mealy bug. By W. J. Hall. Cairo, 1921. (Egypt. Ministry of agriculture. Technical and scientific service. Bulletin no. 17)
- Landschaften and their credit operation in Germany (1770-1920). By M. Tcherkinsky. Rome, International institute of agriculture, 1922.
- Monografia del castagno. 2. ed. Per Ludovico Piccioli. Firenze, G. Spinelli & c., 1922.
- Outbreak of Pseudococcus sacchari, Ckll., on the sugar cane of Egypt. By W. J. Hall. Cairo, 1922. (Egypt. Ministry of agriculture. Technical and scientific service. Bulletin no. 28)
- Revision of the treaty. By J. M. Keynes. London, Macmillan and co., 1922.
- Rusts and smuts of wheat, barley, and oats. By H. R. Britton-Jones. Cairo, 1922. (Egypt. Dept. of agriculture. Technical and scientific service. Bulletin no. 15)
- Synthetic inorganic chemistry. By A. A. Blanchard and J. W. Phelan. 3d ed. New York, J. Wiley & sons, 1922.
- Wages in foreign countries. National industrial conference board. New York, 1922. (Research report no. 53)

EXPERIMENT STATION PUBLICATIONS.

- The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week December 18-23. These publications can be obtained only from the stations issuing them.
- Report of the California Station, 1922. (California Sta. Rpt., 1922, pp. 255, pls. 2, figs. 62.)
- Observations on Winter Injury.—I. Early and Late Winter Injury. By F. C. Bradford. II. An Aftermath of Winter Injury. By H. A. Cardinell. (Missouri Sta. Research Bul. 56, pp. 26, figs. 27.)

Articles in Current Publications By Department Workers

- Hall, Maurice C. and Shillinger, Jacob E. (Animal Industry). Some attempts to control strongyles in aneurisms by means of intravenous injections of drugs. Jrn. Am. Vet. Med. Assoc., v. 62, no. 3, p. 353-356. Dec., 1922.
- Hoover, Jessie M. (Animal Industry): Milk makes them grow. How the children are led to drink more milk. Hoard's dairyman, v. 64, no. 23, p. 670-671. Dec. 22, 1922.
- Kiernan, John A. (Animal Industry). Extent of bovine tuberculosis in the United States. Jrn. Am. Vet. Med. Assoc., v. 62, no. 3, p. 371-386. Dec., 1922.
- Trostel, L. J. (Bureau of Chemistry). Efficiency of the Palmer Apparatus for Explosive Carbanaceous Dusts. In J. Amer. Soc. Heat-Vent. Eng., v. 28, no. 9, Dec., 1922.

NO CAMPHOR-SCALE QUARANTINE.

The Federal Horticultural Board has decided not to recommend a Federal quarantine at this time on account of the so-called camphor scale. This decision

follows the public hearing held by the department, November 20, 1922, and is based in part on the belief that the invaded States, Louisiana, Alabama, and Mississippi, either through the safeguards which they are now maintaining or which they propose to maintain in the future, will control the distribution of this pest as efficiently under the existing status as could be accomplished by a Federal quarantine.

The Department of Agriculture, through the Bureau of Entomology, however, proposes to cooperate with the States where the pest is now more or less established for the purpose of aiding these States in the local control to prevent spread, particularly with respect to the inspection and disinfection of commercial or other shipments of fruit or nursery stock originating in the invaded areas.

The withholding of quarantine action by the department is dependent on the carrying out, on the part of the invaded States, of the understanding as to future control work which developed at the hearing and in which the department will be associated through the Bureau of Entomology.

As indicated in the news statement issued November 8, in connection with the hearing on the camphor scale, this scale is a new pest to the United States. It apparently gained entry and establishment just prior to the passage of the plant quarantine act, and therefore before there was any Federal authority to safeguard the entry of the plants responsible for its introduction. It took nearly 10 years for this scale to develop in sufficient abundance to attract notice, but 2 or 3 years ago its injury to camphor trees in the city of New Orleans became serious and the scale was found to be widely disseminated within the city on a long list of host plants. The city and State immediately undertook an effort to control, and, if possible, to eradicate it, and have already spent upwards of \$30,000 in such work.

BARBERRY ERADICATION WORK SHOWS PROGRESS

(Continued from page 2.)

dium arsenite, have given uniformly good results, meeting the three chief requirements, namely, availability, cheapness, and effectiveness. Crushed rock salt fulfills all these requirements.

Five-Year Results.

During the five years 1918 to 1922 practically all cities and villages of the 13 States within the quarantine area have been covered. In the original farm-to-farm survey an area equivalent to 472 counties has been surveyed. This includes 39 counties surveyed on funds

furnished by States. During this five-year period 5,829,368 bushes have been found in the different States, as follows: Colorado, 24,001; Illinois, 142,882; Indiana, 96,284; Iowa, 764,096; Michigan, 265,109; Minnesota, 778,977; Montana, 9,027; Nebraska, 88,862; North Dakota, 19,438; Ohio, 230,088; South Dakota, 52,309; Wisconsin, 3,354,155; Wyoming, 4,140. The removals total 5,173,549 bushes. The remaining two-thirds of a million are mostly in one or two small areas of escaped bushes, and most of them are seedlings.

PROGRESS IN WORK OF BIOLOGICAL SURVEY

(Continued from page 1.)

heavily infested counties throughout the West have been cleared to the point where only an occasional ground squirrel is found, and some counties report complete eradication of the prairie dog this year. In Idaho a total of 640,050 jack rabbits was reported killed and counted.

Local Antirat Campaigns.

Many local antirat campaigns have been organized in cooperative work, and special investigations of the effectiveness of various rat viruses have been made, the results indicating that they are generally unreliable and too costly for the good accomplished. Investigations of wild fur-bearing animals in captivity show that there are fur farms in 25 States. Progress has been made in studies of the prevalence of internal and external parasites of foxes.

Investigations of the relations of birds to agriculture have been continued. An economic study of toads was begun. Control measures have been suggested in connection with destructive birds. The bird-banding work, which is carried on in connection with studies of bird migration, has enlisted enthusiastic support and many volunteer operators.

The Alaskan reindeer industry has made satisfactory progress during the year, and methods of improving the herds, especially by the introduction of large caribou bulls, are being developed.

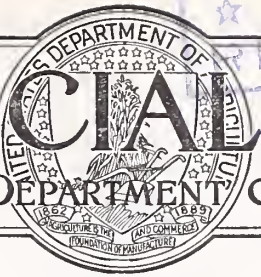
Reports from practically every section of the United States show that the administration of the migratory bird treaty act is resulting in a material increase in the number of migratory birds, and that waterfowl are rapidly extending their breeding range. Many substantial penalties have been imposed against violators of the law.

Cereal production in Jugoslavia is the title of a report by Louis G. Michael, of the Bureau of Agricultural Economics, which has been mimeographed for distribution.

BUREAU
★ JAN 13 1923

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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VOL. II.

WASHINGTON, D. C., JANUARY 10, 1923.

No. 2.

APPROPRIATION BILL PASSED BY THE HOUSE

Free Seeds Not Included—Senator Norris Would Investigate Packer Merger.

The agricultural appropriation bill, carrying approximately \$68,000,000, was passed by the House January 3, and is now awaiting action by the Senate. As finally passed by the House, the bill does not carry the usual item for congressional seed distribution.

The subcommittee of the Senate Appropriations Committee concluded hearings on the department estimates January 3, Secretary Wallace appearing before the committee on that date and discussing certain items of importance.

Request by Representative Anderson for a separate vote on the \$200,000 appropriation for the publication of "Special Report on Diseases of the Horse," and "Special Report on Diseases of Cattle" resulted in the retention of this item in the bill.

Deficiency Bill Reported.

In the House the second deficiency appropriation bill (H. R. 13615) was reported from the Appropriations Committee. Of the items in it of interest to agriculture, \$75,000 for the erection of a fumigation plant and supplies for the same to replace one destroyed by fire in the inspection work on the Mexican border in connection with the suppression of pink boll worm of cotton; an appropriation of \$25,000,000 of the \$50,000,000 authorized by the Post Office appropriation act of 1923 for Federal aid in the construction of rural post roads; provision for the continuance until December 31, 1923, of the appropriation of \$150,000 for control of insect infestation on public lands in Oregon and California, originally provided in the deficiency act of December 15, 1921; and \$8,500 for a motor boat for the Forest Service to replace one lost by sinking in Alaskan waters.

An investigation by the Federal Trade Commission into the proposed organization of a corporation, capitalized at \$160,000,000, to take over the interests of Armour & Co., of Chicago, and also the proposed merger of Armour & Co. and Morris & Co. is directed by a resolution (S. Res. 389) introduced in the Senate by Senator Norris. The resolution calls for a report to be made to the Senate on whether the organization of the corporation and the combination of the two big packing houses are in violation of law, and to what extent, if any, such a merger would tend to eliminate competition in the buying of live stock and to increase the cost of living to the con-

(Continued on page 8.)

MOTION-PICTURE SHOW JANUARY 29.

Five new Department of Agriculture motion pictures will be shown in Central High School auditorium Monday evening, January 29, for department employees and their families.

The program will include, also, a short address by a prominent speaker, orchestra and organ music, and entertainment features. Arrangements are being made by the Office of Motion Pictures.

Admission will be by tickets, which will be available free from chief clerks of bureaus on January 22.

FOOD STANDARDS DEFINED.

Standards and definitions for butter, condensed milk, cacao products, ginger ale and ginger-ale flavor, cayenne pepper, oil of cassia, and breads were adopted by the Secretary of Agriculture upon the recommendation of the joint committee on definitions and standards for the guidance of Federal officials in the enforcement of the Federal Food and Drugs Act. These standards become effective at once.

The standards and definitions have been adopted by the Association of American Dairy, Food, and Drug Officials and the Association of Official Agricultural Chemists and will be used generally by State officials in the enforcement of State food laws.

AGRICULTURAL EDITORS TO MEET IN WASHINGTON

Program to Include Many Important Speakers—Members Will Visit Department.

The Agricultural Editors' Association will meet in Washington at the Harrington Hotel during the entire week of February 26. President Harding, Secretary Wallace, and Sir Horace Plunkett are expected to attend and agricultural representatives from Russia, Argentina, and Denmark will also be present.

Complete plans for the program have not been made as yet, but the tentative arrangements provide for approximately three days of study of the various bureaus of the Department of Agriculture and conferences with the workers. This phase of the editors meeting will be worked out in cooperation with department representatives. A number of the specialists of the department will also take part in the program. Samuel Adams, of the American Fruit Growers' Magazine, is the association president, and is now residing temporarily in Washington.

The Association of Agricultural Editors last met in Washington June 18, 1920. The Assistant Secretary, Mr. Pugsley, was president at that time. Special committees were appointed to make studies of the different bureaus, and in particular of the press work of the department. A number of recommendations made in these committee reports have since been adopted. Many of the editors who attended stated that this occasion was their first actual contact with the department and believed the meetings to be of great value.

The officers of the association at the present time are: Samuel Adams, American Fruit Growers' Magazine, Chicago, president; C. A. Cobb, Southern Ruralist, Atlanta, Ga., vice president; T. L. Wheeler, Indiana Farmers' Guide, Huntington, Ind., secretary; and Floyd A. Nichols, Capper Farm Press, Topeka, Kans.; and T. C. Burchard, of Hoard's Dairyman, F. L. Evans, Wisconsin, executive committee.

FARM MANAGEMENT MAKES FINAL REPORT

Office Merged in Agricultural Economics—Lines of Work To be Continued.

The final report of the Office of Farm Management and Farm Economics as a distinct unit of the department has just been made by the chief of the office, Dr. H. C. Taylor, to the Secretary of Agriculture. Doctor Taylor lays especial emphasis upon the history and achievements of the office from the time of its inception in the Bureau of Plant Industry in 1904 to that of its merger with the Bureau of Markets and Crop Estimates to form the Bureau of Agricultural Economics, July 1, 1922. The accomplishments of the several divisions for the last fiscal year are set forth. The projects completed during the year, those which are a continuation from preceding years, new ones started, and a list of the publications issued, with title and authorship, comprise the report.

Work Commenced in 1904.

Under the direction of Dr. W. J. Spillman, of the Bureau of Plant Industry, the Division of Grass and Forage Crop Investigations set on foot investigations in farm management and practice in 1904, the report states. The agricultural appropriation for the fiscal year ended June 30, 1907, designated that a sum be used "To investigate and encourage the adoption of improved methods of farm management and farm practice." Under this clause, appropriations have been made for the work since that time.

The work of farm management and practice was carried on in the Bureau of Plant Industry, in which it originated, from 1904 until June 30, 1915. The Office of Farm Management was transferred to the office of the secretary July 1, 1915, but certain work in farm architecture and farm home management was placed in other units. With the transfer, Doctor Spillman was made Chief of the Office of Farm Management.

Upon the resignation of Doctor Spillman in the latter part of 1918, Secretary Houston appointed a committee of farm economics workers to draw up a plan for reorganization of the office. Prof. R. L. Adams, of California, was made temporary acting chief of the office until Dr. H. C. Taylor, of the University of Wisconsin, was appointed as permanent chief, March 8, 1919.

Under Doctor Taylor the reorganization was carried out, and on July 1, 1919, the office was designated Farm Management and Farm Economics. One year

later it became an independent office, and on July 1, 1921, Doctor Taylor was appointed Chief of the Bureau of Markets and Crop Estimates, with which bureau the office was combined on July 1, 1922, to form the Bureau of Agricultural Economics.

Many Achievements.

Among the many achievements since the beginning made nearly 20 years ago may be mentioned the following: Farm management surveys of representative areas of various States; farm machinery studies; investigations on costs of producing different crops, live stock, and other farm products; studies in land economics; rural sociology; farm financing and insurance; analysis of farm business and the determination of the basic factors of production. To make available the information which has been obtained during this time, over 300 bulletins and miscellaneous publications have been printed.

Studies to determine the cost of producing beef cattle in the Corn Belt have been continued from previous years and a beginning made on the cost of producing range beef. Cost of production studies for dairy products, hogs, wheat, cotton, rice, and potatoes have been carried on in a number of important centers of production.

Farm business analysis surveys, some of which involved cost studies of different enterprises, were carried on in eight different areas. Two of these investigations were started during the year, while the oldest had been carried on for 10 years in succession.

During the year several bulletins on land economics were published. Work was also done in determining land ownership and the relation of cash rent to land values on 310,000 farms.

Rural credits and the problems of crop insurance have been given particular attention, special studies having been made on these as well as other financial problems relating to the farm. Advice and assistance also have been given local farmers' insurance companies for the improvement of their business.

Work for Yearbook.

The returns of the 1920 census of Agriculture have been analyzed and mapped. The Agricultural Geography Division has studied the geography, practices, requirements, and seasonal distribution of labor for various systems of farming. The 1921 Yearbook contains 100 pages of material on farm enterprises compiled from census data by this division.

Agricultural history work for the year continued preparation of maps showing the shift of agricultural enterprises. Studies of old farm records and diaries

have been started. Only those extending over a long period are being used and should prove of particular value from a historical standpoint.

The studies in rural life have been carried on to completion in several sections and some new studies started in other localities.

Extension work of the office is done in cooperation with the States Relations Service. The work is carried on through boys' and girls' clubs, rural schools, and public meetings, and lays especial emphasis on the successful organization and operation of the farm.

The investigations of the office have been made in all sections of the country, the problems of the wheat farmer of the Northwest, the citrus grower of Florida, the cotton planter of the South, the Corn-Belt farmers of the Middle West, the potato grower of the Northeast, along with a host of other farmers, have all been studied.

INTERNATIONAL CONGRESSES IN EUROPE.

The library has recently received the programs of two international congresses to be held this year, namely, the Eleventh Congrès International d'Agriculture, which is to be held in Paris from May 22 to 26, 1923, and the International Conference of Phytopathology and Economic Entomology, which is to be held at Wageningen (Holland) from June 25 to 30, 1923. Communications in regard to the International Congress of Agriculture should be addressed to Henry Sagnier, secrétaire général, au Siège du Comité d'Organisation (18, Rue de Bellechasse, Paris, VIIe). The secretary of the International Conference of Phytopathology and Economic Entomology is T. A. C. Schoevers, Villapark 8, Wageningen. The program of the latter states that the committee will be glad if anyone who wants to read a paper or to bring up for discussion urgent questions on plant diseases or insect pests will send in advance titles and short abstracts of the papers they want to read or impart the questions they wish to discuss to the secretary. By way of introduction to their stay in Holland the participants in the congress "will be invited to attend in the evening of Sunday, June 24, a demonstration of the film 'Holland,' representing in moving pictures interesting parts of Dutch nature, culture, architecture, folklore etc."

Over 400,000 cars of shelled corn were inspected during the year ending September 30, 1922, according to a report of the Office of Federal Grain Supervision of the Bureau of Agricultural Economics.

Office of Exhibits Reports On Work of the Past Year

Department exhibits were shown during the year at 60 fairs and expositions held in 39 States and in the District of Columbia, with a total attendance of over 4,000,000, according to the annual report of the Office of Exhibits made by Joseph W. Hiscox to Secretary Wallace. Approximately 121,900 square feet of floor space were used for exhibit purposes. Sixteen applications for exhibits were refused on account of lack of sufficient material, and in one or two instances because of conflicting dates. Exhibits were routed on circuits where possible, and 31 department representatives from the following bureaus accompanied them and conducted their presentation and display: Bureau of Agricultural Economics, Bureau of Soils, Bureau of Public Roads, Bureau of Animal Industry, Forest Service, States Relations Service, Bureau of Biological Survey, and Weather Bureau.

In addition to the exhibits on the State fair circuits, special exhibitions were sent to the National Dairy Show, the International Hay and Grain Show, and the Brazilian International Centennial Exposition. The material sent to Brazil represented those phases of the work of the department in which South Americans are most interested. Reports were translated into Portuguese and printed for free distribution. Twenty-one motion pictures on agricultural subjects were prepared and shown daily on the exposition grounds.

In discussing the character of the exhibits of the department, the report says:

"A radical departure has been made in the style of the presentation of information in exhibit form. So far as practicable single exhibits are confined in scope to single outstanding broad subjects, and the favor with which this method of presentation has been received indicates that the course adopted is along progressive lines.

"The department has developed a harmonious, attractive, forceful, and practical standard type of exhibits showing clearly and in concrete form the results of its investigational work. As a result educational institutions, agricultural associations, and kindred organizations are increasingly willing to share in the cost of presenting these exhibits to the public."

MODEL STANDS PLACED IN MARKET.

Center Market, under the supervision of C. W. Kitchen, of the Bureau of Agricultural Economics, is gradually being

equipped with the most approved and newest means for the sanitary handling and display of its various products. A poultry display stand, in which the dressed poultry, under a glass top, can be seen by the purchaser to advantage and still be kept in a sanitary condition, is about to be installed. This will embody features originated by specialists in the department and is expected to meet with the approval of the most critical inspection.

A fish stand designed by John F. Barghousen, of the Bureau of Agricultural Economics, has been in operation for several months and has served as a satisfactory demonstration of a new type of sanitary equipment for displaying fish. The general construction of this 18-foot counter is of hollow tile, reinforced cement, with a glazed tile front and a vitreous tile base. A marble ledge on the top accepts the framework for the plate-glass top and front. The supports for the glass are nickel-plated. The counter is divided into four sections. A section on either end, 4 inches in depth, allows the fish to be displayed on ice and protected from the inquisitive finger of the would-be purchaser. Two center storage sections serve also for display and contain the ice. These sections are insulated with cork and a drain connects with all to carry off the waste.

It is the intention of the department to carry on in Center Market the experiments with sanitary stands for various products which had been planned but given up because of war-time conditions.

CLIMATIC CYCLE CONFERENCE HELD.

Representatives of the Weather Bureau took part in a conference held last month at the administration building of the Carnegie Institution, at which climatic cycles were discussed. Several agencies have been carrying out studies concerned more or less with the question of recurrences of weather and climatic conditions. Much diversity of view was expressed concerning reality of climatic cycles. The discussion dealt with general and special methods, contacts, and cooperation. It seemed obvious that the evolution of knowledge must depend upon the intensive studies and contributions of a number of separate workers.

Among the studies of climatic cycles the measuring, counting, and identification of tree rings by Dr. A. E. Douglass, of the University of Arizona, is well known. A large number of sections of trees have been examined, and especially the rings on the giant sequoias of the United States have shown particularly interesting features. These studies tie in the results of the remote past with the recorded climatic conditions of the pres-

ent day, such as are on file in the Weather Bureau. The conference gave an opportunity for the exchange of views and the formation of contacts for future work.

Members attending were chosen from widely different scientific groups, including representatives from the Department of Agriculture, the Carnegie Institution, the Astrophysical Observatory, the Geological Survey, Columbia University, Yale University, Clark University, and others. The department representatives were: Prof. Charles F. Marvin, Alfred J. Henry, William J. Humphreys, Oliver L. Fassig, Joseph B. Kincer, and Homer W. Clough, from the Weather Bureau, and Dr. F. V. Coville from the Bureau of Plant Industry.

GAME LEAGUE FORMED.

Following an address by George A. Lawyer, chief United States game warden, of the Biological Survey, on the need for state-wide laws for the protection of game, the North Carolina State Game and Fish Development League was formed at Charlotte, N. C., on December 28. Mr. Lawyer frankly told the sportsmen who had assembled that North Carolina was 25 years behind other States in the matter of caring for its wild life, but added that there was still time to take conservation measures, the State being so happily situated for game to breed, with the abundance of natural cover and the comparatively scattered human population. Judge W. F. Harding, one of the speakers, told of the abundance of game 20 and 30 years ago and said that efforts had apparently been directed toward exterminating everything, from the bear to the boll weevil, and that there had been better success with the former than with the latter. There was evident an enthusiastic determination to institute legislative action for state-wide game protection, instead of depending upon county officials and the Audubon Society, as in the past. The bill pending in Congress, which has passed the Senate, to create public shooting grounds and provide a Federal hunting license, was indorsed and the first steps taken toward the creation of a State department of game and fish and the enactment of a state-wide game and fish law. Mr. Lawyer's address was broadcast by radio and heard in newspaper offices throughout the State.

The Forest Service is interested in the wearing qualities of the permanent seats in the Yale bowl. They are made of Douglas fir, were put in place in 1914, and it is estimated that they will be good for at least seven or eight years more, if properly painted.



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Permanent County Appropriations for Extension Work Proposed

One of the handicaps in the past to efficient agricultural extension work in many counties has been the uncertainty each year of the continuance of appropriations by county commissioners of funds for its support. For this reason it has often been difficult to secure the best type of men for the work. However, the tendency on the part of county officials to regard county extension work appropriations as a permanent part of the budget is developing in many sections, as is indicated by the following resolutions recently adopted by the county commissioners of Umatilla County, Oreg.:

In view of the fact that our county agent has received an offer to return to Montana at a salary beyond that which he is receiving here and is strongly considering accepting the same, not because of the extra financial inducement but because of the uncertainty which exists for several weeks during the formation and passage of the budget each year, and inasmuch as a delegation of farmers has appeared asking for our attitude in regard to the matter, we desire to state:

County-agent work has been firmly established throughout the United States; it is past the experimental stage. In spite of financial depression there were 42 more counties in the country having county agents in January 1, 1922, than a year previous. In the 99 counties in Iowa there were 90 county agents, 80 in the 86 counties of Minnesota, and almost equally as good reports can be obtained in other Middle Western States.

The controversy which arose in Umatilla County at the time that the 1922 budget was adopted arose not as a protest against county-agent work but as a general protest against high taxes. Inasmuch as the future of county agent work in this county became involved in the general demand, a vigorous protest against any attempt to discontinue the work was launched. Petitions emphasizing the importance of county-agent work as a factor in the development of the agricultural interests of the county and urging the retention of the work were circulated and signed by every bank in the county and by several hundred taxpayers. An overwhelming majority of those who appeared before the county court on taxpayers' day spoke in behalf of the work.

While such a demonstration was very gratifying to the county court and the budget committee, in that it confirmed

their judgment, the county court realized that such a demonstration involves considerable time on the part of a large number of taxpayers who appeared before the court on behalf of the county agent work. The agitation and uncertainty also lowers the efficiency of the work, decreases its stability, and makes the position less desirable to hold. We believe that the names of the taxpayers on the petitions which we have on file are of such a character that they are not likely to change their minds in a single year.

In view of these facts, we do not believe that it will be necessary to secure a widespread general expression of the people of the county each year, and unless there is a decided reversal of sentiment on the part of those who signed petitions and appeared before the court last budget meeting, the county court will continue as in previous years to make necessary financial appropriations for county agent work as provided by law.

SIRUP PLANT BEGINS OPERATION.

A modern cooperative cane sirup blending plant was put in operation at Lufkin, Tex., December 16 and is successfully producing a high-grade uniform sirup that will not crystallize, according to the specialists of the Bureau of Chemistry, who assisted in the erection of this plant and supervised the technical methods of manufacture.

The plant was erected by the Texas Farm Bureau Ribbon Cane Growers' Association. It has a capacity of 5,000 gallons of sirup a day and will blend and standardize the sirup produced by the cane growers in several counties of Texas.

Cooperative associations of cane growers by using in central blending and standardizing plants methods worked out in the Bureau of Chemistry will be able to extend greatly the market for cane sirup since they can put out a high-grade sirup of uniform quality. The technical problems of manufacture have been solved, and it now only remains to develop an adequate market, and the cooperative associations are making rapid progress in that direction.

SOMETHING FOR NOTHING.

Recently the Forest Service secured and shipped to its field force 2,350 cases of surgical dressings and 50,000 metal packets of individual dressings. These are the small pocket size similar to those in use now by the Forest Service.

This surgical material was secured from the surplus stock of the medical section of the Army. The supply going to the field cost the Army over \$55,000, and through the courtesy of the budget and medical officials this 10-year supply of surgical dressings was placed in the

hands of the Service, because of its hazardous occupations and the isolated localities in which a great part of its personnel is located. The only cost to the Forest Service was \$350.

SORGHUM GRADES MUCH USED.

That United States grades for grain sorghums are now in use in all the principal grain-sorghum markets has been shown by a recent survey. Federal grades were formulated by the department in 1921 in response to an urgent demand from the trade. At present inspections of grain-sorghum shipments are not supervised by the Federal department, inspectors being employed by State grain inspection departments, chambers of commerce, boards of trade, and in some cases inspectors operate independently on a fee basis.

The grades for grain sorghums recommended by the department have been published in the form of Department Circular No. 245. The grades are based on extensive investigations conducted by the Department of Agriculture relating to the various phases of the grain-sorghum industry, including production, and on suggestions received from grain dealers and grain inspectors who have a knowledge of this grain.

START RIGHT.

It is easier for you not to begin to go wrong than it is to turn around and start to go backward to where you began wrong. Every man—and woman, for that matter—who is determined to rise in this world will find it of utmost importance to remember that one's mood in the early morning tends to give direction to the thought of the succeeding hours and affect one's efficiency throughout the day. If the mood is a cheerful one, there is not only a heightened sense of well-being but also a quickening of the mental and physical powers so that the day's work is done with increased ease, accuracy, and speed. As a psychologist has said, "The difference between a feeling of melancholy and one of gladness consists mainly in the position of the outer angles of the mouth. To keep the sad lines out of the countenance and insist on keeping the glad ones there will do away with discouragement and depression."—Filing and Office Management.

Data on 100 droves of cattle obtained in five States in the Corn Belt for the winter-feeding season, 1921-22, are being tabulated by the Bureau of Agricultural Economics.

U. S. D. A. CLUB ACTIVITIES

OKLAHOMA U. S. D. A. CLUB.

Reports of the May, June, and September meetings of the Oklahoma USDA Club have recently been received by THE OFFICIAL RECORD.

Officers for the year were elected at the May meeting. They are: President, H. H. Schutz; vice president, C. R. Donart; secretary, Miss Mattie A. Craig. The June meeting took the form of a picnic at Jefferson Park, and the September meeting a luncheon, at which Dr. G. C. White, of Washington, gave a talk.

DENVER CLUB.

The December meeting of the Denver Club was held on the 11th, and took the form of a luncheon and discussion. The annual election was held and the following officers were selected: Chairman, G. J. Morton, Bureau of Chemistry; vice chairman, C. F. Payne, Bureau of Animal Industry; secretary, W. J. Ise, Solicitor's Office. Stanley P. Young, of the Biological Survey, spoke on the trapping and poisoning of predatory animals. The talk was illustrated with lantern slides, the lantern being manipulated by H. N. Wheeler.

The Denver Club has recently compiled attendance records of its members, which show that the people in that city are very much interested in the club. The club was formed in November, 1920.

CHICAGO CLUB.

The annual meeting of the Chicago USDA Club was held December 21 at the Great Northern Hotel. New officers were elected for the year 1923 as follows: President, Dr. W. N. Neil, Bureau of Animal Industry; vice president, R. E. Doolittle, Bureau of Chemistry; secretary-treasurer, E. P. Lemott, Bureau of Agricultural Economics. Dr. L. E. Day, of the Bureau of Animal Industry, was the chairman of the nominating committee. The secretary, Mr. Lemott, presented an annual report in which the history of the club was reviewed. The Chicago club is not quite a year old, it having been formed last February. After the business session, Dr. H. J. Cox, the retiring president of the club, gave a talk on "Reminiscences of a Weather Man in Thirty-eight Years of Service."

CLUB FORMED AT NEW HAVEN.

A USDA Club was organized at New Haven, Conn., December 22, with 12 members. The following branches of the department were represented: Plant Industry, Animal Industry, Entomology, States Relations Service, Weather Bureau, and Federal Horticultural Board. Officers of the club were elected as follows: President, Leonard M. Tarr, of the Weather Bureau; vice president, Dr. W. T. Conway, Animal Industry; secretary, Sumner A. Dole, States Relations Service.

NEGROES ORGANIZE CLUBS.

Extension work among negro farmers in Virginia, according to a recent statement of J. B. Pierce, field agent in negro extension work, accomplished dur-

ing the past year, among other things, the organization of 23 county farmers' advisory boards, 295 farmers' community clubs, 20 county farmers' annual conferences, 22 county fairs, and farm makers' clubs, enrolling over 1,500 negro boys, many of whom sent excellent exhibits to the Virginia State Fair at Richmond and the Tidewater Fair at Suffolk.

MESSENGER BOYS ADOPT CONSTITUTION.

The messenger boys of the department, at their weekly meeting at the Y. M. C. A last evening, unanimously adopted, without change, the constitution drawn up by the committee appointed by President Anholt.

The name of the organization will be the Department of Agriculture Junior Improvement Association. The objects of the association are declared to be the physical and mental improvement of its members. All white boys employed in the Department of Agriculture are eligible for membership.

It was announced that an athletic committee had been appointed and a number of bureau basket-ball teams are in process of formation. Many former college basket-ball players, now members of the personnel of the department, have volunteered their services as coaches. A basket-ball game and dance are to be held by the association early next month.

Arrangements for supper were made by the following-named ladies of the department, under the direction of Mrs. Elizabeth Gray Woodward, of the Division of Publications; Misses Annie Carnell, Viola Palmer, Mary Sinclair, Madeline Heist, Ellen Duncan, Irene Parrett, and Mrs. Maggie M. Moseley.

FOREST SERVICE OFFERS STUDY COURSES.

Study courses are being offered to field employees of the Forest Service largely in response to requests from the rangers themselves. This work was commenced in district 2, which is the Rocky Mountain district, but it has been expanded until it now includes most of the western districts into which the field work of the Forest Service is divided. Only subjects for which the rangers have immediate use are given. District No. 1 is offering eight elective study courses this winter. They cover the following subjects: Forestry, forest mensuration, English, surveying, land grazing (two courses), organization and efficiency, and forest fire protection. Approximately 100 have registered for the elective study courses, and English leads in

popularity. It is reported from district 2 that 224 members, or 87 per cent of the entire personnel in the field, have enrolled. In addition to this, 27 members of the district office have also enrolled and two extra men have been assigned to assist in the work. Forty-one students are enrolled in the correspondence course in wood-pulp manufacture now being conducted by the Forest Products Laboratory. Courses of this sort are given each year by the Forest Products Laboratory to students outside of the service.

Forty-one students are enrolled in the correspondence course in wood-pulp manufacture now being conducted by the Forest Products Laboratory in cooperation with the University of Wisconsin. The course is based on a textbook on the preparation and treatment of wood pulp recently issued under the direction of the vocational education committee of the Technical Association of the Pulp and Paper Industry.

EXTENSION WORK HAS BROAD SCOPE.

In discussing the various forms of extension work in which the department cooperates with the numerous States, Secretary Wallace points out in his annual report that about 4,000 persons are now employed. Agricultural agents are employed in about 2,100 counties, home demonstration agents in 800 counties, and club agents in 200 counties. In addition, there are 750 district agents and specialists in the preparation of subject matter who cooperate with the extension workers. It is estimated that through the extension personnel the department comes in contact with about 2,500,000 farm homes. The 491,000 boys and girls enrolled in club work report products valued at more than \$7,000,000. Of the field agents, 272 are colored and work to aid negro farmers. About \$7,000,000 of Federal money was spent for extension work during the past year, to which was added about \$9,700,000 of State money.

SLIDE SERIES ON RATS READY.

Lantern Slide Series 150, How To Get Rid of Rats, prepared cooperatively by the Biological Survey and the States Relations Service to illustrate methods of rat extermination, is now available for distribution to extension workers. The series will have its first use in a state-wide rat campaign to be carried on in Virginia this month, county authorities, the Virginia agricultural extension service, and the United States Department of Agriculture cooperating.

PEOPLE MENTIONED IN OFFICIAL ORDERS

Leon M. Estabrook sailed from New York, January 3, on the Steamship *Van Dyke*, the new steamer of the Lamport & Holt Line. At Rio de Janeiro, he will transfer to the *Arlanza*, of the Royal Mail Steamship Line, leaving that port January 23, and arriving at Buenos Aires, his destination, January 27.

The Biological Survey will be represented at the meeting of the American National Live Stock Association, to be held in Los Angeles, Calif., January 30 to February 1, by the following field men: D. A. Gilchrist and M. E. Musgrave, of Phoenix, Ariz., and F. E. Garlough and C. G. Poole, of Sacramento, Calif.,. This attendance furnishes opportunity for conferences on cooperative undertakings between the bureau and stockmen for the protection of live stock on the range from wolves, coyotes, and other stock-killing animals, and for the prevention of forage losses due to prairie dogs, ground squirrels, and other rodents.

The following workers in the Bureau of Agricultural Economics attended the annual meetings of the American Economic Association and the American Farm Economic Association, held the last week in December at Chicago: Dr. H. C. Taylor, J. A. Becker, Dr. Alonzo B. Cox, L. S. Tenny, Dr. C. J. Galpin, V. N. Valgren, H. R. Tolley, F. A. Pearson, O. A. Juve, E. M. Kayden, A. V. Swarthout, R. H. Wilcox, H. S. Gabriel, and S. W. Mendum. Frank Parker, agricultural statistician, with headquarters at Raleigh, N. C., also attended the meeting of the American Economic Association.

W. A. Wheeler and J. C. Gilbert, of the Bureau of Agricultural Economics, will attend the Radio Standardization Conference to be held in New York January 12 under the auspices of the Bureau of Standards of the Department of Commerce to consider the standardization of radio materials, equipment, and practices. On January 16 Mr. Gilbert will address the ninety-first annual meeting of the New York State Agricultural Society at Albany on the use of radio to obtain market and crop information on the farm. He will also confer with State officials at Albany and will visit Boston and Philadelphia in the interest of improving radio programs.

H. E. Malmsten, of the Great Basin Experiment Station, Forest Service, has been granted a five months' leave of absence to assist in starting the new range investigative work of the University of California.

Paul L. Miller, who has been serving as research agent in marketing in the Bureau of Agricultural Economics, has been reappointed as associate agricultural economist.

H. M. Dixon, office of extension work, States Relations Service, attended the meeting of the American Farm Economics Association in Chicago, December 26-30. He will confer with extension workers in Iowa, North Dakota, Montana, Oregon, Nevada, and Colorado regarding farm management extension work in these States, returning to Washington about February 20.

H. W. Gilbertson, office of extension work, States Relations Service, attended the annual conference of Kentucky extension workers in Lexington, Ky., December 13, where he discussed the building of community programs of extension work. Before returning to Washington, Mr. Gilbertson demonstrated the effectiveness of methods recommended in two communities near Lexington.

Frederick C. Lincoln, assistant biologist of the Biological Survey, will attend the annual meeting of the New England Bird-Banding Association, to be held at Boston, Mass., on January 17, and give a short talk on the progress of governmental study of bird migration by means of bird-banding operations.

R. S. Smith, of the Bureau of Animal Industry, will attend the State Farmers' Week Convention at Hartford, Conn., January 22 to 27. He will set up and explain a dairy exhibit there.

C. A. Cary, of the Bureau of Animal Industry, attended the meeting of the American Society of Biological Chemists at Toronto, Canada, December 27-29.

Dr. J. A. Kiernan, of the Bureau of Animal Industry, will attend and address the annual meeting of the Massachusetts Dairymen's Association at Boston on January 18. His subject will be the eradication of bovine tuberculosis. He will also address a meeting of the Massachusetts Agricultural Club, where he will speak on "Protecting Our Live Stock from Disease."

Miss Florence L. Hall, of the Bureau of Animal Industry, attended the Organized Agriculture Week at Lincoln, Nebr., last week, and gave an address on uses of milk in the home. Miss Hall attended this meeting in the place of Miss Jessie M. Hoover.

H. W. Hochbaum, of the States Relations Service, attended a meeting of the Phytopathological Society at Boston, Mass., December 29 and 30.

W. A. Lloyd, of the States Relations Service, will attend the American Live Stock Association meeting at Los Angeles, January 29-31.

Miss Ilena M. Bailey, of the States Relations Service, attended the American Farm Economics Association meeting held in Chicago December 28-30.

J. H. Beattie, of the Bureau of Plant Industry, will speak before the Maryland State Horticultural Society meeting to be held at Frederick, January 10-12.

Roy C. Potts, of the Bureau of Agricultural Economics, addressed a meeting of the State Dairymen's Association at Lincoln, Nebr., January 3.

W. A. Denecke, of the Bureau of Animal Industry, with headquarters at Dubois, Idaho, will speak at the Farmers' Week at Bozeman, Mont., early in January, on the subject of "Importance of Length of Staple in Rambouillet Fleeces." He will later attend the National Wool Growers' Convention, to be held January 24-26, at Spokane, Wash. D. A. Spencer, of the Bureau of Animal Industry, who is in charge of sheep and goat investigations, will also attend this meeting.

C. P. Potts, of the Bureau of Animal Industry, will speak at the annual meeting of the New York State Breeders' Association on January 12. His subject will be "Net Profits from Late versus Early Lambs."

MISS POWELL RETURNS FROM EUROPE.

Miss Ola Powell, Office of Cooperative Extension Work, States Relations Service, returned from France, December 16. Miss Powell went to France in May as a result of a request to the department from the French Minister of Agriculture and the American Committee on the Reconstruction of Devastated France for

her assistance in developing the plans made in 1921 for the establishment of home-demonstration work in each of the departments of France. As a result, beginning with the new year a plan will be put into operation under which it is expected that three home-demonstration agents, now in training, will begin active work in the spring.

INDORSE FOREST SERVICE AUTHORS.

As a result of an inquiry made by the McAlpin Hotel of New York, 20 books of special interest to the lumber industry were selected by leading lumbermen. Several of the books suggested were written by members of the Forest Service. Among them were: *Timber, Its Strength and Seasoning*, H. S. Betts; *Some Public and Economic Aspects of the Lumber Industry*, W. B. Greeley; and *The Kiln Drying of Lumber*, H. D. Tiemann.

VISITOR TO THE DEPARTMENT.

Porter R. Taylor, acting director of the Pennsylvania State Bureau of Markets, was a recent visitor at the Bureau of Agricultural Economics. He called at the experimental mill of the bureau in connection with the study of baking properties of Pennsylvania and other wheats and to talk over other matters relating to grains.

FLOUR TYPES STUDIED.

Methods and formulas required for getting the best results in baking bread from various commercial types of flour, primarily for the use of the housewife, is the subject of a cooperative study by the experimental mill and baking laboratory of the Bureau of Agricultural Economics and the Office of Home Economics. Types chosen for study are a Minnesota hard spring wheat flour, a Kansas hard winter wheat flour, a Pennsylvania soft red winter wheat flour, and an Oregon white wheat flour. These flours differ widely in their chemical composition and physical properties, and although it is known that some difference in treatment is required in baking to produce satisfactory bread, little is understood regarding their individual requirements.

Climate, crops, and types of farming of the Great Plains were described by Dr. O. E. Baker, of the Bureau of Agricultural Economics, in his recent address before the American Geographic Society at Ann Arbor, Mich. He also discussed the permanent types of farming or grazing industries that are likely to develop in the Great Plains area.

BRIEF REVIEWS OF NEW BULLETINS.

Classification of American Wheat Varieties.—By J. Allen Clark, agronomist, western wheat investigations, and Carleton R. Ball, cerealist in charge, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 238, figs. 76, pls. 60. (Professional Paper.) November 8, 1922. (Department Bulletin 1074.) Price, 65 cents. For sale only.

This publication is a comprehensive description of the different varieties of wheat grown in the United States, including illustrations and tables to facilitate the recognition of different types and their proper identification. It is shown that more than 200 distinct varieties of wheat are grown. This wide range of varieties is the natural result of the widespread production of wheat which is produced commercially in each of the 48 States. Many of the varieties are adapted to comparatively small local regions, while others are suitable throughout a wide range. The suitability of a variety to the locality where it is grown is an important factor, affecting both yield and character and, therefore, profit from the crop. The selection of varieties is, therefore, of unusual importance and should at all times receive the careful consideration of growers.

For the comprehensive investigation of

wheat varieties, it is necessary to establish one or more wheat nurseries in each of the following States: California, Oregon, Washington, Idaho, Utah, Montana, Colorado, North Dakota, South Dakota, Minnesota, Kansas, Texas, Virginia, and New York. Hundreds of foreign and domestic varieties of wheat have been grown under careful observation, but only those varieties considered to have commercial significance are reported on in this publication. The eight general divisions of wheat varieties have been rearranged in the order of their agricultural value in the United States as follows: Common wheat, club wheat, Poulard wheat, durum wheat, common wheat, split wheat, Einkorn.

In addition to the varieties given above which are described in detail, mention is made of nearly 300 names reported to be in use or to have been used for wheat varieties but of which samples could not be secured.

ADDITIONAL PUBLICATION.

Experiment Station Record. Vol. 47, No. 6. Abstract number. December 22, 1922. Pp. 501-600. Price, 10 cents.

Motion Picture Laboratory Issues Nine New Films

Nine 1-reel films have recently been released by the Motion Picture Laboratory of the department. One of these, "Behind the breakfast plate," was made for use abroad and gives a complete survey of the American pork industry. The others will all be released in the usual way and are designed primarily to be shown in this country. The Forest Service has sponsored three of these films, the Bureau of Agricultural Economics one, the Bureau of Animal Industry three, and the Bureau of Public Roads one.

"The horse in motion" is the title of a one-reel film by the Motion Picture Laboratory for the Bureau of Animal Industry. It is an analysis by means of a high-speed camera of all the important gaits of horses. They are shown first at normal speed and then by retarded action. Among the types of horses shown are draught animals, pacers, trotters, hunters, runners, and cavalry horses.

The technique of the jumps is demonstrated by Dandy Dude, a horse owned by General Pershing. The movements of cavalry horses are shown by three troops of United States Cavalry in a stirring charge on the parade ground at Fort Myer.

Another film that was made in cooperation with the Bureau of Animal Industry is called "Guarding live-stock health." It shows the operations of the Field Inspection Service. Among those pictured are examinations of railroad records to discover violations of the

"28-hour law," examinations of animals for disease, quarantining and disinfection of pens.

A new one-reel film, entitled "Making poultry pay," is the third release made in cooperation with the Bureau of Animal Industry. Quality of stock, care in selecting eggs, in handling setting hens or the incubator, ventilation and sanitation for hens, treatment of diseases, kind of rations to feed for egg production, are some of the phases of the poultry business covered. A special effort has been made to make this film popular rather than technical, so that it can be used in communities where poultry constitutes a side line to general farming, as well as being of value where fowls are raised on a commercial scale.

"Building forest roads" is one of a series of pictures produced by the Motion Picture Laboratory and the Bureau of Public Roads. The film shows the way in which roads are built, the route mapped, cutting through the timber, blasting, grading, bridge building, and surfacing.

That one of the outstanding values of the national forest is their influence on stream flow is shown in the new one-reel picture entitled "Crops and kilowatts of the national forests," which was made in cooperation with the Forest Service. A great hydroelectric development in the Sierra National Forest in California is pictured to illustrate the use of water from the forests in generating power for use in many cities of this section. Its use in irrigation is shown by scenes made in the Grand River Valley, Colo.

Another Forest Service film is entitled "The forest ranger's job." The work of the ranger in maintaining telephone

lines, appraising Government timber, "scaling" timber, keeping animals on grazing areas down to the number that the range will support, building roads, trails, bridges, and dams, and other duties are shown.

The transformation of 200,000 acres of waste lands in the sand-hill section of western Nebraska into a thriving national forest is told in the picture "Foresteering a desert." This film shows efforts of the Forest Service to replenish the vanishing timber resources and proves the practicability of a forest crop for the utilization of waste lands. Scientific nursery practices employed in growing young pines and planting them at the rate of 75,000 trees a day are included.

"The golden fleece" is a study of wool marketing and has been prepared in cooperation with the Bureau of Agricultural Economics. In addition to presenting the importance of clean fleeces and proper grading, the film includes close-up pictures of the tentative wool grades and an excellent series of scenes illustrating the use of the wool box, which the department has recommended for tying wool.

JOURNAL OF AGRICULTURAL RESEARCH.

The Journal of Agricultural Research, which carries the technical reports of results of scientific investigations, resumed publication January 6, with the expectation of appearing hereafter on Saturday of each week. In accordance with the provisions of section 3 of the sundry civil appropriation act for 1922, the Journal was discontinued December 1, 1921, and no parts were issued during 1922. Under authority contained in the provisions of Public Resolution No. 57, Sixty-seventh Congress, the Secretary of Agriculture has again authorized the publication of this Journal, and this authorization has been approved by the Bureau of the Budget.

The January 6 issue contains the following articles: "A phytophthora footrot of rhubarb * * *," George H. Godfrey (contribution from Bureau of Plant Industry); "Sand drown, a chlorosis of tobacco due to magnesium deficiency, and the relation of sulphates and chlorides of potassium to the disease," W. W. Garner, J. E. McMurtrey, C. W. Bacon, and E. G. Moss (contribution from Bureau of Plant Industry and North Carolina Agricultural Experiment station); "Parasitism of *Sclerotium rolfsii* on Irish potatoes," H. A. Edson and M. Shapovalov (contribution from Bureau of Plant Industry); "Examination of authentic grape juices for methyl anthranilate," Frederick B. Power and Victor K. Chesnut (contribution from Bureau of Chemistry).

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Allgemeine pflanzenkaryologie. Von Georg Tischler. Berlin, Gebrüder Borntraeger, 1921-22. (Handbuch der pflanzenanatomie, hrsg. von K. Linsbauer . . . 1. abt.: Allgemeiner teil; 1. teil: Cytologie, bd. 2.) Beetles damaging seasoned timber. By A. M. Altson. London, W. Rider & son, Ltd., 1922. Beiträge zu einer kolloidchemie des lehens. 2. aufl. Von R. E. Liesegang. Dresden, T. Steinkopf, 1922. Die bodenkunde auf chemisch-physikalischer grundlage. 5. aufl. Von Moritz Fleischer. Berlin, P. Parey, 1922. Cakes for bakers. 2d ed. By Paul Richards. Chicago, Bakers' helper co., 1922. Chrysanthemums and dahlias. By W. J. Kightley. Johannesburg, Specialty press of S. A., Ltd., 1921. Commercial floriculture. By Fritz Bahr. New York, 1922. County agent and the farm bureau. By M. C. Burritt. New York, Harcourt, Brace and company, 1922. Easy way in cookery. By Mary Stevens. Bay City, Mich., Press of Shover & Laframboise, 1922. Experimental cottages; a report on the work of the department at Amesbury, Wiltshire. Department of scientific and industrial research. London, 1921. Farm mechanics. By F. D. Crawshaw and E. W. Lehmann. Peoria, Ill., 1922. First book of grasses. By Agnes Chase. New York, Macmillan company, 1922. Handleiding voor melkcontrole en melkonderzoek in fok- en controleverenigingen. Door H. B. Hylkema, Doetinchem, Maatschappij "C. Misset", 1922. Our candy recipes. By M. B. Van Arsdale, Day Monroe, M. I. Barber. New York, Macmillan company, 1922. Place of agriculture in the life of a nation. By V. A. Malcolmson. London, 1922. Les plantes médicinales des Hautes Alpes. France. Comité interministériel des plantes médicinales et à essences. Sous comité départemental des Hautes-Alpes. Gap, 1922. Reign of rubber. By W. C. Geer. New York, Century co., 1922. Report to the Board of Agriculture for Scotland on home industries in the Highlands and islands. Edinburgh, 1914. Tasmanian flora. By Leonard Rodway. Hobart, J. Vail, govt. printer, 1903. Technique of the teat and capillary glass tube. 2d ed. By Sir A. E. Wright. London, Constable and company, Ltd., 1921. Zelle und cytoplasma. Von Henrik Lundegårdh. Berlin, Gebrüder Borntraeger, 1922. (Handbuch der pflanzenanatomie . . . hrsg. von K. Linsbauer . . . 1. abt.: Allgemeiner teil; 1. teil: Cytologie, bd. 1.)

EXPERIMENT STATION PUBLICATIONS.

- The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week December 26-30, 1922. These publications can be obtained only from the stations issuing them:
- The White Flies of Hothouses. By H. H. Jewett. (Kentucky Sta. Bul. 241 (Res. Bul.), pp. 77-111, figs. 10.)
- Breeding Experiments with Kentucky Mountain Ewes. By L. J. Horlacher and E. S. Good. (Kentucky Sta. Bul. 243, pp. 139-199, figs. 69.)
- Bulletin Summary. (Massachusetts Sta. Circ. 68, pp. 6.)
- Inspection of Fertilizers. By P. S. Burgess. (Rhode Island Sta. Ann. Fert. Circ., 1922, pp. 14.)

CIVIL SERVICE EXAMINATIONS.

The United States Civil Service Commission announces an examination for highway engineer, at salaries of \$2,400 to \$3,600. Vacancies in the Bureau of Public Roads for duty in the field will be filled from this examination. The duties of the position consist of superintending the construction and maintenance of roads, cooperating with the State highway departments, inspection of routes, review of plans and specifications, and maintenance and construction inspections. Appli-

cants must have had at least six years of preliminary training in civil engineering, and six years' practical civil-engineering experience subsequent to graduation (or subsequent to equivalent preliminary training). Those interested should apply for Form 1312.

For typewriter repairman: Three registers of eligibles will be established from this examination, as follows: Register A, \$900 to \$1,200 a year; register B, \$1,200 to \$1,400; register C, \$1,400 to \$1,800 a year. Vacancies in departmental service will be filled. For register A applicants must show that they have had at least six months' recent experience in repairing and overhauling typewriters of various makes. For register B, applicants must show that they have had at least one year of such experience. For register C, applicants must show that they have had at least two years of such experience. If interested, apply for Form 1800.

APPROPRIATION BILL PASSED BY THE HOUSE

(Continued from page 1.)

sumer. The resolution was referred to the Committee on Agriculture and Forestry.

An act (S. 4249) to amend the civil service retirement act, identical with the Lehlbach bill in the House, was introduced in the Senate by Senator Williams. The amendment would lower the retirement-act age to 65, make employees who have served 30 years eligible for retirement, and increase annuities up to \$1,200. It was referred to the Committee on Civil Service.

In the House Representative Lehlbach introduced a resolution (H. R. 13630) grading civil employees of the Government engaged in the maintenance and care of public buildings outside of the District of Columbia and providing salary schedules for the grades. The resolution was referred to a Committee on Reform in the Civil Service.

Two measures, one by Senator Bursum (S. 4243) and the other by Representative Williams of Illinois (H. R. 13608), were introduced in their respective bodies to stimulate trade by providing credit to enable Germany to buy foodstuffs and raw materials in the United States. A credit fund of \$1,000,000,000, covering a period of three years, of which not to exceed \$350,000,000 shall be available in any one year, nor more than \$50,000,000 in any one month, is provided. The measures were referred, respectively, to the Senate Committee on Finance and the House Committee on Banking and Currency, January 4, 1923.

The Ladd Bill.

The Ladd bill (S. 4262), which would create an American stabilizing corporation to provide for stabilizing the prices of certain farm products, was introduced in the Senate January 2 and referred to the Committee on Agriculture and Forestry. The bill would give wide powers

to a corporation whose board of directors would consist of the Secretary of Agriculture and two additional persons to be appointed by the President.

The corporation is authorized to purchase marketable grades of cereals, sugar, cotton, and wool, sold by original owners, upon arrival in certain terminal markets. Public announcements would be made of the prices the corporation would pay for the current crop and for such surplus as would be planted after this announcement. The prices for the surplus crops would be based on certain definite factors and would be as nearly as practicable the average cost of production plus a reasonable profit. In specifying these prices the corporation would influence the production of products now imported and discourage those produced in excess. Provisions are also made for the control of gluts and shortages. The capital stock of the corporation is placed at \$100,000,000.

Harrison Fuller, of Minneapolis, secretary-treasurer of the Conference for the Prevention of Grain Rust, and Dr. E. C. Stakman, of the University of Minnesota, appeared before a Senate committee January 3 and discussed the importance of barberry eradication in the Northwest.

CIRCULAR ON COOPERATION ISSUED.

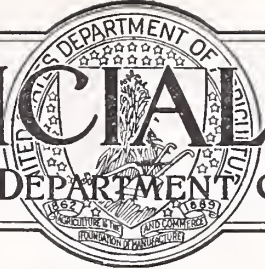
East South Central States, including Kentucky, Tennessee, Alabama, and Mississippi, led in the volume of production for home consumption with 75.2 per cent, according to a recent survey of the Bureau of Agricultural Economics. The smallest volume of home production is in the New England States, including Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut, with 58.1 per cent.

Articles in Current Publications By Department Workers.

- Galloway, Beverly T. (Plant Industry). Improved Method of Propagating the Litchi. Journal of Heredity, vol. 13, pp. 201-206, May, 1922.
- Lincoln, Frederick C. (Biological Survey). The Capture of Waterfowl in Fish Nets. The Condor, vol. 24, no. 6, p. 211, November, 1922.
- Popenoe, Wilson (Plant Industry). Dr. Fenzl's Contributions to American Horticulture. The Work of a Pioneer Plantman in California. Journal of Heredity, vol. 13, pp. 215-220, May, 1922.
- Scales, F. M. (Plant Industry). A New Method for Differential Staining of Bacteria. Journal of Infectious Diseases, vol. 31, no. 5, pp. 494-498, November, 1922.
- Skinner, W. W., and Sale, J. W. (Chemistry). Radioactivity of Miscellaneous Waters Examined in the Bureau of Chemistry. J. Ind. Eng. Chem., vol. 14, no. 10, October, 1922.
- Thom, Charles (Chemistry). Suggestion for the Prevention of Food Poisoning. Am. Food J., vol. 17, no. 11, November, 1922.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., JANUARY 17, 1923.

No. 3.

SENATE DISCUSSES RURAL CREDIT BILLS

National Forest Policy Subject of Resolution—Propose Seed Wheat Appropriation.

During the week of January 4-11 two rural credit bills, known as the Capper bill and the Lenroot-Anderson bill, were discussed in the Senate and referred to the Committee on Banking and Currency. The Capper bill was reported back favorably from the committee January 8 with amendments. Both bills are drawn up with the intent to provide for credit facilities for the agricultural and live-stock industries of the United States, to amend the Federal farm loan act, and to amend the Federal reserve act, but the manner of attaining the desired end differs in the two bills. The Capper bill provides for increase of rediscount facilities at Federal reserve banks and for the formation of rural credit corporations. Such loan organizations as might be established under the terms of this bill would be subject to Federal regulation for the safeguarding of both creditors and debtors. The Capper bill would make it possible for the farmer to use his property and crops as a basis for further credit. The Lenroot-Anderson bill provides for loans and credit extensions to agriculturists to be granted from Federal funds through the agency of the Federal land banks.

Forest Policy Proposed.

Senator Harrison, of Mississippi, introduced a resolution (S. Res. 398) for the appointment of a Senate committee to investigate the problems relating to reforestation, with a view to establishing a comprehensive national forest policy for lands suitable chiefly for timber production. The resolution was referred to the Committee to Audit and Control the Contingent Expenses of the Senate January 5.

Free garden seeds having been omitted from the regular appropriation bill, Mr.

Langley, of Kentucky, introduced a separate bill in the House (H. R. 13671) to authorize an appropriation of \$500,000 for that purpose. The bill was referred to the Committee on Agriculture January 5.

Senator Jones of Washington introduced a bill (S. 4281) calling for an appropriation of \$500,000 for the purchase of seed wheat to be supplied to the farmers in eastern Washington, where there is a considerable area suffering from crop failure. Under the terms of the bill the amount would be expended under the rules and regulations prescribed by the Secretary of Agriculture. The bill was referred to the Committee on Agriculture and Forestry January 6.

Other bills and resolutions introduced or reported on during the week of interest to agriculture are as follows:

In the Senate.

S. J. Res. 263 (Townsend), to authorize the Secretary of Agriculture to accept mem-
(Continued on page 2.)

TO DECIDE ON WAR MEMORIAL.

Action on the war memorial, to be erected in the main building to the employees who lost their lives in the World War, has been promised by the Joint Congressional Committee on Library before March 4. Several mottoes have been suggested for the memorial, but the committee would be glad to receive others. These suggestions should be sent to W. C. Henderson, chairman, Bureau of Biological Survey.

RESEARCH COMMITTEE ANNOUNCED.

Secretary Wallace announces the following as the department representatives on the joint committee of the association of land-grant colleges on projects and correlation of research: Dr. E. D. Ball, Dr. E. W. Allen, and Dr. W. A. Taylor. The association representatives on the committee are: Dean F. B. Mumford, of Missouri; President Alfred Atkinson, of Montana; and Dean H. L. Russell, of Wisconsin.

SENATE AMENDS THE APPROPRIATION BILL

Provides for Maximum Salaries and Makes Increases in Several Items.

The Agricultural appropriation bill passed the Senate April 13. The following amendments were made by the Senate to the House bill:

The maximum salary provision affecting scientific employees of the department, which was stricken out on a point of order in the House, was restored and made permanent legislation. This paragraph increases from 8 to 12 the number of persons who may be paid salaries in excess of \$5,000 and up to \$5,500 and from 3 to 5 the number who may receive in excess of \$5,000 up to the limit of \$6,500.

Provides for Frost Warnings.

The item for frost warnings, under the Weather Bureau, was amended to cover advices to agricultural interests during the harvest season, as well as to horticultural interests, as provided by present law.

"Blackleg" was added to the list of diseases enumerated under the paragraph for the eradication of foot-and-mouth disease and other contagious diseases of animals.

The appropriation for control of white-pine blister rust was increased \$50,000.

The cereal appropriation was increased \$150,000, this sum being added to the amount for barberry eradication, with a proviso that \$350,000 of the total of \$500,000 for this purpose shall be allotted for expenditure in the States affected, and that no additional sum shall be expended in any State until it has, through State or local appropriations or through contributions of organizations or individuals, provided an equal amount. A second proviso was also added permitting the use of \$10,000 of the barberry-eradi-

cation fund for the investigation of rust-resistant wheat.

Increases were also made in the following appropriations: Sugar-plant investigations, \$10,000; silvicultural investigations (for forest experiment stations), \$25,000; truck crop and stored product insect investigations (for control of sweet-potato weevil), \$50,000; prevention of spread of European corn borer, \$50,000, with similar increase in the proviso requiring offset contributions by the States; control and prevention of spread of the Mexican bean beetle, \$5,000; market-news service, \$298,600; enforcement of the grain standards act, \$10,000; forest roads and trails, \$3,500,000; and a new item of \$550,000 added for wheat-seed and pinto-bean seed loans to farmers in drought-stricken areas in the States of Washington and New Mexico.

A proviso was added to the item for the destruction of rodents and predatory animals, permitting the use of \$150,000 in the State of California but without increasing the total of the appropriation.

The item of \$200,000 for the printing, binding, and distribution of the publications entitled "Diseases of Horses" and "Diseases of Cattle," added to the bill by the House, was amended so as to make the distribution of these publications subject exclusively to orders of Members of Congress.

ALASKA PELTS VALUABLE.

That pelts to the value of \$1,800,000 were shipped from Alaska during the year which ended November 30, 1922, is shown by figures recently compiled by the Biological Survey. The total number of pelts shipped was 395,247, which was the largest number ever shipped from Alaska in a similar period. The pelts included beaver, marten, and muskrat skins; white, blue, and red foxes; blue and white foxes from the Pribilof Islands, under the jurisdiction of the Bureau of Fisheries; mink and black bear.

IMPROVEMENT IN FOXES.

F. G. Ashbrook and Dr. Karl B. Hanson, of the Biological Survey, who attended the third annual silver fox show, held at Muskegon, Mich., report that the foxes shown were far superior in quality to those in previous exhibitions. The 303 silver foxes exhibited included pups and adult foxes of the various classes, known as black, extra dark, and silver, and medium, light, and pale silver. Foxes in each class were compared in

the judging and the best seven in each class were selected and placed accordingly. The show was sponsored by the National Silver Fox Breeders' Association. The rearing of fur-bearing animals in captivity is one of the important projects of the Biological Survey.

KINDS OF LIGHTNING STUDIED.

A study of lightning storms and their relations to forest fires made in district 1 of the Forest Service shows that approximately one lightning storm out of four was found to cause fires which were reported by lookouts. It was also found that fire-starting storms were characterized by having more than half of their flashes directed toward the ground. In storms which did not cause fires it was found that on the average there was rainfall for 12 minutes before and 42 minutes following the lightning. For storms causing fires the averages were 10 and 120 minutes, respectively. The data on which these conclusions are based were taken from 1,300 detailed thunderstorm reports obtained from nearly 150 observers during the fire season of 1922.

SENATE DISCUSSES RURAL CREDITS BILL

(Continued from page 1.)

bership for the United States in the Permanent Association of the International Road Congress. Referred to Committee on Agriculture and Forestry January 6.

S. Res. 399 (McKellar), directing the heads of executive departments and other executive establishments in Washington, D. C., to furnish to the Senate a statement of the number of passenger automobiles in use by such department; name of official or person to whom charged; cost thereof; cost of upkeep and operation; salary of chauffeur; also amount of allowances for upkeep or operation of privately owned automobiles, with names and positions of those to whom such allowances are made; also number, location, and cost of any garage maintained by the department, number of automobiles kept therein, cost of garage, rental of same, number of passenger automobiles kept in such garages, and number of trucks, and the names of officers or employees keeping automobiles in said garages. Similar information regarding all passenger vehicles outside of Washington also required. Resolution agreed to January 6.

S. 4278 (Spencer), to establish a department of public welfare and to determine its functions. Referred to Committee on the District of Columbia January 5.

S. 4187, extending the time by one year for the payment of charges due on reclamation projects, passed the Senate January 3, was referred to House Committee on Irrigation of Arid Lands January 5.

S. 4306 (Dial), to further regulate the trading in future contracts of agricultural

products. Provides that any agency or individual buying or selling contracts for the future delivery of agricultural products through the channels of interstate commerce, or accepting margins therefor, that is insolvent, or has reasonable cause to believe itself or himself to be insolvent, shall be deemed guilty of a misdemeanor, and prescribes penalties therefor. Referred to the Committee on the Judiciary January 9.

S. J. Res. 265 (Smith), to stimulate crop production in the United States; referred to Committee on Agriculture and Forestry January 10, reported back January 11, and passed Senate January 13. This joint resolution authorizes the President to procure stocks of nitrate of soda and calcium arsenate and sell same for purposes of agricultural production during the calendar year 1923. Appropriates \$10,000,000 for carrying out purposes of bill. Proceeds from sale, which is made at total cost to the Government, shall be returned to the Treasury as miscellaneous receipts, or, in the discretion of the President, may be used, with the \$10,000,000 appropriation as a revolving fund during the calendar year 1923.

In the House.

H. R. 13481, Agricultural appropriation bill. Referred to Senate Committee on Appropriations January 4; reported back January 6 with amendments and Report 992; debated in Senate January 9, 10, 11, 12, and passed on January 13.

H. R. 13615, second deficiency appropriation bill. Passed by House January 4; referred to Senate Committee on Appropriations January 5; reported back January 6 with amendments and Report 993; passed by Senate January 8. Contains item of \$8,500 for motor boat for Forest Service to replace one lost in Alaskan waters, \$75,000 for cotton plank bollworm inspection work on Mexican border, and \$25,000,000 for the cooperative construction of rural post roads; also authority to use until December 31, 1923, the \$150,000 appropriation provided by the deficiency appropriation act of December 15, 1921, for the prevention of loss of timber from insect infestations on public lands in Oregon and California.

H. R. 13740 (Tincher), to amend the revenue act of 1921 by making deduction from the net income of taxpayer of the amount of net loss sustained by taxpayer, providing for a redetermination of the taxes to be imposed, and allowing a credit or refund on taxes paid subsequent to December 31, 1919. Referred to Committee on Ways and Means January 9.

H. R. 13715 (Winslow), to create a bureau of civil aeronautics in the Department of Commerce and encourage and regulate the navigation of civil aircraft. Referred to Committee on Interstate and Foreign Commerce January 8. Carries a provision extending the authority of Weather Bureau to the securing and dissemination of aerological reports and forecasts.

H. R. 13633 (Turner), amending the revenue act of 1921 so as to make the value of the direct products of the soil in the hands of producers thereof to the value and amount of \$5,000 exempt from taxation. Introduced January 3 and referred to Committee on Ways and Means.

January 11, 1923.

Tickets for the exhibition of the Department of Agriculture motion pictures in Central High School Auditorium, Monday evening, January 29, may be obtained January 22 from chief clerks of bureaus.

Doctor Spaulding Says Blister Rust is Dangerous in Europe

"There is not the slightest doubt that the largest and oldest trees can and will be killed by the white-pine blister rust," says Dr. Perley Spaulding, of the Bureau of Plant Industry, who has just returned from Europe. In addition to serving as a delegate to the International Institute of Agriculture at Rome last may, Doctor Spaulding spent about seven months in Europe studying all aspects of the white-pine blister rust. He visited England, Wales, Scotland, France, Holland, Belgium, Switzerland, Italy, Czechoslovakia, Austria, Germany, Denmark, and Sweden.

"Forest conditions with respect to the white pine are entirely different in Europe from those of the United States," says Doctor Spaulding. "The white pine is not a native in Europe, but is a planted tree there, and is necessarily in scattering plantations, not in more or less continuous forests like the white pines of America. Hence, although the blister rust has been in Europe for at least 70 years, it has spread more slowly than in America. On account of the ravages of the blister rust, however, planting of the white pine has been almost wholly abandoned in all of northern Europe, although it is a highly desirable and valuable tree.

"Conditions are also different in Europe with respect to the currant and gooseberry bushes, which are the alternate hosts of this disease. Wild currants and gooseberries, which are so common in the northern United States, are comparatively scarce in Europe. On the other hand, the black currant is almost universally cultivated and this is the most susceptible and dangerous host of blister rust in both Europe and America. In Europe the black currant, together with the other cultivated currants and gooseberries, constitute a crop of greater value than the planted white pine, so there can be in Europe no question of destroying currants to save pines, as we have learned to do in this country.

"There is not the slightest doubt that the largest and oldest trees can and will be killed by the white-pine blister rust," says Doctor Spaulding. "The oldest white pine trees that I saw in Europe were in Switzerland. These were trees 118 years old with a diameter of 1½ to 2½ feet. These were killed or being killed by the blister rust. I doubt if larger white pine trees than this can now be found in Europe, owing to the immense amount of large timber cut during the war. It is safe to say, however, that the blister rust in Europe has killed

the largest white pine trees that it has had a chance to attack, and there is not the slightest reason to expect that the much greater size of our western white pine and sugar pine in Idaho and California will protect them in the least from the ravages of this disease."

PLAN FOR SPRING WHEAT STATEMENT.

Several meetings have been held recently to discuss departmental recommendations for the spring wheat regional conference, which will meet January 20 to 22 either at Fargo, N. Dak., or St. Paul, Minn. This conference is composed of representatives of agricultural colleges from Minnesota, Montana, South and North Dakota, with Dr. W. C. Coffey, of the University of Minnesota, chairman, and E. M. Freeman, also of the University of Minnesota, secretary.

At the request of Secretary Wallace, the conference has appointed the Assistant Secretary, Mr. Pugsley, to serve as department representative. The department has also been asked to suggest a member of each of the eight subcommittees which the conference is to appoint. These members will be named later. The special phases of the regional problems to be discussed include farm organizations, extension, marketing, transportation, farm credit and banking, grades and grading, land utilization, and labor in its relation to agriculture. During the past few weeks the department council has been collecting and summarizing the results of investigations and experiments bearing on these problems in the department.

REGIONAL EXTENSION CONFERENCES.

In accordance with the plan followed in previous years, regional conferences of extension workers are to be held the early part of this year to discuss agricultural conditions and problems pertaining to extension work in various sections of the country.

Directors of the extension services of the Southern States will meet on February 5 and 6 at Memphis, Tenn., in connection with the annual meeting of the Association of Southern Agricultural Workers to be held in that city February 6, 7, and 8.

The Western States Extension Conference will be held at Fort Collins, Colo., March 12-15. Among the subjects to be discussed are range and range live stock, dairying, and human nutrition problems.

The Central States Extension Conference will be held in Chicago during the month of May, the exact date not yet being fixed. Farm management demon-

stration work and farm home problems will be studied. It is probable that farm management workers as well as those interested in rural engineering and other allied lines will be present at this meeting.

The conference of the Eastern States extension workers will be held at New Haven, Conn., some time during February or March. Vegetable gardening and forestry are among the subjects to be discussed.

C. A. REED STUDIES NUTS IN CHINA.

In many parts of China Persian (often known as English) walnuts are harvested in August, and as early as June some of them make their appearance in the restaurants, according to C. A. Reed, of the Bureau of Plant Industry, who recently returned from several months' study of nut culture there. Mr. Reed paid special attention to the Persian walnut, which grows practically from one end of China to the other. Only in isolated instances did he find any attention paid to cultural methods. For the most part the trees are left to take care of themselves and no efforts made to combat the insect enemies or to check decay in the trunks and limbs. A large part of its walnuts for export come from trees planted along roadways, in neglected places, and in the yards of villagers.

Changpingchow and Lanchow-changli, near Peking, are the chief producing districts of walnuts for export, with Tientsin as the principal export center. Hankow, Shanghai, and Tsingtau are also important ports for the shipping of walnuts to other parts of the world.

None of the crop in southwestern China is shipped out because of lack of transportation facilities. The population here, too, is dense, and as the walnut has become an important part of the food supply the crop is consumed locally. Mr. Reed, before leaving China, made arrangements to have a number of scions of walnuts shipped to this country through official channels. These are intended for experimental purposes and will be tried out by the department to see how they behave under conditions in the United States.

Arrangements for the interchange of crop reports on cotton and wheat between the Department of Agriculture and the Egyptian Government have recently been completed. As soon as reports on crop acreage and forecast are available in either country the news will be dispatched by cable or radio to the other. Reports will be sent out by telegraph and radio from Washington.



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OFFICIAL ANNOUNCEMENTS.

Memoranda of the Secretary.

Amendment to the Fiscal Regulations.

MEMORANDUM No. 417—January 3, 1923.—Paragraph 88 of the Fiscal Regulations of the Department is hereby amended to read as follows:

88. *Transocean shipments.*—Shipments from or to the department across the Atlantic Ocean should be consigned "In care U. S. Dispatch Agent, No. 2 Rector Street, New York, N. Y.," and that official should be promptly notified of the shipment and carefully instructed as to the further disposition of the property. If there is a customhouse at the ultimate destination of an incoming shipment the dispatch agent in New York should be directed to forward it in bond thereto. Scientific apparatus requiring careful packing imported for use at a point at which there is no collector of customs should be sent through in bond to a customhouse accessible to agents of the department by whom it may be received after the customs examination and prepared for further shipment. Bureaus anticipating importations through Pacific ports of entry should take the necessary action to have the shipments move in bond to the collector of customs nearest destination and arrange for the final disposition of the property.

MEMORANDUM No. 418—January 2, 1923.—The provisions of Memorandum No. 415, dated December 15, 1922, amending paragraph 5(b) of the Fiscal Regulations of the department so as to require the submission of all transportation accounts to the General Accounting Office for direct settlement, are hereby suspended until further order.

DISCOVER CAUSE OF "SAND DROWN."

A paper by W. W. Garner, J. E. McMurtrey, and C. W. Bacon, of the Bureau of Plant Industry, and E. G. Moss, of the North Carolina Agricultural Experiment Station, appearing in the January 6 issue of the *Journal of Agricultural Research*, shows from recent investigations that the serious leaf disease affecting tobacco and other plants and known to tobacco growers as "sand drown," is the result of an inadequate supply of magnesium in the soil or fertilizer. In diseased plants the green and yellow pigments of the leaves are affected, with a result of mottling or blanching of the leaf tissues. This

blanching invariably begins on the lower, older leaves, and first symptoms appear at the tips or outer margins of the leaves, the veins retaining their normal green color. Corn is also affected in much the same way.

FOUNDATION TO STUDY BOLL WEEVIL.

As announced some time ago, the Engineering Foundation of New York City will commence an investigation of the cotton boll weevil work. The American Cotton Association has arranged to raise \$250,000 a year which will be turned over for investigation of methods of combating the boll weevil. The department has been invited to cooperate in this study, the program for which is still in an informal state. Alfred D. Flinn, who has been appointed director of the work, will confer with Dr. E. D. Ball and others of the department before reaching tentative conclusions in regard to the program for the work.

WOOL SUIT AT SPRINGFIELD, ILL.

A. D. Miller, of the Bureau of Agricultural Economics, and J. S. Bohannon, of the Solicitor's office, assisted at the trial of the Government *v. F. M. McGowan Co.*, wool dealers, held at Springfield, Ill., January 9. The Bureau of Agricultural Economics, which took over from the War Industries Board the collection of excess wool profits, is endeavoring to obtain through suit excess profits made on wool by the McGowan Co., of Springfield, during 1918. The demurrer filed by the company was recently overruled by the court.

N. C. MURRAY CROP BOARD CHAIRMAN.

W. F. Callander, of the Bureau of Agricultural Economics, will direct the work of the division of crop and livestock estimates. Nat C. Murray will succeed L. M. Estabrook, who has gone to South America, as chairman of the crop reporting board. L. S. Tenny, the assistant chief of the bureau, has moved into Room 723 of the Bieber Building, which was formerly occupied by Mr. Estabrook, and Miss Charlotte M. Ellerbrock will serve as Mr. Tenny's secretary.

NEW LABORATORY ESTABLISHED.

A laboratory to be known as the Drug Control Laboratory has been established in the Bureau of Chemistry. Dr. George W. Hoover, at present chief of the Chicago station of the bureau, will be trans-

ferred to Washington and placed in charge. The Office of Drug Administration and the Division of Drugs having been abolished, the new laboratory will supervise all drug-control work under the food and drugs act. It will be on the fifth floor of the Chemistry Building at 216 Thirteenth Street SW. Dr. M. W. Glover, who has been in charge of the Office of Drug Administration for over seven years by detail from the Public Health Service, has been recalled by the Surgeon General on account of the increasing activities of public health work. Dr. L. F. Kebler, formerly in charge of the Drug Division, has been appointed chemist in charge of special collaborative investigations and will continue to direct the chemical work necessary in the enforcement of the postal fraud order law.

HALF MILLION CLUB MEMBERS.

Over 505,000 farm boys and girls, representing practically every agricultural county in the country, were enrolled in agricultural extension clubs in 1921. They raised or produced in their work 30,000 acres of corn, 2,000 acres of potatoes, 31,000 swine, 3,700 beehives, 6,000 dairy animals, 566,000 chickens, 2,600,000 quarts of canned fruits, vegetables, and meats, 347,000 articles of clothing, and 370,000 loaves of bread, as well as wheat, beans, sheep, garden and orchard products, and others, totaling \$7,069,877 in value. Some 2,500 county extension agents directed the activities of these boys and girls and 10,000 local men and women volunteered to assist in the work. For the fiscal year ended June 30, 1922, \$1,045,583 was provided jointly by the department and the State agricultural colleges for club work.

PLEASE BE SPECIFIC.

Among the many users of the library, one man inquired for a book on herbs. The librarian found a book on that subject, but subsequently learned that it did not fill the bill. In an effort to be helpful she asked the man to be more specific as to the kind of book he wanted or to state the use to which he wished to put it. The librarian was then informed that what was desired was a book which would tell the exact quantity of a medicine made from herbs to prescribe for a sick horse.

A conference on cotton work in South Carolina was held January 11 in Dr. E. D. Ball's office. President W. M. Riggs, of Clemson College, and B. R. Coad attended.

U. S. D. A. CLUB ACTIVITIES

THE PORTLAND CLUB.

The first meeting of the new year of the Portland Department Club was held January 3, at the Chamber of Commerce. Dr. E. C. Joss presided. In a short address he emphasized the two main purposes of the club: First, the better mutual acquaintance among members of the Department of Agriculture in Portland; second, better knowledge and understanding of the various activities of the Department of Agriculture. The total membership of the club is now 38 instead of 15. Twelve department bureaus or special boards are represented. Plans are being made for a club smoker to be held in February or March. Dr. S. O. Fladness, of the Packers and Stockyards Administration, gave a talk on the stockyard inspection in North Portland.

FEDERAL ASSOCIATION AT DULUTH.

About 20 local units of the United States departments or bureaus organized The Federal Business Association at Duluth, Minn., November 17. The association was formed to secure prompt and thorough cooperation with the Federal area coordinator of the seventh area. Thomas Considine, postmaster at Duluth, was elected secretary, and H. W. Richardson, of the Weather Bureau, president.

EXTENSION CONFERENCE HELD.

At the conference of department extension workers held in the office of extension work, States Relations Service, January 9, E. Z. Russell, Bureau of Animal Industry, discussed the problem of soft pork. Miss Beatrice Williams, of the committee for agricultural reconstruction in the devastated regions of France, spoke of the work of this committee. Motion pictures illustrating the work were shown.

DISCUSSES MOSAIC DISEASES.

At the seminar of the Office of Cereal Investigations, held in the Bieber Building Thursday, January 11, H. H. McKinney, assistant pathologist, discussed the recent results of investigators, especially upon problems of mosaic diseases, announcing the discovery of flagellates and certain other organisms perhaps of a different character associated with these diseases. The discussion was

partly a summary of the symposium on mosaic diseases held at Boston in connection with the meetings of the American Association for the Advancement of Science. The address was illustrated by lantern slides.

MUTUAL RELIEF ASSOCIATION REPORTS.

The annual report of the Government Employees' Mutual Relief Association shows it to be in excellent financial condition. Reserve funds, well invested, now amount to \$6,500, the interest on which pays nearly all the annual costs of operation.

This organization was started about 16 years ago to reimburse employees of the Forest Service, the Reclamation Service and the Geological Survey for injuries or sickness while on duty either in the field or in the Washington office. Then there was no Federal reimbursement plan, and even now Federal aid is limited to injury received in line of duty and does not cover accidents, sickness, or death resulting from other causes, which, however, are fully covered by a policy in this mutual relief association.

Entrance is limited to men not over 56 years of age, who at the time of making application must certify on their honor that they are in reasonable physical health. Membership, however, is not confined to the three organizations mentioned, but extends to all bureaus of the Department of Agriculture and to other similar field services. The initiation fee is \$1, with annual dues of \$12. A check for \$7 sent to the secretary, H. B. Herms, Forest Service, Washington, D. C., will receive prompt action, and, if the applicant is properly qualified, will place him immediately upon the rolls of the association for all its benefits for the following six months. Dues are payable semiannually, so that the burden is light while the relief is prompt and liberal.

E. E. FORBES ON GOVERNMENT COMMITTEE.

E. E. Forbes, traffic manager for the department, has been appointed a member of a special Government committee which will investigate transportation facilities to Alaskan posts and islands in Bering Sea. Brig. Gen. H. C. Dalton, Quartermaster Corps, United States Army, is the chairman of the committee. Representatives of the Interior Department, the Navy Department, and the Department of Commerce, United States Shipping Board, and the Federal Traffic Board are also included in the committee. The Department of Agriculture sends five or six passengers and about 20,000 tons of material to and from Alaska

each year. The Interior Department sends more passengers and larger quantities of freight. The other departments are smaller shippers. Most of these make use of commercial lines. The Navy sends a radio repair ship to Bering Sea each year to make repairs at naval radio stations and supply these naval activities with annual supplies. It has been suggested that economies might be effected if all shipments were coordinated and handled by one governmental activity. This special committee will make a thorough study of all Government shipments and transportation facilities and will consider specially the question of whether it would be possible to consolidate all shipments and send them either commercially or on a Government-owned vessel. The committee follows: C. E. Harris, Dr. Wm. Hamilton, and H. M. Gillman, jr., Interior; Commander A. J. Henderson, United States Coast Guard; E. E. Forbes, Agriculture; Commander P. P. Blackburn, Navy; F. G. Frieser, United States Shipping Board; N. N. Potts and A. K. Brown, Commerce; and Lieut. E. B. Kennedy, United States Navy; B. O. Berry, of the Federal Traffic Board.

DEMONSTRATIONS IN EXTENSION WORK.

Demonstrations and their place in extension work were discussed at a conference of extension plant pathologists held in connection with the winter meeting of the American Phytopathological Society in Boston, December 29. "Effort is now being directed," said H. W. Hochbaum, office of cooperative extension work, States Relations Service, who led the discussion, "toward making demonstrations more simple and increasing the number carried on for each project, making it possible for more people to note the progress made and to adopt the methods advocated; to have a definite period, with reasonably short time limit, for each type of demonstration; and to follow the demonstration period with a campaign to secure the adoption of practices. The three main stages in the demonstration process are, to awaken interest and attention; to develop confidence in the practice and desire to follow it; and to impel decision and action on that desire. These steps will be infinitely more easy and far more people will be reached if we consider that the average person is an imitator; that, therefore, demonstration work must be simple, economical, easily copied, and adopted."

Supervisor Wales, of the Prescott Forest Service, Ariz., and his force gathered and prepared an excellent collection of southwestern grasses and browses for display at the Northern Arizona State Fair at Prescott.

**PEOPLE MENTIONED
IN OFFICIAL ORDERS**

Secretary Wallace spoke January 11 at Frederick, Md., at a meeting of the Maryland Agricultural Society.

The Assistant Secretary, Mr. Pugsley, is now in the South attending a meeting of the extension workers and negro farmers at Tuskegee, Ala. He will visit Auburn, Ala., before returning to Washington. Later in the month Mr. Pugsley will go to St. Louis and will be present at one of the meetings of the St. Louis Club.

George A. Lawyer, Chief United States Game Warden of the Biological Survey, left Washington January 7 for points in Texas, Louisiana, and the Southeastern States, to interview Federal and State officials, sportsmen, and conservationists regarding the administration of the migratory-bird treaty act regulations.

A. M. Day, junior biologist of the Biological Survey, is attending the Western National Stock Show at Denver, Colo., January 13 to 20, where he is presenting demonstration material to illustrate work being done in Wyoming for the improvement of range conditions by the elimination of rodent pests.

William Stuart, of the Bureau of Plant Industry, will attend farmers' week at Michigan Agricultural College, East Lansing, Mich., February 1 and 2. He will speak on "The production of certified seed potatoes and its relation to the potato industry."

Arthur Koehler, of the Forest Products Laboratory, addressed the Manufacturers' Club at Minneapolis on January 9, and the Transportation Club at St. Paul, January 10, on the work of the laboratory.

E. W. Stillwell, of the Bureau of Agricultural Economics, is in attendance at the convention of the American Fruit and Vegetable Shippers Association being held in Chicago.

W. A. Denecke, of the United States Sheep Experiment Station at Dubois, Idaho, will attend the Idaho Wool Growers' Convention at Boise, January 22 and 23.

Dr. H. Busman, of the Bureau of Animal Industry, with headquarters at Omaha, Nebr., attended the live stock meeting of the organized agriculture week held at Lincoln, Nebr., January 4.

J. C. Gilbert, of the Bureau of Agricultural Economics, addressed the ninety-first annual meeting of the New York State Agricultural Society, held January 16 and 17 at Albany, N. Y.

Dr. F. L. Browne, of the Forest Service, attended the Pennsylvania Association of Master Painters and Decorators, held in Philadelphia January 9 to 11.

J. Clyde Marquis, of the Bureau of Agricultural Economics, addressed the farmers' short course at Purdue University, Lafayette, Ind., January 9.

Sidney F. Sherwood, Bureau of Plant Industry, left several days ago for Canal Point, Fla., to make chemical tests of the several thousand sugar-cane seedlings growing at that station.

Gerald Thorne, Bureau of Plant Industry, is in Washington consulting with the other members of the department interested in nematode work.

H. B. Cowgill, Bureau of Plant Industry, has just returned from his station at Fort Smith, Ark., where he is engaged in developing new strains and varieties of sorghum for sirup

production, in developing pure strains of known varieties, and in improving cultural methods used in growing the sweet sorghums for sirup production.

E. H. Shinn, States Relations Service, returned recently from Oklahoma, where he spent three weeks in conference with members of the agricultural college staff and the State superintendent of instruction regarding the adapting to agricultural conditions of Oklahoma of outlines for the course of study in elementary agriculture for the rural schools of that State, now under preparation.

C. H. Schopmeyer, States Relations Service, attended the regional conference of State directors, supervisors, and teacher trainers in vocational education of the Southern States at Richmond, Va., January 9-12, to confer with members of the conference in regard to outlines of courses in agricultural subjects which are being prepared in cooperation with the Federal Board for Vocational Education for the use of teachers of vocational agriculture.

Miriam Birdseye, States Relations Service, conferred with State supervisors of extension work in Maine at Orono, December 13 to 22, aided in conducting a nutrition conference of home demonstration workers, and attended the annual conference of State extension workers.

C. H. Kyle, agronomist, office of cereal investigations, Bureau of Plant Industry, left Washington January 14 for points in South Carolina, Georgia, Alabama, Louisiana, Mississippi, and Arkansas to consult with officials of State agricultural experiment stations regarding cooperative corn experiments.

W. J. Morse, of the office of forage crop investigations, Bureau of Plant Industry, addressed the meeting of Maryland Farmers' Institute at Frederick, Md., January 11, on the subject of the utilization of the soy bean.

Dr. E. C. Schroeder, superintendent of the Bethesda Experiment Station of the Bureau of Animal Industry, will attend a meeting of the Maryland State Veterinary Medical Association at Baltimore, January 18, and will give an address.

E. H. Siegler, of the Bureau of Entomology, attended the annual meeting of the Maryland Horticultural Society held at Frederick January 9 to 11.

F. L. Goll, of the Bureau of Plant Industry, will attend a convention of the National Cannery Association to be held at Atlantic City, N. J., the latter part of this month. M. B. Waite, of the Bureau of Plant Industry, will also attend the National Cannery Association meeting. He will speak on the "Control of fruit diseases of special importance to the canning industry."

L. A. Rogers, of the Bureau of Animal Industry, attended the meeting of the program committee of the World's Dairy Congress last week in New York City.

F. G. Robb, of the Bureau of Agricultural Economics, will attend the convention of the American Fruit and Vegetable Shippers' Association to be held this week in Chicago. He will speak on "The food products inspection service."

E. B. Smith, of the Bureau of Public Roads, is making a trip, in the course of which he will attend and address meetings of the annual convention of Highway Engineers' Association at Columbia, Mo., the convention of American Road Builders' Association at Chicago, and the road school at Purdue University, Lafayette, Ind. He will return to Washington the latter part of this month.

E. F. Kelley, of the Bureau of Public Roads, will speak on "Steel-bridge designs" before the road school at the University of Pennsylvania February 6 and 7.

Milton Danziger, States Relations Service, was in Boston, Mass., January 2 and 3, conferring with State supervisors of extension work regarding plans for interstate junior poultry demonstrations, and in Blacksburg, Va., January 5-8, where he attended the annual conference of State extension workers and spoke on observations of junior extension methods and results.

VISITORS TO THE DEPARTMENT.

Wilmon Newell, director of the Florida agricultural experiment station at Gainesville, Fla., who visited the States Relations Service January 9, reports that plans have been made by the station staff and cooperative extension workers of Florida and the cotton growers of the State for a general trial of the boll weevil eradication method practiced for the first time by that station last season, with promising results.

Dr. Rudolf Sucharipa of the Bureau of Agriculture of the Czecho-Slovak Republic, who has been sent by his Government to this country to investigate the canning and preserving of fruits, is at present studying the subject with E. K. Nelson, of the Bureau of Chemistry. Doctor Sucharipa expects to spend some time at the laboratory of fruit and vegetable chemistry of the Bureau of Chemistry in Los Angeles, Calif., before returning to Czechoslovakia.

Lieutenants Lehmann, Sparks, and Betton, of the Bureau of Supplies and Accounts, Navy Department, are studying in the various laboratories of the Bureau of Chemistry methods of examination of foods, drugs, naval stores, leather, paper, etc., for use in the purchase of these supplies for the Navy Department.

SIR HORACE PLUNKETT IN WASHINGTON.

Sir Horace Plunkett is now in Washington, and will be here for a few weeks to study the agricultural situation and the work of the department. Sir Horace was sent by the Irish Senate to obtain information on the recent developments in the agricultural policy of the Federal and State Governments in the United States. He will study the methods adopted during the last 50 years to increase the prosperity of agriculture, to secure the fullest possible use of the land, and to advise as to methods by which those results can be adapted to Ireland. Sir Horace is also interested in the cooperative methods of this country and in the methods adopted by farmers looking toward congressional action. One feature of his work will deal with the Government's attitude toward world-wide agricultural depression. He will make a report of his findings before Parliament which will meet February 13. Sir Horace has been given office space in the Bieber Building.

BRIEF REVIEWS OF NEW BULLETINS.

Farmers' Telephone Companies: Organization, Financing, and Management. By I. M. Spasoff and H. S. Beardsley, junior economists, Bureau of Agricultural Economics. Pp. 30, figs. 3. December, 1922. (Farmers' Bulletin 1245.)

Five hundred farmers' mutual telephone companies are now in existence in the United States, and careful studies of operation methods of these have been made with the idea of suggesting to farmers the more desirable features of such organizations. Estimates obtained from manufacturers of telephone equipment indicate that at present prices the initial expense for installing the system is about \$50 for each member. The companies are operated in various ways, either having their own lines which connect with switchboards of commercial systems or possessing complete systems of their own. Companies of the latter sort are especially adapted to the use of farmers in isolated districts.

The bulletin contains a brief survey of the development of rural telephone service in the United States, a summary of the agreements in effect between farmers' companies and commercial concerns, suggestions regarding methods of organizing companies and operating them, and a model constitution and by-laws for farmers' companies.

The Effects of Inbreeding and Crossbreeding on Guinea Pigs. III. Crosses Between Highly Inbred Families. By Sewall Wright, senior animal husbandman in animal genetics, Animal Husbandry Division, Bureau of Animal Industry. Pp. 61, figs. 27. (Professional Paper.) December, 1922. (Department Bulletin 1121.) Price, 15 cents.

This is the third paper on the subject, and has to do with crosses between highly inbred families of guinea pigs. One of the most important facts brought out is that by crossing the different inbred families a marked improvement in every respect over both parental stocks is produced. Improvement was measured on the basis of adult weight, resistance to tuberculosis, rate of gain between birth and weaning, mortality between birth and weaning, birth weight, mortality at birth, frequency and size of litter. Some improvements are most noticeable in the first generation, others appear in the second. The improvements over the inbred families as the result of crossing are decided. Based on certain factors, the improvement is about 80 per cent, which in superiority over the inbreds is well beyond the superiority of the animals used as control stock and random-bred rather than crossbred.

Dairying in Porto Rico. By D. W. May, agronomist in charge, Porto Rico Agricultural Experiment Station. Pp. 19, pls. 4. December, 1922. (Porto Rico Experiment Station Bulletin 29.) Price, 5 cents.

Porto Rico imported evaporated and condensed milk in 1920 to the value of \$643,047. Fresh milk sells at 15 to 25 cents a liter and the supply is not nearly sufficient for the proper nutrition of the people. Little effort has been made to improve the dairy qualities of the cattle of the islands, most of them being bred for work animals. Some years ago the station began experiments in breeding up a small dairy herd through the introduction of pure-bred Guernsey bulls. Milk records have been kept for several herds of native cows and two or three herds which represent more or less improvement through the use of pure-bred sires. These records show a decided increase in the daily milk production and in the percentage of butter fat contained in the milk.

As Porto Rico seems to offer excellent opportunities for the production of forage, the station has introduced a number of grasses and other forage plants that produce large amounts of material for feeding purposes. Under the local conditions, soiling is considered to offer the most economical method of obtaining maximum results. Suggestions are given regarding the management of the dairy herd, care of milk, and other features of the dairy industry and the desirability of increasing the production of milk and other dairy products is pointed out.

Until recently the presence of the cattle tick has retarded the introduction of improved stock, but with the establishment of dipping tanks and the development of a sentiment for tick eradication, many properties have been cleaned up and this menace is not as serious as formerly. With this improved condition, cattle are being imported into Porto Rico, chiefly Holstein-Friesian, Guernsey, Jersey, and Ayrshire, Holsteins being the most numerous and the others following in the order named.

Soil Survey of the Delta Area, Utah. By A. T. Strahorn, of the U. S. Department of Agriculture, and D. S. Jennings and H. Stuckl, of the Utah Agricultural Experiment Station. Pp. 38, pls. 4, fig. 1. map. (From F. O. Soils, 1919.) Price, 15 cents.

This section, which has been mapped to show the different kinds of soils, is known as the delta area, and comprises 180 square miles in the delta of the Sevier River, in the eastern part of the Sevier Desert. There is only about 8 inches of annual rainfall, and all crops, largely alfalfa, sugar beets, and graiu, are grown under irrigation. Dairying could probably be developed. Seven series of soils were found, and, with their various types and phases, are shown in colors on the map. In addition to the information on soils, the report contains much of interest on climate, crops, and the history of agricultural development of the region. The first time white men set foot in the locality was in 1776, when two Franciscan friars passed southward in search of a route between the mission at Santa Fe and the missions on the California coast. It was not until 1851 that the first permanent settlement was made. At that time Brigham Young selected a site there for the first capital of Utah.

ADDITIONAL PUBLICATIONS.

Soil Survey of Monroe County, Ga. By David D. Long, of the Georgia State College of Agriculture, and F. A. Hayes, A. M. O'Neil, Jr., and C. E. Deardorff, of the U. S. Department of Agriculture. Pp. 36, fig. 1, map. (From F. O. Soils, 1920.) Price, 15 cents.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 187. November, 1922. Pp. 125-129. December 29, 1922. Price, 5 cents.

Service and Regulatory Announcements. Bureau of Biological Survey. No. 51. Regulations for the protection of land and fur-bearing animals in Alaska. Pp. 1. January, 1923. Price, 5 cents.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 148. Notices of judgments 10851-10900. January, 1923. Price, 5 cents.

Service and Regulatory Announcements. Insecticide and Fungicide Board. No. 42. Notices of judgments 776-800. December 22, 1922. Price, 5 cents.

RESEARCH COOPERATION EXTENSION.

The close community of interest in the research work of the department and the State agricultural experiment stations is indicated by the number and variety of cooperative projects carried on by the two agencies.

A comprehensive review of the subject recently made shows that the cooperative relationships are continental in scope and discloses many points of contact and mutual interest between the department and the stations. Typical examples of cooperative projects revealed by this review are soil and other surveys; experiments in the methods of production, culture, fertilizer requirements, and adaptation of a long list of agricultural crops, fruits, and vegetables; the study of diseases and pests of cultivated crops, forest trees, and products, their eradication and control; the breeding and improvement of plants and live stock; the study of animal diseases and the maintenance of quarantines and other repressive measures.

It embraces studies in farm management and in the cost of production of staple crops under a wide variety of conditions; dry-land agriculture, drainage, and irrigation; the utilization of cut-over and waste land; the factors affecting the carrying capacity of western ranges; life history and food habits of rodents and other injurious animals; and forest reproduction and management. In fact, there is hardly a branch of agricultural inquiry in which there is not some form of cooperation, and the amount of money involved aggregates many hundreds of thousands of dollars. Altogether there are 140 different cooperative projects and, since many of these are participated in by several stations, the total number of cases of cooperation between the department and the experiment stations amounts to 274.

The fact that the stations alone now have approximately 5,000 research projects and the number is steadily increasing shows that the field of research in agriculture is so vast and so varied that cooperation and coordination of effort is essential to the most effective work. There is evidence that the compilation of lists of the station projects has tended to remove unnecessary duplication and has gone a long way in the direction of promoting successful cooperation both among the stations and between the department and the stations.

Regulations governing the inspection of hay, definitions and limitations for United States grades for hay are contained in two mimeographed circulars prepared and distributed by the Bureau of Agricultural Economics.

PRINCIPAL LIBRARY ACCESSIONS

Alaskan engineering commission. By Joshua Bernhardt. New York, D. Appleton and company, 1922. (Institute for government research. Service monographs of the United States government. no. 4)

Anorganische chemie. Von Fritz Ephraim. Dresden, T. Steinkopff, 1922.

Aperçu agricole sur la région de Fez. Par H. Rouppert. Abbeville, 1921. (Morocco. Direction de l'agriculture, du commerce et de la colonisation. Service de l'agriculture. Monographies agricoles du Maroc. no. 1)

Ausführliches lehrbuch der pharmazeutischen chemie. 6. aufl. v. 1-2. abt. 1. Von Ernst Schmidt, Braunschweig, F. Vieweg, 1919-22.

Bacteriophage, its role in immunity. By F. d'Herelle. Baltimore, Williams & Wilkins company, 1922.

Bibliography of the writings of W. H. Hudson. By G. F. Wilson. London, Bookman's journal, 1922.

Bulletin no. 11. The slime molds of Ohio. By E. L. Fullmer. Ohio biological survey. Columbus, Ohio, 1921.

Carotinoids and related pigments, the chromolipoids. By L. S. Palmer. New York, Chemical catalog company, 1922.

Carriers in infectious diseases. By H. J. Nichols. Baltimore, Williams & Wilkins company, 1922.

Catalysis in organic chemistry. By Paul Sabatier. Tr. by E. E. Reid. New York, D. Van Nostrand company, 1922.

Les coléoptères d'Europe, France et régions voisines. Par C. Houlbert. Paris, O. Doin, 1921-22.

Contribution à l'étude de la flore du Katanga. Par Émile de Wildeman. Bruxelles, D. Reynaert, 1921.

Contributions to embryology, no. 47-48. Carnegie institution of Washington. Washington, 1921. (Publication no. 273)

Efficiency of low temperature coke in domestic appliances. By M. W. Fishenden. London, 1921. (Gt. Brit. Fuel research board. Technical paper no. 3)

Encyclopaedie van Nederlandsch-Indië. Aanvullingen en wijzigingen. ad. 1-2's Gravenhage, M. Nijhoff, 1922.

Food production in Malaya. By F. G. Spring and J. N. Milsum. Kuala Lumpur, 1919. (Federated Malay States. Dept. of agriculture. Bulletin no. 30)

Handbuch der forstpolitik, 2. aufl. Von Max Endres. Berlin, J. Springer, 1922.

Handbook of construction cost. By H. P. Gillette. New York, McGraw-Hill book company, inc., 1922.

Herbalist and herb doctor. By J. E. Meyer. Hammond, Ind., Indiana herb gardens, 1918.

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Mindanao and the Sulu Archipelago. By P. J. Wester. Manila, 1922. (Philippine Islands. Bureau of agriculture. Bulletin no. 38)

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Social aspects of the food surplus in the United States. By Bernhard Ostrolenk. Menasha, Wis., 1922. Thesis (Ph. D.) University of Pennsylvania, 1922.

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Sur la variation et le rôle des alcaloïdes de la helladoue. Par J. Ripert. Rennes, 1922. (France. Office national des matières premières végétales pour la droguerie, la pharmacie, la distillerie et la parfumerie. Travaux. Notice no. 11 i. e. 12)

Wet padi planting in Negri Sembilan. By D. H. Grist. Kuala Lumpur, 1922. (Federated Malay States. Dept. of agriculture. Bulletin no. 33)

Wet-rot of para rubber roots. By W. N. C. Belgrave. Kuala Lumpur, 1919. (Federated Malay States. Dept. of agriculture. Bulletin no. 28)

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week January 2-6, 1923. These publications can be obtained only from the stations issuing them.

Fertilizer Experiments with Citrus Trees. By R. S. Vaile. (California Sta. Bul. 345, pp. 465-512, figs. 13.)

Pruning Young Olive Trees. By F. T. Bioletti. (California Sta. Bul. 348, pp. 87-110, figs. 8.)

Vineyard Plans. By T. F. Bioletti. (California Sta. Circ. 253, pp. 12, figs. 4.)

Feeding Steers Having Access to Barn and Range v. Steers Confined to Barn. By E. S. Good. (Kentucky Sta. Bul. 242, pp. 115-135, figs. 7.)

Thirty-fourth Annual Report. Part II. (Kentucky Sta. Rpt. 1921, pp. 505+34+IV, figs. 49.)

Annual Report, 1921. Parts I and II. (Massachusetts Sta. Rpt. 1921, pp. 79a+179, pls. 5, figs. 12.)

Pruning Fruit Trees. By R. E. Marshall. (Michigan Sta. Spec. Bul. 118, pp. 39, figs. 39.)

New Knowledge. (Missouri Sta. Bul. 197, pp. 95, figs. 17.)

Scarred Endo-perm and Size Inheritance in Kernels of Maize. By W. H. Eyster. (Missouri Sta. Res. Bul. 52, pp. 10, pls. 2, figs. 2.)

The Relation of Temperature to Blossoming in the Apple and Peach. By F. C. Bradford. (Missouri Sta. Res. Bul. 53, pp. 51, figs. 10.)

Studies in Animal Nutrition.—II. Changes in Proportions of Carcass and Offal on Different Planes of Nutrition. By C. R. Moulton, P. F. Trowbridge, and L. D. Haigh. (Missouri Sta. Res. Bul. 54, pp. 76, pl. 1, figs. 27.)

Studies in Animal Nutrition.—III. Changes in Chemical Composition on Different Planes of Nutrition. By C. R. Moulton, P. F. Trowbridge, and L. D. Haigh. (Missouri Sta. Res. Bul. 55, pp. 88 figs. 20.)

Winter Injury of Fruit in Missouri. By F. C. Bradford. (Missouri Sta. Circ. 107, pp. 7.)

The Clover Leaf Weevil. By G. W. Herrick and C. H. Hadley, Jr. (New York Cornell Sta. Bul. 411, pp. 12, pls. 2, figs. 4.)

Varietal Trials with Oats in North Dakota. By T. E. Stoa. (North Dakota Sta. Bul. 164, pp. 47, figs. 7.)

Cost of Production and Farm Organization. By R. E. Willard, H. Metzger, and T. S. Thorfinnson. (North Dakota Sta. Bul. 165, pp. 128, figs. 8.)

Infectious Abortion of Cattle. By B. T. Simms and F. W. Miller. (Oregon Sta. Bul. 192, pp. 12, fig. 1.)

Dairying in Porto Rico. By D. W. May. (Porto Rico Sta. Bul. 29, pp. 19, pls. 4.)

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Ashbrook, Frank G. (Biological Survey). First Steps in Organizing the National Silver Fox Growers' Association. American Fox and Fur Farmer, v. 2, no. 6, p. 20, Jan., 1923.

Baughman, W. F., and Jamieson, G. S. (Chemistry). The Chemical Composition of Soya Beau Oil. J. Am. Chem. Soc., v. 44, no. 12, Dec., 1922.

Blake, Sidney F. (Plant Industry). New South American Asteraceae. Collected by E. W. D. Holway. Botanical Gazette, v. 74, pp. 414-480, Dec., 1922.

Campbell, W. G. (Chemistry). Address before Association of Food Control Officials, November, 1922, on Organization. Cotton Oil Press, v. 6, no. 9, Jan., 1923.

Chittenden, F. H. (Entomology). The Cocklebur Billbug. Canadian Entomologist, v. 54, no. 10, pp. 217-220, Oct., 1922.

Church, Margaret B. (Chemistry), and Buckley, J. S. (Animal Industry). Laboratory Feeding of Molds to Animals. N. A. Vet., v. 4, no. 1, pp. 7-12, 15, Jan., 1923.

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Rohwer, S. A. (Entomology). Descriptions of Javanese Braconidae (Hym.) Received from Mr. S. Leeffmans. Treubia, v. 3, no. 1, pp. 53-55, 1922.

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Sherman, Caroline B. (Agr. Economics). United States Licenses for Warehouses. The Banker-Farmer, Dec., 1922.

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No. 4.

CHAPMAN FIELD TO BE USED BY DEPARTMENT

Florida Flying Field Transferred by War Department Will Be Tropical Garden.

Under a revocable license, which it is believed insures a sufficiently long tenure to secure useful results, Secretary Weeks has just turned over to Secretary Wallace the Chapman Field air station of 850 acres, located on Biscayne Bay, 12 miles south of Miami, Fla. This tract has a coast line of 1½ miles and is composed of about 195 acres of pine land and rock reef, and 655 acres of lowland and mangroves, more or less subject to overflow during the high waters. Of this latter, 80 acres have been filled above high-water level and will be made available for use as soon as the salt has been washed out of it.

Adapted to Tropical Agriculture.

The striking feature of this tract of land is that it is located in one of the warmest spots on the whole peninsula of Florida, which means that it is less liable to cool winter temperatures than almost any other spot in continental United States. Vegetation which is strictly tropical, such as that of the mango, coconut palm, and West Indian avocado, can be grown here in perfect safety. It is not commonly understood that in such a station can be propagated to advantage a wide range of those valuable food and otherwise useful plants upon which the development of the horticulture of the Tropics is dependent.

The insect pests and fungus diseases which make plant propagating difficult and the distribution of small nursery plants so dangerous in the Tropics can be kept under control on this coast of Florida. This is an important factor in the dissemination of tropical plants.

The growth of Florida has thrown into a region in which the white man can

work out of doors hundreds of thousands of intelligent horticulturists who are keenly interested in the development of those fruits, vegetables, forage crops, and grains which can be grown somewhere on the 54,000 square miles of Florida territory, a region which in area is only one-fifth less than the whole of New England, with its six and a half millions, and more than half as large as the whole West Indies, with their six millions of people.

To Continue Other Gardens.

The Department of Agriculture has maintained in Miami since 1898 a plant introduction garden and research laboratory on Brickell Avenue, on 7 acres of land, the use of which was given the department by the late Henry M. Flagler

SENATOR LADD TO SPEAK AT DEPARTMENT EXHIBITION

Senator E. F. Ladd, of North Dakota, will make a short address at the exhibition of Department of Agriculture motion pictures in Central High School auditorium, Monday evening, January 29.

Senator Ladd is a member of the Senate Committee on Agriculture and Forestry.

The program will include five new department films, entertainment features, and music by an orchestra and organ. Tickets may be obtained by employees from chief clerks of bureaus.

and Mrs. Mary Brickell, and since 1914 a 25-acre garden at Buena Vista, on land given to it by Charles Deering, of Chicago.

With the great influx of settlers into south Florida, the growing interest of Americans in the Tropics, and the increase in utilization of tropical plants by Americans in Panama, Hawaii, and Porto Rico has come the evidence that much more comprehensive facilities must be arranged for to take care of the coming demand for useful tropical plants than has hitherto been realized.

Through the action of Secretary Weeks, this first step in the origination of this new garden has been made possible.

(Continued on page 2.)

LENROOT-ANDERSON BILL REPORTED TO SENATE

Capper Bill Discussed—May Buy Needed Chemicals for Use of Farmers.

The Banking Committee favorably reported to the Senate the Lenroot-Anderson farm credit bill, S. 4287, the second of the measures belonging to the farm credits program, with amendments and Report 1003. The Capper farm credit bill, S. 4280, was laid before the Senate January 15, with the right of way until disposed of. It was debated by the Senate January 15-18. Both of these bills seek to provide credit facilities for the agricultural and live-stock industries of the United States; to amend the Federal farm loan act; and to amend the Federal reserve act. A new credit bill (H. R. 13806) was introduced in the House by Mr. Towner and referred to the House Committee on Banking and Currency January 15.

Nitrate Fund Discussed.

A joint resolution (S. J. Res. 265) providing for a revolving fund of \$10,000,000 for the purchase of nitrate of soda and calcium arsenate, to be distributed directly to the farmers, was passed by the Senate January 13 and is now being considered by the House Committee on Agriculture. The bill under consideration authorizes the President to procure and distribute these chemicals during the calendar year 1923. The relative amounts to be spent for the two chemicals is not specified. It is expected that it will be considered in the House at an early date.

In 1918-19 the Department of Agriculture handled the purchase and distribution of 153,000 tons of nitrate of soda under provisions similar to those of the resolution. At that time 100,000 farmers

(Continued on page 8.)

Department Delegates Will Attend Cotton Conference

Several representatives of the department will attend the conference of the Association of Southern Agricultural Workers to be held February 5-8 in Memphis, Tenn. The particular theme of the conference will be the control of the cotton boll weevil. According to the plans of the association, the subject will be divided into separate heads and a specialist will bring together and correlate all available material on his particular subject from both State and Government sources. The committees will then make a report to the conference. It is thought that the conference will recommend a uniform program for the development of the cotton industry, especially with reference to protection from the boll weevil.

Among those who are planning to attend from the department are: Dr. E. D. Ball, director of scientific research; Dr. H. C. Taylor, Bureau of Agricultural Economics; Dr. K. F. Kellerman, Dr. O. F. Cook, and C. B. Doyle, of the Bureau of Plant Industry; Dr. W. D. Hunter and B. F. Coad, of the Bureau of Entomology; Dr. C. C. McDonnell, of the Bureau of Chemistry; and the following from the States Relations Service: H. M. Steece, Dr. C. E. Smith, J. A. Evans, L. H. Goddard, H. E. Savely, W. B. Mercier, I. M. Hill, and H. W. Hochbaum.

The Association of Southern Extension Workers will also meet in Memphis at this time, and department representatives will attend some of these meetings as well. In addition to the others from the States Relations Service, Miss Madge J. Reese and Miss Ola Powell will attend the extension meetings.

DISCUSS SPRING-WHEAT PROBLEMS.

The Spring Wheat Regional Conference, held at St. Paul, Minn., January 22, was attended by a number of department representatives and material assembled in the department was presented. The work was divided among various committees, each considering a special subject. Those in attendance from the department were: L. H. Goddard, States Relations Service; Dr. O. E. Baker, Bureau of Agricultural Economics; Chester Morrill, Packers and Stockyards Administration; Dr. C. W. Warburton, Bureau of Plant Industry; J. B. Kincer, of the Weather Bureau; and Dr. E. W. Sheets, Bureau of Animal Industry. Nils A. Olsen, of the Grand Forks, N. Dak., and R. C. Miller, of the St. Paul offices of the Bureau of Agricultural Economics, also attended. The

conference is composed of representatives of agricultural colleges from Minnesota, Montana, South Dakota and North Dakota, and the Department of Agriculture. Dr. W. C. Coffey, of the University of Minnesota, is chairman, and E. M. Freeman, also of the University of Minnesota, secretary.

COTTON STATISTICIANS TO MEET.

A tentative program for the Conference of Agricultural Statisticians of the Bureau of Agricultural Economics from the Cotton Belt, to be held at Atlanta, February 2 and 3, has been outlined. Dr. H. C. Taylor will address the meeting, as will W. F. Callander, Charles E. Gage, H. R. Tolley, Nat C. Murray, J. A. Becker, and S. A. Jones, all of whom will attend from the Washington office. The program will include discussions of livestock reporting, price reporting, cooperation, methods of estimating acreage and losses, pars and normals, semi-monthly crop notes, and the publication and dissemination of crop reports. Special southern crop-estimating problems will be considered, as will schedule revisions for 1923. Plans for the 1923 campaign will be outlined, and each statistician will be expected to submit his suggestions for the betterment of the crop-estimating work.

Chapman Field to Be Used by Department

(Continued from page 1.)

The range of plants which will be grown and sent out from the new Chapman Field garden will include many which are adapted to regions visited by severe frosts, for it has been found that under lath sheds a wide range of young plants can be grown economically.

While the distribution of new experimental plants will always be a prominent feature of the new garden, a test orchard and arboretum will be gradually built up, in which will be preserved collections of the valuable and beautiful trees and shrubs of foreign countries which are adapted to the soil and climate of Chapman Field.

Inasmuch as it will require several years to build up such a garden, and inasmuch as there are growing at the Brickell Avenue and Buena Vista gardens many rare and valuable specimen plants, these older gardens will be maintained for the present and probably for some time to come.

In how far this garden can fulfill the functions of an arboretum such as the Arnold Arboretum the circumstances of funds and soil conditions will determine. That it can be developed into a center of tropical agricultural research seems certain.

Its position on the waters of the Caribbean, within 36 hours of the great centers of American civilization, can not fail to make it in time the most available spot for American students to visit who want to get an idea of the great problems of the Tropics and live in a perfectly healthy climate in an intellectually stimulating community.

To the State institutions of Florida, especially the collections of tropical plants, must appeal particularly, for from the growing body of students of agriculture and horticulture of that State should come the men and women who will develop the new tropical vegetables, fruits, forage crops, and ornamental plants which are destined to compose not only the agriculture of Florida but the agriculture of many strictly tropical regions as well. In time it should become a center where the strictly tropical plants will be bred with the hardier forms of the regions farther north and result in combinations of characters hitherto unknown. Plant breeding has so far scarcely touched the Tropics, and the opportunities presented by a garden at Chapman Field for the production of new and valuable forms are believed to be unusual.

Adjoins Perrine Tract.

There is a special romance connected with this spot on the coast of Florida which ought to appeal to all agriculturists. Chapman Field, which is named in honor of Manuel Chapman, the first American aviator to fall in the Great War, joins on the east the Perrine grant, which was the first grant of any kind whatever made by the Congress of the United States in aid of agriculture. It was made July 7, 1838, to Dr. Henry Perrine, who was killed by the Indians while he was making efforts to establish on his grant tropical trees and plants, particularly the sisal fiber plant from Yucatan, for which plant-introduction purpose he had been granted a township of land in what was then the wilderness of south Florida.

As the work develops, the Chapman Field garden will place its facilities at the disposal of the investigators in other offices of the bureau and under proper departmental procedure with other research institutions throughout the country. Studies in the Tropics or sub-Tropics often shed a new light upon problems of northern agriculture and have a broadening influence of great value upon the mind of any investigator.

Much of the equipment remaining at Chapman Field, such as the water system and buildings, can be utilized.

The management of this new garden will be in the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry.

UNEXPENDED FUNDS IN YEAR'S BUDGET

Many Items Contribute to Total Funds Available for De- partment Use.

To carry on the regular work of the Department of Agriculture, consisting of its investigative, regulatory, and other routine activities, and to administer the cooperative agricultural extension work, Federal highway and forest road and trail construction, and other special activities devolving upon the department by operation of law, during the fiscal year ended June 30, 1922, Congress appropriated or authorized for expenditure \$135,046,918, according to the report of A. Zappone, Chief Division of Accounts and Disbursements. This sum includes \$36,404,259 carried in the Agricultural appropriation act for that fiscal year; supplemental appropriations of \$1,627,875; the permanent annual appropriations of \$3,000,000 for the meat inspection act and \$4,080,000 for extension work in cooperation with the States; the \$1,500,000 for making seed-grain loans to farmers in the drought-stricken areas of the Northwest; \$75,000,000 for highways in cooperation with the States; \$6,000,000 for forest road and trail building; \$3,137,882 for the increase of compensation; \$725,000 for printing and binding; \$2,941,375 for cooperative work, road and trail construction, refunds to depositors, and payments to the States for the benefit of roads and schools; and \$630,527 in special appropriations and in allotments transferred from other departments for work to be done at their request by the Department of Agriculture.

Unexpended Balances.

In addition to these appropriations, unexpended balances totaling \$225,137,391 remained available for expenditure during this year. The largest portion of these consisted of \$193,693,859 in Federal-aid road construction funds and \$3,806,759 in forest road and trail building appropriations; the sum of \$9,936,328 remaining from the war emergency revolving fund for the purchase and distribution of nitrate of soda, and \$5,680,380 from the revolving fund for stimulating agriculture through the purchase and distribution of seeds during the war period.

The remainder of the unexpended balances available for expenditure during the fiscal year 1922 consisted of \$5,478,058 under the various appropriations contained in the Agricultural appropriation act for the fiscal year 1921, and \$802,868

under other appropriations for that year; \$3,736,680 in balances remaining from appropriations provided by the Agricultural act for the fiscal year 1920, and \$23,750 from other appropriations for that year; \$1,978,709 in unexpended balances of continuing appropriations from prior years remaining available until expended. The total amount available from all sources for expenditure during the fiscal year 1922 was therefore \$360,184,309.

Year's Disbursements.

During the year the disbursements of the department amounted to \$147,289,385, of which \$31,000,029 was disbursed from the appropriations provided by the Agricultural appropriation act for the fiscal year 1922, \$16,670,878 from the permanent annual, supplemental, special, and indefinite appropriations and the allotments from other departments made for that year, and \$99,618,478 from the unexpended balances of annual and continuing appropriations for prior fiscal years.

Unused balances of appropriations for 1920 and earlier years, totaling \$17,729,185, were turned into the surplus fund of the Treasury, including over \$15,000,000 in unobligated balances remaining from the war emergency revolving funds for the purchase and distribution of nitrate of soda and seeds.

At the close of the fiscal year, June 30, 1922, \$195,165,739 remained unexpended and available for disbursement during the fiscal year 1923.

The office of the disbursing clerk received, examined, and paid 189,509 vouchers and pay rolls during the year, requiring the issuance of 341,447 checks on the Treasurer of the United States. In addition, 30,180 checks were issued against funds deposited in the disbursing clerk's special account with the Treasurer. The semimonthly payment of salaries of employees stationed in Washington involved the handling and disbursement of \$7,541,121.71 in cash.

Incident to the department's work, receipts aggregating \$8,403,394.05 were covered into the Treasury during the fiscal year.

COOPERATION IN EUROPE.

Chris Lauriths Christensen, of the Bureau of Agricultural Economics, is now in the Washington office of the bureau preparing his report on Danish agriculture, its organization and the cooperative movement. Mr. Christensen has just returned from Europe, where he studied economic conditions in 11 countries, particularly in Denmark.

Through the cooperative marketing of butter, bacon, and eggs—the three prin-

cipal exports—Denmark has not experienced any agricultural crisis as yet. Mr. Christensen said. The Danish farmer has been receiving relatively higher prices for his products than in 1914, and he has at the same time managed to lower his cost of production.

Denmark has no laws on cooperation. The cooperative movement, which was an economic necessity designed to meet the demand of a new marketing situation, is based on education and rural culture, according to Mr. Christensen. The first real step toward agricultural cooperation in Denmark was taken in 1882, when the need of standardized, high-grade agricultural products prompted the Danish peasants to form a cooperative dairy.

Through the production of high-grade, standardized products, great strides in dairying have been made in Finland. Mr. Christensen also reports.

In referring to cooperation in Germany, Mr. Christensen said that among the best developed cooperative organizations in German agriculture is the rural cooperative village bank. Notwithstanding the World War, these banks have continually increased in number and deposits.

Mr. Christensen also investigated phases of agricultural cooperative activities in Sweden, Norway, Czechoslovakia, and Switzerland.

DELINTING PROCESS PATENT GRANTED.

A public-service patent on a process of delinting cotton seed with gaseous hydrochloric acid has been granted to Loren G. Polhamus, of the Bureau of Plant Industry, and efforts are now being made to develop it on a commercial scale. Chemical delinting with strong sulphuric acid has also been advised with the probable advantage of disinfecting. The use of gaseous hydrochloric acid avoids the most serious difficulties, however, of the sulphuric-acid treatment. Exposure of the dry seed to hydrochloric acid disintegrates the lint, so there is no need of the wetting, washing, and drying of the seed that were the serious difficulties of the sulphuric-acid treatment.

GRADUATE SCHOOL PLANS BEING MADE.

A meeting of the graduate school committee was recently held in Dr. E. D. Ball's office for the purpose of planning the courses for the second semester. The second semester will begin February 12, and the projected courses will soon be announced. The committee consists of representatives from each bureau.



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APPROPRIATIONS BILL CONFEREES.

The conferees on the agricultural appropriations bill have been appointed. They are: Senators McNary, Jones of Washington, Leuroot, Overman, and Smith of South Carolina. The five Representatives appointed for the conference are: Anderson, Magee, Wasson, Buchanan, and Lee.

TO ARBITRATE COMMISSION CHARGES.

An agreement has been reached between the American National Live Stock Association, the National Wool Growers' Association, and other live-stock organizations and the commission market agencies at the stockyards located at Omaha, St. Paul, and Chicago, whereby the complaint filed against the commission charges for selling live stock has been submitted for arbitration.

This complaint was filed with the Secretary of Agriculture by various live-stock organizations on behalf of their members, stating that the present charges for selling live stock at the stockyards named are unjust. Before dates for formal hearings were set the patrons and the commission men at the several markets began to negotiate a plan for a friendly settlement.

The producers' organizations tributary to the Kansas City stockyards met in conference at Kansas City during the latter part of September, and after considerable discussion entered into a stipulation whereby the issues raised by the complaint were submitted for arbitration to Howard M. Gore and G. N. Dagger, of the Packers and Stockyards Administration. The Secretary of Agriculture approved this plan of informal settlement.

The negotiations between the producers and commission men to reach a friendly adjustment at the other markets have been in progress, and recently the commission men through their exchanges at Omaha, St. Paul, and Chicago submitted a plan of settlement by arbitration. The American National Live Stock Association and the other complainants have indorsed the plan. There are still two markets which have not adopted the

plan, though they have it under consideration at the present time.

By this informal procedure it is believed that a determination of the complaint can be reached satisfactory to all; at the same time harmony and good will will be preserved among all the groups interested in the live-stock industry.

BUSINESS ORGANIZATION TO MEET.

The semiannual meeting of the business organization of the Government will be held Monday, January 29, in Continental Hall. Chiefs of bureaus and their principal assistants will attend. President Harding and General Lord, Director of the Budget, are expected to discuss important matters in connection with the business administration of the Government.

At the request of the Director of the Budget, Secretary Wallace has asked the bureau chiefs for a revision of estimates and receipts for the remainder of the fiscal year. The Bureau of the Budget has called attention to the need for the utmost economy in order to meet the situation of the National Treasury during the remainder of the fiscal year. Secretary Wallace has asked the bureau chiefs and others who control expenditures to reduce expenses wherever possible to cooperate in this request.

A CORRECTION.

In THE OFFICIAL RECORD of January 10, 1923, a review of Department Bulletin No. 1074, "Classification of American Wheat Varieties," unfortunately named only two of the three authors, omitting the name of John H. Martin. The three authors of the bulletin should have been given as follows:

J. Allen Clark, Agronomist in Charge; John H. Martin, Agronomist, Western Wheat Investigations; and Carleton R. Ball, Cerealists in Charge, Office of Cereal Investigations, Bureau of Plant Industry.

In referring to the eight general divisions of wheat varieties, the rearrangement of these varieties in the order of their agricultural value is as follows: Common wheat, durum wheat, club wheat, Poulard wheat, emmer, spelt, Polish wheat, and einkorn.

AREA COORDINATORS APPOINTED.

The following statement from the office of the chief coordinator, H. C. Smither, Washington, gives the names of the area coordinators corrected up to January 8, 1923:

Under authority of Executive order, dated July 27, 1921, published in Bureau of the Budget Circular No. 15, the fol-

lowing area coordinators have been appointed:

I Area.—Commander A. S. Wadsworth, United States Navy, quartermaster intermediate depot, Army base, Boston 9, Mass.

II Area.—Capt. William S. Miller, United States Navy, 822 Shipping Board Building, 45 Broadway, New York, N. Y. Telephone, Whitehall 1060—Ex. 292.

III Area.—Commander W. R. Bowne, United States Navy, custom house, Philadelphia, Pa. Telephone, Lombard 7220.

IV Area.—Maj. Talbot Smith, United States Army, 426 Post Office Building, Atlanta, Ga.

V, VI, and VII Areas.—Lieut. Col. E. R. Tompkins, United States Army, care of Chicago General Intermediate Depot, 1819 West Pershing Road, Chicago, Ill. Telephone, Lafayette 550.

VIII Area.—Lieut. Col. William A. Austin, United States Army, care of Headquarters, VIII Corps Area, Fort Sam Houston, Tex.

IX Area.—Commander Ray Spear, United States Navy, room 433, Customs Building, San Francisco, Calif.

HUNTING SEASON ENDS.

January 31 is the last day of the hunting season for wild ducks and geese, coots, gallinules, and Wilson snipe or jacksnipe in New Jersey, Delaware, that portion of New York known as Long Island, Maryland, the District of Columbia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Arkansas, Oklahoma, Louisiana, Texas, and Arizona. The seasons prescribed for hunting migratory game birds under the migratory bird treaty act and regulations have already closed in certain groups of States—in some on December 31 and in others on January 15. The Federal law, which is administered by the Bureau of Biological Survey of the United States Department of Agriculture, provides that the carcasses of birds killed during the open season may be possessed for an additional period of 10 days following the end of the season if State or local laws do not prohibit. The Biological Survey warns that possession of carcasses of wild ducks, geese, and other migratory game birds in cold-storage plants or otherwise more than 10 days after the end of the Federal season renders the owner of such birds subject to prosecution in Federal courts.

NO EXHIBIT AT MADISON SQUARE.

The department was represented at the Madison Square Garden Poultry Show in New York, January 24 to 28, by A. R. Lee, in charge of poultry investigations, Bureau of Animal Industry, and J. P. Quinn, of the same bureau.

Because of the cost of space at the Madison Square Garden Show this year, the department, contrary to its practice for several years, furnished no exhibit.

U. S. D. A. CLUB ACTIVITIES

ST. JOSEPH CLUB.

The January meeting of the St. Joseph U.S.D.A. Club was held at the St. Charles Hotel, January 12. Dr. W. H. Bailey, inspector for the western weighing and inspection bureau at the local stockyards, was the principal speaker. Doctor Bailey pointed out the need for further educational campaigns to teach producers the many precautionary measures to be taken to reduce live-stock losses in transit.

H. D. Williams, the State representative of the Federal-State Market-Reporting Office, who is a "dollar-a-year man," was elected to membership in the club.

The club held an open meeting in December, in which the students of the St. Joseph Veterinary College and ladies were included. Instrumental and vocal selections were given and several motion pictures were shown.

MONTGOMERY CLUB.

A U.S.D.A. Club was organized at the Chamber of Commerce in Montgomery, Ala., January 10. A committee has been appointed to draft a constitution and by-laws and to make nominations for officers. All of the bureaus of the department in Montgomery were represented at the organization meeting.

INDIANAPOLIS CLUB.

New officers were elected at the January meeting of the Unity Club of Indiana. They are: President, H. A. Rhoades, of the Bureau of Agricultural Economics; vice president, Dr. J. D. Stillwell, Bureau of Animal Industry; and secretary-treasurer, F. H. Ackelov, of the Weather Bureau.

ADDRESSES EXTENSION WORKERS.

The effect of winter rations on the pasture gains of steers the following summer was discussed by E. W. Sheets, acting chief, animal husbandry division, Bureau of Animal Industry, at the weekly conference of department-extension workers, held in the Office of Cooperative Extension Work of the States Relation Service, January 16.

Mr. Sheets emphasized the fact that steers making the best total gain made some gain during the winter months, and that steers that lost weight during the winter never fully regained their weight. The most economical ration for growing cattle in the blue grass or eastern pas-

ture areas is silage and legume hay, or, in the absence of legume hay, dry roughage and a little cotton-seed meal, with silage, makes a satisfactory ration. It has been found that steers wintered on silage did equally as well as those wintered on nonsucculent rations, and the shrinkage on the way to market was no greater. Charts were used to illustrate the various points discussed.

J. T. Sarvis, farm superintendent at Mandan, N. Dak., Bureau of Plant Industry, also spoke on the same subject.

CLUB WOMEN VISIT DEPARTMENT.

Sixty State councilors of the General Federation of Women's Clubs, representing 43 States, visited the department January 11. They were given a brief glimpse of the various lines of work of the Office of Home Economics and were addressed by Assistant Secretary Pugsley, who told them of work of the department of interest to the women whom they represented. He dwelt particularly on the plans for the development of the work in home economics in connection with the proposed new Bureau of Home Economics and said that if funds could be provided the bureau would be concerned with problems of town and city as well as farm homes.

DISCUSS TICK-ERADICATION PLANS.

Plans for unusually active measures in the eradication of cattle ticks during 1923 were formulated at the conference of Federal and State officials held at Fort Worth, Tex., January 9 to 11, at which Dr. R. A. Ramsay, chief of the tick-eradication division, presided. The three-day conference included discussions of educational, regulatory, and legal features of the work, training and qualification of inspectors, the keeping of maps and records, and resolutions dealing with future policies and combined efforts by Federal, State, and county officials for the common cause.

The use of educational motion pictures in preliminary tick eradication was warmly commended, as was also the value of bulletins, posters, and news articles. In future tick-eradication work such educational material is to be used extensively and will be given a place in the systematic conduct of the work.

Another development of successful tick-eradication work is the zone system, successfully used in several States and which was indorsed by the conference. The zone system concentrates the work, obtaining tangible results in minimum time and at minimum expense.

In portions of the South where tick eradication is still incomplete, chambers

of commerce, the press, railroad and live-stock officials, and many public-spirited persons have aided in the work, realizing that its benefits are incalculable. The conference of tick-eradication officials expressed its recognition of this increasing support which has such a beneficial influence on favorable public opinion.

DAIRY STATISTICS REPRINTED.

A reprint of 10,000 copies of the Handbook of Dairy Statistics, issued in June, 1922, by the dairy division of the Bureau of Animal Industry, has been found necessary.

The handbook is of pocket size and contains 135 tables, giving statistics on dairy production and trade throughout the world. It shows for all countries from which figures were obtainable the numbers of dairy cattle, the amount of milk they produce, the dairy products manufactured, the use that is made of them, and the international trade in dairy products.

Three circulars have also been published illustrating the material contained in the handbook by means of graphs and charts which show the trend of the dairy-cattle, butter, and cheese industries, respectively. They are Department Circular 7, "Trend of the Dairy-Cattle Industry in the United States and Other Countries"; Department Circular 70, "Trend of the Butter Industry in the United States and Other Countries"; and Department Circular 71, "Trend of the Cheese Industry in the United States and Other Countries."

These publications may be obtained free of charge from the dairy division as long as the supply lasts.

DOCTOR SPILLMAN ON FARM TYPES.

Dr. W. J. Spillman, of the Bureau of Agricultural Economics, spoke before the local chapter of the American Farm Economic Association, Wednesday afternoon, January 10. His topic was "The Distribution of Types of Farming in the United States." The factors that determine the distribution of the various enterprises may be divided into three groups, Doctor Spillman pointed out. These, he said, are: First, physical factors, such as soil and climatic conditions; second, biological factors, such as insect pests and fungous diseases; third, economic factors, the most important of which are value of a product per pound, distance to market, competition between different regions in the production of the same product, and competition between different crops for the same land.

PEOPLE MENTIONED IN OFFICIAL ORDERS

W. G. Campbell, Acting Chief of the Bureau of Chemistry; Dr. F. C. Blanck, and Messrs. B. J. Howard, C. H. Stephenson, and P. L. Gowen, of the bureau, attended the meeting of the National Cannery Association at Atlantic City, January 22-26. Mr. Campbell delivered an address on the work of the bureau.

Dr. W. W. Skinner, Assistant Chief, Bureau of Chemistry, delivered an address entitled "The Philosophy of Formulating Food Standards," at the annual convention of the National Preservers and Fruit Products Association, which was held in Washington January 18 and 20.

W. S. Frisbie, Bureau of Chemistry, is visiting food and drug officials of the Southern States in the interests of cooperation. Mr. Frisbie will return to the bureau about February 16.

L. J. Charles, S. L. Taylor, and F. S. Berry, of the St. Paul, Minn., office of the Bureau of Public Roads, attended the annual convention of the American Road Builders' Association, held last week in Chicago. The following attended from the Washington office: F. H. Jackson, J. R. Boyd, B. A. Anderson, E. C. E. Lord, H. W. Hendley, A. T. Goldbeck, H. S. Fairbank, and G. Batis.

J. E. Dudley, Jr., of the Bureau of Entomology, with headquarters at Madison, Wis., is attending the meeting of the National Cannery Association being held at Atlantic City this week. Before returning to Madison, Mr. Dudley will stop in Washington for a conference.

Dr. W. B. Bell, of the Biological Survey, will attend the annual meeting of the National Wool Growers' Association, at Spokane, Wash., January 24-26, and give an address on the business aspects of organized efforts in controlling predatory animals to protect live stock. While in the West Doctor Bell will visit field offices of the Biological Survey for consultation and inspection.

James Silver and Carlyle Carr, of the Biological Survey, are working on an anti-rat campaign in the vicinity of Blacksburg, Va., in cooperation with county agents and the State director of extension.

Frank G. Ashbrook, assistant biologist of the Biological Survey, attended the meeting of the American Fox Breeders' Association at Boston, Mass., on January 17, called with a view to amalgamate the two national fox-registration associations. On his return trip he stopped at New York to attend the winter fur sale of the New York Auction Co.

C. H. Popenoe, of the Bureau of Entomology, is attending the convention of the National Cannery Association at Atlantic City this week, where he supervised the installation of the exhibit of the Bureau of Entomology.

W. W. Swett, of the Bureau of Animal Industry, will attend a meeting of the southern section of the American Dairy Science Association at Memphis, Tenn., February 6-8. He will speak on "Judging Contests."

W. H. Black and R. S. Allen, of the Bureau of Animal Industry, will assist in a demonstration of the department live-stock exhibit at the University of Illinois, Urbana, during the Farmers' Short Course, January 15 to February 1.

E. Z. Russell, of the Bureau of Animal Industry, will give an address pertaining to experimental phases of swine production at the conference to be held at the Georgia State Agricultural and Mechanical College at Athens, January 25.

Dr. E. F. Phillips, of the Bureau of Entomology, will attend a series of meetings at Purdue University, at Lafayette, Ind., July 29 to February 1; the meeting of the Ohio State Beekeepers' Association, at Columbus, Ohio, February 1 and 2; and the annual meeting of the American Honey Producers' League, at St. Louis, Mo., February 6-9.

A. J. Ackerman, of the Bureau of Entomology, will attend a meeting of the Ohio State Horticultural Society at Columbus January 30 to February 1.

H. W. Samson, of the Bureau of Agricultural Economics, addressed the New Jersey Potato Growers' Association, at Trenton, January 18, on "The Grading and Inspection of Potatoes."

K. F. Warner, of the Bureau of Animal Industry, went to Knoxville, Tenn., to put on a meat demonstration for the Farmers' Short Course, and also delivered an address entitled "Care of Sows at Farrowing Time," January 15.

Dr. C. J. Humphrey, of the Bureau of Plant Industry, will spend about a month, beginning January 13, on a trip through the Southern States investigating decay in lumber yards and buildings. He will give an illustrated address before the American Wood Preservers' Association at New Orleans, January 24, on "The Destruction by the Fungus *Poria incrassata* of Coniferous Timber in Storage and when Used in the Construction of Buildings."

R. R. Pailthorpe, of the Bureau of Plant Industry, with headquarters at Spokane, Wash., will take part in the meeting of the State Horticultural Society of Idaho, which is to be held this week. He will discuss harvesting of apples with reference to ripening for storage purposes.

J. C. Carpenter, of the Bureau of Public Roads, attended the meeting of the highway engineering division of the American Society of Civil Engineers, which was held January 19 in New York City.

S. W. Greene, of the Bureau of Animal Industry, with headquarters at McNeill, Miss., will attend the Fifth Southern Forestry Conference, to be held January 29 at Montgomery, Ala. He will also attend the Forage Crop and Pasture Conference at Memphis, Tenn., February 6-8, where he will speak on "Fires and Grazing" and "Carpet Grass."

Dr. G. N. Hoffer, pathologist in the investigations of corn root, stalk, and ear rot diseases conducted cooperatively by the Bureau of Plant Industry and the Purdue University Agricultural Experiment Station, at La Fayette, Ind., will address the members of the National Cannery Association at the annual meeting to be held at Atlantic City, N. J., from January 22 to 29, 1923.

R. T. Balch, of the carbohydrate laboratory, Bureau of Chemistry, delivered two addresses before the Vermont Maple Sugar Makers' Association held at Burlington, Vt., January 16-18. His subjects were "Buying Maple Sirup by Weight Instead of by Volume" and "Cooperative Marketing of Sirup."

A. W. McKay, of the Bureau of Agricultural Economics, addressed the Vermont Maple Sugar Association at Burlington, January 17, on "The Value of a Trade-Mark in Marketing Agricultural Products."

J. J. Doheny, of the Boston office of the Bureau of Agricultural Economics, gave a talk over the radio at Medford, Mass., January 12, on "Boston's Meat Supply."

VISITORS TO THE DEPARTMENT.

Dr. G. F. Warren, of Cornell University, conferred with the chief and other members of the staff of the Bureau of Agricultural Economics, January 15, 16, and 17.

G. C. WHITE.

Gordon C. White, one of the pioneer workers in the former Bureau of Markets, died in Washington, January 16, 1923. Mr. White was appointed specialist in transportation within a few months after the Office of Markets, as it was first known, was created. He spent himself without stint all during the early days of organization and again during the war, when work with the United States Railroad Administration was of vital importance to the Nation. The burden that he carried then was very great; as it proved, much greater than he was physically able to bear. Because of illness, Mr. White had been on furlough since last spring. Funeral services were held at the Calvary Methodist Church.

CIVIL SERVICE EXAMINATIONS.

The Civil Service Commission announces examinations as follows:

Library assistant, February 7.—Vacancies in the departmental service, at salaries of \$900 to \$1,400 a year, will be filled from this examination. Competitors will be examined in library economy, cataloguing, and modern languages. Education and experience will count 35 per cent. Graduation from high school is a prerequisite. If interested apply for Form 1312.

For library aid, February 8.—Vacancies in the departmental service will be filled from this examination at salaries of \$900 to \$1,000 a year. The examination will include general education and clerical tests and practical questions in elementary library economy. Applicants must have completed the first two years of a standard high-school course with at least a course in library economy or one year's recent experience in elementary library work. Additional credits will be given for experience in typewriting. Applicants should send for Form 1312.

Entomological ranger, March 7.—A vacancy in the Bureau of Entomology for duty at Klamath Falls, Ore., at a salary of \$1,200 a year, and other vacancies in positions requiring similar qualifications for service in the Rocky Mountains, Pacific Coast States, or elsewhere, will be filled at salaries from \$1,000 to \$1,400 a year from this examination.

The duties of this position will be to assist in the prevention of insect depredations on living timber. Experience in work with insect-infested timber will be a prerequisite. Applicants should send for Form 1312.

Broadcasting schedules of market reports by radio are listed in a mimeographed circular just issued by the radio news section of the Bureau of Agricultural Economics.

BRIEF REVIEWS OF NEW BULLETINS.

Nicotine Dust for Control of Truck-Crop Insects. By Roy E. Campbell, assistant entomologist, truck-crop insect investigations, Bureau of Entomology. Pp. 24, figs. 14. September, 1922. (Farmers' Bulletin 1282.)

The method discussed in this bulletin has thus far surpassed any known methods of controlling such important pests as the onion thrips, cucumber beetles, the melon aphid, and pea aphid.

Nicotine dust has several advantages over a liquid spray of nicotine sulphate. Dusting requires much less weight of material per acre than spraying; it may be done in a much shorter time and in most cases at less cost for labor. The dust may be applied with hand dusters, horse-drawn outfits, or power-operated outfits, according to the size of the acreage. Nicotine dust is a nicotine sulphate solution mixed in correct proportions with a dust carrier. Lime is ordinarily used for the carrier. The addition of sulphur to the lime makes the material more effective against most insects. Applications should be made when the insects first appear and before any damage is done. Dust is most effective at a temperature of 65° F. when the air is still. It loses strength if held for any length of time or if not put up in airtight containers. Certain diseases, as well as certain insect enemies of vegetables, can be controlled by adding a proportion of powdered sulphur to the nicotine dust. Several forms of chewing insects attacking vegetable crops can be controlled by adding 10 per cent of powdered lead arsenate to the nicotine dust used against aphids or thrips. This combination treatment is advisable when dusting small plants for cucumber beetles.

Lime-Sulphur Concentrate. Preparation, Uses, and Designs for Plants. By E. H. Siegler, entomologist, fruit insect investigations, Bureau of Entomology, and A. M. Daniels, mechanical engineer, division of agricultural engineering, Bureau of Public Roads. Pp. 42, figs. 37. December, 1922. (Farmers' Bulletin 1285.)

The making of lime-sulphur solution for spraying fruit trees is comparatively simple, and any fruit grower equipped with the proper apparatus can readily prepare lime-sulphur concentrate for his own use. Elaborate or expensive equipment is unnecessary. Preparation of the spray and the uses indicated for it are described in this bulletin, which also includes drawings and designs for plants suitable for orchards of various sizes and locations. In the first part of this bulletin will be found formulas and suggestions for making, storing, and diluting lime-sulphur concentrate. In the latter part suggestions are given on the building of several types of cookers of different sizes, ranging from a simple 25-gallon kettle to steam plants in which 800 gallons of the concentrate can be prepared in one cooking. Lime-sulphur solution is probably used more extensively than any other compound, since it is both an insecticide and a fungicide. It is used during both the dormant and the growing seasons. Lime sulphur is comparatively cheap and can be combined with other compounds for the simultaneous control of chewing and sucking insects and certain fungous diseases. It is disagreeable to use owing to its causticity. The lime-sulphur concentrate under discussion is a chemical combination and should not be confused with the so-called self-boiled lime sulphur, which is a mechanical mixture of lime and sulphur.

Status and Results of Extension Work in the Southern States, 1903-1921. By W. B. Mercier, assistant chief, office of extension work in the South, States Relations Service. Pp. 38, figs. 12. (Department Circular 248.) Price, 10 cents.

This circular briefly reviews the progress of agricultural extension work in the South from its beginning in 1903, giving in more detail the results of the work in 1921. The work began in Texas in 1903 with the pioneer efforts of the late Dr. Seaman A. Knapp to induce farmers, through demonstrations on their own farms, to realize the necessity of diversifying their crops and adopting other improved farm practices as a means of combating the cotton boll weevil.

The work was begun with a small allotment of funds from an appropriation to the United States Department of Agriculture for this purpose. In 1904 Congress appropriated \$25,000 specifically for the work. Thereafter the funds available from Federal, State, county, and other sources steadily increased, until in 1921 they totaled \$6,316,370. The passage of the Smith-Lever Act in 1914 made it possible to greatly extend and improve the work.

The first county agent whose work was confined to a single county was appointed in Smith County, Tex., in 1906. The work grew rapidly and extended to other States, the number of county agricultural agents employed in it increasing to 1,177 in 1921. Boys' club work, under the direction of the county agents, was started in 1908, and girls' club work, under the direction of home-demonstration agents, in 1910. Home-demonstration work for adult women was added in 1913. In 1921, 106,400 boys were enrolled in club work and 517,000 girls and women were enrolled in the home-demonstration work, the latter being under the direction of 655 county home-demonstration agents. Negro agents, who work exclusively with negro farmers and farm women, have been employed in those sections where there is need for their services. In 1921 there were 154 negro men agents and 84 negro women agents employed in this work.

The circular shows the progress made along such lines as soil, crop, and live-stock improvement, marketing, gardening and fruit growing, canning and preserving, poultry raising, improving the family diet, home equipment and conveniences, and home beautification. Through the influence of the work the entire system of farming has been changed and greatly improved in many communities and counties in every State during the last 10 to 15 years. The outlook for steady growth and increasing usefulness of the work is encouraging. That farm people appreciate and have confidence in the work is shown by the increasing amount of funds from county and other local sources provided for its support.

Tuberculin Testing of Live Stock. By L. B. Ernest and Elmer Lash, veterinary inspectors, tuberculosis eradication division, Bureau of Animal Industry. Pp. 28, figs. 11. December, 1922. (Department Circular 249.) Price, 10 cents.

The three principal methods of testing cattle for tuberculosis now in use are the subcutaneous, the intradermic, and the ophthalmic. This circular lists the advantages and disadvantages of each test and gives directions for application. Information is also given regarding the use of various combinations of these tests.

In the past, tuberculin testing was regarded by many persons as being a routine

operation that required little skill in its application or interpretation. Experienced veterinarians are, however, required to obtain good results.

In addition to the discussion of the different tests and the responsibilities of veterinarians doing the testing, the circular contains chapters on the nature of tuberculin, tuberculin testing of swine and poultry, identification of test animals, post-mortem examination of reacting cattle, and necessary work following tuberculin testing. It is illustrated with photographs and charts and is of particular interest to veterinarians.

Soils Survey of Kenosha and Racine Counties, Wis. By W. J. Geib and A. E. Taylor, of the U. S. Department of Agriculture, and J. E. Kubier, H. W. Stewart, and W. M. Gibbs, of the Wisconsin Geological and Natural History Survey. Pp. 58, fig. 1, map. (From F. O. Soils, 1919.) Price, 25 cents.

These two counties are located at the extreme southeastern corner of Wisconsin and comprise an area of 387,840 acres. The soils of the area are derived from glacial drift, water-laid materials, and cumulous deposits. Thirteen distinct soil series, 28 soil types, and 12 soil phases, exclusive of peat, muck, and dunesand, are recognized and mapped in this area.

The agriculture consists of general farming combined with dairying. Dairy products amounting to nearly \$3,000,000 were sold from that region in 1919. In addition to dairying, hog raising, feeding beef cattle, and feeding of sheep in the western part of the area are all more or less important. A considerable trucking industry has developed in the vicinity of Racine and Kenosha.

Investigations of Heat Canker of Flax. By C. S. Reddy and W. E. Brentzel, assistant pathologists, Office of Cereal Investigation, Bureau of Plant Industry. Pp. 18, figs. 4, pls. 5. (Professional Paper.) October 26, 1922. (Department Bulletin 1120.) Price, 10 cents.

Heat canker, which sometimes causes considerable loss in flax production in the northern Great Plains area, is not produced by a parasite, according to the investigations by the Department of Agriculture and the North Dakota Agricultural Experiment Station, reported in this bulletin.

The trouble seems to be caused by excessive heating of the surface soil at the time the young plants are succulent, the outer coating, or cortex, of the stem being killed just above the ground. Sooner or later the cankered plants topple over. Canker seems to appear only during or immediately following hot days, and plants that have been developed under hot, dry conditions are less susceptible to high soil-surface temperatures than succulent plants. Those more than 4 inches high are only slightly susceptible. Flax grown in a soil having a shallow surface mulch over a firm seed bed is not so readily injured as that grown where the surface has been compacted by rains. Thin stands are injured more than thick stands. Flax shaded by weeds or by cereal sown experimentally with the flax is seldom injured by heat canker.

Thicker seeding and earlier sowing promise relief from the trouble. It is also believed that drilling rows north and south instead of east and west may lessen the severity of canker injury.

ADDITIONAL PUBLICATION.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 149. Notices of Judgments 10901-10950. Pp. 501-524. January 4, 1923. Price, 5 cents.

PRINCIPAL LIBRARY ACCESSIONS

Advanced course of instruction in chemical principles. By A. A. Noyes. New York, Macmillan company, 1922.

Baker's business booster. By F. L. Glenandt, Boston, Aulbor, 1922.

Basis of Egyptian agriculture and its relation to the decline in the average yield per feddan of cotton. By E. McK. Taylor and A. C. Burns. Cairo, 1922. (Egypt. Ministry of agriculture. Technical and scientific service. Bulletin no. 25.)

La botryomycose. Par J. Torlais. Paris, G. Doin, 1922.

British and continental labour policy. By B. G. de Montgomery. London, Kegan Paul, Trench, Trübner & co., ltd., 1922.

Chemisch-technische untersuchungsmethoden. 7. aufl. v. I. Von Georg Lunge. Berlin, J. Springer, 1921.

Coleoptera. Lamellicornia. v. 1. By G. J. Arrow. London, Taylor and Francis, 1910. (The fauna of British India.)

Delta gamma cook book. 2d ed. Delta gamma. Lambda nu chapter. Minneapolis, Lambda nu chapter, 1922.

Dictionary of applied chemistry. v. 4. By T. E. Thorpe. New York, Longmans, Green, and co., 1922.

Diptera Brachycera. v. 1. By Enrico Brunetti. London, Taylor and Francis, 1920. (The fauna of British India)

Le domaine colonial de la France. Par Armand Meglé. Paris, F. Alcan, 1922.

Flora balearica. v. 2. Par Herman Knoche. [Montpelier?] 1922.

Grundlagen und technik der gärtnerischen pflanzenzüchtung. Von Josef Becker. Berlin, P. Parey, 1922.

Home tanning and leather making guide. By A. B. Farnham. Columbus, Ohio, A. R. Harding, 1922.

Making of index numbers. By Irving Fisher. Boston, Houghton Mifflin company, 1922.

Oxidations and reductions in the animal body. 2d ed. By H. D. Dakin. New York, Longmans, Green and co., 1922.

Paint, varnish, turpentine and liused oil laws in existence August 1st, 1922. Issued under authority of the Central committee, by G. B. Heckel, secretary. [Philadelphia?] 1922.

Physiology of reproduction. 2d ed. By F. H. A. Marshall. New York, Longmans, Green and co., 1922.

Productive farm crops. 3d ed. By E. G. Montgomery. Philadelphia, J. E. Lippincott company, 1922.

Productive soils. 3d ed. By W. W. Weir. Philadelphia, J. E. Lippincott company, 1922.

La réglementation du commerce des grains. Par Charles Musart. Paris, E. Champion, 1921.

Synthetic colouring matters. Dyestuffs derived from pyridine, quinoline, acridine and xanthene. New York, Longmans, Green and co., 1922.

Tratado de fruticultura. Por Domenico Tamaro. Barcelona, G. Gili, 1920.

Trees and shrubs hardy in the British Isles. 3d ed. By W. J. Bean. London, J. Murray, 1921.

True story of a real garden. By I. B. Watson. New York, Moffat, Yard and company, 1922.

Untersuchungen über kohlenhydrate und fermente. II. Von Emil Fischer. Berlin, J. Springer, 1922.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week January 8-13, 1923. These publications can be obtained only from the stations issuing them.

Almond Pollination. By W. P. Tufts and G. L. Philp. (California Sta. Bul. 346, pp. 35, figs. 15.)

Influence of Age at the Time of Freshening on Production of Dairy Cows. A. C. McCandlish. (Iowa Sta. Res. Bul. 73, pp. 243-255.)

Meteorological Observations at the Massachusetts Agricultural Experiment Station. By J. E. Ostrander and G. E. Lindskog. (Massachusetts Sta. Met. Bul. 408, pp. 4.)

Twenty-eighth Annual Report, 1921. (Montana Sta. Rpt. 1921, pp. 94, figs. 40.)

Care and Management of Sheep on the Farm. By W. E. Joseph. (Montana Sta. Circ. 105, pp. 29, figs. 12.)

Analyses of Commercial Fertilizers, Fertilizer Supplies, and Home Mixtures. (New Jersey Sta. Bul. 371, pp. 35, fig. 1.)

Cranberry Growing in New Jersey. By C. S. Beckwith. (New Jersey Sta. Circ. 144, pp. 39, figs. 28.)

Thirty-fifth Annual Report, 1922. (South Carolina Sta. Rpt. 35 (1922), pp. 72, figs. 23.)

The Irrigation of Barley. By F. S. Harris and D. W. Pittman. (Utah Sta. Bul. 178, pp. 19, figs. 10.)

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Powick, W. C. (Animal Industry). A New Test for Acrolein and Its Bearing on Rancidity in Fats. Indus. and Eng. Chem., vol. 15, no. 1, p. 66, January, 1923.

Sherman, Caroline B. (Agricultural Economics). A Practically Perfect Piece of Distribution. Jour. Home Economics, January, 1923.

Sherman, J. M., Holm, G. E., and Albus, W. R. (Animal Industry). Salt Effects in Bacterial Growth: III. Salt Effects in Relation to the Lag Period and Velocity of Growth. Jour. of Bact., vol. 7, no. 6, pp. 583-588, November, 1922.

Lenroot-Anderson Bill Reported to Senate

(Continued from page 1.)

were provided with the fertilizer, but arrangements for the distribution were made as early as December. The smallest amount of nitrate of soda purchased by any one farmer at that time was one-tenth of a ton, and the largest amount 300 tons. The handling of the sales and distribution was under the direct charge of Charles J. Brand, who was then Chief of the Bureau of Markets.

Another resolution (S. Res. 405) provides for the purchase of a small surplus of nitrate stocks in the War Department, which would be turned over for the use of the farmers. Final action has not been taken on either of these resolutions.

H. R. 13771 was introduced by Mr. Knutson and referred to the Committee on Agriculture January 11. The bill provides for licensing every commission merchant; makes it unlawful for any commission merchant to use any unfair, unjust, discriminatory, or deceptive practice or device in connection with receiving, marketing, holding, delivery, condition, weighing, or handling of any consignment of any fruit, vegetable, or other farm product except grain, or in making reports with reference thereto to the consignor; makes the Secretary of Agriculture responsible for administration of the act; outlines procedure to be followed; authorizes the Secretary to make rules and regulations for carrying act into effect; and provides penalties for violations; no appropriation provided.

Other Legislation.

Other legislation of interest to agriculture considered by Congress during the week is noted below:

S. 4281, to appropriate \$500,000 for the purchase of seed grain for sale to farmers in crop-failure areas in eastern Washington, was reported to the Senate from the Committee on Agriculture and Forestry, without amendment, January 11, and reported back favorably, without amendment, January 18.

S. 4324 (Harrison), to amend "An act to authorize association of producers of agricultural products" (Capper-Volstead Act), by extending its provision to include producers of turpentine and rosin. Referred to Committee on Agriculture and Forestry January 11.

H. R. 13769 (Baldwin), to amend the vocational education act, so as to extend its provision to "Territories" as well as States. Referred to Committee on Education January 11.

H. R. 13615, deficiency appropriation bill, was presented to the President January 16 for approval.

Mr. Norris's motion to take up for consideration S. 4050, providing for the purchase and sale of farm products, was defeated in the Senate January 15 by a vote of 53 to 19.

H. R. 13884 (Baldwin), to amend the Federal highway act of November 9, 1921, as amended by the act of June 19, 1922, extending its provisions to the Territory of Hawaii. Referred to Committee on Roads January 17.

H. J. Res. 422 (Hudspeth), permitting the entry free of duty of certain domestic animals which have crossed the boundary line into foreign countries. Referred to Committee on Ways and Means January 15.

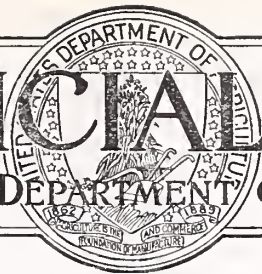
S. J. Res. 263, providing for representation by the Department of Agriculture in the Permanent Association of International Road Congresses, was reported to the Senate without amendment January 12.

On January 12 Mr. Harrison submitted in the Senate an amendment in the nature of a substitute for S. 1076, establishing standard grades of naval stores, preventing deception in transactions in naval stores and regulating traffic therein, which was referred to the Committee on Agriculture and Forestry.

January 18, 1923.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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WASHINGTON, D. C., JANUARY 31, 1923.

No. 5.

DEPARTMENT'S RADIO SERVICE WIDESPREAD

Market and Weather Reports and General News Sent All Over the United States.

One of the newest and most significant developments in the work of the department, in its efforts to efficiently serve the agricultural interests of the country, is the organization of a comprehensive radio service that extends over the entire United States. This service is in three parts: Market reports from the Bureau of Agricultural Economics; weather information from the Weather Bureau; and general department and agricultural news from the press service. All three of these services owe their beginnings and development to the cooperation of other Government departments, notably the Department of Commerce and the Post Office and Navy Departments.

First Reports in 1920.

Federal crop and market reports were first prepared and broadcast by radiotelegraph in cooperation with the radio laboratory of the Bureau of Standards, Department of Commerce, in December, 1920. The reports were sent out by this laboratory for a period of four months. They covered a radius of probably not more than 100 miles at any time. They were successful, however, and now, the entire area of the United States east of the Rocky Mountains and practically all of the Pacific coast area from Washington to southern California is covered with daily broadcasts of these reports by high-powered radiotelegraph.

With the further development of radio and its extension to radiotelephony, the crop and market reports were also released to selected broadcasting stations of this type. At the present time the radio crop and market news service of the Bureau of Agricultural Economics is handled by 4 high-powered radiotelegraph stations of the Navy Department, 5 strong radiotelegraph and 1 radiotele-

phone station of the Post Office Department, and 78 radiotelephone stations belonging to colleges, State agricultural departments, electrical companies, newspapers, stockyards, and other concerns interested.

The Weather Bureau of the department has had an effective distribution of its information by telegraph for several years, but it is only in the last year that radio has been put to work in sending

(Continued on page 3.)

FAVORABLE DECISIONS IN WOOL CASES.

Several judgments in favor of the Government have been recently rendered in excess wool profits cases. These judgments uphold the right of the Government to collect. The excess wool profit work of the War Industries Board is rapidly being finished by the Bureau of Agricultural Economics. There are now 77 cases, involving \$810,000, awaiting collection. Of this amount \$676,000 is to be collected from distributing center dealers. Country dealers who bought direct from growers owe the Government \$135,600 in excess profits. The total excess profits made by dealers on wool handled during 1918 amounts to nearly one and one-half million dollars; a little less than half this amount has been collected. It is thought that three-fourths of the balance still due will have to be collected through the courts. Of the approximately 5,000 country dealers who handled wool in 1918, 993 made excess profits. Of the 178 larger dealers who concentrated the wool and sold direct to the Government, 72 made excess profits. As rapidly as collections are made from dealers money is being distributed to growers of the wool. The cases that have recently been decided in favor of the Government are: *United States v. Strange Bros. Hide & Fur Co.*, of Sioux City, Iowa; *United States v. R. E. Smith*, of Boston; *United States v. S. E. Avery*, of Syracuse, N. Y. The decision in the *R. E. Smith* case applies to three other similar cases now in the Boston courts.

NEW RETIREMENT BILL INTRODUCED IN HOUSE

Senate Passes Capper Farm Credit Bill—Report on Appropriation Bill Submitted.

A new civil service retirement bill, introduced in the House January 19 by Mr. Fairfield, provides for the repeal of all existing laws on the subject; continues existing rates for all employees already retired; is made applicable to all employees in the classified service and to many other employees not covered by the present law; makes eligible for retirement those who have reached the age of 60 and have served 30 years, without any provision for extension beyond age 60, with certain exceptions in the case of employees already past the age 60, who must retire at 70. The bill provides a life annuity equal to 1 per cent of the average basic salary for the 10 years preceding retirement, multiplied by the number of years of service, together with a life annuity of \$12 multiplied by the number of years of service. Provision is also made for disability retirement, for annuities to employees who become involuntarily separated from the service before reaching retirement age, and for optional benefits to individuals having an insurable interest in the life of the employee. The provisions for contribution by employees to the retirement fund are substantially the same as those of existing law. Mr. Fairfield's bill was referred to the Committee on Reform in the Civil Service.

Agricultural Credit Bill Passed by Senate.

The Capper agricultural credit bill (S. 4280) was further debated by the Senate and passed January 19. It was referred to the House Committee on Banking and Currency January 20.

The conference report on the Agricultural appropriation bill (H. R. 13481) was submitted to the House and Senate January 20, and was agreed to by the

Senate January 22. The items still in disagreement are those permitting the exportation of timber and other forest products from the State or Territory in which the forest concerned is located; the maximum salary provision affecting scientific employees; the appropriation for forest roads and trails; and the appropriation of \$550,000 for seed loans in the States of Washington and New Mexico. Separate votes on these Senate amendments will be necessary under the House rules.

Standard Container Act introduced.

Senator McNary introduced a bill to fix standards for hampers, round-stave baskets, and splint baskets for fruits and vegetables, which was referred to the Committee on Manufactures, January 23. This bill is the same as H. R. 7102, which passed the House June 8, 1922, except that standards for round-stave baskets of one-fourth bushel measure have been added, a proviso inserted that the specifications with respect to dimensions required by the act shall apply only to hampers and baskets made of wood or chiefly of wood, and changes made in the section permitting the Secretary of Agriculture to prescribe tolerances with regard to dimensions in order to provide for reasonable variations occurring in the course of the manufacture and handling of hampers and baskets. On January 19 Senator King introduced an amendment, in the nature of a substitute, to H. R. 7102, to fix standards for hampers, round-stave baskets, and splint baskets for fruits and vegetables, which was referred to the Committee on Agriculture and Forestry.

Other Legislative Progress.

S. 4324, extending the provisions of the Capper-Volstead Act (authorizing associations of producers of agricultural products) to include producers of turpentine and rosin, was favorably reported to the Senate from the Committee on Agriculture and Forestry, without amendment, January 18.

H. J. Res. 422, permitting the entry free of duty of certain domestic animals which have crossed the boundary line into foreign countries, was favorably reported to the House from the Committee on Ways and Means, without amendment, January 18.

S. Res. 398 (Harrison), providing for the appointment of a Senate committee to investigate problems relating to reforestation, with a view to establish a comprehensive national policy, was reported favorably from committee January 19, with amendments, and was passed by the Senate without debate January 22.

S. Res. 413 (McNary), extending until January 1, 1924, the time for making the report required of the committee appointed under S. Res. 341 on the subject of crop insurance, was referred to the Committee on Agriculture and Forestry January 19; reported favorably by committee and agreed to by Senate January 24.

H. R. 13927 (Goodykoontz), for the establishment of a United States industrial home

for women at Mount Weather, Va.; referred to committee on the Judiciary January 19.

S. Res. 417 (introduced in the Senate by Mr. Fletcher January 23), directing the Federal Trade Commission to investigate and report the facts relating to any alleged violations of the antitrust acts by manufacturers of or dealers in calcium arsenate, was agreed to.

H. R. 13773, to amend an act to regulate radio communication, approved August 13, 1912, which was introduced by Mr. White of Maine January 11 and referred to the Committee on Merchant Marine and Fisheries, was reported favorably from committee on January 16, without amendment and with Report No. 1416, and was debated by the House January 24.

The deficiency appropriation bill (H. R. 13615) was signed by the President January 22.

The Dial bill (S. 3146), proposing to amend section 5 of the cotton futures act, and offered as an amendment to the Capper credit bill, was debated in the Senate January 17 and 18 and rejected.

The report of the Secretary of Agriculture on the available supply of white arsenic, submitted to the Senate January 18 in response to S. Res. 377 and printed as Senate Document 290, was referred to the Committee on Agriculture and Forestry.

Air Rights of Game Birds Disputed by Law Violators

Airplanes are the latest human devices that birds have had to contend with in their pursuit of life and happiness. The long arm of Uncle Sam reaches up into the air, however, and seizes hunters who kill the game in this illegal and unsportsmanlike manner. The first arrest under the migratory-bird treaty act for such an offense was on November 15, 1919. The violators proceeded by their airplane to Caruthersville, Mo., where they were arraigned before the United States commissioner and entered pleas of guilty.

During the 1922-23 hunting season newspapers have carried reports of airplanes harassing waterfowl on the lower Potomac River. The Biological Survey has issued a warning that such acts are illegal and that persons so hunting or pursuing waterfowl are subject to prosecution.

In 1919 the Director of Military Aeronautics issued an order that flights of planes along the Atlantic seaboard should be so conducted as to interfere as little as possible with the habits and feeding of wild fowl. Recently the Chief of the Army Air Service has issued an order directing aviators to fly high over areas frequented by wild fowl, with a view to further lessening the disturbance of the birds.

A number of arrests have been made for violation of the Federal regulation which makes it unlawful to hunt from airplanes, prosecutions having been successful in the Federal courts of Maryland, New Jersey, and South Dakota. The penalty for a violation of the migratory-bird treaty act is a fine of not to

exceed \$500 or imprisonment for not more than six months, or both such fine and imprisonment.

The Federal law was enacted to carry into effect a treaty with Great Britain for the protection of birds migrating between the United States and Canada, and is administered by the Biological Survey. Observations have shown that when birds are continually disturbed by airplanes they leave for more peaceful localities.

U. S. D. A. Clubs Have Important Functions in Field Stations

Although the social activities of the 19 U.S.D.A. clubs have been of great value within the past year they have not been the only important features of the work of these clubs. Branch offices have the responsibility of representing the department in their respective communities. The clubs form a center in which the work of the department can be discussed by those most interested in it, and through which active steps can be taken to present it to the community. The U.S.D.A. clubs are all alike and all are different. Some of them have formal organizations and meet regularly, others come together for an occasional luncheon and to listen to a speech on an interesting subject, but all have the primary purpose of social intercourse. Their public contact work has developed along different lines in response to local demands.

Through the efforts of the New York Club, nine addresses by department employees have been broadcast from the Newark station. These talks, which have been about 15 minutes long, have covered many subjects. The publicity committee of that club also has made plans for a series of lectures in public schools and other institutions. Other clubs have investigated the possibilities of radio talks, and several talks have been given by clubs in the Middle West.

St. Louis Club members also are giving talks on the department before local high schools in response to a request from school authorities. These usually take 15 minutes or less, and the pupils are required to take notes and write reviews afterwards.

The St. Joseph Contact Club on one or two occasions has entertained fairly large delegations of visiting teachers from near-by towns. These entertainments have been carefully arranged in advance, and have included detailed study of the work of all of the different bureaus represented in that city. Those in charge have felt that visitors returned home with a good knowledge of the department. Department films have been

much in demand among the clubs and have served as entertainment for the club members on several occasions. Arrangements for public exhibitions of motion pictures have been made by the New Orleans Club and by others.

These are some of the most general forms of public service. Others have also been developed, and the work has just begun. The clubs are in a position to place the department's work effectively at the service of the communities by studying local interests.

The clubs which manage to thoroughly familiarize the members themselves with each other's work have accomplished a great deal. Luncheon meetings followed by talks form an ideal method of getting this information, and speakers are available within the club. It has sometimes been of advantage to hold meetings in the various offices in order to show more clearly the work of the particular office, as exhibits may be used to illustrate the lines of work being conducted. The Philadelphia Club follows this practice.

Washington Visitors Prized.

Visitors to any city who will discuss the department at Washington are usually highly prized by the field offices. Those who have attended the club meetings report interest and enthusiasm being shown. Some employees of the department have never seen Washington, and their interest in the department as well as their feeling of being a part of a great organization is enhanced by contact with the Washington force. Speakers from outside the department who can discuss agricultural problems with authority are also welcome additions to the club's program. A minor activity of some of the clubs has been the attempt to secure the listing of all of the department offices under one heading in the telephone book.

Almost all of the clubs have held picnics or some form of general gathering, at which the members' families have been invited, and practically every club also held a smoker during the year. The Cincinnati Club picnic at the Weather Bureau took place May 27. The business session was followed by light refreshments, and a group photograph was taken on the lawn. Forty-six were present.

The Portland, Oreg., Club has been considering the advisability of securing a summer camping ground within the Oregon National Forest for use by the local department employees and their families. It has been suggested that an area of a few acres in the Mount Hood region be secured for this purpose. In addition to a smoker and a picnic, this club has held nine member meetings during the year.

The San Francisco Club made it possible for members of the various bureaus to take advantage of the summer camp, called the Gold Lake Camp, established by the Forest Service on the Plumas National Forest. Once during the quarter this club meets at the University of California, which helps to bring the department into close touch with the university work.

These are some of the things that have held the attention of the U.S.D.A. Clubs within the past year, it being the second year of the club idea. That so much has been accomplished since their beginning augurs well for their future.

DEPARTMENT'S RADIO SERVICE WIDESPREAD

(Continued from page 1.)

warnings over land, sea, and air. A year ago daily State forecasts were being broadcast from 12 radio stations in only 7 States, and chiefly by radiotelegraph. There were serious handicaps in this system which prevented widespread use of the information. At the end of the fiscal year, in July, 1922, there were 98 stations in 35 States broadcasting daily weather forecasts and warnings by radiotelephone. Weekly reports on the effect of weather on crops and highways and other information issued by the Weather Bureau are also disseminated by these stations.

In cooperation with the Office of Communications of the Navy Department, the Weather Bureau has made wide extensions in the radio bulletin service for the special benefit of marine and aviation interests. Major bulletins are sent out daily covering the Pacific, Atlantic, and Gulf coasts and the Great Lakes region. Special upper-air forecasts are broadcast from all naval radio stations in 14 zones, except 2, for the aid of aviators. Army, Navy, and Post Office officials and flying fields receive daily telegraphic forecasts, and special reports are prepared as requested.

Information Service Built Up.

Another important use for radio is the international weather information service that is being built up. A daily radiogram is sent to the French meteorological service, containing observations taken at about 40 stations in the United States and a similar message will soon be sent to the Philippines and Japan. The reports sent to France are broadcast from the Eiffel Tower over all Europe. The Weather Bureau receives radio reports from European countries in exchange. Twice daily weather observations will be taken by members of the Amundsen polar expedition and communicated by radio to the United States Signal Corps at Nome, Alaska. These will be transmitted to the Weather Bureau.

The third branch of the radio service being built up by the department is that conducted by the press service. "Agriograms," an "all-departmental" service made up of short pithy news items and information about the big facts in agriculture and home economics, are being sent out twice each week to the radio-telephone broadcasting stations of the country. A recent questionnaire sent out by the press service to these stations shows that more than 200 of the 235 stations reporting thus far are using the agriograms regularly and replies are still being received. On the basis of these returns, the educational and news matter of the department is being broadcast in popular form, by stations in every State, and in the Territories as well.

Another more limited service covering the entire department is also sent out by the press service. This consists of a series of short speeches that discuss various agricultural topics and are broadcast from the naval radio station at Arlington, Va., in cooperation with the Navy Department. The speeches are then sent out to noncompeting lists of radiotelephone stations and are rebroadcast over the entire country. There is a growing demand for information of this sort, and several extensions in the type of material furnished to the radio stations are now under consideration.

The Department of Agriculture does not operate any wireless equipment. The radio distribution work is carried on through stations operated by other Government departments, by corporations, and by private individuals. There are at present over 500 commercial radio-telephone broadcasting stations in the country.

The entire agricultural radio service program, in its three parts, is an immediate adaptation by the department of plans approved by the interdepartmental radio committee for the broadcasting of official information by radio telegraphy and telephony for the entire country.

CHANGES IN HOG-CHOLERA WORK.

Because of the reduction in the appropriation for hog cholera during the fiscal year 1924, changes will be necessary in the plans. Approximately 32 men will be transferred to other lines of work, but it is planned to continue hog-cholera work in all of the 34 States in which it has been begun.

According to a recent statement by the Packers and Stockyards Administration, the truck is becoming an important factor in live-stock transportation, and is affecting methods of handling and selling stock at the stockyards.



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HAVE YOU DONE YOUR BIT?

If you know of a piece of news that you think ought to be in the Official Record and make absolutely no effort to get it in, it is your fault if the item does not appear. "Covering" the Department of Agriculture, is a large undertaking. Interesting things that everyone wants to read about, are happening all of the time in every bureau. The Record has a representative in each bureau, but these representatives have a lot of other duties besides collecting material for the Record. This means that just because you run across something that you think would make a story for the Record, is no sign that the Record's representative has done the same and that you should tell him about it, instead of waiting for him to come around and find it. The Record is edited in press service, but it isn't a press-service project. It's a department project and if it is to be really representative it must have the sympathetic support and cooperation of the entire department.

DR. LYMAN BECOMES COLLEGE DEAN.

Dr. G. R. Lyman, plant pathologist in charge of the plant disease survey of the Bureau of Plant Industry, resigned his duties on January 15 to become dean of the college of agriculture and director of the agricultural experiment station at the University of West Virginia. In his new position at Morgantown Doctor Lyman will head up the agricultural program for the State, the teaching, research, and extension work all coming under his direction.

Doctor Lyman entered the Department of Agriculture with the Federal Horticultural Board in 1915. In 1917 he was put in charge of the newly organized plant disease survey. This office he steadily developed into an organization which has proved itself to be of great usefulness in the field of plant pathology. Through his success as an organizer he has secured effective cooperation from all plant pathologists, both in State and Federal service, and,

in this way, has obtained remarkable results without the expenditure of large sums of money.

Doctor Lyman graduated from Beloit College in 1894 and received his doctor's degree at Harvard University in 1906. From 1901 to 1915 he was instructor and professor of botany at Dartmouth College, and at various times he has been lecturer of botany at the Marine Biological Laboratory, Woods Hole, Mass., and at Harvard University.

In the American Phytopathological Society Doctor Lyman has rendered invaluable service. He has acted as the secretary-treasurer of that society since 1919, and within the last month was chosen its president. He has represented the society on the division of biology and agriculture of the National Research Council, and has been active on the war emergency and advisory boards of the American Phytopathological Society. He is also a member of numerous other botanical organizations and is the author of many publications on botanical and plant pathological subjects.

PLANT DISEASE BULLETIN SUPPLEMENTS.

During the past year the plant disease survey of the Bureau of Plant Industry has issued five mimeographed summaries of records of crop diseases which, taken together, constitute a review of the crop disease situation in the United States for 1921. It is intended that these annual summaries should be complete records, not only of the occurrence and severity of plant diseases but of such subjects as dates of earliest appearance of diseases, the relation of the weather to infection and spread, the susceptibility of varieties, and the effectiveness of any control measures which have been recommended. The data on which these summaries are based were supplied largely by the plant disease survey collaborators who, for the most part, are the plant pathologists of the State agricultural experiment stations and colleges. The plant disease workers of the Bureau of Plant Industry contributed helpful notes and the 1921 publications on plant diseases in the United States, as well as other sources of information, were also utilized.

These supplements, the edition of which is limited to 700 copies, are intended primarily for plant pathologists, botanists, and others especially interested in plant diseases. These constitute the fifth annual set of crop loss estimates made by the plant pathologists of the country and assembled by and issued from the plant disease survey.

It is impossible to present figures on crop losses from disease comparable to

other agricultural statistics, but the table given in supplement 24 represents the best estimates that can be made at the present time.

This summary contains tabulations setting forth the estimates of losses by States from plant diseases to 11 crops. They show that in the United States during 1921 the following losses from plant diseases occurred:

Wheat.....bushels.....	80,592,000
Barley.....do.....	9,249,000
Corn.....do.....	297,561,000
Sweet potatoes.....do.....	38,879,000
Cotton.....bales.....	1,568,000
Peaches.....bushels.....	5,918,000
Rye.....do.....	838,000
Oats.....do.....	99,159,000
Potatoes.....do.....	79,518,000
Dry beans.....do.....	1,495,000
Apples.....do.....	12,380,000

The supplements are as follows:

Supplement 20. Diseases of fruit and nut crops in the United States in 1921. Pp. 1-138, figs. 26, maps. June 10, 1922. Supplement 21. Diseases of cereal and forage crops in the United States in 1921. Pp. 139-254, figs. 36, maps. July 1, 1922. Supplement 22. Diseases of field and vegetable crops in the United States in 1921. Pp. 255-414, figs. 21 maps. July 20, 1922. Supplement 23. Diseases of forest and shade trees, ornamental and miscellaneous plants in the United States in 1921. Pp. 415-488, figs. 15, maps. August 15, 1922. Supplement 24. Crop losses from the plant diseases in the United States, 1921. Pp. 489-510, November 1, 1922.

POTATO IMPORT REGULATIONS CHANGED.

Regulation 7 of the rules and regulations governing the importation of potatoes into the United States has been amended, effective February 1, 1923, so as to require certification of potatoes offered for entry into the United States from the Dominion of Canada and Bermuda for the purpose of indicating apparent freedom from injurious potato diseases and insect pests and, more particularly in relation to Canada, of indicating the district or locality where grown. The purpose of such indication of district or locality with respect to Canada is due to the fact of the known occurrence within recent years of potato wart in certain districts in Canada.

The paragraphs of regulation 7 relating to the importation of potatoes from portions of Mexico remain unchanged.

The revised wording of the regulations with respect to Canada and Bermuda is as follows:

Potatoes grown in the Dominion of Canada and Bermuda may be imported into the United States without permit when accompanied by a certificate issued by a duly authorized officer of the country concerned indicating the district or locality where grown and apparent freedom from injurious potato diseases and insect pests. Such importations shall be subject to such inspection on arrival as may be required by the United States Department of Agriculture.

U. S. D. A. CLUB ACTIVITIES

ST. LOUIS U. S. D. A. CLUB.

The St. Louis club met January 12 at Melsheimer's restaurant for luncheon, and then proceeded to the offices of the market news service of the Bureau of Agricultural Economics. Vane G. Gibson, of the market news service, explained the mechanism of machines used in the office, outlined the work, and showed how market information is gathered and disseminated. He illustrated the amount of food products consumed in St. Louis and the various geographical districts from which they come by means of charts.

A vote of thanks was extended to Miss V. A. L. Jones of the Post Dispatch because of her cooperation in broadcasting the radio program of the club.

The time for the meetings was discussed and the club was invited to meet February 9 at the meat inspection laboratory of the Bureau of Animal Industry. This meeting will be preceded by a luncheon at Melsheimer's restaurant.

THE DENVER CLUB.

The regular monthly meeting of the Denver club was held January 8. The question of enlarging the membership of the club was discussed, but the consensus of opinion seemed to be that under existing conditions it was more practical to limit membership to those reporting directly to Washington. After an informal discussion, E. A. Hill spoke on "Official grain standards and the grading of grain."

PHILADELPHIA CLUB.

The Philadelphia club held its regular monthly meeting and luncheon January 17, at Snellenberg's restaurant, which was followed by a formal business meeting at the office of the Weather Bureau, in the post office. Fourteen members were present. L. E. Gaylord, of the Bureau of Agricultural Economics, spoke on "Butter and butter inspection," which was followed by a general discussion. Afterwards there was some discussion as to the future activities of the club.

THE LAUSDA CLUB.

The Lausda club met January 12, the meeting being under the direction of Dr. I. M. Cline, of the Weather Bureau. The following motion pictures were shown: "Cloud busting," "Logging eastern white pine," "Pack-train trip," and

"Summer fun on the western national forest."

The next meeting will be held February 9, and will be under the direction of W. T. Dillard, of the Federal Horticultural Board. Three motion-picture films will be shown at this meeting also.

The December meeting of this club was in charge of Lionel L. Janes, Bureau of Agricultural Economics, and was held at the Louisiana State Museum. Two motion-picture films were shown at this meeting—"Sweet potatoes from storehouse to market" and "Production's pulse."

THE NYUSDA CLUB.

The first regular monthly meeting and luncheon of the Nyusda club for 1923 was held at the Pig and Whistle Inn, January 17. Guests of the club were H. C. Coles, secretary of the second United States civil service district, and T. B. O'Donnell, assistant to the solicitor, both of whom spoke. The program and publicity committees for the year were appointed as follows: Program committee—R. M. Mullings, chairman; C. O. Dodge, H. S. Weber. Publicity committee—A. E. Rischel, chairman; H. B. Shaw, and B. F. McCarthy, W. R. M. Wharton, the new president, gave an inaugural address which will be mimeographed and distributed to the club members.

BUFFALO CLUB.

A very enthusiastic meeting of the members of the United States Department of Agriculture Club of Buffalo was held at the Y. M. C. A. Building.

At this meeting J. H. Humphrey, of the Bureau of Chemistry, explained the work of the foods and drugs inspection work. H. H. Wagner, Bureau of Chemistry, who has been president of the club, sent in his resignation on account of his transfer to another city. Dr. B. P. Wende, of the Bureau of Animal Industry, was elected president in his place. As Doctor Wende has been acting as vice president, N. H. Health, of the Bureau of Chemistry, was elected vice president.

The following bureaus were represented: Animal Industry, Weather Bureau, Grain Inspection, States Relations Service, Chemistry, and Agriculture Economics.

CONFERENCE ON NEGRO COLLEGES.

A curriculum for the negro land-grant colleges was prepared at the Southern Conference on Education called by the United States Bureau of Education in cooperation with the Federal Board for Vocational Education, January 17-19, at

Tuskegee Normal and Industrial Institute, Tuskegee Institute, Alabama, for the purpose of studying problems of cooperation between white and negro land-grant colleges. Emphasis was laid on the importance of higher standards of training in the different curricula and the better adaptation of the negro land-grant college program to existing needs. E. H. Shinn, division of agricultural instruction, States Relations Service, attended the conference and assisted in the preparation of the curriculum.

DOCTOR SHERMAN ELECTED TO OFFICE.

At the annual meeting of the American Society of Bacteriology held at Detroit, Dr. James M. Sherman, of the Research laboratories of the Bureau of Animal Industry, was elected secretary-treasurer. Dr. E. G. Hastings, of the University of Wisconsin, was elected president, and Major Hitchens, of the Hygienic Laboratory, who has been secretary-treasurer for many years, was elected vice president. Doctor Sherman has made important contributions to dairy bacteriology, particularly in developing cultures for producing eyes and flavor in Swiss cheese.

DR. JOHN ASBURY ELLIOTT.

Dr. John Asbury Elliott, professor of plant pathology in the University of Arkansas, plant pathologist for the Arkansas Agricultural Experiment Station, and collaborator with the Bureau of Plant Industry, died Thursday, January 18, at the Homeopathic Hospital, Washington, D. C. While at the Boston meetings of the American Phytopathological Society he became ill, and after coming to Washington pneumonia developed. The funeral services and burial were held January 20 at Rock Creek Cemetery in Washington, D. C.

Doctor Elliott held degrees from Fairmount College, the University of Kansas, and the University of Illinois. From May, 1916, to July, 1917, he was assistant plant pathologist at the Delaware Experiment Station, and from July, 1917, until the time of his death he was the head of the department of plant pathology at the University of Arkansas. He was 35 years old and leaves a wife and two children.

L. A. CLINTON.

L. A. Clinton, director of the New Jersey Agricultural Extension Service and formerly a member of the staff of the office of extension work, States Relations Service, died in Detroit, Mich., January 21, 1923. Mr. Clinton had been engaged in agricultural work since his graduation from Michigan Agricultural College in 1889. He was director of the Connecticut Agricultural Experiment Station at Storrs from 1903 to 1913, leaving that position to come to the United States Department of Agriculture. He had been director of the New Jersey extension service since November 1, 1918.

**PEOPLE MENTIONED
IN OFFICIAL ORDERS**

Dr. J. A. Kiernan, chief, tuberculosis-eradication division, Bureau of Animal Industry, visited Lansing, Mich., January 30 and 31, "Farmers' Week" being in session. Dr. Kiernan was on the program to address the Michigan Holstein-Friesian Breeders' Association on the subject of tuberculosis eradication.

Dr. C. J. Galpin left Washington last Monday for Ames, Iowa, where he addressed the annual meeting of the Rural Life Conference held in conjunction with the annual farm and home week at the Iowa State College of Agriculture. The topic of Dr. Galpin's address is "American rural life and its future outlook." Dr. Galpin will return to Washington by way of College Station, Tex., where he will meet with President Bizzell of the college of agriculture regarding a cooperative study on housing in the State of Texas.

Dr. Oswald Schreiner, of the Bureau of Plant Industry, presented a paper before the Pennsylvania Potato Growers' Association, at the meeting held at Harrisburg, January 25. His subject was "Fertilizers for potatoes."

Dr. L. C. Gray, in charge of the division of land economics of the Bureau of Agricultural Economics, addressed the farmers' week meeting at the college of agriculture, University of Illinois, last Thursday, January 25. He spoke on the "Relation of the United States production to the world's markets" and "Tenancy as a national problem." He also read a paper prepared by Lloyd S. Tenny, Assistant Chief of the Bureau of Agricultural Economics, entitled "The farmers' part in solving the market problems."

Dr. C. W. Larson, chief of the dairy division, attended a meeting of the Pennsylvania Breeders' and Dairymen's Association, at Harrisburg, January 24. He spoke on "Opportunities in dairying."

Dr. E. F. Phillips, apiculturist, Bureau of Entomology, will attend a series of beekeepers' meetings to be held at the New York College of Agriculture, at Ithaca, February 20-23.

Dr. H. L. Shantz, of the Bureau of Plant Industry, will give a series of lectures on plant geography at Clark University, Worcester, Mass., during a two-weeks' period this spring, probably beginning about April 9.

Dr. O. E. Baker, Bureau of Agricultural Economics, has gone to St. Paul, Minn., to attend the Spring Wheat Region Conference for the purpose of conferring with the committee of the spring wheat council and to render such assistance as he is able to the committees concerned with the problems of agricultural production.

C. R. Chambers, Bureau of Agricultural Economics, is in Pennsylvania aiding in the appraisal of orchard lands in that State.

Dr. R. H. Colley of the Bureau of Plant Industry attended the meeting of the American Wood Preservers' Association held in New Orleans January 23-25. He spoke on tests for the toxicity of wood preservatives

Dr. Frederick V. Rand of the Bureau of Plant Industry attended the convention of the National Cannery Association held at Atlantic City, N. J., the latter part of this month. He spoke on "Bacterial wilt or Stewart's disease of corn," and had an ex-

hibit of diseased materials and photographs relating to this disease and the bacterial wilt of cucurbits.

H. W. Samson, Bureau of Agricultural Economics attended the sessions of the National Cannery Association at Atlantic City, January 25, and spoke on "Standardization of can-house crops."

Neil E. Stevens, of the Bureau of Plant Industry, attended a meeting of the Cranberry Growers' Association, at Philadelphia, Pa., January 27. He read a paper on "The possible relation of weather conditions to the keeping quality of the cranberry crop."

W. A. Sherman, of the Bureau of Agricultural Economics, will attend a meeting of the Melon Distributors' Association, to be held in Ocala, Fla., February 8-10. He will discuss shipping-point inspection and the possibility of extending this service to the watermelon crop.

Professor Lyman Carrier, Bureau of Plant Industry, addressed the meeting of the Virginia Crop Improvement Association on January 25, at Charlottesville, Va., on the subject of the quality of seeds.

H. W. Samson, of the Bureau of Agricultural Economics, will address the New York State College of Agriculture at Ithaca, N. Y., February 14, on the grading of potatoes and other vegetables.

E. A. Goldman, in charge of biological investigations, Bureau of Biological Survey, attended the Twelfth Annual Forestry Convention, at Pinehurst, N. C., January 23-24, and gave an address on the relationship between forests and wild-animal life. The convention was held under the auspices of the Geological and Economic Survey and the Forestry Association of the State.

F. C. Lincoln, assistant biologist of the Biological Survey, visited Oakley, S. C., the latter part of January, in connection with bird banding work, a phase of the bird migration studies of the bureau.

A. T. Stone, of the Bureau of Plant Industry, left January 24 to start an experimental plot with clovers at McGuire's Landing, Va.

Frank P. Jermin, of the Weather Bureau, with headquarters at Alpena, Mich., will address the shipmasters' Associations at Detroit, Marine City, Port Huron, Buffalo, and Cleveland on "Lake currents and their effects on shipping" during the week beginning February 12.

J. Clyde Marquis, of the Bureau of Agricultural Economics, attended the New England Agricultural Conference, held in Boston January 17 and 19, and while in that city consulted with representatives of the bureau there.

Among the department representatives who attended the meeting of the National Cannery Association, held last week at Atlantic City, N. J., were: F. J. Pritchard, who spoke on "Tomato diseases and how to overcome them;" C. A. Magoon, who demonstrated the quality of sweet potatoes canned under different conditions; and James H. Beattie, who arranged an exhibit of sweet potatoes for canning, and conferred with canners and canning crop growers. All of these men are connected with the Bureau of Plant Industry.

J. C. McDowell, of the Bureau of Animal Industry, attended a meeting of dairy farmers held at Silver Spring, Md., January 17. He spoke on "Feeds and feeding of dairy cows." Mr. McDowell addressed a meeting of dairymen at Gaithersburg, Md., January 20. His subject was "Feeding." He will attend a

meeting of the Virginia State Dairymen's Association at Charlottesville, March 9. At that time he will speak on "Valuable discoveries made by cow-testing associations." On March 14 he will attend a meeting of farmers at Gore, Va.

Frederick D. Richey, Bureau of Plant Industry, will leave Washington for Hudson Heights, Quebec, January 29, to select self-fertilized seed of very early maturing varieties of corn. These varieties were collected in the northern edge of the United States, in Canada, and in southern Argentina by T. B. Macaulay, of Montreal, and grown by him on his country place at Hudson Heights during the season of 1922. Mr. Richey will return to Washington via Ithaca, N. Y., where he will confer with officials of the New York State Agricultural Experiment Station with reference to the various problems of corn investigations.

O. I. Snap, of the Bureau of Entomology, spoke before the Tennessee State Horticultural Society, January 30.

H. C. Diehl, Bureau of Plant Industry, left Washington January 22 for New York City to inspect fruit frozen in transit.

Milton Danziger, of the States Relations Service, attended the Madison Square Garden Poultry Show in New York, January 26. While there he conferred with the board of directors.

R. C. Wright, Bureau of Plant Industry, left Washington January 22 for Seneca Castle, Rochester, New York City, and Boston, for the purpose of studying conditions of apples in storage and of collecting samples of same.

A. V. Swarthout, of the Bureau of Agricultural Economics, addressed the meeting of the farm products show at Harrisburg, Pa., January 22. He discussed the cost of marketing farm products.

R. R. Graves, of the Bureau of Animal Industry, attended a meeting of the New Jersey Holstein-Friesian Association, held at Trenton January 18. He spoke on "Value of the proven sire."

T. E. Holloway, of the Bureau of Entomology, will travel through Mexico during the fiscal year 1923 for the purpose of investigating sugar-cane insects and the distribution of the cotton boll weevil.

The grain-grading class at Purdue University recently visited the office of Federal grain supervision of the Bureau of Agricultural Economics, at Indianapolis, to study a grain-inspection department and to observe how a supervision office is conducted.

VISITORS TO THE DEPARTMENT.

Dr. G. F. Freeman, chief division of cotton breeding of the Texas Agricultural Experiment Station, College Station, Tex., spent several days of the week of January 15 studying material in the department and in the National Museum relating to cotton breeding, particularly that with reference to early work along this line. Doctor Freeman had previously spent some time in institutions of New York collecting information on this subject.

Room 304-A in the building at 200 Fourteenth St. SW., has been equipped by the Bureau of Agricultural Economics as an emergency room, and is now available for any bureau employee who is ill.

BRIEF REVIEWS OF NEW BULLETINS.

Development of Cooperative Shelter-Belt Demonstrations on the Northern Great Plains. By Robert Wilson and F. E. Cobb, assistants in dry-land arboriculture, Bureau of Plant Industry. Pp. 28, figs. 15. January 13, 1923. (Department Bulletin 1113.) Price, 10 cents.

Since 1916 the Department of Agriculture, through its field station at Mandan, N. Dak., has been cooperating with farmers in the northern Great Plains in growing shelter belts on their farms. The results of the first five years have been published in this bulletin, which also outlines the plans of the cooperation, shows by a map the location of the cooperating farmers, and discusses in some detail the work and its results which have led to the following summary and conclusions:

During the five-year period from 1916 to 1920, 1,234 cooperative demonstration shelter belts were planted in the Great Plains area of Montana, North Dakota, South Dakota, and Wyoming. Of this number, 716 were still growing at the close of the summer of 1920. A total of 1,488,658 trees were used in making these plantings.

Of the tree species extensively tested, the following seemed adapted to the climatic conditions generally prevailing: Box elder, green ash, white elm, and caragana. Careful preparation of the soil before planting, to conserve moisture and work out grass and weeds, is a prime requisite for successful tree planting. Clean summer fallow is the best tillage method to practice for this purpose.

Clean cultivation after planting is essential to the continued growth of young trees. Neglect in this respect for a single season is likely to result in serious damage to the trees. The experience of these five years of tree planting has shown conclusively that it is possible to start successfully a planting of trees on the average upland farm site in the northern Great Plains. Future investigation must show whether or not it is possible for such plantings to maintain themselves after they have attained their maximum growth.

Preparation of Fresh Tomatoes for Market. By F. Earl Parsons, investigator in marketing fruits and vegetables, Bureau of Agricultural Economics. Pp. 32, figs. 20. December, 1922. (Farmers' Bulletin 1291.)

This publication points out that there are three stages of maturity at which tomatoes may be picked, depending largely on the distance they must travel before being placed on sale. Mature green tomatoes, or "green wraps," constitute the bulk of shipments from Florida and other States in the southern tier. Pink tomatoes, or those which are "turning," come chiefly from southern Illinois and sometimes from Texas and Tennessee, whereas ripe tomatoes go to nearby markets in the southern sections and comprise the bulk of shipments from Missouri, Ohio, and New Jersey.

The necessity for care in picking, in field handling, in sorting, and in packing is emphasized. Standard packages used in various parts of the country are described and illustrated, as well as the accepted methods of packing tomatoes in the crates, lugs, and baskets. Pictures show specimens of defective or diseased stock which must be excluded if the tomatoes are to be properly graded so as to bring the highest cash returns to the grower.

Considerable space is devoted to a discussion of packing sheds, ranging from temporary field shelters to the most improved central packing houses. The economy and effectiveness of running tomatoes through a

well-equipped, modern packing plant is pointed out by the author. A diagram shows the most desirable sorting and packing apparatus in general use.

The bulletin closes by emphasizing the importance of careful inspection of the tomatoes in the process of packing or while being loaded into cars, and also calls attention to the Federal inspection service available in terminal markets on arrival of these highly perishable shipments.

Choosing a Tractor (for a Corn-Belt Farm). By L. A. Reynoldson, junior farm economist, Bureau of Agricultural Economics, and H. R. Tolley, agricultural engineer, Bureau of Public Roads. Pp. 13, figs. 4. (January, 1923.) (Farmers' Bulletin 1300.)

In choosing a tractor the principal points to consider are size, type, reliability, comfort and safety of operator, and first cost. This bulletin has been prepared to aid farmers in the proper choice of a machine suited to their particular conditions and needs.

Four principal factors should be given consideration in deciding on the size or horsepower of the tractor: Kind of soil, topography, surface conditions, and the use to be made of the machine. The three particular types of tractors are the ordinary wheeled type, the crawler, and the general-purpose tractor. Because of the high cost of gasoline, many machines are now equipped with carburetors that will burn kerosene, which reduces fuel costs about half. The farmer can hardly go wrong if he selects a standard make upon which he can obtain prompt service and for which the parts that require the most attention and care and frequently need to be replaced are easily accessible. Daily operation of a tractor is tiring, and features of construction that add to the comfort of the operator should also be considered. The first cost should not be the only consideration.

Sales Methods and Policies of a Growers' National Marketing Agency. A study of the organization and achievements of 26 years of cooperative marketing by part of the cranberry growers of the United States. By Asher Hobson, specialist in market research, and J. Burton Chaney, one time research agent in marketing, Bureau of Markets. (Columbia University of the city of New York and Bureau of Agricultural Economics, U. S. Department of Agriculture, cooperating.) Pp. 36, figs. 11, January 16, 1923. (Department Bulletin 1109.) Price, 10 cents.

Cranberries fared better in price during the period of low prices of general agricultural crops than did staple farm products. The cranberry growers of Wisconsin, Massachusetts, and New Jersey sold their 1920-21 crop at an average price of \$2.48 per barrel more than that obtained for the 1919-20 crop and \$1.45 per barrel greater than the price received for the 1918-19 crop.

A system of marketing that would produce such results was regarded as worthy of special study, and the story of how the industry was lifted from general disrepute to a place in the sun is a romance of cooperative endeavor. The improvements in grading, packing, and marketing practices brought about by cooperation are discussed in detail. The experiences in advertising of the exchange and its effect on demand and prices are also discussed and analyzed. One of the most difficult problems confronting the management of the American Cranberry Exchange was the establishment and maintenance of uniform grades. The bulletin describes the manner in which this problem was met and the effect of its solution upon marketing conditions. The manner in which marketing risks were distributed by

the introduction of a pooling system is also described. It has been necessary to remove the prevailing impression that cranberries are merely a holiday fruit. At the present time three-fourths of the crop is marketed during October, November, and December. As a result of the advertising campaign of the exchange, however, the marketing period is being gradually extended and an increasingly large percentage of the crop sold during January, February, March, and April.

The exchange has coordinated distribution from the three districts and "glutted" and "famine" markets have been eliminated. The impracticability of price control, the operation of the local and central associations, jobbers' and retailers' margins are some additional topics discussed in the bulletin. Several tables showing production, prices, etc., are presented, and the bulletin is illustrated with 11 diagrams which show graphically important factors in the marketing of the cranberry crop.

Natural Control of the Citrus Mealybug in Florida. By A. T. Speare, mycoentomologist, Bureau of Entomology. Pp. 18, figs. 2, pl. 1. December, 1922. (Department Bulletin 1117.) Price, 5 cents.

Citrus fruits can be grown at a profit in Florida without using artificial measures to control the citrus mealybug, owing to the fact that a species of fungi is usually present that preys upon and destroys the insects. If the fungus is killed by spraying with Bordeaux mixture, the mealybugs are likely to become as serious a pest as they are in California. The sprayed trees afford excellent feeding places for the insects, which multiply rapidly when unimpeded by the fungi. The mealybugs cause heavy defoliation, a high percentage of fruit drop, and unsightly, unmarketable fruit.

This bulletin discusses the relation between the mealybug and this fungus, *entomophthora fumosa* n. sp., and the effect of this relation on control methods in the citrus industry in Florida. It is available for limited distribution.

ADDITIONAL PUBLICATIONS.

Handbook for Use in the Inspection of Whole-Milk American Cheese under the Food Products Inspection Law. By C. W. Fryhofer and Roy C. Potts, division of dairy and poultry products, Bureau of Agricultural Economics. Pp. 16. January, 1923. (Circular 157, Office of the Secretary.) Price, 5 cents.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 150. Notices of Judgments 10951-11000. Pp. 525-552. January 13, 1923. Price, 5 cents.

Journal of Agricultural Research. Vol. 23, No. 1, January 6, 1923. Contents: A phytophthora footrot of rhubarb (G-259), by George H. Godfrey; Sand down, a chlorosis of tobacco (G-260), by W. W. Garner, J. E. McMurtrey, C. W. Bacon, and E. G. Moss; Parasitism of sclerotium rolfii on Irish potatoes (G-261), by H. A. Edson and M. Shapovalov; Examination of authentic grape juices for methyl anthranilate (E-18), by Fredrick B. Power and Victor K. Chesnut. Pp. 1-53, pls. 22, figs. 3. Price, 10 cents.

NOTE.—Volumes 1 and 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the Journal was suspended December 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to the libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price, \$5.25 per year.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

Analysis of rubber. By J. B. Tuttle. New York, Book department, The Chemical catalog company, inc., 1922.

Bees for the horticulturist. Kansas state horticultural society. Topeka, 1922.

Bulletin no. 13. Natural enemies of sugarcane beetles in Queensland. By J. F. Illingworth. Queensland, Bureau of sugar experiment stations. Division of entomology. Brisbane, 1921.

Business of the household. 2d ed. By C. W. Taber. Philadelphia, J. B. Lippincott, 1922.

Canning age food packers directories; glass container section. New York, Canning age, 1922.

Code of Virginia, 1922. Pollard's supplement to the Code of Virginia. Richmond, Everett Waddey co., 1922.

Composite flowers and the survival of the fittest. By W. W. Strickland. Geneva (Switz.). Printed by Atar s.a. [189-?]]

Deuxième congrès national de la culture des plantes médicinales, Bourges, 1922. Lonsdes-Sauzier, L. Declume, 1922.

Diccionario de costarrriqueños. 2. ed. Por Carlos Gagini. San José de Costa Rica, Imprenta nacional, 1919.

Dictionary of English phrases. By A. M. Hyamson. London, G. Routledge & sons, Ltd., 1922.

Economic crisis and foreign trade. By I. H. Lionberger. St. Louis, American credit-indemnity company, 1921.

Les engrais, emploi raisonné et lucratif. Par Charles Girard. Paris, Librairie agricole de la maison rustique [1922?]

Farmer and his community. By E. D. Sanderson. New York, Harcourt, Brace and company, 1922.

Feeds and feeding. Early editions by W. A. Henry. Rewritten by F. B. Morrison. 18th ed. Madison, Wis., The Henry-Morrison company, 1922.

Francis Galton, 1822-1922, a centenary appreciation. By Karl Pearson. London, Cambridge university press [1922?]

Hogs for pork and profit. By R. A. Hayne. Chicago, International barvester company, incorporated, Agricultural extension department, 1922.

Kryptogamen-flora. bd. 1-3, t. 4, abt. 1. Von Walter Migula. Berlin, H. Bermühler, 1904-1921.

Landwirtschaftliche . . . erschliessung der deutschen moorböden. Von Hubert Boerger. Münster, F. Copenrath, 1919.

Manual of the American railway engineering association. Chicago, American railway engineering association, 1921.

Mikromethoden zur blutuntersuchung. 4. und 5. aufl. Von Ivar Bang. München, 1922.

Modern glues and glue testing. By C. H. Teesdale and C. M. Bezeau. Grand Rapids, Mich., Perlodical publishing co., 1922.

Outlines of land economics. By R. T. Ely. Ann Arbor, Mich., Edwards brothers, 1922.

Paper testing methods. 1922 ed. Technical association of the pulp and paper industry. Committee on paper testing. New York, 1922.

Partition and colonization of Africa. By Sir Charles Lucas. Oxford, Clarendon press, 1922.

Practical polishing and staining. By A. W. Parkhouse. London, Benn brothers, limited, 1922.

Pronunciation of plant names. Garden club of America. New York, National process co., inc., 1922.

Qualitative organic analysis. By Oliver Kamm. New York, Wiley & sons, 1923.

Radioactivity and radioactive substances. By J. Chadwick. London, Sir Isaac Pitman & sons, Ltd., 1921.

Report . . . upon the methods of effecting an increase in the home-grown food supplies. Gt. Brit. Ministry of reconstruction. Reconstruction committee, Agricultural policy sub-committee. London, 1920.

Review of the North American species of Agabus. By H. C. Fall. Mount Vernon, N. Y., J. D. Sherman, jr., 1922.

Romance of everfarm. By H. J. Sconce. New York, Macmillan company, 1922.

Russian immigrant. By Jerome Davis. New York, Macmillan company, 1922.

Die satenankerennung. 2. aufl. Von Karl Fruwirth. Berlin, P. Parey, 1922.

Les stimulants radio-actifs en agriculture; leur rôle dans les engrais. Par Lucien Fournier. Paris, Librairie speciale agricole [1922?]

Taxation and national income. National industrial conference board. New York, The Century co., 1922. (Research report, No. 55, October, 1922.)

Technical exposition. By K. O. Thompson. New York, Harper & brothers, 1922.

Tests on ranges and cooking appliances. By A. H. Barker. London, 1922. (Gt. Brit. Fuel research board. Special report, no. 4.)

Tumours, innocent and malignant. 7th ed. By John Bland-Sutton. London, Cassell and company, Ltd., 1922.

Ueber ziegenkrankheiten und deren behandlung. Von A. Bertelsmeyer. Berlin, R. Schoetz, 1922.

Zeitgemässe massnahmen zur förderung der bienenzucht. Von Alois Alfonsus. Stuttgart, E. Ulmer, 1921.

Die züchtung der vier hauptgetreidearten und der zuckerrübe. 4. aufl. Von Karl Fruwirth, Th. Roemer, Erich Tschermak. Berlin, P. Parey, 1923.

OLD BOOKS.

Chrysanthemum; its history and culture. By John Salter. London, Groombridge & sons, 1865.

Practical treatise on the fuchsia. By Fredrick Buss. London, E. W. Allen, 1883.

Treatise on foreign vegetables. By E. F. Geoffroy. London, Printed for J. Clarke, 1749.

THESES.

Bijdrage tot de kennis van selectiefpermeabele eigenschappen van de zaadhuid. Door J. P. van der Mare. Edam, Typ. Keizer & van Straten [1919?]

Bijdrage tot de kennis van de zaadhuid, door hestudeering der ontwikkeling, met toepassing van microchemische methoden. Door Ijke van der Wal. Groningen, M. de Waal, 1921.

De configuratie van eenige suikers. Door Hendricus Conyert. Deventer, Drukkerij "Davo" [1921?]

Experiments in field plot technic for the preliminary determination of comparative yields in the small grains. By L. J. Stadler. [Columbia? Mo., 1922.]

Ostologische unterscheidungsmerkmal schweizerischen feld- und alpenhasen. Von W. M. Hauser. Leipzig, G. Borntraeger, 1921.

LOST BOOK.

The following book belonging to the library can not be found. It will be appreciated if anyone having information in regard to it will report the fact at the loan desk of the main library:

Ridgway. Color standards. 1912. copy 4.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week January 15-20, 1923. These publications can be obtained only from the stations issuing them.

Degeneration in Colorado Potatoes. By E. P. Sandsten and C. M. Tompkins. (Colorado Sta. Bul. 278, p. 15, figs. 8.)

Steer-Feeding Experiments. By C. W. Hickman and E. F. Rinehart. (Idaho Sta. Circ. 28, p. 8, fig. 1.)

Lamb Feeding Experiments. By C. W. Hickman and E. F. Rinehart. (Idaho Sta. Circ. 29, p. 8, fig. 1.)

Clothing Club Manual. By Mary C. Whitlock and Harriet M. Phillips. (Illinois Sta. Circ. 264, p. 88, figs. 65.)

Standard Fertilizers for Michigan. By M. M. McCool, G. M. Grantham, and P. M. Harmer. (Michigan Sta. Circ. Bul. 53, p. 4.)

Lime for Van Buren County Soils. By M. M. McCool, J. O. Veach, and F. W. Trull. (Michigan Sta. Circ. Bul. 54, p. 4, fig. 1.)

Experiments with Poisoned Baits for Grasshoppers. By M. H. Swenk and E. E. Wehr. (Nebraska Sta. Bul. 183, p. 28, fig. 1.)

100 Worth While Accomplishments of the College of Agriculture the Past Two Years. (Nebraska Sta. Circ. 18, p. 12.)

The Winter-time Management of the Laying Flock. By W. C. Thompson. (New Jersey Sta. Circ. 145, p. 32, figs. 28.)

Report of Egg Laying Contests for 1922. By R. H. Hannas and F. H. Clickner. (New Jersey Sta. Hints to Poultrymen 11, No. 3, p. 4.)

The Cabbage Maggot, with Special Reference to its Control. By G. W. Herriek and W. Colman. (New York Cornell Sta. Bul. 413, p. 15, figs. 8.)

The Linkage of Certain Aleurone and Endosperm Factors in Maize, and Their Relation to Other Linkage Groups. By C. B. Hutchison. (New York Cornell Sta. Memoir 60, p. 1421-1473, figs. 3.)

Farming the Silt Loams of Central Wisconsin. By F. L. Musbach. (Wisconsin Sta. Bul. 347, p. 36, figs. 17.)

Articles in Current Publications by Department Workers

Bowlby, Col. H. L. (Public Roads). History of Road Building. Highway Guidance, vol. 2, p. 3, Jan., 1923.

Carmick, L. G., Public Roads. A Joint Filler for Concrete Roads. The Surveyor, vol. 62, p. 361, Dec. 8, 1922.

Fairchild, David (Plant Industry). Launching a New Vegetable (the Udo). Garden Magazine, vol. 36, pp. 325-327. Feb., 1923.

[George, Frank] (Agr. Economics). What's Your Pig Crop, Mr. Farmer? Postal Guide. Monthly supplement, Jan., 1923.

Hemphill, R. G. (Public Roads). The Exchange of Water in Northern Colorado. Agricultural Engineering, vol. 3, p. 202, Dec., 1922.

Jackson, F. H. (Public Roads). Practical Significance of Some Road Material Tests. Municipal and County Engineering, vol. 63, p. 216, Dec., 1922.

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CIVIL SERVICE EXAMINATIONS.

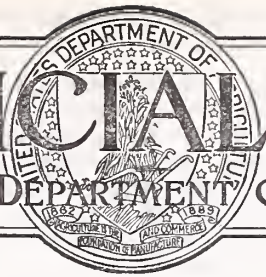
Reservation warden, March 7. Vacancies in the Bureau of Biological Survey for duties in the field will be filled from this examination at salaries of \$1,200 to \$1,500 a year. Men are desired for this position. The duties will consist of caring for the big game animals, patrolling the reservations, keeping fences and roads in repair, and similar duties. Applicants should send for Form 1312.

Junior statistical clerk, February 14. Vacancies in the departmental service at \$900 to \$1,400 a year will be filled from this examination. Competitors will be rated on practical tests, tabulating statistical data, and education and experience. If interested apply for Form 1312.

More than 50 inspections of hay according to Federal grades were made during the first week the grades were effective—January 1-6.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., FEBRUARY 7, 1923.

No. 6.

CREDIT BILL PROPOSES NEW CORPORATION

Senate Standard-Container Bill Is Reported—Progress on Ap- propriation Bill.

A bill was introduced (S. 4424) in the Senate by Mr. Norbeck which would provide credits to secure the successful production and profitable and orderly marketing of agricultural products and live stock in the United States. The bill was referred to the Committee on Banking and Currency January 26. It would provide for the creation of a corporation known as the National Farmers' Finance Union, consisting of the Secretary of the Treasury, the Secretary of Agriculture, and four additional persons to be appointed by the President, to take over the functions of the War Finance Corporation and to make loans to producers of agricultural products, cooperative associations of producers, and banks which have made advances for agricultural purposes. The sum of \$200,000,000 would form the capital stock of the union, all of which would be subscribed by the United States. The bill provides that the aggregate of all advances remaining unpaid shall not at any time exceed \$1,000,000,000. This bill was proposed by Senator Norbeck and is in the nature of a substitute for the Lenroot-Anderson bill that failed to pass. It retains its status as an independent bill, however.

Appropriation Bill Progresses.

On January 26 the House considered the conference report on the agricultural appropriation bill and agreed to Senate amendments permitting the exportation of forest products from the State or Territory in which produced, with a further amendment making this authority applicable only to the fiscal year 1924; agreed to Senate amendment affecting maximum salaries for scientific investigators, with a further amendment making the provi-

sion applicable only to the fiscal year 1924; insisted on its disagreement to Senate amendment increasing the appropriation for forest roads and trails from \$3,000,000 to \$6,500,000; and insisted on its disagreement to Senate amendment appropriating \$550,000 for the purchase of seeds for loan to farmers in drought-stricken areas in Washington and New Mexico. The Senate, on January 30, agreed to the House action on all amendments except that affecting forest roads and trails, on which a further conference with the House was requested.

The Senate continued consideration of the Lenroot-Anderson credit bill (S. 4287) January 25-31. It was debated further February 1 and 2, and was passed by the Senate February 2.

Other Legislation Affecting Agriculture.

Other legislation of interest to agriculture considered during the week January 24-31 is as follows:

S. 4402, to amend the tariff act of 1922 so as to remove the duty of 3 cents per pound on calcium arsenate and place this chemical on the free list was introduced by Mr. Harri-

(Continued on page 3.)

GRADUATE SCHOOL BEGINS FOURTH TERM.

The fourth semester of the department graduate school will begin February 12. There will be but one change in the courses to be offered this semester. C. R. Chambers will give a course on the theory of value and price with special reference to recent developments at 4.30, room 305, farm management building. It will be open to graduates and others who have done extensive reading in economic literature. It will include an intensive study of the theory of value as presented by leading representatives of English and American schools. This course will take the place of the course in advanced economics theory given by Dr. H. C. Taylor and Dr. C. L. Stewart.

Students interested in the graduate school may obtain information from the office of Dr. E. D. Ball, where registrations can be made. The cost for taking one course for the entire year is \$25, but for a single semester the price is \$15.

MARKETING FARMERS' GREATEST PROBLEM

Prosperous Agriculture Fundamental to Prosperous Nation, Says Senator E. F. Ladd.

"Agriculture is the most important and basic industry of America, and the Department of Agriculture is to my mind one of the most and should be the most important department of the Government," said Senator E. F. Ladd, principal speaker at the department motion-picture show January 29 at Central High School. Senator Ladd, who was introduced by Secretary Wallace, continued: "When we consider that the farmer's annual net income is only \$184, and out of this he must educate his children, pay his church, fraternal, and social dues, his doctor's expenses, and lay aside something for the future, we see how pitifully small is the amount that comes to the farmer's family on the average in this country."

Says Tenancy is Increasing.

"Tenancy is rapidly on the increase. In 1910, 23 farms out of every 100 were operated by tenants. In 1920, 37 out of every 100 were operated by tenants. In 1920, part-owner tenants operated 89,000,000 acres, with buildings and land estimated in value at \$4,000,000,000, while full-tenancy of 1920 operated 265,000,000 acres, the land together with their improvements valued at \$24,000,000,000; or, expressed in another way, the tenant farmers of the United States are occupying an area equivalent to the area of the following countries: England, Ireland, Scotland, Wales, Belgium, Denmark, Italy, Poland, Switzerland, and Portugal.

"The farmers are paying interest on farm indebtedness of over \$8,500,000,000, which must be divided among the 6,500,000 farmers. This means that there stands on the average against each farmer \$1,307. How can we expect the other industries of the United States to be

prosperous when the farmer is prostrate and on the verge of bankruptcy?

"The railroad rates are too high to make it possible for shipment of heavy and bulky agricultural products for any great distance, and unless these rates can be lowered our cities will in the near future want for the necessities of life and the farmer be driven to the cities to become competitors in the industrial world.

"The great problem before the American farmer is the marketing problem. Out of each dollar which the consumer pays for the products of the farm, only about 30 cents goes to the farmer and 70 cents goes to the middleman and speculator. In contrast to this, compare Denmark, where it is said that out of each dollar paid by the consumer more than 70 cents goes to the producer and less than 30 cents is required in the cost of transportation and marketing.

"Cooperative marketing is one of the most important problems before the American farmer, and this great work can and should be led by the Department of Agriculture, aided by our agricultural colleges, experiment stations, and extension divisions in every State in the country.

"I have not seen signs of increased prosperity to the farmers of the grain-growing sections of the West that some have indicated. Two great catalogue houses of the Central West have reported a large increase in the volume of business and a profitable year with an increase of more than 1,000,000 new customers. They take this as an indication of increased prosperity. I take it as an indication rather that millions of farmers and people of small means living in villages find it necessary to eke out their small incomes in the most economical way and have gone on a strike, refusing to pay the exorbitant prices the retailers are forced to charge and are going to purchase their products where they can secure them at less cost to themselves."

Exhibition Well Attended.

The exhibition was attended by 1,800 members of the department and others—nearly all seats in the big auditorium being occupied. Music was furnished by Miss Lucy Paul, of the secretary's office, organist, and by an orchestra. Songs were contributed by a chorus composed of Miss Elise V. Lang, Mrs. Maude Emig Murphy, Miss Mary J. Bean, E. J. Wooton, J. V. Arndt, and W. C. Fnnk, all of the Bureau of Agricultural Economics, and W. F. Stork, of the office of accounts. Miss Ruth Benton was accompanist.

An amusing demonstration of "radio-phony" was given on a formidable-appearing apparatus built by J. F. Barghausen, of the Bureau of Agricultural Economics. Startling messages were

transmitted to the audience through the agency of Miller Hamilton and Ben L. Perkins, of the Bureau of Agricultural Economics, Raymond Evans, Edward Kelly, and Eugene Tucker, of the motion picture office, and R. L. Gilbert, of the division of publications.

The following new department films were shown:

Building Forest Roads (Bureau of Public Roads), A Tale of Two Bulls (Bureau of Animal Industry), The Golden Fleece (Bureau of Agricultural Economics), The Horse in Motion (Bureau of Animal Industry), and Red Enemy (Forest Service).

Arrangements for the show were in charge of Fred W. Perkins, office of motion pictures.

Continued Economies May Avoid Federal Budget Deficit

A possibility that the Federal Government may completely avoid a deficit during the present fiscal year, and start the new year on July 1 "with a balance on the right side of the ledger," was suggested by President Harding in a message read at a conference of officials of the Budget Bureau and of other governmental agencies concerned with public expenditures, which was held in Continental Hall, January 29.

The Department of Agriculture was represented by Secretary Wallace, the chiefs of the various bureaus, their principal assistants, and others. President Harding was unable to be present, but his address was read by Vice President Coolidge. The President's appeal for renewed pledges of economy was supplemented by Gen. H. M. Lord, Director of the Bureau of the Budget, who also spoke.

The figures for the fiscal year up to January 15, as announced in the President's message, showed estimated expenditures of \$3,574,554,132, as against estimated receipts of \$3,481,904,959.

Whereas the beginning of the 12-month period it had been estimated that expenditures during the year would exceed receipts by \$698,000,000, the President said, as matters now stand, this deficit will not exceed \$92,000,000 at the outside. He declared an administration program of rigid economy had made the reduction possible, and he asked for such further curtailments as would wipe out the \$92,000,000 discrepancy still standing in the way of a clean balance sheet.

General Lord discussed the work of the Bureau of the Budget within the past year, the development of cooperation and coordination among the various Government agencies. In closing he said:

There is before us a persistent, tireless, unremitting fight until the Treasury closes its doors on June 30 next. If, when the returns are all in the budget for the fiscal year 1923 is triumphantly balanced, it will be due to the firm, courageous, and businesslike stand taken by the President and the cooperation of the personnel of the Government's routine business organization.

If the director of the Bureau of the Budget has been able to achieve anything worth while, it is due in large measure to the wise counsel and steadfast policy of the Chief Executive regarding budgetary matters. Appreciation is also due many in the Government service for loyal cooperation and helpful support. I believe we are making our guarantee to the President good, and are fulfilling our pledge.

Now, in accordance with the most excellent custom that has characterized all these meetings, I invite you, as representatives of the routine business organization of the biggest business in the world, to stand with me and reaffirm to the President, the head of our organization, our confidence and trust in his leadership and pledge our sincere commitment to his policies of economy with efficiency, and our most loyal endeavor, in the remaining days, weeks, and months of this fast receding year, to advance the Government's routine business to the high standard of efficiency that its importance demands, that the character of its personnel warrants, and that the people of this country have a right to expect.

C. J. BRAND WILL GO ABROAD.

Charles J. Brand, consulting marketing specialist of the department, will sail for England February 10 on the *President Roosevelt*. Mr. Brand will study general economic conditions in England and other countries, particularly as they effect the demand for American products. He will investigate the conditions surrounding live-stock and meat marketing, as well as other agricultural products, including cereals and cotton. After making special studies in England, Mr. Brand will go to the Continent, where he will visit Germany, Italy, Denmark, Norway, and Sweden. He will confer with the International Institute of Agriculture at Rome, and will attend the meetings of the International Chamber of Commerce to be held in Rome March 18-25. Mr. Brand is a delegate of the United States Chamber of Commerce to this assembly. Mr. Brand will discuss labor conditions with Royal Meeker, of the General International Labor Office at Geneva, Switzerland. He will be gone about three months.

While going as a representative of the Secretary of Agriculture, Mr. Brand will give chief attention to the lines of information pertaining to the work of the packers and stockyards administration and to the foreign agricultural marketing service of the Bureau of Agricultural Economics.

Welfare Association Adopts Charter at Annual Meeting

The annual meeting of the Welfare Association was held January 25, with a good attendance of bureau representatives.

In addition to the usual reports, the committee on incorporation presented the charter for incorporating the association under the laws of the District of Columbia, which was accepted after changing the name to "The Welfare Association of the United States Department of Agriculture."

Officers for 1923 were elected as follows: Miss M. M. Stockbridge, solicitor's office, president, to succeed P. J. Keleher, Bureau of Agricultural Economics; H. A. Nelson, States Relations Service, vice president, to succeed Miss Stockbridge; W. L. Miller, office of the Secretary, and A. Zappone, division of accounts and disbursements, were reelected to the offices of recording secretary and treasurer, respectively.

A vote of thanks was tendered the retiring president, P. J. Keleher, in appreciation of his splendid, whole-hearted services during the past year.

SPRING-WHEAT CONFERENCE PLANS.

Recommendations in the preliminary committee reports of the Spring Wheat Regional Conference, held January 22 at Minneapolis, Minn., include: Limitation on the establishment of new banks and consolidation of existing banks; thorough cleaning of grain at shipping points; determination of definite location of various agricultural areas; mobilization of a better and more adequate harvest labor supply; training of producers in marketing systems; and the reduction of freight rates. The farm credits and banking committee gave its approval to a nine-months' rediscount of agricultural paper, and advocated that loans be based on the average earning ability of the lands. It was also stated that farm wages are exceptionally low in terms of purchasing power as compared with common labor in cities, where wages of skilled and semiskilled workers are considered unduly high.

The grain committee recommended the location of wheat of high protein content as soon as possible after the harvest, and also indicated that it may ask possible modifications of the Federal standards for wheat.

The transportation committee recommended that the fall wheat traffic be spread over a longer period by means of improved storage facilities and arrangements for financing.

The work of the conference was summarized by Dean W. C. Coffey at a meeting of business men held in the Minneapolis Athletic Club. The speakers at this meeting included Chester Morrill, assistant to the secretary; J. S. Jones, of the Farm Bureau Federation; C. L. Mosher, of the Federal Reserve Bank; and D. A. Wallace, editor of *The Farmer*.

MR. PUGSLEY AT ST. LOUIS.

The assistant secretary, Mr. Pugsley, returned to Washington February 3, after a somewhat extended trip through the West. Mr. Pugsley spoke January 25 at the noonday luncheon of the St. Louis (Mo.) Chamber of Commerce on *The Buying Power of the American Farmer*, and also discussed the extension work of the department. At the close of this address he spoke before the members of the U. S. D. A. Club, where he discussed recent reorganizations, contemplated reorganizations, and other department matters of interest. After the address the club members had the opportunity of meeting Mr. Pugsley. At 4 in the afternoon he made an address over the radio department of the St. Louis Post-Dispatch.

From St. Louis Mr. Pugsley went to Urbana, Ill., where he spoke before the Farmers' Week on *The Relation of the Farmer to His Organization*. Later he went to Madison, Wis., where he gave two addresses, one at the Farmers' Week on *The Significance of Leadership in Rural Affairs*, and one before the Rotary Club on *The Business Man in Agriculture*.

VETERINARIANS HEAR ADDRESS.

The January meeting of the Metropolitan Division of the National Association of Bureau of Animal Industry Veterinarians was held the evening of January 26, at the Academy of Medicine, New York City. This division comprises members from the various stations of the bureau in and near New York. Practically the entire professional personnel on the meat inspection force in New York City, Brooklyn, Jersey City, Newark, and Paterson attended the meeting, the special feature of which was an address illustrated with lantern slides by Dr. B. H. Ransom, chief of the zoological division of the bureau on the subject of animal parasites with special reference to meat inspection. It has been found by the New York division of the association that the presentation and discussion of papers on scientific subjects relating to meat inspection and other phases of veterinary medicine add greatly to the interest of the meetings, and lead also to greater interest, more enthusiasm, and greater efficiency among the members in their daily official work.

CREDIT BILL PROPOSES NEW CORPORATION

(Continued from page 1.)

son and referred to Senate Committee on Finance January 24.

S. Con. Res. 33, providing for the appointment of a joint committee of the House and Senate to inquire into the effect of the present limited membership of State banks and trust companies in the Federal Reserve System upon financial conditions in the agricultural sections of the United States, was introduced by Senator McLean and ordered to lie on the table January 25. The resolution was called up January 31, but objection was made to its immediate consideration.

H. R. 14041, to amend sections 3, 4, 9, 12, 15, 21, 22, and 25 of the Federal farm loan act, was introduced in the House by Mr. Strong of Kansas and referred to the Committee on Banking and Currency January 26, and was reported out favorably January 30, without amendment and with House Report 1478 and placed on the calendar. Among the provisions of this bill is one increasing the maximum loan limit from \$10,000 to \$25,000. It would also amend the Federal farm loan act so as to make loans applicable for the liquidation of indebtedness incurred prior to January 1, 1922.

Mr. Norbeck also introduced on January 31 a bill with similar title (S. 4453), which was referred to the Committee on Banking and Currency.

S. 4422, extending the provisions of the Federal highway act of November 9, 1921, to the Territory of Hawaii, was introduced in the Senate by Mr. Wadsworth and referred to the Committee on Post Offices and Post Roads January 26.

S. 4399 (McNary), to fix standards for hampers, round-stave baskets, and splint baskets for fruits and vegetables, was reported favorably, without amendment, from the Senate Committee on Manufactures and placed on the calendar January 29. This bill is essentially the same as H. R. 7102 (the Vestal bill), which passed the House June 8, 1922, the principal difference being that the one-fourth bushel basket has been added to the sizes enumerated for round-stave baskets, and the provisions of the act regarding specifications and dimensions are made to apply only to hampers and baskets made of wood or of which wood is the principal material.

S. 4132 (Norbeck), authorizing the War Finance Corporation to purchase drafts or other instruments of credit against shipments of foodstuffs, or wool or cotton products or articles manufactured therefrom, secured by proper collateral or guaranteed by the foreign Governments where the products are to be shipped, was reported favorably from the Committee on Agriculture and Forestry, with Report 1069, and placed on the Senate calendar January 29.

S. J. Res. 226, authorizing the acceptance to title to certain lands within the Shasta National Forest, Calif., was reported favorably, without amendment, from the House Committee on the Public Lands, with Report 1482, January 30. The resolution passed the Senate September 9, 1922.

H. R. 13927, providing for the establishment of a United States Industrial Home for Women at Mount Weather, Va., was reported favorably from the House Committee on the Judiciary, without amendment and Report 1496, and placed on the calendar January 31. A similar bill (S. 4452) was also introduced by Mr. Curtis in the Senate January 31 and referred to the Judiciary Committee.

H. R. 13773, to amend the act to regulate radio communication, approved August 13, 1922, was debated and passed by the House January 31.



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HEARING ON NEW RATES.

An order restraining the Nashville Union Stockyards (Inc.), Nashville, Tenn., from putting into effect a schedule of increased live-stock yardage rates has been issued by the Secretary of Agriculture through the Packers and Stockyards Administration, the order to be in effect for 30 days beginning January 26, 1923. This action was taken as the result of an informal inquiry into the proposed increases which led the Secretary to believe that they are not justified and are unreasonable.

Certain modifications of the proposed new schedule were suggested by the Packers and Stockyards' Administration, but these not being acceptable the respondent company requested a formal hearing for the purpose of determining the reasonableness and lawfulness of the proposed rates and charges. A hearing will be held before an examiner of the Packers and Stockyards' Administration, in the Federal Building, Nashville, beginning at 10 o'clock, February 14, and continuing from time to time until completed. The respondent and all interested parties will have the right to appear and show cause why a further order in respect to the schedule of rates should not be made by the Secretary.

During the hearing a general inquiry will be made into the feed and other charges, in addition to the yardage rates, made by this stockyards company.

SOIL SURVEYS ANNOUNCED.

The following list gives the areas in which soil surveys are now in progress, and the names of department and State men engaged in the several projects. It is expected that the work in most of these areas will be completed during the present winter season.

Alabama—Greene County, A. W. Goke, Jas. Thorp, J. F. Stroud.¹ Arkansas—Bradley County, C. E. Born; Nevada County, W. I. Watkins, A. H. Meyer.¹ California—Coachella Valley, A. E. Kocher, W. G. Harper. Georgia—Chattahoochee County, J. W. Moon, S. W. Phillips;¹ Dooly County, E. W. Knobel, S. W. Phillips;¹ Jenkins County, E. D. Fowler; Lamar County, J. W. Moon,

S. W. Phillips.¹ Mississippi—Jackson County, E. M. Jones,¹ E. P. Lowe;¹ Rankin County, R. Wildermuth and A. L. Gray; Marshall County, J. A. Elwell. Nevada—Las Vegas Valley, E. J. Carpenter and F. O. Youngs. North Carolina—Camden-Currituck, W. D. Lee, S. O. Perkins, and G. B. Shivery, S. F. Davidson;¹ Sampson County, R. C. Jurney, W. A. Davis.¹ Texas—Cameron County, M. W. Beck, B. H. Hendrickson; Henderson County, R. E. Devereux, H. W. Hawker;¹ Rockwall County, H. V. Geib;¹ Wichita County, W. T. Carter, W. W. Strike. Tennessee—Dickson County, J. A. Kerr, E. H. Bailey.

¹ Employed by the State.

TEA BOARD APPOINTED.

The Secretary of Agriculture has appointed the following tea experts on the United States board of tea experts for the coming season: J. J. McNamara, New York; H. G. Woodworth, Boston; Arthur T. Hellyer, Chicago; A. P. Irwin, Philadelphia; Robert B. Bain, jr., Portland, Oreg.; Norman H. Wear, San Francisco; George F. Mitchell, Charleston, S. C. (supervising tea examiner, Bureau of Chemistry).

The first meeting was held Monday, February 5, at the United States appraiser's stores, 641 Washington Street, New York. Tea standards which will go into effect May 1, 1923, by which the purity, quality, and fitness for consumption of all teas entering the United States are measured, were selected at this meeting and recommended to the Secretary of Agriculture for approval.

STATISTICIANS TO CONFER.

A conference of agricultural and live-stock statisticians will be held in Denver February 12, 13, and 14. Dr. H. C. Taylor, W. F. Callander, and N. C. Murray, of the Washington office, will attend and take part in the program. The others on the program are from the field. They are: Frank Andrews, E. C. Paxton, F. L. Kent, R. F. Hare, C. L. Harlan, A. E. Anderson, G. A. Scott, L. M. Harrison, E. M. Johnston, F. W. Beier, G. S. Ray, W. W. Putnam, M. M. Justin, J. H. Jacobson, and E. E. Kaufmann.

LIVE-STOCK EXHIBIT SHOWN.

The exhibit material prepared for the International Live Stock Exposition at Chicago in December, 1922, was shown

at the University of Illinois, Farmers' Week, January 22 to 28.

The entire exhibit shown at Chicago was shipped to Champaign, with the exception of the pens of live sheep which were returned to the Government farm at Middlebury, Vt., at the close of the exposition. The exhibit as shown at the Illinois Farmers' Week consists of pictorial booths covering the entire range of animal breeding, feeding, and marketing, and kindred subjects connected with live stock and their products. The material is all new and the exhibit is attractive, and deals with subjects of practical importance to live-stock farmers.

REPORT ON SWEET POTATOES.

The first report of stocks of sweet potatoes in storage was issued January 10. There are now in the United States over 3,000 storage houses, of which approximately 1,400 are commercial houses and 1,600 farm storage houses, with a total capacity of over 12,000,000 bushels.

Houses representing half the capacity responded to the first call for reports. The data are collected by the agricultural statisticians of the Bureau of Agricultural Economics.

MESSENGERS TO DANCE.

The United States Department of Agriculture Improvement Association will give a dance and basket ball game in the auditorium of the Center Market on the evening of February 21. A team of boys from the Bureau of Agricultural Economics will meet a picked team from the other bureaus of the department. The boys have been given an opportunity to use the Center Market auditorium during the early hours many evenings for practice and will put two good teams on the floor. The basket-ball game will be played between 8.15 and 9.15 and will be followed by dancing until midnight.

Secretary Wallace will probably be out of town on the twenty-first, but it is expected that Assistant Secretary Pugsley and many of the bureau chiefs will attend.

A committee composed of G. C. Edler, F. J. Hughes, J. C. Marquis, Claude Snow, and W. H. Rohrman, of the Bureau of Agricultural Economics, and H. T. Cronin, of the office of the Assistant Secretary, have been appointed a committee to assist the boys in making arrangements for the dance and game.

An excellent orchestra has been engaged for the occasion and a good time is promised for all. Tickets are now on sale and can be secured from any of the messenger boys.

U. S. D. A. CLUB ACTIVITIES

CHICAGO CLUB.

The January luncheon meeting of the Chicago U.S.D.A. Club was held at the Great Northern Hotel January 24. Dr. W. N. Neil, the president, presided. It was agreed to hold regular monthly meetings on the third Wednesday of each month at the Great Northern Hotel. Doctor Neil gave an interesting talk, thanking the members for electing him to the presidency of the club for this year, and assured them that he would do all in his power to make this a successful year. The following committees were appointed: Executive—Dr. W. N. Neil, Dr. R. E. Doolittle, Walter W. Williams, Prof. H. J. Cox, E. P. Lemott, R. T. Niles, J. S. Campbell; admission—Dr. G. W. Hoover, F. C. Heiss, C. T. N. Marsh; entertainment—J. H. Frazier, F. J. Baehler, C. L. Harlan, H. R. Hungerford, C. A. Donnel, Dr. A. A. Swain, and Robert Young.

R. T. Miles, of the Bureau of Agricultural Economics, addressed the club on the work under his supervision. Thirty-six members were present, nine of whom were new members.

BIRMINGHAM CLUB.

The monthly meeting of the Federal Agricultural Technical Association of Birmingham, Ala., was held January 13, in the civil-service room of the post-office building, Neale F. Howard, newly elected president, presided.

The secretary was instructed to inquire into the matter of broadcasting information about the department's activities by radiophone, and to ascertain if there is sufficient interest and a sufficiently large number of persons receiving information by radio to justify such dissemination.

J. E. Graf, the principal speaker of the evening, made an interesting talk on the archæology and history of the southwestern United States, illustrating his remarks with a number of photographs, maps, and relics. M. P. Forshee reviewed the rapid migration of the Mexican bean beetle, which is now found almost to the Ohio and Indiana State lines. L. L. English gave a résumé of a recent article dealing with the scientific work of Dr. Jacques Loeb, and evoked considerable discussion as to the soundness of Doctor Loeb's views. Dr. Roy Avant commented on the recent advances made in inoculation of animals to prevent rabies. E. C. Horton spoke briefly on the studies now being pursued by the Weather Bureau to determine a more satisfactory system of barometric pres-

sure reductions than that now in use. Neale F. Howard enlivened the occasion at the close with a humorous sketch entitled "Investigations in the Installation of an Impervious Layer on the Sky Portion of a Domicile," in which he had recently been engaged.

MONTGOMERY CLUB.

P. H. Smyth, of the Weather Bureau, was elected president of the newly formed U.S.D.A. club in the Montgomery district. The other officers are: A. E. Loder, Public Roads, vice president; and L. P. Huguen, Public Roads, secretary and treasurer. By-laws and a constitution were drafted at the meeting. Meetings will be held each month.

CLUB MEETINGS.

The following statement as to the regular meetings of the U. S. D. A. clubs is given for the benefit of the local department representatives, and also for the information of interested visitors from Washington and elsewhere temporarily in the city who would like to get in touch with the clubs:

Birmingham Club (Federal Agricultural Technical Association), second Saturday, 8 p. m.; Post Office Building; Edgar C. Horton, Weather Bureau, secretary.

Chicago Club, third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.

Indianapolis Club (Unity Club), second Monday; lunch, Chamber of Commerce Building; J. A. Armington, Weather Bureau, secretary.

New York Club (NYusda), second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. H. Stanton, 204 Franklin Street, secretary.

Philadelphia Club, third Wednesday; lunch, Snellenberg's Restaurant; C. S. Brinton, 134 Second Street, secretary.

Portland (Oreg.) Club, first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, Post Office Building, secretary.

San Francisco Club, first Wednesday, 12.15; Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.

St. Joseph Club, second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary.

St. Louis Club, second Friday; B. S. Jones, 413 Old Custom House, secretary.

CHEST OF SILVER TO DR. ALSBERG.

Dr. C. L. Alsberg, former Chief of the Bureau of Chemistry, and now director of the Food Research Institute, Stan-

ford University, California, was presented with a chest of silver as an expression of the friendship of his former associates in the bureau. The presentation of the gift has been delayed in the hope that it might be made to Dr. Alsberg in person, as he expected to return to Washington for a short visit. A letter has been received from Dr. Alsberg expressing his deep appreciation of the gift.

VISITORS TO THE DEPARTMENT.

Tajiroh Hosoda, director of the Academy of Agriculture, Shizuoka, Japan, visited the States Relations Service January 30 to obtain information regarding the work in agricultural instruction, investigation, and extension carried on in this country by the State agricultural colleges, experiment stations, and cooperative extension services. Mr. Hosoda is making a study, under the direction of his Government, of phases of the agricultural systems of various countries which would seem of value to Japanese agriculture.

The Louisiana boys' and girls' poultry club team which won second place in the utility poultry judging contest between club members from Louisiana, Connecticut, and Massachusetts, at the Madison Square Garden Poultry Show, New York, January 22-27, visited the department and were received by the Secretary and other officials January 30. The team consists of two girls, Eva Mae Brooks, and Orah Burke, and two boys, Elmer Puls and Joe Savage, representing four different parishes. After leaving the department the party visited other Government departments and points of interest in Washington. The boys and girls were accompanied by two members of the Louisiana State University agricultural extension staff, Miss Elsmar Wilson, in charge of poultry clubs, and H. L. Williams, specialist in poultry husbandry.

W. P. Kelley, agricultural chemist at the Citrus Experiment Station, Riverside, Calif., visited the States Relations Service January 30. Doctor Kelley, who has been on sabbatical leave for some time for study in eastern institutions of subjects relating directly and indirectly to soils, will spend several weeks in various bureaus of the department for this purpose. He discussed in the States Relations Service the development of additional soil research work by the Riverside Station, particularly field investigations of soil problems having bearing on citrus work.

Prof. H. E. Gregory, geologist of Yale University and director of the Bishop Museum at Honolulu, visited the Biological Survey during the last week of January to confer with Doctor Nelson regarding arrangements for a complete scientific exploration of the islands within the limits of the Hawaiian Islands National Bird Reservation.

Howard E. Coffin, of Detroit, Mich., was in conference with Dr. E. W. Nelson, chief of the Biological Survey, January 26 with reference to a cooperative attempt to acclimatize certain tropical game birds in the United States. Mr. Coffin made a liberal contribution, to be expended under the direction of the Biological Survey, to carry out the experiment on Sapelo Island, on the coast of Georgia, which is owned by him.

PEOPLE MENTIONED IN OFFICIAL ORDERS

Dr. E. D. Ball left February 4 for Memphis, Tenn., to attend the meeting of the Southern Agricultural Workers. After leaving Memphis Doctor Ball will go to Manhattan, Kans., to give an address. Later he will go to Lincoln, Nebr., to confer on research problems with the university officials. Before returning to Washington Doctor Ball will give a lecture before the Osborn Club at Ames, Iowa, on the training and compensation of scientists.

Dr. H. C. Taylor, Chief of the Bureau of Agricultural Economics, attended the conference of the Southern Agricultural Statisticians held February 2 and 3 at Atlanta, Ga., and later went to the meeting of the Southern Agricultural Workers held at Memphis February 5 to 7.

President A. M. Soule, of the Georgia State College of Agriculture, Athens, has returned from Rio de Janeiro, Brazil, where he attended the Conference of Economic Expansion and Commercial Instruction and the World Cotton Congress, October 15-26, 1922, acting as one of the unofficial representatives of the department. Doctor Soule was chosen first vice president of the Conference of Economic Expansion and Commercial Instruction and vice president of the World Cotton Congress.

G. N. Dagger, C. E. Niles, and Miss Wiida Daish went to Peoria, Ill., February 6, to complete a hearing on the reweight complaint.

Dr. L. J. Allen, of the Bureau of Animal Industry, with headquarters at Oklahoma, Okla., attended the annual meeting of the Southern Agricultural Workers held at Memphis, Tenn., February 6 to 8. He spoke on Tick Eradication—Past, Present, and Future.

The Biological Survey will be represented at a meeting of grazing officials of the Forest Service at Ogden, Utah, during the week of March 5, by E. A. Goldman and Smith Riley, of the Washington offices, in charge, respectively, of biological investigations and of game and bird reservations, and by George E. Holman, predatory animal inspector, stationed at Salt Lake City. Problems to be discussed regarding game animals in the national forests, with special reference to predatory animals and forage conditions affecting game, are matters in which the Forest Service and the Biological Survey are jointly interested.

Dr. W. B. Bell, of the Biological Survey, who is in the West on official business, addressed the meeting of the Oregon Wool Growers' Association at Pendleton, January 27, on the effect on production of the control of predatory animals and range-destroying rodents.

Dr. C. R. Ball, Bureau of Plant Industry, gave an illustrated address on the subject of the national weed problem as it is related to seed production before the Second Annual Convention and State Corn and Grain Show held by the Virginia Crop Improvement Association at Charlottesville, Va., January 25 and 26.

Smith Riley will spend most of February and March inspecting the big-game and bird reservations administered by the Biological Survey. While in the West he will attend the forest supervisors' meeting at Denver, Colo., February 5 to 10, and speak on the relation of the forests to big game and birds.

Miriam Birdseye, office of cooperative extension work, States Relations Service, attended conferences of home demonstration agents at Rock Hill, S. C., January 10-13, and Baton Rouge, La., January 15-17. She also conferred with State supervisors of extension work at Auburn, Ala., January 19-20.

A. B. Graham, office of cooperative extension work, States Relations Service, attended conferences of extension workers and discussed methods of organization and teaching of agriculture and home economics at Rock Hill, S. C., January 11-13; Tuskegee, Ala., January 15-17; Auburn, Ala., January 18-19; and Augusta, Ga., January 22-25.

Gertrude L. Warren, office of cooperative extension work, States Relations Service, attended the conferences of home demonstration leaders at Blacksburg, Va., January 8-11, and Urbana, Ill., January 23-25, where she assisted with references to girls' club work. She also was in La Fayette, Ind., January 26-27, where she conferred with State supervisors regarding methods of conducting girls' club work.

Eugene Merritt, of the States Relations Service, attended the New England Association of Marketing Officials, held February 2 at Boston, Mass. He discussed What We Shall Teach in Marketing Extension Work and How We Shall Teach It.

Dr. C. W. Larson, of the Bureau of Animal Industry, attended a health and dairy show in New York City January 25 to 27.

J. C. McDowell, of the Bureau of Animal Industry, attended a meeting of the Farm Bureau at Rockville, Md., January 30. He spoke on Feeding and Breeding of Dairy Cattle.

J. H. McClain, of the Bureau of Animal Industry, attended a meeting of the Tennessee State Dairymen's Association at Nashville February 1. He spoke on Better Cows for Everybody.

J. B. Parker, of the Bureau of Animal Industry, spoke at a Farmers' Week meeting at Floris, Va., January 26. His subject was Dairying. He also conducted a judging demonstration on dairy cows.

R. R. Graves, of the Bureau of Animal Industry, attended a meeting of the Ohio Holstein-Friesian Association at Columbus February 1, where he spoke on Transmitting Ability of Holstein-Friesian Sires. On January 31 Mr. Graves gave an address before the Ohio Jersey Cattle Club, also at Columbus. His subject at this time was Value of Proven Sires.

Raphael Zon, of the Forest Service, attended the annual meeting of the Hemlock and Hardwood Manufacturers' Association, held February 2 in Oshkosh, Wis.

W. A. Orton, of the Bureau of Plant Industry, spoke on Newer Diseases of Potatoes and The Plans of the Potato Commodity Council in the Department of Agriculture, at the meeting of the Vermont Extension Conference, held at Burlington January 21.

D. R. Thornton, of the Bureau of Public Roads, attended the State road conference held at the University of Tennessee, Knoxville, January 25 and 26.

Prof. Lyman Carrier, of the Bureau of Plant Industry, spoke on Quality of Seeds before the Virginia Crop Improvement Association at Charlottesville, Va., January 25.

Dr. G. N. Hoffer, pathologist in charge of the investigation of root, stalk, and ear rots

of corn, conducted by the Bureau of Plant Industry, in cooperation with the Purdue University Agricultural Experiment Station, La Fayette, Ind., came to Washington January 29, at the conclusion of the annual meeting of the National Cannery Association at Atlantic City. In the afternoon he was invited to give an illustrated talk before a special seminar of the office of cereal investigations on the subject of the accumulation of iron and aluminum compounds in corn plants and its probable relation to disease. Doctor Hoffer will return to-day to his headquarters at La Fayette, Ind., after further conference with administrative and other officials of the department.

Olaf S. Aamodt, of the Bureau of Plant Industry, who has completed four months of post-graduate study at Cornell University, Ithaca, N. Y., arrived in Washington January 31 to prepare a manuscript for publication on the rust resistance of wheat as the result of investigations conducted in cooperation with the Minnesota Agricultural Experiment Station, and to confer with officials of the department regarding further research to be resumed upon his return to his headquarters at St. Paul, Minn.

Dr. L. F. Kebler, chemist in charge of special collaborative investigations, Bureau of Chemistry, formerly second vice president of the American Pharmaceutical Association, has just been elected first vice president for 1923-24.

H. S. Paine, chemist in charge, carbohydrate laboratory, Bureau of Chemistry, is traveling through Texas, Louisiana, and Alabama to assist cane-sirup producers in the establishment of cooperative plants for handling sirup.

Prof. E. R. Lake, Bureau of Plant Industry, left Washington January 23 for Smithfield and Newport News, Va.; Raleigh, N. C.; Camden and Darlington, S. C.; Experiment, Macon, and Albany, Ga.; Monticello and Tallahassee, Fla.; and Montgomery and Mobile, Ala., for the purpose of conducting nut-culture investigations.

Dr. A. G. Johnson, Bureau of Plant Industry, left January 31 to visit points in Wisconsin, Illinois, and Indiana in the interests of cereal disease investigations and to confer with officials of agricultural experiment stations regarding cooperative relations.

Dr. L. B. Ernest, veterinary inspector, tuberculosis eradication division, Bureau of Animal Industry, is on a trip to Texas and other Southwestern States, supervising the tuberculin testing of cattle and conferring with Federal and State officials on tuberculosis eradication in that section.

ALFRED C. DAVIS.

Alfred C. Davis, in charge of the office of accounts, Bureau of Animal Industry, died at his home in Washington, D. C., on January 24.

Mr. Davis was born in Wheeling, W. Va., in 1862, and at one time was assistant postmaster of that city. He came to Washington in 1902 and was index clerk at the Capitol for several years and later was chief clerk of the claims division, office of the Quartermaster General, War Department. In 1906 he was transferred to the Department of Agriculture, where he served faithfully as an auditor in the office of accounts, Bureau of Animal Industry. In 1919 he was promoted and placed in charge of the office and served in that capacity until his death.

BRIEF REVIEWS OF NEW BULLETINS.

The European Corn Borer and Its Control. By D. J. Caffrey, assistant in charge, corn-borer investigations, and L. H. Worthley, expert in charge, corn-borer control, Bureau of Entomology. Pp. 45, figs. 24. (January, 1923.) (Farmers' Bulletin 1294.)

This bulletin anticipates the need on the part of corn growers, corn canners, dealers in green vegetables, and market and home gardeners, for detailed information concerning the presence of the European corn borer in the United States, the probability of its steady movement toward the area of most intensive corn production, and the most effective means of control.

The insect was first found in a small area near Boston in 1917, where it is thought to have been brought in about 1909 or 1910 on Hungarian or Italian broom corn. Up to the present time it has done little damage to the corn crop except in a few sections, where this grain is not of major importance, but it has gradually spread over a total area of nearly 7,700 square miles, occupying territory that makes it a constant menace to the great corn-growing region.

It is found in eastern Massachusetts, southeastern New Hampshire, and eastern New York, and in a narrow belt along Lake Erie in New York, Pennsylvania, Ohio, and Michigan. There is an extensive infested area in Ontario, and it is thought that the fields on the American side of the lake were infested by insects flying or blown across. Other vegetables are at times attacked by the European corn borer.

The Common White Wheats. By J. Allen Clark, agronomist in charge, John H. Martin, agronomist, Western Wheat Investigations, and C. E. Leighty, agronomist in charge, Eastern Wheat Investigations, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 42, figs. 20. December, 1922. (Farmers' Bulletin 1301.)

The common white wheats, of which there are 52 distinct varieties, are grown principally in the far West and comprise about 5 per cent of the total wheat acreage. The bulletin takes up a detailed discussion of each of the varieties and gives their adaptation and value in the different sections where they are grown. The Pacific Blue-stem is the variety most widely grown and is the most productive spring wheat in eastern Washington and northern Idaho. Gold-coin is the winter variety of white wheat most widely grown but, except in certain localities, it should be replaced by more productive varieties of a better quality.

Maps showing the areas where these white wheats are grown, and half-tone plates showing the distinguishing characteristics of a number of the more important varieties are included in the bulletin and make it a valuable source of information for the wheat grower.

The Lead-Cable Borer or "Short-Circuit Beetle" in California. By H. E. Burke, entomologist, R. D. Hartman, field superintendent in Insect Control, and T. E. Snyder, entomologist, Forest Insect Investigations, Bureau of Entomology. Pp. 56, figs. 15, pls. 10. (Professional Paper.) December 4, 1922. (Department Bulletin 1107.) Price, 20 cents.

Summarizing various experiments in the control of the lead-cable borer which seriously damages the sheathing of telephone cables in California and elsewhere, this bulletin states that the beetle is able to penetrate

any lead alloy used as a cable sheathing or any poison or repellent placed on the sheathing. Friction or bicycle tape impedes it, and thin sheets of copper, zinc, and steel prevent its getting into the cables, but sleeves of these materials are at present prohibitively expensive. The beetle, oddly enough, does not seem able to penetrate pure gum rubber, but this fact does not aid greatly in solving the problem of preventing its activities. Tallowing the rings with a soft beef tallow is at present the most promising method of control, since the tallow sticks to the beetle and suffocates it.

Some New Varieties of Rice. By Charles E. Chambliss, agronomist in charge of Rice Investigations, Office of Cereal Investigations, Bureau of Plant Industry, and J. Mitchell Jenkins, superintendent, Rice Experiment Station, Crowley, La., and assistant agronomist, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 18, figs. 3, pls. 4. (Professional Paper.) January 12, 1923. (Department Bulletin 1127.) Price, 10 cents.

This bulletin contains a description of a rice plant and of 11 varieties of rice. Some of them, Fortuna, Acadia, Delitus, Tokalon, Evangeline, Viutula, and Salvo, are new varieties which have been developed from pure-line selections in the course of cooperative experiments at the rice Experiment Station, Crowley, La.; and four, Honduras, Watari-bune, Blue Rose, and Shiriki, are long-established varieties that are grown on a large acreage in the prairie rice sections of the United States. The conditions under which the varieties were grown experimentally and in cooperation with farmers are fully discussed. The length of the growing season, height of plant, and acre yield of grain and straw of each variety, with other important information, are given in tabulated form, so that the comparison of the varieties may be easily made.

Besides producing good yields, the new varieties have the culinary qualities of retaining the general shape of their kernels and of not forming a paste-like mass when boiled. Rices which have these characteristics are preferred by the rice-eating people of this country, who, like the Orientals, eat this cereal in the boiled state. On this account, the proper exploitation of these new varieties by the trade should greatly increase the demand for rice as a daily article for food. Although they are the lowest yielding of the new varieties, Delitus and Salvo are especially worthy of cultivation because of the popcornlike flavor of their kernels, a character that is not possessed by any other rice grown in the United States.

Significance of Wheat Hairs in Microscopical Examination of Flour. By George L. Keenan, Microanalyst, Microchemical Laboratory, Bureau of Chemistry. Pp. 8, fig. 5, January 26, 1923. (Department Bulletin No. 1130.) Price, 5 cents.

Data secured by the author on experimental samples of flour and of mill stocks indicate the possibility of classifying flours by the number of wheat hairs present. Heretofore the grading of a flour by microscopical examination has depended on a count of the bran particles and hairs present. However, the recognition of bran particles is a more difficult task for the untrained eye than wheat hairs. For this reason a simplification of such a grading method has been suggested. Tables showing hair counts obtained

on commercial samples of patent, straight, clear, and low-grade flours indicate that distinct classifications can be made by the hair count, which results are confirmed by data secured on experimental samples made under known milling conditions. Flours made from purified middlings materials show a lower hair count than flours containing lower grade mill stocks.

Preparation of Peat Composts. By Alfred P. Dachnowski, physiologist, office of soil bacteriology investigations, Bureau of Plant Industry. Pp. 15. December, 1922. (Department Circular 252.) Price, 5 cents.

Peat in its raw or natural state is seldom satisfactory for use as a fertilizer, and from the standpoint of economy the commercial brands of chemically treated peat can not as yet be recommended for fertilizer purposes. The best means of taking advantage of the inert valuable qualities of peat is through composting. The use of peat for composting with other materials has resulted in greatly increasing the yield of crops and in improving the character of the soil. Directions for composting with manure, sewage, fish scrap, and other materials are given in this circular, which should be of particular value in those regions or States where peat land is found, as in these regions it is probable that material contribution can be made to the supply of available organic manures and at the same time the soil can be maintained in good condition for producing profitable crops. The preparation of composts with stable manure is an old practice. Many other materials are also used, but comparatively few can be used economically on a large scale.

Corn Growing in Guam for Club Members. By W. J. Green, superintendent of extension, Guam Agricultural Experiment Station. Pp. 13, figs. 2, pls. 8. January, 1923. (Extension Circular No. 3, Guam Agricultural Experiment Station.)

This circular, while written primarily for the boys' and girls' clubs of Guam, contains information relating to the growing of corn that is applicable to almost any tropical climate. Popular directions are given for the preparation of the land, planting, cultivation of the crop, and on the selection, preservation, and testing of seed for planting purposes.

ADDITIONAL PUBLICATIONS.

Service and Regulatory Announcements. Bureau of Animal Industry, No. 188. December, 1922. Pp. 141-149. January, 1923. Price, 5 cents.

"LISTENS IN"—ASKS FOR BULLETINS.

Among interesting developments in the news activities of the Department of Agriculture are comments received shortly after radio talks are broadcast. A poultryman who "listened in" recently notified the department of his interest in publications mentioned by radio. Although already a breeder of chickens, ducks, and squabs, this combination poultry-and-radio enthusiast requested "As per your radio talk of the other night, please send me Back-Yard Poultry Raising, The Feeding of Chicks and Chickens, Raising of Chicks, Breeding, Culling, etc., and anything pertaining to the chicken industry."

PRINCIPAL LIBRARY ACCESSIONS

BOOKS

- A cafeicultura e os adubos. Por João Herrmann. Rio de Janeiro, Centro das experiencias agricolas do kalisyndikat, 1921.
- Canning age food packers directories; canners section. New York, Canning age, 1922.
- Chemische technologie der naturvölker. Von Karl Weule. Stuttgart, Kosmos, Gesellschaft der naturfreunde, 1922.
- Coltivazione della vecchia per seme. Per F. C. Tornello. Catania, F. Battiato, 1922.
- La culture du coton égyptien dans l'Arizona. Africa, French West. Inspection générale de l'agriculture, de l'élevage et des forêts. Paris, E. Larose, 1922.
- Czechoslovak republic. By Jaroslav Cisar and F. Pokorný. London, T. F. Unwin, Ltd., 1922.
- Education in Africa. African education commission. New York, Phelps-Stokes fund, 1922.
- L'enseignement agricole à l'Union du Sud-Est. Union du Sud-Est des syndicats agricoles. Lyon [1922?]
- Handbuch der landwirtschaftliche pflanzenzüchtung. 4. auf. Die züchtung der vier hauptgetreidearten und der zuckerrübe. Von C. Fruwirth, Th. Roemer und E. Tschermak. Berlin, P. Parey, 1923.
- Home vegetable garden. By E. M. Freeman. New York, Macmillan co., 1922.
- Guide to Alaska and Yukon. New York, Rand McNally & company, 1922.
- Introduction to economic history. By N. S. B. Gras. New York, Harper & bros., 1922.
- Knowing birds through stories. By Floyd Bralhar. New York, Funk & Wagnalls company, 1922.
- Manual de algodão. Por T. R. Day. [n. p., 1922?]
- Mémoires et rapports sur les matières grasses. Congrès de la production coloniale. Marseille, 1922.
- Monograph of the pheasants. v. 4. By C. W. Beebe. Pub. under the auspices of the New York zoological society. New York, 1922.
- Les moulins coopératifs agricoles. Notice historique. Union suisse des moulins agricoles. Lausanne, Impr. Vaudoise, 1922.
- Nile control. 2d ed. v. 2. By Sir Murdoch MacDonald. Cairo, Government press, 1921.
- Les parasites des invertébrés hématophages. Par Georges Lavier. Paris, Vigot frères, 1921.
- Radio telephone. By B. W. Dowus. St. Paul, B. W. Downs, 1922.
- Recent economic developments in Russia. By K. Leites, ed. by Harald Westergaard. Oxford, Clarendon press, 1922.
- Report of proceedings. Australian forestry conference, Brisbane, 1922.
- Root vegetables act, 1922. Canada. Laws, statutes, etc. Ottawa, 1922.
- Veterinarian's handbook of materia medica and therapeutics. 2d ed. By D. H. Udall. New York, Macmillan company, 1922.
- Water supply installations for farmsteads and country estates. By W. P. Gerhard. New York, 1922.

CURRENT PERIODICALS.

- Asociación argentina criadores de cerdos. Revista [monthly] Buenos Aires, 1922.
- Australian science abstracts [quarterly] Sydney, 1922.
- Congressional digest [monthly] Washington, D. C., 1922.
- Faserforschung; zeitschrift für wissenschaft und technik der faserpflanzen u. der bastfaserindustrie, hrsg. von Forschungsinstitut Sorau [quarterly] Leipzig, 1921.
- International medical digest [monthly] Hagerstown, Md., 1923.
- Metsäloudeellinen aikakauskirja; forstlig tidskrift [monthly] Helsingfors, 1922.
- National Angora record journal [monthly] Uvalde, Texas, 1923.
- Schweizer entomologischer anzeiger; journal entomologique suisse. Dübendorf, 1922.
- School and college cafeteria [monthly] Chicago, 1923.
- Tschil-horose; illustré bulletin zoologique. Stamboule-Scutari [1922?]

LOST BOOKS.

The following books belonging to the library cannot be found. It will be appreciated if anyone having information in regard to them will report the fact at the loan desk of the main library:

U. S. Bur. of Chemistry. Report of Chief. 1889-1911.

U. S. Census. 9th, 1870. Agricultural statistics. cop. 1.

Articles in Current Publications by Department Workers

- Almy, L. H., Field, E., and Hill, H. R. (Chemistry). A Study of the Preservation of Fish in Ice. *Am. Food J.*, vol. 18, no. 1, Jan., 1923.
- Ashbrook, Frank G. (Biological Survey). Work of the Biological Survey Relating to Fur-bearing Animals. *Fur Trade Review*, vol. 50, no. 5, pp. 227-228, Jan., 1923.
- Silver Fox Breeders Need a National Organization. *Fur Trade Review*, vol. 50, no. 5, pp. 141-142, Jan., 1923.
- Bailey, Vernon and Florence Merriam Bailey. (Biological Survey). Johnny and Paddy, Two Baby Beavers. *Nature Magazine*, vol. 1, no. 1, pp. 3-7, Jan., 1923.
- Carrier, Lyman (Plant Industry). Sodding. *Bulletin Green Section U. S. Golf Assn.*, vol. 2, no. 12, p. 333-337, 4 fig. Dec. 16, 1922.
- Demaree, Juan B. (Plant Industry). Pecan scar experiments in 1922. *American Nut Journal*, vol. 18, pp. 4-5, Jan., 1923.
- Ewing, H. E. (Entomology). The Dermanysid Mites of North America. Separate no. 2459 from Proc. U. S. Nat. Mus. v. 62, art. 13, pp. 1-26, pls. 1-2, 1922.
- McAtee, W. L. (Biological Survey). Economic Ornithology in Recent Entomological Publications. *The Auk*, vol. 40, no. 1, pp. 161-162, Jan., 1923.
- Thoughts on English Names of Birds in the A. O. U. Check-List. *The Condor*, vol. 25, no. 1, pp. 23-25, Jan., 1923.
- The Predaceous Enemies of Ants. *The Auk*, vol. 40, no. 1, p. 162, Jan., 1923.
- Reestablishment and Value of the Buff-backed Heron in Egypt. *The Auk*, vol. 40, no. 1, pp. 162-163, Jan., 1923.
- Nelson, E. W. (Biological Survey). Introduction to the Northward Course of Empire, by Vilbjalmur Stefansson, pp. xvii-xx; New York, 1922.
- Oberholser, Harry C. (Biological Survey). Notes on the Forms of the Genus *Oreortyx* Baird. *The Auk*, vol. 40, no. 1, pp. 80-84, Jan., 1923.
- Palmer, T. S. (Biological Survey). Public Hunting Grounds and Refuges. *New Jersey Outdoorsman*, vol. 1, no. 1, pp. 6, 14, Dec., 1922.
- Phillips, E. F. (Entomology). The revolution in beekeeping. *Farm Journal*, v. 47, no. 2, pp. 15, 47, illus. Feb., 1923.
- Sherman, Caroline B. (Agricultural Economics). Specialization in Crops and What It Means. *Nation's Business*, Feb., 1923.
- Snyder, T. E. (Entomology). Insect injury to green logs and lumber and methods of preventing this loss. *The Southern Lumberman*, v. 108, no. 1422, pp. 133-135, 5 figs. Dec. 23, 1922.
- Taylor, Walter P. (Biological Survey). Notes on the Sense of Smell in the Golden Eagle and Certain Other Birds. *The Condor*, vol. 25, no. 1, p. 28, Jan., 1923.
- The Hebrun Rosy Finch in the Olympic Mountains, Washington. *The Condor*, vol. 25, no. 1, pp. 32-33, Jan., 1923.

EXPERIMENT STATION PUBLICATIONS.

- The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week January 22-27, 1923. These publications can be obtained only from the stations issuing them.
- Accounting Records for Live Stock Shipping Associations. By F. Robotka. (Iowa Sta. Bul. 209, pp. 145-200, pls. 6, figs. 12.)
- Saving the Orphan Pigs. By J. M. Eppard and G. V. Glatfelter. (Iowa Sta. Circ. 80, pp. 11.)
- Feeding the Brood Sow. By J. M. Eppard and C. C. Culbertson. (Iowa Sta. Circ. 81, pp. 4.)
- Farm Storage as a Factor in the Marketing of Kansas Wheat. By R. M. Green. (Kansas Sta. Bul. 229, pp. 32, figs. 6.)
- The Relation of Tree Type to Productivity in the Apple. By K. Sax and J. W. Gowen. (Maine Sta. Bul. 305, pp. 20, pls. 4, figs. 3.)
- Work of the Seed Inspection Laboratory for the Year 1921. By F. S. Holmes. (Maryland Sta. Bul. 249, pp. 187-206.)
- Changes in Egg Production in the Station Flock. By H. D. Goodale and R. Sanborn. (Massachusetts Sta. Bul. 211, pp. 95-125, figs. 16.)

- Inspection of Commercial Feedstuffs. By P. H. Smith and E. M. Bradley. (Massachusetts Sta. Control Ser. Bul. 19, pp. 34.)
- Inspection of Commercial Fertilizers. By H. D. Haskins, L. S. Walker, and R. W. Swift. (Massachusetts Sta. Control Ser. Bul. 20, pp. 42.)
- Inspection of Lime Products Used in Agriculture. By H. D. Haskins, L. S. Walker, and R. W. Swift. (Massachusetts Sta. Control Ser. Bul. 21, pp. 7, fig. 1.)
- Potato Culture in Michigan. By H. C. Moore. (Michigan Sta. Spec. Bul. 117, pp. 32, figs. 20.)
- The Grape-Berry Moth in 1922. By R. H. Pettit. (Michigan Sta. Circ. 52, pp. 4, figs. 4.)
- Sale Prices as a Basis for Farm Land Appraisal. By G. C. Haas. (Minnesota Sta. Tech. Bul. 9, pp. 31, figs. 2.)
- Factors Determining the Price of Potatoes in St. Paul and Minneapolis. By H. Working. (Minnesota Sta. Tech. Bul. 10, pp. 41, figs. 7.)
- Mississippi Bark Beetles. By M. W. Blackman. (Mississippi Sta. Tech. Bul. 11, pp. 130, pls. 18, fig. 1.)
- Inspection of Commercial Feeding Stuffs. By H. R. Kraybill, T. O. Smith, and C. P. Spaeth. (New Hampshire Sta. Bul. 205, pp. 51.)
- Monthly Bulletin of the Ohio Agricultural Experiment Station. (Ohio Sta. Mo. Bul., 7 (1922) No. 11-12, pp. 169-215, figs. 25.)
- Oats and Vetch v. Corn or Sunflowers for Silage. By R. C. Jones. (Oregon Sta. Bul. 194, pp. 20, figs. 2.)
- Stump Land Reclamation in Oregon. By H. D. Scudder. (Oregon Sta. Bul. 195, pp. 62, figs. 40.)
- Director's Biennial Report, 1921-1922. (Oregon Sta. Bien. Rpt. 1921-22, pp. 104.)
- Annual Report of the Director for the Year Ending June 30, 1922. (Pennsylvania Sta. Bul. 176, pp. 22.)
- An Economic Study of a Typical Rancening Area on the Edwards Plateau of Texas. By B. Youngblood and A. B. Cox. (Texas Sta. Bul. 297, pp. 437, figs. 73.)
- Organic Constituents of the Soil. By G. S. Fraps. (Texas Sta. Bul. 300, pp. 14.)
- Soils of Bell, Jefferson, Smith, Taylor, and Webb Counties. By G. S. Fraps. (Texas Sta. Bul. 301, pp. 66, figs. 7.)
- The Needs of the Soils of Brazos and Jefferson Counties for Sulphur. By S. Lomanitz. (Texas Sta. Bul. 302, pp. 23, figs. 2.)
- Commercial Feeding Stuffs, September 1, 1921, to August 31, 1922. By B. Youngblood. (Texas Sta. Bul. 303, pp. 192.)
- The Orchard Leaf-Roller. By A. Spuler. (Washington Col. Sta. Bul. 172, pp. 9.)
- The Cost of Producing Milk, and Dairy Farm Organization in Western Washington. By G. Severance and E. R. Johnson. (Washington Col. Sta. Bul. 173, pp. 50, figs. 3.)

CIVIL-SERVICE EXAMINATIONS.

The Civil Service Commission announces examinations for assistant agricultural economist March 6. Vacancies in the Bureau of Agricultural Economics will be filled from this examination, at salaries of from \$2,400 to \$3,000 a year. The duties of the position will include investigations in farm organization and cost of production studies; farm financial relations; agricultural history and geography; land economics; or farm life studies. Applicants must have graduated from a college or university of recognized standing, with at least one year of post-graduate work in agricultural economics or related subjects. Applicants should apply for Form 2118.

For junior entomologist, April 4. Vacancies in the Bureau of Entomology will be filled from this position at salaries of from \$1,440 to \$1,800. Women eligibles are especially desired. Applicants must have graduated with a degree from a college or university of recognized standing, having specialized in entomology. Separate registers will be established in the following divisions: Deciduous fruits; cereals and forage crops; southern field crops; shade and forest trees; truck crops and stored products; apiculture; tropical and subtropical fruits; miscellaneous insects; and preventing spread of moths. The examination will include a thesis. If interested, apply for Form 1312.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., FEBRUARY 14, 1923.

No. 7.

AGRICULTURAL EDITORS TO VISIT DEPARTMENT

Will Spend Three Days Studying Work—Secretary Wallace to Speak at Meeting.

Definite plans are being made in the department for the entertainment of the American Agricultural Editors' Association during its meeting to be held in Washington, February 26 to March 3. The editors attending the meeting will visit the department on Tuesday, Wednesday afternoon, and Thursday of the week, with the remainder of the time distributed among other Government departments in which the visiting members may have an interest. Samuel Adams, president of the association and residing in Washington, is making plans for the meeting.

On Tuesday the editors will gather in a convenient conference room to listen to short discussions of projects being conducted by the department. Those in charge of special lines of work will carry on a discussion for a half or three-quarters of an hour each, followed by questions from the editors. This will be carried through on Thursday in order to give the visitors an opportunity of coming in direct contact with the work in the department, giving ample time for visits to bureaus in which the editors might be especially interested.

To Serve Buffet Supper.

A buffet supper will be served by the Office of Home Economics Tuesday evening, followed by a motion-picture demonstration. Food served at the supper will be supplied by the different bureaus and consist of some of the products developed by the department as well as products from the different experimental stations. Tentative plans call for a trip to Arlington on Wednesday afternoon, with provisions to be made for a special trip to Beltsville for editors interested in the work carried on there.

Monday of the convention week will be devoted to a general meeting at

which Secretaries Wallace, Davis, Denby, and Work will speak, as well as Washington representatives of the different farm organizations. Senator Capper will entertain at luncheon Wednesday noon, and Friday will be spent in the Department of Commerce. The editors will visit Congress Wednesday morning, and Saturday will be given over to personal work of the members.

BETTER-LAMB CAMPAIGN COMMENCED.

An intensive publicity campaign to encourage the better preparation of lambs and sheep to the Jersey City and New York markets has been begun by the department. The campaign is being carried on under the direction of a committee, of which Charles J. Brand is chairman; E. W. Sheets and M. W. Coll represent the Bureau of Animal Industry; C. V. Whalin and C. A. Burmeister the Bureau of Agricultural Economics. The campaign will cover Tennessee, Kentucky, Virginia, and West Virginia, and will be carried on in cooperation with county agents, State marketing bureaus, and other State and Federal agricultural agencies. It will include news and specific information, as well as demonstration shipments of properly graded and assorted lambs. Test shipments last fall showed that producers and shippers of high-quality lambs received high prices for their animals as compared with those not properly handled. A report on lamb production in these States was issued December 1, and another one covering the same line will be issued April 1.

TO GRADE SHIPPING BOARD MEAT.

Representatives of the Bureau of Agricultural Economics will hereafter inspect the grade and quality of all meats intended for consumption on passenger ships operated by the United States Shipping Board out of New York, in addition to the regular Federal meat-inspection service.

BILL DEFINING FOREST POLICY INTRODUCED

Wheat Report Requested—Consider Removing Duty on Calcium Arsenate—Other Bills.

Mr. Clarke of New York on February 6 introduced a bill (H. R. 14225) providing, through cooperation between the Federal Government, the State, and owners of timberland, for adequate protection against forest fires, for the reforestation of denuded lands, and for the extension of national forests, in order to promote forest renewal and the continuous production of timber on lands chiefly suitable therefor. The bill authorizes the following annual appropriations: For putting into effect the essential requirements in protecting timbered and cut-over lands from fire, with a view to the systematic renewal of forest growth and continuous production of timber, including the protection of watersheds of navigable streams, \$1,000,000; for the procurement, production, and distribution of forest tree seeds and plants, \$100,000; for advice and assistance to farm owners in establishing, improving, and renewing wood lots, shelter belts, windbreaks, and other valuable forest growth, \$100,000; to enable the National Forest Reservation Commission to carry out the purposes of the Weeks law of March 1, 1911, through the acquisition of additional forest lands for the protection of the watersheds of navigable streams, \$2,000,000; to enable the Secretary of Agriculture to conduct investigations in reforestation and methods of cutting and utilizing timber, establish forest experiment stations, and conduct investigations in the chemical, physical, and mechanical properties and utilization of woods and other forest products, \$600,000. A bill (H. R. 14241) with a similar title was introduced by Mr. Clarke February 7.

Progress of Legislation.

H. R. 14110 (Almon), amending the tariff act of 1922 by removing the duty of 3 cents per pound on calcium arsenate and placing

this article on the free list; introduced and referred to House Committee on Ways and Means January 31.

S. 4456 (Shields), providing for the establishment of a forest experiment station in cooperation with the University of Tennessee, and authorizing an appropriation of \$50,000 for this purpose; introduced and referred to Senate Committee on Agriculture and Forestry February 1.

S. 4287 (Lenroot-Anderson credit bill), debated by Senate February 1 and 2 and passed; referred to House Committee on Banking and Currency February 3.

H. J. Res. 422, permitting the entry free of duty of certain domestic animals which have crossed the boundary line into foreign countries, debated and passed by House February 1 and referred to Senate Committee on Finance February 2. A similar resolution (S. J. Res. 275) was introduced in the Senate by Mr. Bursum on February 3 and referred to Committee on Finance.

S. 4187, extending the time for payment of charges due on reclamation projects, reported from the Committee on Irrigation of Arid Lands, with amendments and Report 1508, and referred to the House calendar Feb. 1.

H. J. Res. 432 (Hudspeth), amending section 2 of the Smith-Lever agricultural extension act so as to provide that, in the expenditure of the appropriations carried by this act, where the Secretary of Agriculture and the proper official of the college in any State fail to mutually agree upon the plans to be employed in the extension or demonstration work, in no case shall any change in that plan be made in such State different from that employed in such State during the year ending January 1, 1922. Referred to House Committee on Agriculture February 1.

H. Res. 502 (Steenerson), directing the Secretary of Agriculture to transmit to the House of Representatives the reports and communications of John Lee Coulter and L. A. Fitz relating to the handling of wheat and other grain in elevators at the terminal markets of Minnesota and North Dakota, particularly as to the operation of so-called "mixing houses" and "hospital elevators" and the amount that goes in as compared with the amount that goes out of such elevators and houses. Referred to House Committee on Agriculture February 1.

H. R. 14167 (Sinclair), to promote and encourage agriculture by divesting grains of their interstate character in certain cases. Provides that all corn (maize), wheat, rye, oats, barley, and flaxseed shall, prior to their original delivery to a carrier for transportation in interstate or foreign commerce (or if no such delivery occurs, then prior to their original transportation in such commerce), be subject to the operation and effect of the laws of the State or Territory in which produced which are enacted in the exercise of police powers of such State or Territory; and that the provisions of the United States grain standards act shall not be held to apply to any such grain prior to such delivery or transportation. Referred to House Committee on Interstate and Foreign Commerce February 2.

S. J. Res. 263, authorizing the Secretary of Agriculture to accept membership for the United States in the Permanent Association of the International Road Congresses, was debated and passed by the Senate February 5 and referred to House Committee on Foreign Affairs February 6. A similar House resolution (H. J. Res. 433) was introduced by Mr. Wood of Indiana February 2 and referred to Committee on Foreign Affairs.

The President on February 3 transmitted to Congress a supplemental estimate (H. Doc. No. 543) covering an appropriation of \$340,000 for fighting and preventing forest fires and \$16,480 for the protection of the so-called Oregon and California railroad lands and Coos Bay wagon-road lands, for the fiscal year 1923; referred to House Committee on Appropriations.

S. 4478 (Gooding), to promote agriculture by stabilizing the price of wheat; introduced and referred to Senate Committee on Agriculture and Forestry February 5.

S. 4281, appropriating \$500,000 for the purchase of seed grain to be supplied to farmers in crop-failure areas in eastern Washington, was debated and passed by the Senate February 5 and referred to House Committee on Agriculture February 6.

S. 4324, amending the act to authorize associations of producers of agricultural products so as to include producers of turpentine and rosin, was debated and passed by the Senate February 5 and referred to House Committee on the Judiciary February 6.

H. R. 7103, to establish a standard of weights and measures for the following wheat-mill and corn-mill products, namely, flours,

RARE BOOKS ACQUIRED BY LIBRARY IN 1922

Miss Barnett's Report Shows Much Use of Facilities by Department People.

The fiscal year 1922 is the sixtieth year of the existence of the department library, says Miss Claribel Barnett, librarian, in her report to Secretary Wallace.

On July 1, 1922, the library contained 163,391 accessioned books and pamphlets. Of these, there were added by purchase during the year 1,384 volumes, 81 pamphlets, 464 serials and continuations, and 9 maps. The additions by gift and exchange were 934 volumes, 751 pamphlets, 5,683 continuations, and 59 maps. In addition, 1,305 volumes were added through the binding of periodicals and serials. The total accessions numbered 10,670. The periodicals received currently numbered 3,114, of which 2,169 were received by gift and exchange.

Some progress was made during the year in completing the files of foreign periodicals of the war period.

Rare Books Acquired.

The shrinkage in the purchasing power of the library appropriation has seriously hindered acquisition of out-of-print books, the number of those bought during the past year being comparatively small. Perhaps the most important of the acquisitions of the year was Curtis's *Botanical Magazine*, volumes 66-70 (1840-1844). The volumes are excep-

tionally rare and have been on our desiderata list for 15 years or more, during which time they have practically never been obtainable save with complete sets of the *Botanical Magazine*. Another periodical acquired this year which is very little known, and, although less important than the preceding, possibly much more rare, is the "Portefeuille des Horticulteurs" (2 v. Paris, 1847-48), which contains notes of new plants introduced or originated by the Cels and other French growers and importers of that period. Other rarities were Bivort's "Album de Pomologie" (4 v. 1847-1851), one of the most important illustrated fruit books; the "Hortus Ericaeus Woburnensis" (1825); Pfeiffer's "Enumeratio diagnostica Cactacearum" (1837); the "Florae Leydensis Prodronus" (1740) of Adrian van Royen; Allioni's "Stirpium praecipuarum littoris et agri Nicaeensis Enumeratio" (1757); the "Enumeratio Plantarum quae in horto Procopii a Demidoff Moscuae vigent" (1781), by Pallas; one of the mileposts in the history of agriculture, the "Geographica Curiosa" (Nürnberg, 1695) of Hohberg; Pierre Morin's "Remarques necessaires pour la Culture des Fleurs" (1658), regarded as the first floricultural book; "Hortorum Libri XXX," by Benedictus Curtius or Le Court (Lugdunum, 1560); "De Drie t'Zamenspraeken tuschen Waermond en Gaergoedt" (Haarlem, 1734), interesting as a document on the seventeenth century "tulipomania"; "Herbier forestiere de la France," by Eugene de Gayffier (Paris, 1868-1873); and "Genera of birds," by C. R. Gray (London, 1849). The most important entomological work purchased during the year was Seitz, "Die Grossschmetterlinge der Erde." One other acquisition, should be mentioned here. The library has for some time been waiting to catalogue an incomplete copy of Jacquin's "Stapeliarum in horticis Vindobonensis culturarum Descriptiones, etc." (1806), being unable to find any other copy in the United States with which to compare it. However, on learning that the New York Botanical Garden had obtained one during the previous year, arrangements were made to have the missing parts supplied by photostat, so the library has now not only a working copy of its own but has been able to print an authoritative catalogue card for what seems to be one of the rarest of Jacquin's much-sought publications.

hominy, grits, and meals, and all commercial feeding stuffs, was debated, amended, and passed by the House February 5 and referred to Senate Committee on Agriculture and Forestry February 6.

S. J. Res. 226, authorizing the acceptance of title to certain lands within the Shasta National Forest, was passed by the House February 5.

S. 3702, providing for the acquirement by the United States of privately owned land within the Lincoln National Forest, in the State of New Mexico, by exchanging therefor lands on the public domain in that State, was passed by the House February 5.

S. J. Res. 265, providing for the purchase and sale of nitrate of soda and calcium arsenate, was reported favorably from the House Committee on Agriculture, with amendments and Report 1541, and placed on the calendar February 5.

H. R. 14199 (McKenzie), extending the provisions of the Federal highway act of November 9, 1921, to the Territory of Alaska, introduced and referred to House Committee on Roads February 5.

On February 7 Mr. Harrison submitted in the Senate a further amendment in the nature of a substitute for S. 1076, establishing standard grades for naval stores, to regulate traffic therein, and for other purposes, which was referred to the Committee on Agriculture and Forestry.

S. 2023, defining a crop failure in the production of wheat, rye, or oats by those who borrowed money from the Government of the United States for the purchase of seed for these crops, was debated and passed by the House February 7. The bill defines a production of 5 bushels or less per acre as a failure, and releases borrowers who failed to make a crop from repayment of the loan.

H. R. 12053, defining butter and providing a standard therefor, was called up for consideration and debated by the House February 7.

tionally rare and have been on our desiderata list for 15 years or more, during which time they have practically never been obtainable save with complete sets of the *Botanical Magazine*. Another periodical acquired this year which is very little known, and, although less important than the preceding, possibly much more rare, is the "Portefeuille des Horticulteurs" (2 v. Paris, 1847-48), which contains notes of new plants introduced or originated by the Cels and other French growers and importers of that period. Other rarities were Bivort's "Album de Pomologie" (4 v. 1847-1851), one of the most important illustrated fruit books; the "Hortus Ericaeus Woburnensis" (1825); Pfeiffer's "Enumeratio diagnostica Cactacearum" (1837); the "Florae Leydensis Prodronus" (1740) of Adrian van Royen; Allioni's "Stirpium praecipuarum littoris et agri Nicaeensis Enumeratio" (1757); the "Enumeratio Plantarum quae in horto Procopii a Demidoff Moscuae vigent" (1781), by Pallas; one of the mileposts in the history of agriculture, the "Geographica Curiosa" (Nürnberg, 1695) of Hohberg; Pierre Morin's "Remarques necessaires pour la Culture des Fleurs" (1658), regarded as the first floricultural book; "Hortorum Libri XXX," by Benedictus Curtius or Le Court (Lugdunum, 1560); "De Drie t'Zamenspraeken tuschen Waermond en Gaergoedt" (Haarlem, 1734), interesting as a document on the seventeenth century "tulipomania"; "Herbier forestiere de la France," by Eugene de Gayffier (Paris, 1868-1873); and "Genera of birds," by C. R. Gray (London, 1849). The most important entomological work purchased during the year was Seitz, "Die Grossschmetterlinge der Erde." One other acquisition, should be mentioned here. The library has for some time been waiting to catalogue an incomplete copy of Jacquin's "Stapeliarum in horticis Vindobonensis culturarum Descriptiones, etc." (1806), being unable to find any other copy in the United States with which to compare it. However, on learning that the New York Botanical Garden had obtained one during the previous year, arrangements were made to have the missing parts supplied by photostat, so the library has now not only a working copy of its own but has been able to print an authoritative catalogue card for what seems to be one of the rarest of Jacquin's much-sought publications.

Among the notable accessions of a different character should be mentioned an extensive History of the Chicago Board of Trade, by Charles Henry Taylor, in three volumes, and a bound file of the Daily Market Reports of the New York Cotton Exchange, beginning with the year 1900.

The circulation of books was 85,683. The number of periodicals currently circulated was approximately 176,030, making the total recorded circulation 261,713. This indicates only in part the use of the library, as no record is kept of the reference use of the library. Furthermore, statistics of circulation are not kept in all the branch libraries. The number of interlibrary loans to libraries out of the city was 1,148. The number borrowed by this library from other libraries in Washington was 4,028 and from libraries outside of the city 69.

Fruit and Vegetable News Now Widely Disseminated

In its eighth successive year the Federal market news service on fruits and vegetables, operated by the Bureau of Agricultural Economics in 25 States, serves 60,000 readers with 7,000,000 mimeographed reports on 14 leading crops.

An experimental news service started in 1915, when it covered four products: Strawberries, tomatoes, peaches, and cantaloupes. Only six branch offices were opened in city markets and about half a dozen temporary field stations were operated in producing districts. The service reached its height during 1917 and 1918, when special funds made it possible to carry on work at 32 city offices and 82 temporary field stations scattered throughout 40 States.

The present program includes daily market reports in season on apples, cabbages, cantaloupes, celery, lettuce, onions, peaches, strawberries, sweet potatoes, tomatoes, watermelons, and white potatoes. Grapes also were included during part of last fall and spinach was recently added. Weekly reports are issued on peanuts and semimonthly reports on honey and beeswax.

An annual movement of approximately 650,000 carloads of these and several additional fruits and vegetables is reported in daily telegrams by 1,275 division superintendents, representing 500 railroads, the express companies, and main boat lines.

The mimeographed bulletins are sent to growers, shippers, dealers, transportation officials, and any others who apply for them, with an average daily distribution exceeding 20,000 copies.

On request, portions of this information are sent to individuals or firms by telegraph, collect. The telephone also is brought into service. Every nook and corner now receives brief market reports by radiograph and radiophone. Local papers cooperate in spreading the reports, and much news and frequent reviews are published in the weekly issues of *Weather, Crops, and Markets*.

Trained market reporters are stationed in the following cities: Boston, New York, Philadelphia, Baltimore, Pittsburgh, Cleveland, Cincinnati, Detroit, Chicago, Minneapolis, St. Louis, Kansas City, Fort Worth, and Los Angeles. The Washington market also is reported, as well as St. Paul and Dallas. Most of these permanent offices are connected by the leased-wire system of the Bureau of Agricultural Economics. Food products inspectors located in other centers frequently render reports of their respective markets.

During the year 1922 temporary field stations were operated in the 38 shipping districts. These offices issued bulletins on 10 commodities during periods varying from a few weeks to several months. This year a new station on lettuce has been opened at El Centro, Calif. Through State cooperation and local aid, it is hoped gradually to expand the program so as to cover additional producing sections and perhaps a few more crops.

Temporary field stations opened during year.

Location.	Crops covered.	Period of operation, 1922.
San Benito, Tex....	Cabbage.....	Jan. 17-Apr. 15.
Sanford, Fla.....	Celery.....	Jan. 19-Apr. 15.
Hammond, La.....	Strawberries	Mar. 27-May 6.
Laredo, Tex.....	Onions.....	Apr. 3-May 11.
Hastings, Fla.....	Potatoes.....	Apr. 3-May 13.
Crystal City, Tex..	Onions.....	Apr. 5-May 20.
Chadbourn, N. C..	Strawberries	Apr. 18-May 6.
Judsonia, Ark.....	.....do.....	May 1-27.
Charleston, S. C..	Potatoes.....	May 12-June 3.
Monett, Mo.....	Strawberries	May 12-June 7.
Bowling Green, Ky.	.....do.....	May 13-29.
Ocala, Fla.....	Watermelons	May 22-June 14.
Fort Valley, Ga....	Peaches.....	May 27-July 15.
Jacksonville, Tex..	Tomatoes....	June 3-30.
Crystal Springs, Miss.	.....do.....	June 5-24.
Brawley, Calif....	Cantaloupes.	June 5-July 12.
Elizabeth City, N. C.	Potatoes....	June 10-28.
Thomasville, Ga....	{Watermelons	June 19-July 6.
Hempstead, Tex....	{Cantaloupes.	June 19-July 3.
Phoenix, Ariz.....	Watermelons	July 7-19.
Macon, Ga.....	Cantaloupes.	July 7-20.
Kearney, Neb.....	Watermelons	July 10-Aug. 8.
Aberdeen, N. C....	Potatoes.....	July 10-Sept. 12.
Cornelia, Ga.....	Peaches.....	July 15-Aug. 2.
Sulphur Springs, Tex.	.....do.....	July 18-28.
Kennett, Mo.....	Watermelons	July 19-Aug. 4.
Caldwell, Idaho....	.....do.....	July 28-Aug. 12.
Rocky Ford, Colo..	Potatoes....	Aug. 4-Sept. 14.
Benton Harbor, Mich.	Cantaloupes.	Aug. 17-Sept. 19.
Rochester, N. Y....	{Apples.....	Aug. 21-Oct. 14.
Waupaca, Wis.....	{Grapes.....	Aug. 22-Oct. 14.
Presque Isle, Me....	{Peaches....	Aug. 23-Sept. 11.
Alliance, Neb.....	{Potatoes....	Sept. 29-Oct. 14.
Idaho Falls, Idaho.	{Peaches....	Sept. 11-Oct. 11.
Monte Vista, Colo..	{Apples.....	Sept. 13-Apr. 1.
Spokane, Wash....	{Potatoes....	Sept. 28-Apr. 1.
Grand Rapids, Mich.	{Cabbage....	Oct. 2-Jan. 27.
Greeley, Colo.....	{Potatoes....	Sept. 12-Apr. 1.
	{.....do....	Sept. 13-Mar. 1.
	{.....do....	Sept. 18-Dec. 2.
	{.....do....	Sept. 19-Apr. 1.
	{.....do....	Sept. 23-Nov. 28.
	{Apples.....	Sept. 26-Mar. 1.
	{Potatoes....	Oct. 17-May 1.
	{Apples.....	Oct. 17-Nov. 11.
	{Potatoes....	Dec. 4-Apr. 15.

NOTE.—In the spring of 1922, the following stations were still in operation from the previous year: Grand Rapids, Greeley, Idaho Falls, Presque Isle, Rochester, Spokane, and Waupaca.

E. H. BOWIE TO GO TO FRANCE.

E. H. Bowie, of the Weather Bureau, will go to France early in February on the French training ship *Jaques Cartier* to study the possibilities of establishing a forecast and storm-warning service for steamer lanes on the Atlantic. Work along this line was begun by the Weather Bureau in 1905, but little could be accomplished at that time because of the limited range of the radio. Because of the recent remarkable developments in radio activities, it is now felt that such a project is practical, and that a valuable service can be rendered ships by establishing a service of this sort. The

French and English Governments have both shown considerable interest in the matter, and the *Jaques Cartier* has made several trips with qualified meteorologists on board to make investigations.

During the latter part of 1922 Captain Wehrle, assistant director of the French meteorological service, and Captain Coyecque, meteorological officer of the *Jaques Cartier*, visited the Weather Bureau and discussed plans for the work in detail. Before returning to this country Mr. Bowie will visit the headquarters of the meteorological service in Paris and London to observe and report on methods of weather and storm forecasting in the aid of aviation.

SMITH-HUGHES WORK DISCUSSED.

The organization and results of work done under the Smith-Hughes Act by the Federal Board for Vocational Education were discussed by C. H. Lane, chief, agricultural education service, Federal Board for Vocational Education, at a conference of department extension workers held in the office of cooperative extension work, States Relations Service, January 30. Doctor Lane stated that last year a total of \$4,020,000 was spent in the 45 States accepting the benefits of the act, of which, in round numbers, \$1,435,000 came from Federal sources, \$1,038,000 from State, and \$1,546,000 from county sources.

MOTION PICTURES IN NEW QUARTERS.

The department motion-picture office and laboratory are now housed in new quarters at 1363 C Street SW.

The new building was constructed especially for motion-picture purposes and gives much better facilities than the old quarters in the Bieber Building. It includes a studio, projection room, office, camera rooms, printing, developing, staining, drying, and assembling rooms, as well as six large film-storage vaults. The entire building was constructed with strict regard to fire and building regulations and is equipped with the latest protective devices, including a sprinkler system.

The studio, which is 40 by 60 feet in size, is covered by a skylight, and will give facilities for "interiors" which heretofore have been impossible. Use of the studio may be obtained upon request by the "still" photographers in other bureaus and offices of the department.

The projection room has a seating capacity of about 100, and may be used for official gatherings of members of the department.

The laboratory is now prepared for almost every type of motion-picture photography, including photomicrography and motion analysis.



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THE OFFICIAL RECORD is published as a means of communicating to workers of the Department of Agriculture official statements by the department, and other information necessary to the performance of their duties. Paid subscriptions are not accepted.

OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

Sale of Reports of Hearings.

MEMORANDUM NO. 419—February 2, 1923.—Persons interested in securing copies of reports of public hearings and conferences held by the department should be referred to the stenographic reporter in cases where the report of hearing is made by contract.

When the report is made by department employees, a charge of 10 cents per page, 8 by 10½, double spacing (approximately 250 words), should be made for each page of the report, including all accompanying lists of names and other matter embodied in the report, and the proceeds deposited through the disbursing clerk of the department to the credit of miscellaneous receipts.

When the report is printed or typed in single spacing (approximately 500 words to the page), the charge should be at the rate of 20 cents per page.

TO CONSOLIDATE ACCOUNTING OFFICES.

The Secretary has approved the consolidation of the accounting work of the various units to be administered as parts of the Office of the Secretary beginning July 1 next, and has designated F. E. Singleton, at present in charge of the accounting office of the States Relations Service, to proceed immediately to organize the new accounting office and to assume charge of it when organized.

This office will perform the accounting work similar to that performed by the regular bureau accounting offices throughout the department and will serve the units which are now comprised in the Office of the Secretary, and the additional units to be added July 1, namely, the Extension Service, the Offices of Editorial and Distribution Work and the Office of Experiment Stations. Accounting matters affecting the department as a whole or fiscal matters submitted to the Secretary from the various bureaus will continue to be referred to the Office of Inspection.

The consolidation of the separate accounting offices into the office to be under the supervision of Mr. Singleton is expected to result in increased economy and efficiency in the handling of the

work of the units concerned. The Secretary's approval of the plan was based upon a favorable report submitted by a special committee which made a survey and considered the whole matter, consisting of Dr. A. C. True (chairman), F. E. Singleton, Alex. McC. Ashley, R. M. Reese, and H. J. Demaree.

RULING ON TRAVEL STATUS.

A recent ruling of the Comptroller General is to the effect that when an employee residing in a suburb of his official station starts on a trip for the department, he can not be allowed per diem from the time he leaves his home, but only from the time of actual departure from his official station by train or other means of transportation. Travel regulations of the Department of Agriculture authorize a per diem for fractional parts of the day at specified rates according to the number of hours in a subsistence status. They also provide "that an employee may properly choose his residence in a suburb of his official station, and personal transfers and transfers of baggage as herein provided will be allowed between such residence and the depot at his official station at the beginning and termination of official travel." But the comptroller calls attention to the fact that the act of August 1, 1914 (38 Stat. 680), authorizes the fixing of a per diem for employees only for time away from their designated posts of duty. "This statute," he continues, "prohibits payment of a per diem at the designated post of duty of an employee whatever may be the conditions. The provision in the regulation in question is clearly enough expressed and authorizes 'personal transfers and transfers of baggage' only."

HONEY GRADES IN PROSPECT.

H. W. Samson, of the Bureau of Agricultural Economics, and Dr. E. F. Phillips, of the Bureau of Entomology, presented an exhibition of 300 samples of honey at the American Honey Producers Association held last week in St. Louis. The samples varied in color from a very dark to an almost colorless liquid. They were measured scientifically as to color by Bernard Kurrelmeyer, of Johns Hopkins University, under the direction of Doctor Phillips.

Doctor Phillips and Mr. Samson went to the St. Louis convention to secure a definite expression from the trade as to where the line should be drawn between various grades of honey, and

how many grades, such as water white, white, light amber, and dark amber, are needed.

BUREAU CONTACTS FOR THE RECORD.

The following list of the people in the various bureaus who compile material for THE OFFICIAL RECORD has been revised and corrected up to February 1:

Weather Bureau.....	R. H. Weightman.
Bureau of Animal Industry.....	D. S. Burch.
Forest Service.....	T. H. Gill.
Bureau of Plant Industry.....	Dr. K. F. Kellerman.
Bureau of Chemistry.....	F. B. Linton.
Bureau of Soils.....	C. H. Seaton.
Bureau of Entomology.....	R. P. Currie.
Bureau of Biological Survey.....	W. H. Cheesman.
Division of Publications.....	John L. Cobbs, jr.
Division of Accounts and Disbursements.....	W. R. Fuchs.
Library.....	Miss Helen Thompson.
States Relations Service.....	Reuben Brigham.
Bureau of Public Roads.....	H. S. Fairbank.
Bureau of Agricultural Economics.....	Miss C. M. Viehmann.
Packers and Stockyards Admin.....	Stephen Bray.
Office of the Solicitor.....	T. G. Shearman.
Federal Horticultural Board.....	R. C. Althouse.
Insecticide and Fungicide Board.....	J. C. Shibley.
Fixed Nitrogen Laboratory.....	H. C. Frampton.
Office of Personnel.....	John T. Evans.

WOOL GRADES APPROVED.

Unanimous approval was given the tentative wool grades prepared by the Bureau of Agricultural Economics at the final hearing held in Washington, February 6. Twenty-eight persons attended the hearing, which was conducted by J. Clyde Marquis, Director of Information, assisted by C. V. Whalin and G. T. Willingmyre, of the bureau. Gen. John P. Wood, president of the National Association of Wool Manufacturers, promised the support of his association in the use of the official grades. A careful study of the English count system will now be made with a view to correlating the grades with the British system.

WELFARE ASSOCIATION MEETING.

February 19, 1923, being the first Monday after the 15th of the month, notice is hereby given that a meeting of the Welfare Association will be held in the Assembly Hall of the Main Building on that date, at 3.30 p. m. Take central stairway to third floor.

The new charter and by-laws will be discussed, as well as other important matters.

Conferences at Tuskegee Discuss Negro's Educational Problems

One of the important results of the educational meetings held at Tuskegee, January 15, was the formation of an association of negro land-grant colleges which is to hold annual meetings for the discussion of educational problems, and take steps to secure the cooperation of the white land-grant colleges and their association for the promotion of the objects for which these negro colleges have been established. At one of the meetings special emphasis was laid upon the duty of these institutions to train teachers and extension workers as well as leaders of the agricultural and industrial progress of the negro people in this country. Reports of the committees on standardization of the curricula of negro land-grant colleges were made and adopted. Dr. A. C. True, E. H. Shinn, and Miss Caroline Hunt, all of the States Relations Service, represented the department at this meeting.

The Assistant Secretary, Mr. Pugsley, Dr. A. C. True, Dr. C. B. Smith, J. A. Evans, A. B. Graham, I. O. Schaub, and H. E. Savely, of the States Relations Service, were in attendance at another meeting being held in Tuskegee; as well as T. M. Campbell and J. B. Pierce, who are the negro field agents of the States Relations Service. This meeting was composed of negro State and district leaders of the extension work, together with a number of extension directors. Among the resolutions adopted were those favoring close cooperation with the negro land-grant colleges and the need of courses at these institutions and Tuskegee and Hampton institutes for the training of extension agents, and the further development of movable schools among the negro people on the farms.

Following these meetings the Thirty-second Annual Tuskegee Negro Conference was held. This was attended by more than 3,000 negro farmers, teachers, ministers, farm and home demonstration agents, and other welfare workers of the South.

An address was delivered by Assistant Secretary Pugsley at this meeting. J. A. Evans, of the States Relations Service, also spoke on Cotton Production Under Boll Weevil Conditions. A considerable number of the negro farmers told about their successes in various agricultural enterprises and were closely questioned by many persons in the audience.

Excellent exhibits of agricultural products, specimens of the handicraft of negro women, preserves, and canned vegetables were shown illustrating the influence of the work of the negro agricultural and home demonstration agents. Specimens

of the work of the agricultural and other departments of Tuskegee Institute were also exhibited. Other exhibits dealt with the improvement of the homes and health of the negro people.

One of the most interesting features of this conference was the ceremony connected with the presentation to the extension service of a truck to be used in connection with the movable schools. This truck, which cost about \$5,000, contributed in small amounts by about 30,000 negroes, is equipped with a lighting plant, motion-picture and lantern-slide outfits, and other material used by the agricultural and home economics agents in the movable school work.

Each evening during the week meetings were held in the large institute chapel, which were attended by the 1,800 boys and girls studying at the institute. Addresses were made by a number of the visitors, and there was much fine singing by the large choir and the student body.

Principal R. R. Moton and many other officers of Tuskegee Institute were very active in promoting the success of these meetings and everything possible was done to make the visitors comfortable.

D. E. STEPHENS SPEAKS ON WHEAT.

At the seminar of the Office of Cereal Investigations, Bureau of Plant Industry, held February 4 in the assembly room of the Bieber Building, D. E. Stephens, superintendent of the Sherman County Branch Station, Moro, Ore., gave a summary of the results of the investigations at that station, particularly those with wheat. He discussed briefly the climate and soils of the Columbia Basin of Oregon and the soil moisture conditions at the Sherman County Branch Station.

Extensive varietal experiments at Moro and cooperative experiments with farmers have shown that wheats of the hard winter group, like Turkey and Kharkov, are best adapted for fall sowing on the drier soils and that Hybrid 128, a white-kerneled club wheat, is the best variety for the heavier soils of eastern Oregon or locations of greater precipitation.

Two valuable spring wheat varieties, Federation and Hard Federation, introduced by the U. S. Department of Agriculture from Australia, have demonstrated their superior yield in the varietal experiments at the Sherman County Branch Station. The results obtained by farmers with these varieties from seed distributed from Moro indicate that they likely will replace all other spring wheats in eastern Oregon. They

also have shown much promise in other States, notably in southern Idaho under irrigation, and in western Montana.

The discovery at Moro of a number of smut-immune and highly smut-resistant winter wheats was mentioned by Mr. Stephens and their probable value both for breeding purposes and for commercial production was discussed.

MICHAEL J. DRISCOLL.

Michael J. Driscoll, of the Division of Publications, died of pneumonia February 10 at his home in Washington, D. C. Mr. Driscoll had been connected with the department since October, 1900, serving as property clerk in the Division of Publications since 1911. He is survived by his widow, Mrs. Florence Cecilia Driscoll, and six children.

GEORGE W. OLIVER.

George W. Oliver, who for more than 20 years was a plant breeder and propagator in the Bureau of Plant Industry, died at his home, 2935 Macomb Streets NW., February 6, at the age of 65 years. Mr. Oliver was a native of Scotland and came to the United States in 1885. He was at first connected with the Botanic Garden, under the superintendence of the late William R. Smith. He entered the work of the Bureau of Plant Industry in the Department of Agriculture February 25, 1901, and continued therein until his retirement, March 10, 1922, on account of prolonged illness. Mr. Oliver was an exceptionally capable man in the breeding and propagation of plants and developed numerous improvements in the technique of propagation. He was the author of numerous papers and bulletins on subjects dealing with plant improvement and plant breeding. He is survived by his widow, Mrs. Agnes Oliver; a brother, Robert Oliver, and a sister, Mary Oliver, both living in Edinburgh, Scotland. A fuller account of his Department work will appear in a later issue of THE OFFICIAL RECORD.

DR. BERNARD E. FERNOW.

Dr. Bernard Edward Fernow, the first United States Forester, died Tuesday, February 6, at Toronto. Doctor Fernow was born at Posen, Prussia, in 1851, and studied in Germany under Heyer and other noted foresters. He came to this country in 1876 and took an active part in the forestry movement in New York State. From 1885 to 1898 he was editor of the Proceedings of the Forestry Association. This association sponsored the law of 1891 which authorized the President of the United States to establish national forest reserves, an act which led to the creation of the present national forests. He became director of the forest work of the Government in 1886 and remained in that position until 1898, when he went to Cornell University.

Doctor Fernow was a prolific writer, and his History of Forestry is a well-known book. After leaving Cornell, in 1902, Doctor Fernow lectured at Yale University and started the forest school at Pennsylvania State College. In 1907 he went to Toronto, where he organized the first forest school in Canada. At the time of his death he was professor emeritus of that institution.

PEOPLE MENTIONED IN OFFICIAL ORDERS

Secretary Wallace addressed a meeting in Chicago, February 13, under the auspices of the Institute of American Meat Packers and the University of Chicago. His subject was "Live Stock: The Basic Raw Material of the Packing Industry."

The Assistant Secretary, Mr. Pugsley, will address a meeting of the Minnesota Editorial Association to be held February 16 in Minneapolis. He will also attend a meeting of the Northwestern Spring Wheat Regional Council, which will be held on the same day.

George A. Lawyer, chief United States game warden, of the Biological Survey, visited Tampa, Fla., during the first week of February to confer with representative sportsmen and conservationists who are preparing a bill to enact a State-wide game law for that State. While in Florida he consulted Federal game wardens and others in connection with the administration of the migratory-bird treaty and Lacey Acts.

James Silver and Carlyle Carr, of the Biological Survey, acting in cooperation with the State director of extension of North Carolina, have been organizing and directing a State-wide antirrat campaign, which began the first week of February.

Talbott Denmead, deputy chief game warden of the Biological Survey, visited Little Rock, Ark., and points in adjacent States early in February on business connected with the administration of the migratory-bird treaty act.

W. H. Ransom, of the Biological Survey, Federal game warden stationed at Spokane, Wash., will attend the Sportsmen's Week Fair at Seattle, February 22-26, to confer with sportsmen of the State with regard to matters affecting the enforcement of the migratory-bird treaty act.

H. S. Yohe, in charge of the administration of the United States warehouse act, returned to Washington Monday, February 12, from Atlanta, Ga., and Raleigh, N. C., where he had spent the previous week conferring with local representatives of the Bureau of Agricultural Economics regarding work under the act.

F. H. McCampbell, of the San Francisco office of the Bureau of Agricultural Economics, is in attendance at the annual meeting of the California Butter, Cheese, and Ice Cream Makers' Association being held at the University Farm at Davis, Calif. He will speak on "How Defects in Quality Affect the Sale of Butter and Cheese."

A number of representatives of the department attended meetings of the various sections of the Association of Southern Agricultural Workers, held last week in Memphis, Tenn. Among them were Drs. H. F. Kellerman and O. F. Cook, R. D. Martin, C. B. Doyle and Lyman Carrier, of the Bureau of Plant Industry; J. H. McClain and O. G. Hankins, of the Bureau of Animal Industry; B. B. Hare, of the Bureau of Agricultural Economics; Oliver I. Snapp, of the Bureau of Entomology; and Dr. C. C. McDonnell of the Insecticide and Fungicide Laboratory of the Bureau of Chemistry. Doctor McDonnell also attended a meeting of the Cotton Council which was held at the same time. Professor Carrier will visit Blacksburg, Va., before his return to Washington.

Dr. C. C. Fletcher, of the Bureau of Soils, attended a meeting of the conference of agronomists and horticulturists of the Middle Atlantic States, in Baltimore, February 8-9, for the purpose of acquiring information on the present status of fertilizer formulas.

W. R. M. Wharton, chief of the eastern district of the Bureau of Chemistry, New York City, stopped in Washington for a short time on his way south, where he will join W. S. Frisbie, of the Office of Cooperation of the bureau, in conferring with southern State and Federal food and drug officials.

Dr. E. T. Wherry, chemist in charge of Crop Chemistry Laboratory, Bureau of Chemistry, was reelected president of the Washington Chapter of the Wild Flower Preservation Society of America for 1923.

Prof. William Stuart, Bureau of Plant Industry, has just returned from a trip to East Lansing, Mich., where he delivered an address, February 2, on "The Production of Certified Seed Potatoes and its Relation to the Potato Industry" before potato growers and others at the Michigan Agricultural College; and Chicago, Ill., where he inspected seed potatoes.

A. C. Dillman, of the Bureau of Plant Industry, attended the meeting of the flax development committee of the American Paint, Oil, and Varnish Association, at University Farm, St. Paul, Minn., February 9. Before returning to Washington he will confer with officials of the Minnesota Agricultural Experiment Station regarding flax production during the coming season.

E. B. Smith, of the Bureau of Public Roads, gave an address on "Research Work of the Bureau of Public Roads" before the Ohio Engineers' Society, February 8, at Columbus.

Miss Emma B. Hawks, of the Library, will attend the annual conference of the American Library Association, to be held in Hot Springs, Ark., April 23-29, inclusive.

Roy C. Potts, of the Bureau of Agricultural Economics, addressed a meeting of dairy farmers at Woodbury, N. J., February 12. He discussed the marketing of milk.

V. N. Valgren, of the Bureau of Agricultural Economics, attended the annual convention of the Mutual Insurance Companies Union of Indiana, which was held in Indianapolis February 8 and 9, where he discussed crop insurance.

G. A. Collier, of the Bureau of Agricultural Economics, is in attendance at the fourth annual convention of the Ohio and Indiana Equity Union at Lima, Ohio.

Dr. C. W. Larson, of the Bureau of Animal Industry, will attend Farmers' Week at Ithaca, N. Y., February 15, and will speak on "The Production and Use of Dairy Products in the United States."

J. J. Gardner, of the Pittsburgh office of the Bureau of Agricultural Economics, addressed the store managers of the Great Atlantic & Pacific Tea Co. of that city on February 8 on the care of perishable fruits and vegetables.

Arthur Koehler, of the Forest Products Laboratory, will attend a convention of the Minnesota Chapter of Architects and Engineers Society, to be held in Minneapolis February 21-23, where he will talk on the work of the laboratory. Mr. Koehler also attended a meeting of the Detroit Lumber Dealers' Association February 5.

J. R. Magness, of the Bureau of Plant Industry, attended the meeting of the Door County Fruit Growers' Union, at Sturgeon Bay, Wis., February 8 and 9. He gave an address on "Precooling."

Dr. Oswald Schreiner, of the Bureau of Plant Industry, will address the members of the Philadelphia section of the American Chemical Society, March 15, on "Chemistry and Agriculture."

J. G. Winkjer, of the Bureau of Animal Industry, attended a meeting of the Cow-Testing Association at Manassas, Va., February 10.

Sidney F. Sherwood, of the Bureau of Plant Industry, recently returned from a trip to Canal Point, Fla., where he was engaged in testing the seedling sugar canes growing at that station. Some of the canes tested showed satisfactory sugar content and purity.

Dr. C. O. Townsend, of the Bureau of Plant Industry, recently returned from a trip to Michigan, where he attended a conference of sugar-beet growers and beet-sugar company field men. The conference lasted three days and was attended by several hundred sugar-beet growers and field men. Doctor Townsend addressed the conference on "Increasing Yields of Sugar Beets through Cultural Methods."

Florence E. Ward and Eugene Merritt, States Relations Service, attended the annual meeting of the New England Association of Marketing Officials, in Boston, Mass., February 1-2. Mr. Merritt discussed what should be taught in marketing extension work and how to teach it.

Milton Danziger, office of cooperative extension work, States Relations Service, resigned effective February 12, to accept a position as assistant general manager of the Eastern States Exposition, with headquarters at Springfield, Mass. Mr. Danziger has been connected with the department since March, 1916, coming from California to assist in the cooperative extension work with boys' and girls' clubs.

W. M. Stevens, of the Bureau of Agricultural Economics, attended an extension conference at Memphis, Tenn., February 3, where he discussed curh marketing and marketing home-made products.

J. C. McDowell, of the Bureau of Animal Industry, attended a meeting of the New Hampshire State Dairymen's Association, at Manchester, February 5, and gave an address.

Herbert H. Kimball, meteorologist in the Weather Bureau, visited Edgewood, Md., recently to observe a test of smoke screens at the Edgewood Arsenal.

H. M. Cely, of the Federal Horticultural Board, has been transferred from Nogales, Ariz., where he has been serving as inspector, to Del Rio, Tex. L. R. Dorland, formerly inspector at Del Rio, has been transferred to Nogales.

Admer D. Miller, of the Bureau of Agricultural Economics, has tendered his resignation, effective February 15, to become assistant manager of the Fruit Auction Co., with headquarters in New York City. Mr. Miller was first appointed in the Bureau of Markets in 1918. He was connected with the market news service on fruits and vegetables and later with the domestic wool section. During the last year he has been studying fruit and produce auctions, and will submit a report of his study before he leaves.

BRIEF REVIEWS OF NEW BULLETINS.

The Soft Red Winter Wheats. By Clyde E. Leighty, agronomist in charge of Eastern Wheat Investigations, and John H. Martin, agronomist in Western Wheat Investigations, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 54, figs. 49. December, 1922. (Farmers' Bulletin 1305.)

The soft red winter wheats are one of the five classes now officially recognized in the United States and comprise about 30 per cent of the total acreage of the country, more than 20,000,000 acres having been grown in 1919. These wheats are best adapted to humid areas where the winters are not too severe and where the annual rainfall reaches 30 inches. They are better able to withstand excessive moisture than most of the other wheats and are less resistant to drought and severe winter temperatures. Most of the wheat grown in the eastern half of the United States belongs to this class. At least 66 varieties of soft red winter wheat are grown commercially in the United States. They are known by about 400 different names. They differ widely in yield, adaptation, milling and baking value, and in other characteristics. The detailed description of the different varieties in this bulletin makes it valuable for the wheat grower.

A Method of Determining Grease and Dirt in Wool. By D. A. Spencer, J. I. Hardy, and Mary J. Braudou, Animal Husbandry Division, Bureau of Animal Industry. Pp. 20, figs. 6. September, 1922. (Department Bulletin 1100.) Price, 5 cents.

In order to compare the grease and dirt contents of various wools and to improve wools in these respects a new method for de-greasing and washing dirt from samples has been devised. Details of this experimental work are published in this bulletin. In the course of this work it was found that samples from the side of the fleece are best for the purpose, as the contents of dirt and grease in this part are closely related to the average for the entire fleece.

In the method for determining grease, as now used by the department, the samples are washed three times with gasoline, which is drained off through a filter paper that retains all foreign matter. It has been found that this treatment leaves only 0.17 per cent of grease in Rambouillet wool and only 0.28 per cent in wool of the crossbred sheep used.

Dirt is taken out of the samples by washing with soap and water. The wool is cleaned well if the water is at a temperature between 40 and 45° C., which is not hot enough to felt the wool.

Results obtained by testing various samples of wool for grease and dirt will be used in planning the mating of sheep in an attempt to improve the fleece in these respects.

Citrus Scab: Its Cause and Control. By John R. Winston, pathologist, Office of Fruit-Disease Investigations, Bureau of Plant Industry. Pp. 39, figs. 6, pls. 16. (Professional Paper.) January 26, 1923. (Department Bulletin 1118.) Price, 25 cents.

Citrus scab, a fungus disease of foreign importation and of great economic importance to the citrus industry, can be controlled satisfactorily and economically according to the author of this bulletin. Plain Bordeaux mixture, as well as Bordeaux mixture plus oil emulsion, is effective against citrus scab either in the nursery or in the orchard. Burgundy mixture is distinctly less effective than Bordeaux mixture, and ammoniacal copper carbonate solution is much less so. Lime-sulphur solution is much less ef-

fective against this disease than is Bordeaux mixture. The other sulphur sprays are no more effective against citrus scab than is lime-sulphur solution. Spraying after the smallest fruits have attained a diameter of three-fourths of an inch has no effect on the control of scab. Grapefruit is the commercial type of citrus most affected by scab in Florida. Local and seasonal conditions play an important part in the spread of the disease. Citrus scab is likely to be serious if there is rainy weather during or soon after the blossoming period, making conditions favorable for the development of the disease. The bulletin gives some tables showing the relations of temperature and precipitation to the extent of the disease. Results of various spraying experiments are included.

Comparative Spinning Tests of Superior Varieties of Cotton (Grown Under Weevil Conditions in the Southeastern States: Crop of 1921). By William R. Meadows, cotton technologist, and William G. Blair, specialist in cotton testing, Bureau of Agricultural Economics. Pp. 7. February 1, 1923. (Department Bulletin 1148.) Price, 5 cents.

Pure-bred strains of superior varieties of cotton are more desirable from the spinners' standpoint than cotton produced from commercial seed, which is usually a mixture of a number of varieties containing hybrids of widely varying characteristics. Spinning tests to determine relative commercial values were made with Acala, Lone Star, Mexican Big Boll, Rowden, and typical North Georgia, all of which had been grown under boll-weevil conditions in the southeastern cotton States during the 1921 season. Allowances were made for differences in grade and length of staple of different varieties. All of the cottons were tested under identical mechanical conditions. Acala and Mexican Big Boll were the strongest, Lone Star and Rowden second, and typical North Georgia the least satisfactory of the five for hard twisted or warp yarns. The points considered were grades, length of staple, percentage of visible waste, strength of yarn, and percentage of average combination of size and strength.

Soil Survey of Kenosha and Racine Counties, Wis. By W. J. Geib and A. E. Taylor, of the U. S. Department of Agriculture, and J. E. Kubier, H. W. Stewart, and W. M. Gibbs, of the Wisconsin Geological and Natural History Survey. Pp. 58, fig. 1, map. (From F. O. Soils, 1919.) Price, 25 cents.

Kootenai County comprises 1,302 square miles, is located in the northern part of the State commonly known as the "Panhandle," and is one of the few areas that has been surveyed for the purpose of locating and mapping the various types of soil. The topography of the area, according to the report, is quite varied, ranging from flat alluvial valleys, smooth, nearly level bench lands, and gently rolling uplands to steep and rugged mountainous areas. Twenty types of soil with 11 phases are mapped in the county and are described in the report in detail as well as being shown in extent and location by a large, colored map included in the bulletin. The average farm in Kootenai County contains 158.4 acres, of which 56.6 acres is improved land. The total number of farms increased from 20 in 1880 to 1,396 in 1920. The present agriculture of the county consists mainly of the growing of grains and hay, the raising of live stock, dairying, fruit growing, and gardening. The report gives

figures showing the average production and acreage of the various crops, and discusses at some length the adaptation of the different phases of agriculture to the soils and climate of the county.

ADDITIONAL PUBLICATIONS.

Journal of Agricultural Research. Vol. 23, No. 2, Jan. 13, 1923. Contents: Effect of Various Inorganic Nitrogen Compounds, Applied at Different Stages of Growth, on the Yield, Composition and Quality of Wheat. (E-19.) By Jehiel Davidson and J. A. Le Clerc.—Poisonous Properties of *Bikukulla cucullaria* (Dutchman's Breeches) and *B. canadensis* (Squirrel corn). (G-262.) By O. F. Black, W. W. Eggleston, J. W. Kelly, and H. C. Turner.—Forcing the Germination of Freshly Harvested Wheat and Other Cereals. (G-263.) By George T. Harrington.—A New and Efficient Respirometer for Seeds and Other Small Objects: Directions for Its Use. (G-264.) By George T. Harrington and William Crocker.—Respiration of Apple Seeds. (G-265.) By George T. Harrington. Pp. 1-130, pls. 2, figs. 2. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the Journal was suspended Dec. 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly beginning Jan. 6, 1923, with volume 23, No. 1. The Journal is distributed *free only* to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. *It will not be sent free to individuals.* The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 151. Notices of Judgments 11001-11050. Pp. 1-27. January, 1923. Price, 5 cents.

CIRCULAR ON CASSINA ISSUED.

A mimeographed circular just issued by the Bureau of Chemistry recites the history of the new beverage cassina and the steps that have been taken to place it on the market. Not only may a hot drink similar to tea or coffee in its stimulating quality be prepared from the cured leaves but carbonated drinks may be made, formulas for three types of which are included in the circular. It is believed by George F. Mitchell, supervising tea examiner, who developed the process of curing the leaves, and Mr. J. W. Sale, chemist in charge of the Water and Beverage Laboratory, who worked out the formulas for the carbonated drinks, that the beverage offers great possibilities as an article for export as well as for home consumption.

A regular monthly review of the hay market situation has been inaugurated by the Hay, Feed, and Seed Division of the Bureau of Agricultural Economics. The first review was prepared and released in mimeographed form February 1. Several trade associations have requested the service and have agreed to give the reports wide distribution through their market bulletins. The reviews will also be sent to a selected list of farm papers.

PRINCIPAL LIBRARY ACCESSIONS

- Basic slags and rock phosphates. By G. S. Robertson. Cambridge [Eng.] University press, 1922.
- Book of radio. By C. W. Taussig. New York, D. Appleton and company, 1922.
- Chemistry of radio-active substances. By A. S. Russell. London, J. Murray, 1922.
- Cinque anni de sperimentazione agraria in Tripolitania. Per E. de Cillis. Florence, Istituto agricolo coloniale italiano, 1921.
- Commercial engraving and printing. By C. W. Hackleman. Indianapolis, Commercial engraving publishing co., 1921.
- Cooperative movement in Jugoslavia, Rumania and North Italy, during and after the world war. By Diarmid Coffey. New York, 1922. (Carnegie endowment for international peace. Division of economics and history. Preliminary economic studies of the war no. 21.)
- Critique of economics, doctrinal and methodological. By O. F. Boucke. New York, Macmillan co., 1922.
- Études et avant-projets sur l'amélioration de la culture de Parachide. Africa, French west. Inspection générale de l'agriculture, de l'élevage et des forêts. Paris, É. Larose, 1922.
- Food calendar. Prepared by N. B. Crigler. Kansas. State agricultural college. Extension service in home economics. Manhattan, 1922.
- O fumo, sua cultura e preparação. Pelo G. R. P. d'Utra. São Paulo, 1921.
- Guide book, 1922/23. Drug & chemical markets. New York, 1922.
- History of New Zealand Romney Marsh sheep. New Zealand Romney Marsh sheep breeders' association. Feilding, 1921.
- Inheritance of characters in rice. By F. R. Parnell. London, 1922. (India. Dept. of agriculture. Memoirs. Botanical series. v. 11, no. 8; July, 1922.)
- Interim report of the Drought investigation commission. April, 1922. South Africa. Drought investigation commission. Cape Town, 1922.
- Les irrigations au Niger et la culture du cotonnier. Africa, French West. Inspection générale de l'agriculture, de l'élevage et des forêts. Paris, É. Larose, 1922.
- Die krankheiten des wildes. Von Josef Fürstenau. Berlin, P. Parey, 1918.
- Laws relating to the Department of agriculture. Michigan. Laws, statutes, etc. Lansing, 1921.
- Die lösungsmittel der fette, öle, wachse und harze. Von Hans Wolff. Stuttgart, 1922.
- Manufacture of dyes. By J. C. Cain. London, Macmillan co., 1922.
- Mikromethoden zur blutuntersuebung. 4. und 5. aufl. Von Ivar Bang. München, 1922.
- Money and foreign exchange after 1914. By Gustav Cassel. London, Coustable, 1922.
- New ginger disease in Godavari district. By S. Sundararaman. London, 1922. (India. Dept. of agriculture. Memoirs. Botanical series. v. 11, no. 9; Sept. 1922.)
- Opstellen over moderne zuivelchemie. 2. druk. Door W. van Dam. 's-Gravenhage, Secretariaat van den Alg. Ned. zuivelbond, 1922.
- La plasmogenia. 2. ed. Por Israel Castellanos. Habana, Rambla, Bouza y ca., 1921.
- Prague chapter book of recipes. 3d ed. By Marie Páidar and Blanche Kammerer. Chicago, Herschman & Cardy, 1922.
- Preparation and vulcanization of plantation para rubber. By B. J. Eaton. Kuala Lumpur, Federated Malay States, 1918. (Federated Malay States. Dept. of agriculture. Bulletin no. 27.)
- Rebschädlinge und ihre neuzeitliche bekämpfung. 2. aufl. Von Karl Müller. Karlsruhe, G. Braunsche hofbuchdruckerei und verlag, 1922.
- Recipes for institutions, collected and edited by the Chicago dietetic association, inc. New York, Macmillan co., 1922.
- Report, 1st; 1914-1922. Aberdeen and North of Scotland college of agriculture. Rowett research institute. Aberdeen, 1922.
- Spontaneous combustion in hay mows and stacks. Toronto. Fire marshal office. Toronto, 1921.
- Tacna y Arica bajo la soberania Chilena. Por Carlos Varas. Santiago de Chile, Imp. de "La Nacion", 1922.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following pub-

lications of the State experiment stations during the week January 29-February 3, 1923. These publications can be obtained only from the stations issuing them.

- Annual Report, 1922. (Delaware Sta. Bul. 133, pp. 36, figs. 7.)
- Annual Report, 1919-20. (Georgia Coastal Plain Sta. Bul. 1, pp. 22, figs. 11.)
- Inspection of Agricultural Seeds. By E. G. Proulx et al. (Indiana Sta. Bul. 264, pp. 56, fig. 1.)
- Soil Survey of Iowa, Winnebago County. By W. H. Stevenson et al. (Iowa Sta. Soil Survey Rpt. 23, pp. 60, map 1, figs. 11.)
- Soil Survey of Iowa, Polk County. By W. H. Stevenson et al. (Iowa Sta. Soil Survey Rpt. 24, pp. 72, map 1, figs. 11.)
- Influence of Grape Training on Fruit Production. By E. C. Aucher and W. R. Ballard. (Maryland Sta. Bul. 250, pp. 207-234, figs. 22.)
- Thirty-fifth Annual Report, 1922. (New York Cornell Sta. Rpt. 35 (1922), pt. 1, pp. 73.)
- Kota Wheat. By L. R. Waldron, T. E. Stoa, and C. E. Mangels. (North Dakota Sta. Circ. 19, pp. 10, figs. 3.)
- Ohio Weather for 1921. By W. H. Alexander and C. A. Patton. (Ohio Sta. Bul. 360, pp. 217-312, figs. 63.)
- Comparison of Corn Ensilage and Sunflower Ensilage for Dairy Cows. W. L. Quayle. (Wyoming Sta., State Farms Bul. 3, pp. 11, fig. 1.)
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CIVIL-SERVICE EXAMINATIONS.

The Civil Service Commission announces an examination, April 30, for associate marketing specialist, \$3,000 to \$4,000 a year, and assistant marketing specialist, \$2,400 to \$3,000 a year (tobacco standardization and warehousing). Vacancies in the Bureau of Agricultural Economics will be filled from this examination. Men are desired for these positions. Papers will be rated as received, and certification made as the needs of the service require. Applicants must show high-school graduation and graduation from a college or university of recognized standing, or two to five years' experience in warehousing. A thesis will be required. If interested apply for Form 2118.

For junior marketing specialist, April 4-5. Vacancies in the Bureau of Agricultural Economics will be filled from this examination, at salaries of from \$1,320 to \$1,620. Examinations will be given in nine optional marketing subjects. The duties will be connected with various forms of market-news service such as the collection and compilation of information, assisting with economic investigations, market business practice, or the economics of marketing. Applicants must have graduated from a college or university of recognized standing, or may substitute one year of experience for each year lacking of the college degree. Two separate registers will be established, one for college graduates and the other for eligibles substituting experience for college education. A thesis will be required. If interested apply for Form 1312.

For telegraph operator, March 7. Vacancies in the Bureau of Agricultural Economics, at \$1,200 to \$1,400 a year, and in the Weather Bureau, at \$1,200 a year, will be filled from this examination. Competitors will be rated on general mental and clerical tests, practical questions, training, and experience. Two years' recent experience as telegraph operator is a prerequisite. If interested apply for Form 1312 and 1140.

For translator, March 7. Vacancies in the Bureau of Agricultural Economics will be filled from this examination, at salaries of \$1,000 to \$1,400 a year. Examinations will be given only in the following languages: Swedish, Bohemian, Danish, Polish, and Rumanian. Applicants should apply for Form 304.

For laboratory aid, motion-picture laboratory, March 7. Positions in the division of publications will be filled from this examination at salaries of \$900 to \$960 a year. The duties of appointees will consist in the assembling, splicing, and repairing of motion-picture films. Applicants must show that they have had at least six months' experience in a producing motion-picture laboratory, or six months' experience in related lines of work. If interested apply for Form 304.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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WASHINGTON, D. C., FEBRUARY 21, 1923.

No. 8.

MAY ERADICATE PINK BOLLWORM EVENTUALLY

No Infested Bolls in 1922 Cotton Crop in Certain Texas and Louisiana Areas.

It is interesting to confirm now, practically at the end of the inspection season, the report made some three months ago that no infestation whatsoever by the pink bollworm has been determined with respect to the cotton crop of 1922 either in Louisiana or in the formerly infested areas in central and eastern Texas. This determination is based on thorough field inspections carried out in these States by a force of some 70 inspectors, involving altogether upward of 2,000 full days of actual cotton field inspection work. It is possible to continue such work even more effectively in fields after the crop is picked than during the more active growing and harvesting season and such field examinations are continued through the winter, or substantially until the fields are broken up for new planting. This inspection has been chiefly in districts which had been infested in other years or which were under suspicion through movement into them of possibly infested cottonseed. The outcome of this year's work is, therefore, most encouraging as indicating the possibility of ultimate eradication of this pest in the United States.

Some Sections Not Included.

Certain areas of infestation along the Rio Grande River in western Texas and in the upper valleys of the Pecos in Texas and in New Mexico, as has been previously announced, have not been included during the last two years in the intensive clean-up operations which have been enforced, along with the establishment of noncotton zones, in eastern Texas and in Louisiana. As to these areas in western Texas and New Mexico, neither the States nor the planters concerned were willing to adopt radical

measures until a full demonstration had been made of the possibilities of clean-up elsewhere. With respect to these areas, a great deal of field cleaning work, however, has been done, and effective control has been maintained of all the cotton and cotton products originating in these areas, safeguarding its movement and utilization. In these areas, under these conditions, a certain amount of infestation was to have been expected and especially in the cotton planted in small valleys bordering the Rio Grande and within easy reach, therefore, of infestation either by human carriage or by flight of the insects from fields on the Mexican side of the river, and some infestation has recurred, but much less than in previous years. Altogether in these border areas, from the Great Bend westward, 26 fields have been found infested, and these sparsely. Twenty-four of these have been immediately along the river in the Great Bend district and two near El Paso. No infestation has been determined this year in the Pecos Valley,

(Continued on page 7.)

DEFINITIONS COMMITTEE TO MEET.

The joint committee on definitions will hold a meeting March 12 to 16, inclusive, in the Bureau of Chemistry, according to a recent announcement by Dr. W. W. Skinner, its chairman. The committee which is composed of three representatives of the American Dairy, Food and Drug Officials, the Association of Official Agricultural Chemists, and the United States Department of Agriculture, will consider definitions and standards for flour, meat products, mustard, and prepared mustard.

STOCKYARDS HEARING POSTPONED.

The hearing on the order restraining the Nashville Union Stockyards, Nashville, Tenn., from putting into effect increased live-stock yardage rates will be held April 17, postponed from February 14, the postponement having been made at the request of the stockyards company.

FARMERS SUPPLY RAW MATERIAL FOR PACKERS

Secretary Wallace Sees Progress in Industry Through Co-operative Effort.

That success of the live stock and meat industry, which is one great industry, depends on the efficient functioning of the several contributory groups, was emphasized by Secretary Wallace in his address given at Chicago, February 13, under the auspices of the University of Chicago and the Institute of American Meat Packers. "Mutual interest and interdependence should make for full cooperation and harmonious understanding between the producer, the transportation company, the stockyards and stockyards agencies, the packers, the wholesalers, the retail meat dealers, and finally the consumer, whose duty it is to eat with discrimination and as freely as his purse will permit and his bodily needs require, and the Federal and State agencies charged with responsibilities related to the industry," said the Secretary.

Relation of Institute to Industry.

In commenting on the progress of the Institute of Meat Packers, the Secretary discussed the plans for enlarging the ability of the packers to serve its members and the producers, by providing the means for securing a trained personnel, by organized scientific research, and by a continued cultivation of a better understanding between the members of the institute and the consumers.

In discussing the importance of the industry the Secretary said:

"The census of 1919 shows that the value of the meats sold by the wholesale packing industry was almost 7 per cent of the total value of all manufactured products, amounting in that year to the enormous sum of four and one-quarter billion dollars, and it is worthy of remark that this sum was only 12½ per cent greater than the amount which the packers paid for the live stock. Notwithstanding the already wonderful development of this industry and the apparent efficiency with which it is now

conducted, it is certain that the results of organized scientific research in the fields of manufacture and distribution, applied by a well-trained personnel, will make it possible to still further reduce the margin between the cost of the raw material and the returns for the finished product.

"Live stock, this basic raw material of the packing industry, is the greatest single finished product of American farms. The packing industry takes up its job at the point where the farmer has already completed a conversion of crops into animals. It is from this fundamental angle that the grower looks out upon the meat industry. Having loaded his stock aboard train, matters thereupon largely pass out of his hands. From that point on the responsibility for getting the meat to the consumer rests with others. The packer buys this stock as raw material and pays the going price. It must be remembered, however, that for the grower this is sale of finished product into which he has already put his labor and raw materials.

Difficulties of Adjusting Raw Material.

"It is perfectly evident that the supply of raw material in the form of live stock can never be adjusted with the nicety in which the raw material in most other manufacturing enterprises is adjusted, desirable as this would be for all concerned.

"The matter of equalizing market receipts is almost as old as the establishment of centralized markets and still awaits a satisfactory solution.

"In very recent years growth of producers' cooperative marketing associations raises the question whether the time may come when the flow of live stock to market may largely be influenced by such associations. Probably very little such influence is being exerted at the present time, and it is doubtful whether the time will ever come when the marketing of live stock can be directed so largely by strongly centralized cooperative associations as in the case of cotton, tobacco, and some other crops."

The Secretary also discussed the importance of feeding and breeding in the production of suitable stock and showed how important changes have been made in animals by the control of these factors. He discussed the work of the department in relation to the live-stock industry, summarizing its responsibilities as follows:

"Upon it we must depend largely for our knowledge of the supply of live stock in the country; of its movement to market; of conditions, national and international, which are likely to influence demand. It is charged with the task of safeguarding the health of the live stock; of inspecting meats; of correcting unfair practices, if any such are found to exist at the great markets; and with a host of other duties in connection with the industry as a whole. It carries on scientific research in fields which can best be entered by the use of the large resources and facilities of the Federal Government; cooperates with the various agricultural scientific institutions in the States in work which can best be done there; is responsible for the general direction of the extension work through which the results of scientific work are carried to the farms, both by printed matter and by word of mouth."

HOUSE BILL PROVIDES FOR BUTTER STANDARD

Amendments to Warehouse Act Passed by House; Gooding Bill Would Stabilize Prices.

The House on February 14 passed a bill (H. R. 12053) to define butter and to provide a standard therefor. The bill provides that butter shall contain not less than 80 per cent by weight of milk fat after all tolerances have been allowed for. The House also passed on the same day Senate bill 3220, amending certain sections of the United States warehouse act. These amendments would extend the provisions of the warehouse act to include all agricultural products; require that bonds of warehousemen shall contain provisions covering the requirement of fire insurance; provide for licensing persons to "inspect and sample" products; permit omission in the warehouse receipt of a statement of grade or standard of nonfungible products but requiring that receipts be not negotiable; and enlarge the scope of offenses for which punishment might be inflicted for violation of the act, with increase in the severity of the penalties that may be imposed.

Cotton Standards Bill Passes House.

Mr. Fulmer introduced H. R. 14274 on February 9, and a substitute therefor (H. R. 14302) on February 12, to establish and promote the use of the official cotton standards of the United States in interstate and foreign commerce, prevent deception therein, and provide for the proper application of such standards, both of which were referred to the Committee on Agriculture. The latter bill (H. R. 14302) was reported out favorably February 13, without amendment, and with report 1593, and was passed by the House February 14.

The Gooding bill (S. 4478), to promote agriculture by stabilizing the price of wheat, was reported favorably to the Senate from the Committee on Agriculture and Forestry, with Report 1141, and placed on the calendar February 13. The bill creates a wheat stabilization corporation, whose board of directors shall consist of the Secretary of Agriculture and two other persons to be appointed by the President; the corporation to have a capital stock of \$300,000,000, to be subscribed and held by the United States. Corporation is authorized to purchase for cash at a guaranteed price wheat of official grade produced in the United States during the years 1923, 1924, and 1925. Guaranteed price for No. 1 north-

ern spring wheat of the crop of 1923 is placed at \$1.75 per bushel, the prices for the crops of 1924 and 1925 to be established by the corporation on July 1, 1923 and 1924, respectively; such prices to be based on estimated cost of production, including cost of transportation to nearest terminal, and including reasonable profit to producer. Guaranteed prices for grades other than No. 1 northern spring to be established by corporation on basis of price for No. 1 northern spring. Warehouses or elevators handling wheat for corporation to be licensed; corporation to adjust storage charges, commissions, profits, etc. Corporation to dispose of wheat thus purchased on terms deemed best for the public welfare. To cover cost to corporation of handling, transportation, insurance, storage, etc., corporation authorized to deduct 5 cents from guaranteed price per bushel of wheat which it purchases. The bill would also prohibit the importation of wheat into the United States except for seed purposes or in compliance with provisions of the tariff act, until July 1, 1926, on which date the business of the corporation would be liquidated.

Other Legislation of Interest to Agriculture.

The following legislation of interest to agriculture was also before Congress during the week February 8 to 15:

H. R. 5823, providing for establishing shooting grounds for the public, for establishing game refuges and breeding grounds, and for protecting migratory birds, and requiring a Federal license to hunt them, which was introduced in the House by Mr. Anthony and referred to the Committee on Agriculture, May 5, 1921, and reported back favorably, with amendments and Report 999, May 10, 1922, was debated by the House February 13, 1923, and killed as a result of the adoption of a motion by Mr. Treadway to strike out the enacting clause.

S. J. Res. 265, providing for the purchase and sale of nitrate of soda and calcium arsenate, was debated by the House February 14. A point of order against the \$10,000,000 appropriation carried by the resolution was sustained by the Speaker.

S. Con. Res. 38, requesting the President to return to Congress S. 2023, defining a crop failure in the production of wheat, rye, or oats, by those who borrowed money from the Government of the United States for the purchase of seed of these crops, in order to correct an error therein, was adopted by the Senate February 10 and by the House February 12.

The President on February 13 transmitted to Congress a supplemental estimate of \$25,000 for the fiscal year 1923 for the collection by the Department of Agriculture of seed-grain loans made to farmers in drought-stricken areas under the provisions of the acts of March 3, 1921, and March 20, 1922; referred to the House Committee on Appropriations.

H. J. Res. 445 (Voigt), directing the Federal Trade Commission to investigate the proposed merger of Armour & Company and Morris & Company, was introduced February 14 and referred to the Committee on Agriculture.

The following bills were presented to the President February 10 for approval: S. 3702, for exchange of lands within the Lincoln National Forest; and S. J. Res. 266, for acceptance of title to certain lands within the Shasta National Forest.

J. F. Rock to Explore Yunnan For National Geographic Society

After a year in the mountains of Yunnan, southwestern China, Joseph F. Rock, agricultural explorer for the Bureau of Plant Industry, has recently come down the Irawaddy River to Rangoon, Burma, where he has dispatched his collections to Washington, and outfitted for another year's work in Yunnan.

Mr. Rock's exploration work in Yunnan will be continued through 1923, during which time he hopes to make his way down the Yangtze River to Shanghai. This year's work is being financed by the National Geographic Society, which, in recognition of the exceptional opportunity to secure valuable geographic knowledge of a little-known and highly interesting portion of the world, has assumed financial responsibility for it. The society will receive, in return for its support of the expedition, photographs possessing special geographic interest, and expects to publish in the National Geographic Magazine a profusely illustrated narrative of the expedition, which Mr. Rock will write upon his return to the United States next year. The Department of Agriculture will continue to receive all of Mr. Rock's plant collections and his scientific notes on the agriculture of the region which he traverses. It is expected that much information of value to agriculture and possibly new crops of potential value will be secured during the course of the explorations, as well as many handsome ornamental plants to enrich American gardens.

In the past year Mr. Rock has explored a region whose agriculture has never been thoroughly investigated and one which promises to yield many plants of economic value to American farmers and horticulturists. Though tropical in latitude, the mountains of Yunnan rise to such heights that they present many large areas whose climatic conditions are not unlike those of the eastern and southeastern United States. Mr. Rock has, in fact, collected plants above the snow line in numerous instances.

Among the most interesting things found are numerous wild relatives of such cultivated fruits as the apple, the peach, and the pear. Plant breeders in the United States are likely to find these of great value, and some of them may be suitable for use by nurserymen as stock plants on which to graft horticultural varieties of the same fruits. A large number of wild roses has also been secured, some of them promising for cultivation in North American gardens, others of value to breeders. Many species of wild chestnuts, some of which may prove of great value in this country,

have been sent to Washington and are now being propagated at the various plant introduction field stations of the Department.

Mr. Rock's collections of seeds and cuttings have reached Washington during several months past in several hundred small parcels, carefully packed in charcoal, surrounded with paraffined paper, and securely inclosed in cloth jackets. His herbarium collections, which are destined for the United States National Herbarium (whence duplicate sets will be distributed to several other institutions) number about 40,000 sheets, including 7,000 species. These collections constitute one of the most notable contributions to the botanical knowledge of the Yunnan region which has ever been made.

In addition to living plant material and herbarium specimens, Mr. Rock has secured a remarkable series of photographs, illustrating the agricultural practices, the interesting plants, the peoples, and the scenery of the regions he has traversed. He has also obtained scientific notes of much value.

NEW NEWS SERVICE FROM ARLINGTON.

Market reports are now being sent out hourly from the new Arlington radio-telephone broadcasting station on a wave length of 710 meters, covering the markets for live stock, fruits, vegetables, hay, feeds, and dairy products. The assured range of the Arlington station is approximately 300 miles in all directions from Washington.

The reports are prepared in the market news division of the Bureau of Agricultural Economics, special efforts being made to meet the particular market news needs of the agricultural communities to be served.

Broadcasting will be done directly from the office of the Radio Market News Service by what is known as "remote control," through the Arlington broadcasting station. A telephone line in the department connects directly with the transmitting equipment at Arlington so that the voice of the reader in the Radio Market News will be heard throughout the area covered by the broadcasting station.

The new arrangement supersedes the broadcasting of market news by Post Office Department Air Mail Station WWX at Washington, D. C., at the direction of the Interdepartment Advisory Committee on Radio Telephone Broadcasting. All Government broadcasting of market news is to be handled hereafter by the Arlington station at Washington. Outside Washington the high-powered radio telegraphic service for Government broadcasting is to be handled by Navy

stations, and market report broadcasting programs of Post Office Department stations at Omaha and North Platte, Nebr.; Rock Springs, Wyo.; and Elko and Reno, Nev., will therefore be discontinued March 1, it is also announced.

C. V. PIPER IN CANAL ZONE.

C. V. Piper, of the Bureau of Plant Industry, sailed for Panama February 10 on a mission for the War Department, having in view the determination of the extent to which the production of locally grown forage crops in the Canal Zone is practicable. The War Department is considering the possible economy that might be effected through the growing in the Canal Zone and Hawaii of such forage crops as are locally needed, thereby reducing the heavy transportation costs now borne on forage to overseas possessions. It appears that very recently the Philippine Department has been put on an entirely self-sustaining basis in so far as forage for the Army animals in those islands is concerned, and the probabilities are that in the near future the same condition will obtain in Hawaii. In the Panama Canal Department, however, serious difficulties have been encountered. The commanding general of that department reports that there is a small area of pasture used for grazing purposes, but that no native hay is produced in the Republic of Panama at this time. The Canal Zone authorities are desirous of establishing an experiment station for trial plantings to ascertain what forages are of most promise for their conditions. Doctor Piper expects to spend approximately one month in the Canal Zone in connection with this work. He has taken with him seed and living material of many grasses that it is thought may be of value there.

MARKETING DISCUSSED.

At the conference of extension workers in the office of cooperative extension work, States Relations Service, February 13, Eugene Merritt discussed what should be taught in marketing extension and methods of teaching it. J. Clyde Marquis, Bureau of Agricultural Economics, spoke of the growth of need for marketing information and the development of activities of the department to aid in better preparation and disposal of marketable products.

Final hearings on the United States standard wool grades formulated by the Bureau of Agricultural Economics were held February 6, in the Bieber Building, and final action on them will soon be announced.



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A CORRECTION.

The Weather Bureau was the first Government agency to engage in radio work, carrying on experiments therein until 1904 when a joint board of several departments was appointed by President Roosevelt to consider the "entire question of wireless telegraphy in the service of the National Government." Under the findings of this committee, the later radio experiment work was carried on by the War and Navy Departments, which cooperated with the Weather Bureau in distributing forecasts and warnings from several high-powered radiotelegraph stations. The distribution of weather forecasts in the States by radiotelegraph began in 1914, and systematic distribution by radiotelephone January 3, 1921.

In the article entitled "Department's Radio Service Widespread," which appeared in the January 31 issue of THE OFFICIAL RECORD, the following statement was made regarding the work of the Weather Bureau: "It is only in the last year that radio has been put to work (by the Weather Bureau) in sending warnings over land, sea, and air." The statement should have read two years instead of one, and "radiophone" instead of "radio."

RYE GRADES HEARINGS ANNOUNCED.

Hearings upon proposed official grain standards of the United States for rye, to be established and promulgated by the Secretary under the United States grain standards act, effective on or about July 1, 1923, will be held by the Bureau of Agricultural Economics at four cities beginning February 26. The first hearing will be held at the St. Charles Hotel, New Orleans, February 26. Others will be at Chicago, Fort Dearborn, February 28; Minneapolis, assembly room, courthouse, March 1; and New York City, board of managers' room, New York Produce Exchange, March 7. Lloyd S. Tenny, assistant chief of the bureau, will preside, assisted by H. J. Besley and E. G. Boerner.

Permissive standards for rye recommended by the department are the result of extensive investigations relating to the various phases of the rye industry,

including production. Because of the increased production of rye since the World War and the increased exports of rye, the larger markets and foreign buyers have become insistent in their demand that the standards be made mandatory.

Producers of grain, millers, merchants, manufacturers, bankers, grain inspectors, members of exchanges, warehouses, carriers, and other persons interested are invited to be present at the hearings, where opportunity for oral discussion will be offered to as many as practicable. Written communications received by the Chief of the Bureau of Agricultural Economics on or before March 10 will receive careful consideration.

TICK QUARANTINE REESTABLISHED.

Secretary Wallace has found it necessary to re quarantine, effective March 15, 1 county in Texas and 21 counties in Mississippi in order to prevent the spread of cattle-fever ticks. These counties were released from Federal quarantine with the understanding that any herds of cattle which had not been entirely freed of ticks would be held under local quarantine and regularly dipped every 14 days until the ticks were entirely eradicated. This early release from quarantine was made in order to remove quarantine restrictions from those cattle owners whose herds had been dipped free from ticks, and to open the counties to shipments from other sections.

The counties which will be re quarantined have failed to maintain the quarantine over local herds or to carry out their agreement relative to completing the tick-eradication work. This condition enables the tick to spread, endangers neighboring herds, and is misleading to cattle owners and others from other sections who might contemplate investment in land or cattle in areas which are supposed to be free from tick infestation. The department has therefore deemed it advisable to re quarantine such counties until the last tick has been eradicated.

B. A. I. STUDIES PUBLIC OPINION.

An interesting record is kept by the Bureau of Animal Industry of comment—appearing principally in the agricultural press—concerning its work throughout the year. This information gives the officials of the bureau a means of knowing the attitude of the public toward its manner of conducting regulatory and other work assigned to it by Congress. It also enables the bureau to ascertain the interest with which its educational efforts for the betterment of the animal

industry of the Nation are being received.

This summary of press comment is assembled each week and distributed among the offices of the bureau in the form of a mimeographed sheet entitled "The Range Finder."

A study of this comment for the year 1922 shows that the campaign for the eradication of bovine tuberculosis received more favorable press comment, as well as more unfavorable comment, than any other activity of the bureau. However, the favorable comment outnumbered the unfavorable by 25 to 1. The better-sires campaign received the second highest amount of favorable comment and was the second most-talked-of activity, only one adverse article against it being noted. The work of introducing cow-testing associations in the dairy communities of the country ranked third as a popular subject for comment.

Other lines of work receiving a great deal of comment were: Control of hog cholera, the eradication of the cattle tick, and educational milk campaigns.

POTATO RESTRICTIONS WITHDRAWN.

The restriction on the importation of potatoes from Canada and Bermuda, which was promulgated January 17, to become effective February 1, has been withdrawn. This withdrawal leaves the entry of potatoes from Canada and Bermuda without restriction other than such inspection as shall be deemed necessary from time to time to determine freedom of such imports from injurious diseases and insect pests.

MANY DANCE TICKETS SOLD.

About 1,000 tickets to the messenger boys' dance have been sold. The Assistant Secretary, Mr. Pugsley, will be present at the dance, and special invitations have been sent to all the bureau chiefs. The dance will be preceded by a basket ball game between a team made up of the Bureau of Agricultural Economics messengers and a general department team. The dance will be held to-morrow night over Center Market.

PUBLIC PATENT ON PNEUMATIC NOZZLE.

J. O. Reed, assistant engineer of the office of development work, Bureau of Chemistry, has designed a pneumatic cleaning nozzle for use in connection with grain elevators and a public patent is being applied for. A device of this character will prove to be of great value in controlling dusts and thus help to prevent the great losses that occur annually from dust explosions.

U. S. D. A. CLUB ACTIVITIES**SAN FRANCISCO CLUB.**

Nineteen were present at the meeting of the San Francisco Club February 17. The following bureaus were represented: Animal Industry, Plant Industry, Chemistry, Soils, Public Roads Federal Horticultural Board, Forest Service, Office of the Solicitor, and Agricultural Economics. The College of Agriculture, University of California, and Davis Farm were also represented.

P. G. Redington, the president, discussed recent action of the State legislature in regard to cooperation; and W. I. Hutcheson, of the Forest Service, gave a short talk on his work, in which he advocated closer personal relationship and better understanding among the representatives of the bureaus to promote the work of the department. He called attention to the need for greater publicity and the necessity of reaching the public through the medium of the press. He also discussed exhibit work.

Before the meeting adjourned C. H. Sweetser, of the Bureau of Public Roads, was invited to talk on the work of his bureau at the March meeting.

OKLAHOMA CLUB.

The first regular monthly meeting and luncheon of the Oklahoma USDA Club for the year 1923 was held at the chamber of commerce lunch room February 5. C. R. Donart was elected president, and will fill out the unexpired term of H. H. Schutz, who has been transferred to Houston, Tex. It was decided to hold regular monthly meetings throughout the year on the second Monday of each month, at the chamber of commerce. Mr. Donart gave a talk on boll weevil control investigations made on a recent trip to the Federal laboratories at Tallulah, La.

PORTLAND CLUB.

The February meeting of the department club at Portland was held February 7 at the chamber of commerce. Eighteen representatives were present. A resolution was passed favoring the holding of a department smoker some time within the next three months. The club's secretary, J. D. Guthrie, asked the cooperation of the club members in appointing one person in each bureau who would assume the responsibility of notifying other club members in his particular bureau or office. E. N. Bates, of the Bureau of Agricultural Economics, spoke

on the grain industry of the Northwest, dealing specifically with engineering problems connected with the loading of grain for foreign shipment at the port of Portland. He also discussed wheat smut.

GULF COAST CLUB.

The Gulf Coast USDA Club was organized at Biloxi, Miss., during the latter part of November. Its membership includes department representatives from various towns in that region. K. L. Cockerham, of the Bureau of Entomology, was elected president; R. P. Barnhart, of the Bureau of Plant Industry, vice president; and H. D. Money, Bureau of Plant Industry, secretary. The organization meeting was held in the Park Hotel, of Biloxi, where a 6 o'clock dinner was served. Meetings will be held at different points on the Mississippi Gulf coast. Twenty members were listed from the various bureaus.

A meeting was held at Bay St. Louis, Miss., January 27. F. A. Wright, of the Bureau of Entomology, made a short address, which was followed by a short talk by Hon. R. L. Genin, city attorney of Bay St. Louis. This meeting was held at the Bay Hotel, dinner being served at 6.30.

The February meeting was held on the first day of the month at Gulfport, Miss., at the Olympia Café, where dinner was served to 20 persons. Several visitors were present at the meeting. Talks were given by Prof. R. W. Harned, State entomologist of Mississippi, Prof. W. E. Anderson, State entomologist of Louisiana, and F. A. Weigel of the Washington office of the Bureau of Entomology.

CITIZENSHIP COUNCIL MEETS.

The Federal Council of Citizenship Training met January 26 at the War Department. This council was created by the President in response to a request by the heads of Government departments. Its purpose is to make constructive suggestions as to how the Federal officers may cooperate to secure more effective citizenship training both in their own work and in cooperation with public and private agencies throughout the country. Secretary Wallace appointed Dr. A. C. True, of the States Relations Service, as representative, of the Department of Agriculture, and I. W. Hill, also of the States Relations Service, as alternate.

The council is one of the results of the Conference on the Training of the Youth of the Country, held in Washington, under the auspices of the War Department, November 16-18, 1922. It was attended by representatives of the Fed-

eral departments and a number of prominent educators and others interested in the preparation of the youth of the country for citizenship and national defense. The formation of the Federal Council of Citizenship Training was requested at that time.

The Federal Council of Citizenship Training elected the following officers at its second meeting, February 2: Chairman, John J. Tigert, Commissioner of Education; vice chairman, A. C. True, States Relations Service, Department of Agriculture; and secretary, C. R. Maun, War Department. At this meeting it was decided to secure from each department a statement regarding its work which bears on citizenship training.

DAIRYMEN PLAN COOPERATION.

Representatives of five dairy cattle breed associations—the Ayrshire, Brown Swiss, Guernsey, Holstein-Friesian, and Jersey—agreed to make special efforts to suppress destructive rivalry and to work together in every way possible to develop the dairy industry and particularly the pure-bred dairy cattle business, at a meeting February 5, called by Dr. C. W. Larson. More than 20 representatives were here from various parts of the country, including the presidents of four of the breed associations and the secretaries of all five.

The delegates will recommend to their associations that each appoint three men who will be ready to assemble at the call of Doctor Larson, to discuss the details of the concentration and coordination of the field work of these various associations. Another committee will be appointed to harmonize certain rules governing official testing. They will meet again before May 1 to pass on the work of these committees before the annual meetings of the breed associations in May and June.

DOCTOR NOURSE SPEAKS ON IOWA.

The outlook for cooperation in the Middle West was discussed by Dr. E. G. Nourse, of the Institute of Economics, at the meeting of the local chapter of the American Farm Economic Association, in the Bieber Building, February 14. Doctor Nourse limited his remarks more or less to Iowa, where he has carried on most of his studies. He sketched the development of cooperation in Iowa and spoke of its problems, obstacles, and accomplishments. He also referred to the present status of grain elevators and the difficulties that must be overcome if the elevators are to continue in business and function to the best advantage.

**PEOPLE MENTIONED
IN OFFICIAL ORDERS**

Secretary Wallace returned to Washington February 21 from Toronto, Canada, where, on Monday, February 19, he gave an address before the Royal Canadian Institute. His subject was "The Relation of Agricultural Research to National Prosperity."

Dr. J. K. Haywood, of the Bureau of Chemistry, is now on a two months' assignment in California, where he will study problems relating to insecticides and foods.

Dr. B. H. Ransom, of the Bureau of Animal Industry, will attend a meeting of the Pennsylvania State Medical Association at Philadelphia, February 27 and 28, and will present a paper on the parasites of swine.

C. W. Fryhofer, of the Bureau of Agricultural Economics, with headquarters at New York, will attend and address the annual meeting of the Virginia Creamerymen's Association, to be held in Charlottesville, March 5. Mr. Fryhofer will judge the entries of butter in the farm-butter contest which is to be held in conjunction with the annual meeting of the Virginia State Dairymen's Association.

Dr. Frederick V. Rand, of the Laboratory of Plant Pathology, is giving a lecture and laboratory course in general bacteriology under the botanical department at Johns Hopkins University during the period February to May.

A. H. Howell, assistant biologist of the Biological Survey, left Washington February 14 for points in Missouri to investigate the cause of a malady among wild ducks that is reported to be killing them by the thousands. While in the State he will continue observations begun last year on the time of mating of wild fowl.

C. H. Kyle, of the Bureau of Plant Industry, left Washington February 19 to supervise the planting of seed corn in experimental plats of the agricultural experiment stations at Baton Rouge, La., and Knoxville, Tenn., and to confer with the cooperating officials regarding the details connected with these experiments. Mr. Kyle will be accompanied by Hugo Stoneberg, assistant agronomist in corn investigations, who will remain for some time at Baton Rouge to assist in the planting and cultivation and to do hand pollinating and other necessary work in connection with the corn experiments.

G. A. Dabinett, assistant in Federal grain supervision, Bureau of Agricultural Economics, has tendered his resignation, effective February 28. Mr. Dabinett, who has been in the service of the department since 1912, first with Bureau of Plant Industry and later with the Bureau of Markets, will become associated with the Caslon Press (Inc.), printers, of Birmingham, Ala.

G. N. Dagger, H. M. Gore, and Miss Wilda Daish left Washington last Saturday for St. Paul, Minn., where they will hold a hearing in connection with the arbitration of a complaint against the commissioners in that market. A similar hearing will be held at Chicago during the week of March 5 and at Omaha during the week of March 19.

B. F. McCarthy, of the Bureau of Agricultural Economics, gave an address at a meeting of the Washington Heights Branch of Master Butchers Association of New York, February 13.

Theodore Wade, of the Bureau of Agricultural Economics, addressed a meeting of the

Federation of Farmers' Clubs at Sandy Springs, Md., February 15. His subject was "Marketing farm products in eastern United States."

At the request of H. C. Ramsower, director of the Ohio agricultural extension service, A. B. Graham, H. W. Hochhaum, I. L. Hobson, and Grace E. Frysinger, States Relations Service, will attend a special conference of extension leaders at Columbus, Ohio, for the purpose of cooperating in the planning of extension work in that State.

F. A. Merrill, States Relations Service, will attend a meeting of the superintendents' section of the National Education Association at Cleveland, Ohio, February 26 to March 2. Mr. Merrill will also discuss school credit for home project work in gardening at the annual meeting of the National Council of Supervisors of Nature Study and Gardening in Cleveland February 24.

Gertrude L. Warren, office of cooperative extension work, States Relations Service, visited Boston, February 15, Orono, Me., February 13 to 17, and Durham, N. H., February 20, to consult with State extension workers regarding junior extension work. Miss Warren will also attend the conference of extension workers of the Northeastern States at New Haven, Conn., February 21 to 24.

Grace E. Frysinger, office of cooperative extension work, States Relations Service, discussed the home bureau's responsibility in community progress at the annual meeting of the Rochester, N. Y., Home Bureau, February 8.

VISITORS TO THE DEPARTMENT.

Former Secretary E. T. Meredith visited the department February 12.

A. Keys, assistant curator of the Botanic Garden at Dominica, British West Indies, arrived in Washington last week to confer with experts of the Bureau of Plant Industry, preparatory to undertaking, on behalf of the British Government, a study of citrus culture in Florida. The particular object of Mr. Keys's visit to this country is to determine the best means of controlling withertip, which disease is devastating the lime groves of Dominica and threatening to wipe out the principal industry of that island. He left Washington last week and has gone to Florida.

Li Chauen Lin, of China, is spending some time in the department studying the methods of conducting experimental work and the correlation of the experimental work of the department and the State experiment stations with the national system of agricultural education. Mr. Li Chauen Lin is a recent graduate of Iowa State College, and after studying this summer in the University of California, will return to China, where he will assist in the development of agricultural education and experimentation under the auspices of the Methodist Board of Foreign Missions.

DOCTOR HARLAN TO GO TO AFRICA.

Dr. Harry V. Harlan, agronomist in charge of barley investigations, office of cereal investigations, Bureau of Plant Industry, will leave Washington about March 1 for England, France, Spain, north Africa, Abyssinia, and India to

collect seed of barleys that have been grown under more or less primitive conditions for centuries. It is hoped in this way to obtain superior breeding stocks, especially with reference to resistance to unfavorable environmental conditions, such as temperature, drought, and fungous diseases.

While Doctor Harlan will be in quest particularly of barleys he naturally will obtain not only seeds of other cereals that he may find in the course of his explorations, but also plants and seeds of other material of interest to investigators of the department. It is expected that first he will visit Algeria, the chief center of barley production in northern Africa, where he will spend the latter half of the month of March and the first part of April. He probably will visit Morocco also before proceeding to Egypt about the middle of April to search for varieties of barley in the region of Lake Mariout, whence already have come two varieties very promising on the Pacific coast at the present time. Barley culture in Egypt is as old as civilization, and it is believed that further search by a specialist will be well repaid.

The months of May, June, and July will be spent in India, from which have come practically all the varieties of hull-less barley now grown in the United States. Many other and quite probably better forms of this important group of barleys probably can be found in the higher valleys of India, where barley culture is very old and highly localized.

New forms of cultivated barley are being developed from time to time by plant breeders in western Europe, and it is believed that a study of the material in the breeding stations of France, Sweden, Germany, and Austria will yield profitable results.

The barley harvest in Abyssinia lasts from October until January and during this period Doctor Harlan expects to visit the many and diverse producing districts of that country, from the lowlands to the higher elevations, in the hope of obtaining interesting forms not only of barley but of wheat and other cereals. Some striking forms of barley already have been found in Abyssinia, as well as very peculiar forms of wheat and grain sorghums.

F. A. Coffman, in charge of cereal experiments at the Akron Field Station, Akron, Colo., who has been in Washington since November, engaged in the preparation of his annual report, gave an illustrated talk on the cereal-crop experiments at Akron before the seminar of the office of cereal investigations, held February 8 in the assembly room of the Bieber building.

BRIEF REVIEWS OF NEW BULLETINS.

What Tractors and Horses do on Corn-Belt Farms. By L. A. Reynoldson, junior farm economist, Bureau of Agricultural Economics, and H. R. Tolley, agricultural engineer, Bureau of Public Roads. Pp. 14, figs. 9. January, 1923. (Farmers' Bulletin 1295.)

On any farm, tractors may have an advantage over horses for certain classes of work, while on a neighboring farm horses may be found more effective for some or all of the same work. Differences in soil topography, size of fields, and the mechanical ability of the operator are the determining factors in the kind of power to be used. Some operators object to using a tractor on plowed ground, stating that horses do not pack the soil to so great an extent. For most stationary work the mechanical power furnished by a tractor has been found preferable to that furnished by horses. On farms where both horses and tractors are owned, the operator must decide whether to use his tractor or horses, or both, for various farm operations. For plowing in the spring and fall, when implements are pulled in combination, and fitting ground for plowing in preparation for seeding, are some of the operations to which a tractor is adapted. Seeding grain, planting and cultivating corn are some of the uses to which horses are adapted. Tractors may also be used successfully in the hay field and in cutting grain and harvesting. For all but light belt work, a tractor exceeds a stationary engine because of its mobility.

Changes Effected by Tractors on Corn-Belt Farms. By L. A. Reynoldson, junior farm economist, Bureau of Agricultural Economics, and H. R. Tolley, agricultural engineer, Bureau of Public Roads. Pp. 12, figs. 4. (Farmers' Bulletin 1296.)

A tractor will not be profitable if it does not enable the farmer to do at least one of the following things: (1) Reduce the number of work stock on the farm; (2) reduce the amount of hired help required; (3) farm an increased acreage; or (4) increase the amount of crops produced.

The extent of the reduction in work stock depends primarily upon the number already owned and the work which it is planned to do with the tractor, according to this bulletin. No rule is given to show in advance how many work stock can be disposed of on farms in general, but it is said that on most Corn Belt farms enough horses will have to be kept to cultivate corn and do the other necessary horse labor which comes at that time.

Where hired help is employed during the year, all, or a part at least, of such help may be eliminated. On farms run without the use of hired help, the tractor will enable the operator to do his work in less time than he formerly did by combining different operations, such as disking and harrowing, and by performing his work at more opportune times. Where land is available, adjoining or in the vicinity of the farm, it may be possible to increase the number of acres in crops which can be handled with the same amount of man labor and number of horses as on the smaller acreage before a machine was purchased.

Vitamin B in the Edible Tissues of the Ox, Sheep, and Hog. I. Vitamin B in the Voluntary Muscle. II. Vitamin B in the Edible Viscera. By Ralph Hoagland, senior biochemist, biochemic division, Bureau of Animal Industry. Pp. 48, figs. 45. (Professional Paper.) February 10, 1923. (Department Bulletin 1138.) Price, 10 cents.

Meat has been assigned a rather low value as a source of vitamin, but according to re-

cent experiments in the Bureau of Animal Industry, various kinds of lean meat and the edible organs of cattle, sheep, and hogs have been found to contain varying quantities of vitamin B, also known as the antineuritic vitamin. It is the deficiency of this vitamin in polished rice which causes beriberi among people living largely on a rice diet. The disease can be cured by a ration of unpolished rice. It would also be cured by a ration containing a meat with this vitamin.

Meat may now be regarded as an important source of vitamin B, and certain of the internal organs, particularly the heart, liver, and kidneys, are relatively rich in the three vitamins, A, B, and C. Pork in particular, that is, the lean meat, is rich in vitamin B, comparing in this respect with the liver and kidneys, organs heretofore recognized as containing an abundance of this vitamin. Beef appears to contain a much smaller proportion of the vitamin, while mutton occupies an intermediate position. Of the internal organs, the heart seems to be richest in vitamin, but the liver and kidney have only slightly lower values. This class of meat products is an important and economical source of vitamin B.

Cooperative Extension Work, 1921. States Relations Service. Pp. 46. Price, 5 cents.

This is the seventh annual report on cooperative extension work in agriculture and home economics organized under the Smith-Lever Act. It briefly summarizes information regarding persons employed, funds used, and results of the work of the year in crop and animal production, rodent pest control, cooperative buying and selling, home improvement, work with negroes, and farmers' institutes. Tables are included which show in detail sources, allotment, and use of funds, and compare the results in 1921 with those of previous years and with data from the census of 1920, which serve to indicate the extent to which extension work is influencing the farm and home practices in the United States. The report shows that the increasing efficiency of the extension work was evidenced, especially in 1921, by an increase in the number of demonstrations undertaken and the number of families induced to adopt improved methods and practices, and in various other ways. It is shown that extension workers came in contact with and helped over 2,000,000 farmers, 650,000 farm women, and 500,000 farm boys and girls to improve their farm and home practices.

ADDITIONAL PUBLICATIONS.

Experiment Station Record, vol. 46. Index Number. January-June, 1922. Pp. 901-996. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Monthly Weather Review, vol. 50, No. 10, October, 1922. Pp. 515-565. figs. 24, pls. 2, charts 12. Price, 15 cents a copy, \$1.50 a year payable to the Superintendent of Documents. Special articles: Progress in radiation measurements, by C. Dorno; Influence of cover crops on orchard tempera-

tures, by F. D. Young; A second experiment on cover crops; Calculating temperature extremes in Spokane County, Wash., by E. M. Keyser; Forecasting minimum temperatures for the cranberry bogs of New Jersey, by G. S. Bliss; A simple geometric derivation of the laws of refraction of light inclined to a principal plane of a prism, by W. J. Humphreys; Rare halo of abnormal radius, by A. F. Piippo; Certain unusual halos, by W. J. Humphreys; On the lower oblique arcs of the anthelion, by E. W. Woolard; Hayford on effects of wind and barometric pressure on the Great Lakes, by A. J. Heury.

Monthly Weather Review, vol. 50, No. 11, November, 1922. Pp. 567-613, figs. 12, charts 13. Price, 15 cents a copy, \$1.50 a year, payable to the Superintendent of Documents. Special articles: Influence of the weather on the yield of crops, by J. Warren Smith; The daily quantities in which summer precipitation is received, by J. S. Cole; Note on atmospheric humidity in the United States, by R. DeC. Ward; Cause of the accelerated sea breeze over Corpus Christi, Tex., by J. P. McAuliffe; Does the formation of abnormally heavy ice in the Bering Sea cause famine in northern Japan? A review, by J. B. Kincer; Notes on typhoons, with charts of normal and aberrant tracks, by S. S. Visher; The changing Arctic, by G. N. Ifft; Birds storm-swept over the North Atlantic Ocean, by W. E. Hurd; Mossman on the physical condition of the South Atlantic during summer, by H. H. Clayton.

NOTE.—The Monthly Weather Review is sent free to cooperating meteorological services, universities, and institutions of learning which offer courses of instruction in meteorology and to a limited number of individuals and students interested in the science of meteorology who make application for the Review addressed to the Chief of the United States Weather Bureau and showing sufficient reasons why they should receive copies free of cost.

MAY ERADICATE PINK BOLLWORM EVENTUALLY

(Continued from page 1.)

either in western Texas or in New Mexico. The apparent disappearance of the pink bollworm in these old Pecos districts may be due to climatic control and there is a possibility that in these elevated valleys (2,600 to 3,100 feet) the winter fluctuations in temperature may hold this pest in considerable or occasionally in complete subjection. The same also may be true to a less extent in the El Paso district, the elevation of which is 3,700 feet above sea level.

The important achievement, however, is the apparent elimination of the pink bollworm from the very large areas in central and eastern Texas and in Louisiana, which have been under intensive control and which have now been substantially free from this pest for two years. The total finding in 1921 was a single infested boll, and that after a similar intensive scouting.

As has been previously pointed out, this situation, satisfactory as it is, should not be the basis for the relinquishment of any precautions or the reduction of thoroughgoing field scouting for the next two or three years. The work should be maintained at a maximum for at least two years more to make sure that no incipient infestation is overlooked.

An index of Volume I of THE OFFICIAL RECORD has been sent to the printer. It will be issued as a supplement in the near future.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- American Indian. 2d ed. By Clark Wissler. New York, Oxford university press, American branch, 1922.
- Analytical mechanics for engineers. By F. B. Seely and N. E. Ensign. New York, J. Wiley & sons, 1921.
- Birds. 2d ed. v. 1. London, 1922. (The fauna of British India, including Ceylon and Burma)
- Bremen cotton exchange, 1872-1922. By A. W. Cramer. Bremen, F. Leuwer, 1922.
- Chemicals and industrial materials, with their commercial uses. By Charles Argles. Birmingham, Burman, Cooper & co., ltd., 1921.
- Compte rendu. Congrès des jardins ouvriers, 5th, Paris, 1920. Paris, 1922.
- Ducks and geese. By H. M. Lamon and R. R. Slocum. New York, Orange Judd publishing company, 1922.
- Esquisse d'une histoire du régime agraire en Europe aux 18. et 19. siècles. Par Henri Sée. Paris, Marcel Giard & cie, 1921.
- Die europäischen bienen (Apidae). Iff. 1-2. Von Heinrich Friese. Berlin, W. de Gruyter & co., 1922.
- Evolution of the earth and its inhabitants. Ed. by R. S. Lull. New Haven, Yale university press, 1922.
- Fundamentals of farming and farm life. Rev. ed. By E. J. Kyle and A. C. Ellis. New York, C. Scribner's sons, 1922.
- Die hebung der landwirtschaftlichen produktion als grundlage des deutschen wieder-aufbaus. Von Friedrich edler von Braun. Stuttgart, F. Enke, 1921.
- L'infection bacillaire et la tuberculose chez l'homme et chez les animaux. 2. éd. Par Albert Calmette. Paris, Masson et cie, 1922.
- Inorganic chemistry. By T. M. Lowry. London, Macmillan and co., ltd., 1922.
- Investigation into the relation between height growth of trees and meteorological conditions. By W. E. Hiley and Norman Cunliffe. Oxford, Clarendon press, 1922. (Oxford forestry memoirs no. 1)
- Market milk. By Ernest Kelly and C. E. Clement. New York, J. Wiley & sons, 1923.
- Market nursery work. v. 6. By F. J. Fletcher. London, Benn brothers, ltd., 1921-22.
- Mechanical devices in the home. By Edith Allen. Peoria, Ill., Manual arts press, 1922.
- Medicinal herbs and poisonous plants. By David Ellis. Loudon, Blackie and son, ltd., 1918.
- Mélanges exotico-entomologiques. fasc. 37. Par. Maurice Pic. Moulins, "Les imprimeries réunies", 1922.
- National resources of South Africa. By R. A. Lohfeldt. Johannesburg, University of the Witwatersrand press, 1922.
- On the dispersion of the pink bollworm in Egypt. By L. H. Gough. Cairo, 1922. (Egypt. Ministry of agriculture. Technical and scientific service. Bulletin No. 24)
- Planters of colonial Virginia. By T. J. Wertenbaker. Princeton, Princeton university press, 1922.
- Poultry feeds and feeding. By H. M. Lamon and A. R. Lee. New York, Orange Judd publishing company, 1922.
- Recovery of volatile solvents. By C. S. Robinson. New York, Chemical catalog company, 1922.
- Report of part-time course of instruction and training in the dry cleaning and dyeing industry. Oklahoma. State board for vocational education. St. Louis, Mo., National association of dyers and cleaners, 1922.
- Some problems in current economics. By M. C. Rorty. New York, A. W. Shaw company, 1922.
- O sul de Matto Grosso e a pecuária. Pelo Paulo de Moraes Barros. [São Paulo?] 1922.
- Table service. By Sarah Best. Denton, Texas, 1921. (College of industrial arts, Denton, Tex. College bulletin no. 91; July 1, 1921)

OLD BOOKS.

- Farmer's guide to scientific and practical agriculture. By Henry Stephens. New York, L. Scott & co., 1862.
- Ladies' botany. By John Lindley. London, H. G. Bohn, 1865.
- Manual of exotic ferns and Selaginella. By E. Sandford. London, H. J. Infield, 1882.
- Orchardist. 2d ed. By T. S. D. Bucknall. London, W. Bulmer and co., 1805.
- Pinks of central Europe. By F. N. Williams. London, West, Newman and co., 1890.

- Plantkundig woordenboek voor Nederlandsch-Indië. Door G. J. Fillet. Leideu, G. Kolff, 1876.
- Practical treatise on the parturition of the cow. By Edward Skellett. London, A. Wilson, 1811.
- Suburbau horticulturist. By J. C. Loudon. London, William Smith, 1842.
- Traité de la culture du nopal. Par N. J. Thiery de Menonville. Cap-Français La veuve Herbault, 1787.

THESES.

- Bacteriology of the female reproductive organs of cattle and its relations to the diseases of calves. By C. M. Carpenter. Albany, 1922.
- History of the origin and functions of the federal Bureau of markets. By A. G. Ensrud. Chicago, 1922.
- Over antagonisme van den Bacillus procyaneus. Door J. A. Gunst. Amsterdam, 1922.
- A potencialidade agricola de Portugal. Pelo A. L. Guerra de Seabra. Lisboa, 1920.

CURRENT PERIODICALS.

- Bakers' review [monthly] New York, 1923.
- Coal age [weekly] New York, 1923.
- Industrial and labour information [weekly] Geneva, 1923.
- Nature magazine [monthly] Washington, D. C., 1923.
- Volkvoeding; weekblad voor wetenschappelijke en praktische kennis van levensmiddelen en hygiëne. Amsterdam, 1922.

LOST BOOKS.

The following books belonging to the library can not be found. It will be appreciated if anyone having information in regard to them will report the fact at the loan desk of the main library:

- British association for the advancement of science. Report, 1917, pub. 1918.
- Tschirch. Die biochemische arbeit der zelle der höheren pflanzen. 1921.
- U. S. Bureau of Standards. Circulars no. 63-73 (in binders).

EXPERIMENT STATION PUBLICATIONS.

The States Relation Service received for its library files copies of the following publications of the State experiment stations during the week February 5-10, 1923. These publications can be obtained only from the stations issuing them.

- Adams County Soils. By J. G. Mosier et al. (Illinois Sta. Soil Rpt. 24, pp. 62, maps 4, figs 9.)
- State Wide Activities of the College of Agriculture. (Nebraska Sta. Circ. 19, pp. 13, figs. 11.)
- Inspection of Commercial Fertilizers for 1922. By H. R. Kraybill, T. O. Smith, and C. P. Spaeth. (New Hampshire Sta. Bul. 206, pp. 16.)
- New Jersey Poultry Houses. By W. C. Thompson, W. P. Thorn, Jr., and G. H. Pound. (New Jersey Stas. Bul. 370, pp. 56, figs. 39.)
- Egg Production and Costs on New Jersey Poultry Farms. By W. H. Allen. (New Jersey Stas. Hints to Poultrymen 11 (1923), No. 4, pp. 4.)
- Baby Chick Troubles. By G. H. Pound. (New Jersey Stas. Hints to Poultrymen 11 (1923), No. 5, pp. 4, fig. 1.)
- Methods of Determining the Number of Microorganisms in Tomato Products. By C. A. Darling. (New York State Sta. Tech. Bul. 91, pp. 56.)
- Forty-first Annual Report, 1922. (New York State Sta. Rpt. 41 (1922), pp. 51.)
- Marketing Vermont Maple-sap Products. By A. W. McKay. (Vermont Sta. Bul. 227, pp. 48, figs. 8.)
- Commercial Fertilizers. Commercial Feeding Stuffs, Agricultural Seed. By J. L. Hills et al. (Vermont Sta. Bul. 228, pp. 32.)
- The protein and the Maintenance Requirements of Dairy Cattle. By J. L. Hills. (Vermont Sta. Bul. 229, pp. 10.)
- Thirty-second Annual Report, 1922. (Washington Col. Sta. Bul. 175 p. 64, figs 2.)

Dr. F. P. Veitch, chemist in charge of the leather and paper laboratory, Bureau of Chemistry, has been designated to cooperate with the Bureau of the Census in preparing the schedule for a census of turpentine and rosin production for 1923.

Articles in Current Publications by Department Workers

- Aldrich, J. M. (Entomology). A New Tachinid Parasite of the Codling Moth (Dip.). Entomological News, v. 34, no. 2, pp. 53-54, February, 1923.
- Bailey, Vernon (Biological Survey). Joseph D. Mitchell (biographical notice). Journal of Mammalogy, vol. 4, no. 1, pp. 48-49, pl. 8, February, 1923.
- Bears Eat Cascara Berries, idem., pp. 53-54.
- Baker, O. E. (Agricultural Economics). The Problem of Land Utilization and its Geographic Aspects. Geographic Review, January, 1923.
- Bell, William B. (Biological Survey). Work of the Biological Survey as it Affects Disease Carriers. (Paper read before State Med. Assoc. Tex., May 10, 1922.) Texas State Journ. Medicine, vol. 18, no. 9, pp. 461-465, January, 1923.
- Church, M. B., and Buckley, J. S. (Chemistry). Laboratory Feeding of Molds to Animals. In North American Veterinarian, vol. 4, no. 1, January, 1923.
- Davidson, Jehiel, and LeClere, J. A. (Chemistry). The Effect of Various Inorganic Nitrogen Compounds, Applied at Different Stages of Growth, on the Yield, Composition, and Quality of Wheat. J. A. R., vol. 23, no. 2, January 13, 1923.
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Department Circular 230 on Home Tanning is being revised by its authors, R. W. Frey, I. D. Clarke, and F. P. Veitch, of the leather and paper laboratory, Bureau of Chemistry, to meet the additional demand for information on this subject.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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WASHINGTON, D. C., FEBRUARY 28, 1923.

No. 9.

1924 APPROPRIATION ACT PASSED BY CONGRESS

Increases Provided in Some Lines— Reorganization Plan Is Approved.

The agricultural appropriation bill for the fiscal year 1924 has been passed by both Houses of Congress and is now before the President for approval. It carries a total appropriation of \$69,536,653, of which \$32,300,000 is for road construction and \$37,236,653 for the regular activities of the department. Comparing the latter amount with appropriations so far made available for the fiscal year 1923 for similar purposes (\$36,774,173 by the regular agricultural act, \$155,000 by the deficiency appropriation act of July 1, 1922, and \$83,500 by the deficiency act of January 22, 1923, or a total of \$37,012,673), the net increase is \$223,980. Deducting from this amount the \$200,000 provided for the printing of the publications, "Diseases of the Horse" and "Diseases of Cattle," for exclusive distribution by Members of Congress, a net increase of \$23,980 is provided over the amount available this year for what may be termed the regular work of the department.

Reductions in a number of items, including the elimination of the free-seed appropriation of \$360,000, have been practically offset by increases in other items. This shifting of funds will make it possible to strengthen some of the research and service projects of the department with only a slight increase in the appropriations for 1924 as compared with those available during the current year.

Road Funds Carried in Bill.

Road funds have hitherto not been included in the regular agricultural appropriation acts. The present bill, however, includes a new item of \$3,000,000 for forest roads and trails, to carry out the provisions of the Federal highway act of 1923, being part of the \$6,500,000 authorized by the Post Office appropriation

act for 1923; also a new item of \$29,300,000 for the cooperative construction of rural post roads, to carry out the provisions of the Federal aid road act, being part of the \$65,000,000 authorized by the Post Office appropriation act for 1923. The bill provides that the Secretary of Agriculture may, immediately upon the passage of this act, apportion to the States the full amount authorized by the Post Office appropriation act (\$6,500,000 and \$65,000,000, respectively), and incur obligations, approve projects, and enter into contracts on the part of the Federal Government for the payment of the cost thereof. These amounts compare with \$10,000,000 made available for
(Continued on page 8.)

SECRETARY WARNS AGAINST MERGER.

A complaint against the acquisition of the properties of Morris & Co. has been served on Armour & Co. by Secretary Wallace. The complaint recites the various steps already taken in the proposed purchase, calls attention to the fact that both of the companies come under the provisions of the packers and stockyards act, and expresses the opinion that the combination will materially lessen competition among live-stock buyers in the various markets.

It is charged that this transaction constitutes a violation of Title II of the packers and stockyards act, in that the acquisition by the Armour interests of Morris & Co. constitutes a restraint of interstate commerce and creates or tends to create a monopoly in the purchase of live stock and the sale of live-stock products.

Notice is given that the charges will be heard beginning at the office of the Secretary of Agriculture in Washington, at 10 a. m., April 2, when the respondents will be given an opportunity to file an answer and be heard as to whether or not the Secretary of Agriculture shall sustain the charges and issue an order requiring the respondents or any of them to cease and desist from violating any of the provisions of Title II of the packers and stockyards act.

ESTIMATE PROVIDES PEST-CONTROL FUNDS

President Recommends Investigation of Rubber—Reorganization Plan Submitted.

President Harding transmitted to Congress, February 14, a supplemental estimate of \$30,000 for the control of the white-pine blister rust and \$60,000 for the control of the Japanese beetle for the fiscal year 1923. The President also transmitted on the day following a supplemental estimate for the Department of Commerce, recommending an appropriation of \$500,000 for investigating sources of crude rubber, of which sum the President may, in his discretion, direct that not to exceed \$100,000 shall be made available to the Department of Agriculture for experimentations with the cultivation of rubber trees in the Philippine Islands and elsewhere, the appropriation for this purpose to be available until June 30, 1924.

Reorganization Plan.

The President, February 13, transmitted to Walter F. Brown, chairman of the Joint Committee on the Reorganization of Government Departments, a chart exhibiting in detail the present organization of the Government departments and the changes suggested by the President and the Cabinet, which was printed as Senate Document No. 302. The Senate, February 17, passed a resolution (S. J. Res. 282), introduced by Mr. Smoot, extending until July 1, 1924, the date on which the report of the joint committee shall be submitted to Congress.

Mr. Ladd introduced S. J. Res. 284, authorizing the appointment of a joint committee of the Senate and House to represent the Congress of the United States at the World's Dairy Congress, to be held at Washington during 1923. It was referred to the Committee on Agriculture and Forestry February 19, while

a similar resolution (H. J. Res. 457) introduced in the House was reported out by the Committee on Agriculture the same day.

The House passed, February 14, the bill (H. R. 14302) to establish and promote the use of the official cotton standards of the United States in interstate and foreign commerce, which was referred to the Senate Committee on Agriculture and Forestry.

The Senate bill (S. 3757) which was passed by the Senate August 10, 1922, authorizing the Department of Commerce to collect and publish additional cotton statistics, was reported from the Committee on the Census, with amendments and Report No. 1644 and placed on the House Calendar February 17. The bill directs the Census Bureau to report information showing quantities and grades of baled cotton on hand and tenderable at specified dates and provides for periodic surveys by the Bureau of Foreign and Domestic Commerce of the world cotton situation. It also directs the Census Bureau to furnish estimates of cotton to be ginned after the publication of their usual ginning reports and to furnish to the Secretary of Agriculture statistics of the total quantity of cotton remaining to be ginned in each State, as estimated by the ginners, in connection with each of the regular ginning reports. The Department of Agriculture is directed to collect information and publish estimates for the same periods and on the same dates, covering cotton remaining unginned.

Other Bills of Interest to Agriculture.

The following bills and resolutions of interest to agriculture have been considered during the week February 21-28.

S. Res. 444 (McLean), authorizing the Senate Committee on Banking and Currency to investigate the effect of the present limited membership of State banks and trust companies in the Federal reserve system upon financial conditions in the agricultural sections of the United States, was introduced and referred to the Committee to Audit and Control the Contingent Expenses of the Senate February 19.

H. Con. Res. 83, providing for the printing of 2,000 additional copies of the soil survey of Lauderdale County, Ala., was agreed to by the House February 19.

S. J. Res. 263, providing for membership of the Department of Agriculture in the Permanent Association of the International Road Congresses, which passed the Senate February 5, was reported to the House and placed on the calendar February 19.

H. R. 8086, the Voigt filled-milk bill, was considered by the Senate February 19.

H. J. Res. 456 (Haugen), authorizing the appointment of a subcommittee of the House Committee on Agriculture to cooperate with a like Senate committee in the investigation of problems relating to reforestation, was reported favorably from the Committee on Agriculture, with Report 1670, and placed on the calendar February 20. This is a revision of H. J. Res. 438.

H. R. 12053, to define butter and provide a standard therefor, was placed on the Senate calendar February 15.

The Senate, February 15, concurred in the House amendments to S. 3220, amending sections 2, 5, 6, 11, 12, 15, 18, 19, 29, and 30 of the United States warehouse act.

S. Con. Res. 40, amending the bill (S. 2023) defining a crop failure in the production of wheat, rye, or oats by those who borrowed money from the Government for the purchase of seed and releasing borrowers who made a crop of 5 bushels or less from repayment of loan, was agreed to by the Senate February 15 and by the House February 17. As amended the bill applies only to loans made during 1918 and 1919.

H. R. 14326, to establish standard grades for naval stores, prevent deception in transactions in naval stores, and to regulate traffic therein, was reported favorably from the Committee on Agriculture with an amendment and Report 1655 and placed on the calendar February 19. This is similar to the Harrison substitute for S. 1076, now on the Senate calendar.

H. R. 13352, the Little bill, authorizing the Secretary of Agriculture to purchase, store, and sell wheat, and to secure and maintain to the producer a reasonable price for wheat and to the consumer a reasonable price for bread, and to stabilize wheat values, was reported favorably from the Committee on Agriculture, with amendments and Report 1671, and placed on the House calendar February 20.

H. R. 7735, to create an American stabilizing commission and to provide for stabilizing the prices of certain farm products, was reported with amendments and Report 1672 and placed on the House calendar February 20.

H. R. 12966, to provide for the purchase and sale of farm products through the establishment of the "Farmers and Consumers' Financing Corporation," was reported favorably from the Committee on Agriculture, with amendments and Report 1667, and placed on the calendar February 20. This bill is similar to the Norris bill (S. 4050).

H. R. 14394 (Hadley), to consolidate certain lands within the Snoqualmie National Forest; referred to Committee on the Public Lands February 20.

H. R. 10861, to add certain lands to the Uintah National Forest, was reported to the House, with Report 1633, and placed on the calendar February 17.

H. R. 14270, amending sections 3, 4, 9, 12, 15, 22, and 25 of the Federal farm loan act, was introduced by Mr. Strong of Kansas as a substitute for H. R. 14041, February 9, and referred to the Committee on Banking and Currency; reported back favorably, with an amendment and House Report 1578, February 10, and passed by the House February 20.

The Harrison substitute for S. 1076, to establish standard grades for naval stores, to prevent deception in transactions in naval stores, and to regulate traffic therein, was reported favorably from the Senate Committee on Agriculture and Forestry and placed on the calendar February 10. Mr. Aswell introduced a similar bill (H. R. 14326) in the House February 13, which was referred to loans in an aggregate amount equal to one the Committee on Agriculture.

S. 4510, to amend section 24 of the Federal reserve act, was introduced by Senator Oddie and referred to the Committee on Banking and Currency February 9. Bill would eliminate real estate as distinguished from farm lands as a security for loans; would make loans applicable only to farm lands within the Federal reserve district in which bank is situated; and would permit banks to make

half of its time deposits, instead of one-third as provided by existing law.

H. J. Res. 438 (Haugen), authorizing the chairman of the Committee on Agriculture to appoint a subcommittee, consisting of not more than eight members, to investigate problems relating to reforestation; referred to Committee on Rules February 9.

Mr. Almon introduced H. J. Res. 439 February 9 and H. Con. Res. 83 February 12, providing for the printing of 2,000 additional copies of the soil survey of Lauderdale County, Ala., which were referred to the Committee on Printing.

Weather Damage Tests on Cotton Completed

Weather damage tests conducted at Dunn, N. C., by R. L. Nixon, in charge of cotton-handling investigations, have just been completed. These tests are the latest of a series extending over several years. The other experiments were conducted at Tarboro and Raleigh, N. C.; Little Rock, Ark.; Dallas, Tex.; and Jefferson, Ga. In these experiments 7 bales of cotton were used, 1 of which was stored in a warehouse and the others exposed as follows: 1 bale on skids covered by a tarpaulin; 1 bale on skids not covered, but turned after each rain; 1 bale flat on the ground throughout the entire test; 1 bale on end on ground during the entire period of the test; 1 bale on edge on ground, not turned; 1 bale on edge on ground but turned after each rain. Tests were usually begun in December or January and terminated during July or August. The results of all of these tests show that where a bale is properly stored in a warehouse there is practically no loss; where a bale is kept from contact with the ground and covered there is very little loss, usually not exceeding 5 pounds. Where the bale is not covered but kept on timbers so as to keep it from coming in contact with the ground and turned after each rain, there is comparatively little loss, usually not exceeding 10 pounds to the bale. The most severe test is where the bale is left flat on the ground during the entire period. The bales exposed in this way have lost an average of about 275 pounds or almost 60 per cent. The bales placed on the ground on edge but turned after each rain lost an average of about 80 pounds, while the bales placed on the ground on edge and not turned lost an average of 110 pounds. Simply turning a bale after each rain saved on an average of 30 pounds per bale.

Most of the damage resulting to cotton when not properly protected is from the moisture absorbed from the ground rather than from rain falling directly on the cotton. Another fact developed by these experiments is that most of the loss from so-called country damage can be prevented by putting the bales on tim-

bers and turning them after each rain so that they will properly dry out.

In all of the earlier tests only flat or uncompressed cotton was used. During the last test, however, a number of bales of compressed cotton were exposed in the same relative positions as the uncompressed cotton. In almost every instance the compressed cotton did not absorb as much moisture as the flat cotton, but where the compressed bales did absorb moisture the damage was much greater than in the flat bales which absorbed an equal amount of moisture. Flat bales placed directly on the ground absorbed so much moisture that at the end of the test they weighed more than twice as much as at the beginning.

Spinning tests, to determine what effect, if any, exposure during the Dunn experiment has had on the cotton which is apparently undamaged, will be conducted by W. G. Blair, specialist in cotton testing. The damaged cotton will also be used in spinning tests to determine its spinning value.

TO EXPLORE HAWAIIAN ISLANDS.

Plans for a cooperative scientific expedition to the islands of the Hawaiian Islands National Bird Reservation have been perfected between the Biological Survey and the Bishop Museum, of Honolulu, which will start from San Francisco about March 21. The Navy Department will cooperate by furnishing a 1,000-ton vessel for conducting the party from Honolulu to the various islands.

Dr. Alexander Wetmore, of the Biological Survey, will be in charge of the expedition, assisted by Charles E. Reno, of the same bureau. The work of the Biological Survey will be to make collections and gather information concerning the bird life of the islands and to destroy a large colony of rabbits that has become established on one of the islands, to the detriment of some of the land birds through the destruction of the scanty vegetation there.

The magnitude of the expedition's task may be appreciated when it is understood that the Hawaiian Islands Reservation consists of a dozen or more islands, reefs, and shoals that stretch westward from the Hawaiian Archipelago proper for a distance of more than 1,500 miles toward Japan and that the average distance between these is something like 100 miles.

Included in the refuge is Laysan Island, celebrated as a breeding place for albatrosses and other sea birds, where in the past, plumage hunters of other nations have committed serious depredations. Domestic rabbits were introduced on the island some years ago by a German who was then living there. The increase of

these animals threatens to destroy what little vegetation there is on the island, and with its disappearance several species of small land birds peculiar to Laysan would perish.

GAME WARDEN'S MURDERERS SENTENCED.

The two Italian murderers of Edgar A. Lindgren, United States game warden of the Bureau of Biological Survey, in charge of the Iowa district, have been sentenced to life imprisonment and are now confined in the Fort Madison, Iowa, penitentiary, according to information just received by the bureau from the county attorney at Council Bluffs. An unarmed nephew of the two Italians, who were brothers, was with them at the time of the shooting, and while he took no part in it, he was himself shot by one of them in their flight. He testified on behalf of the State in both trials and has been released.

Warden Lindgren was fatally wounded August 13, 1922, while engaged in the performance of his official duties in attempting to arrest the three men for hunting in violation of the migratory-bird treaty act. The Italians resisted and one opened fire on Mr. Lindgren. The warden died four days later in a hospital at Council Bluffs. Dr. E. W. Nelson, chief of the Biological Survey, has written the county attorney, expressing his gratification on the manner the trial for so flagrant a crime was handled and on its outcome.

URGES ACTION IN MURDER CASE.

Secretary Wallace has recently sent a letter to the Attorney General in which he points out with emphasis the need for firm and prompt Federal action against the persons who killed Max Lochridge, an employee of the Department of Agriculture engaged in cattle-tick eradication work in Echols County, Ga. He was shot to death February 3 while in performance of duty.

The importance of rigorous and speedy court action against persons who indulge in violence or interfere with employees of the Department of Agriculture in their duties is urged by the Secretary in his letter.

The killing of Lochridge and the serious wounding at the same time of another Federal employee, Roy S. Ritchie, are the culmination of a series of difficulties in this region, where efforts are being made to free the section of cattle ticks. The killing was committed at a time when Lochridge and Ritchie were serving an official notice. On several other occasions shots had been fired and many dipping vats had been dynamited by persons who for various reasons dis-

approved of the work. In Arkansas last year a tick-eradication inspector employed by Independence County was shot and killed and another employee was wounded. The work of tick eradication is undertaken cooperatively by Federal and State authorities under State law. The States construct the dipping vats, purchase dipping material, and conduct the work under Federal supervision.

In sections where serious trouble has been experienced in getting the cattle dipped because of resistance the Government has employed ex-soldiers and provided them with means of defense. These men live in camps and usually travel in groups of three on horseback, two in front and the third some distance in the rear. When the killing occurred in Georgia the two men had gone alone in an automobile.

The continued dipping of cattle is going forward in spite of sporadic resistance. The Washington office, which is supervising tick-eradication work, has notified its inspectors of the importance of constant vigilance in regions where lawlessness is encountered.

CHINESE PEAR TREES VALUABLE.

The native Chinese pear trees which are being tried out in southern Oregon as stock on which to graft commercial varieties of pears in the effort to combat blight are reported to be in excellent condition by F. C. Reimer, superintendent of the branch experiment station at Talant, Ore., where he visited the States Relations Service recently. These trees were introduced by Mr. Reimer, who has made two trips to China, the first in 1917, in search of types which gave promise of being good graft stock. He plans to make a third visit in that connection next year.

Experiments in the use of sulphur as fertilizer for alfalfa being conducted in Oregon are giving satisfactory results. Mr. Reimer stated, the yield having been increased by its use this year from 200 to 400 per cent.

MORE FOOD STANDARDS ANNOUNCED.

Additional food standards have been announced by Dr. W. W. Skinner, chairman of the joint committee on definitions and standards. Changes have been made in the standards for cayenne, oil of cassia, cacao products, and breads. The revised definitions and standards which do not become effective under the Federal food and drugs act until approved by the Secretary of Agriculture, are as follows: Condensed milk, evaporated milk, concentrated milk, butter, renovated butter, and ginger ale.



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Secretary Wallace Indorses The Lenroot-Anderson Bill

In response to a request from Representative Sydney Anderson, Secretary Wallace has restated his views on the rural credit bills now under consideration in the House. The provisions of the Lenroot-Anderson and Capper bills are reviewed in the Secretary's open letter in which he differentiates sharply between the two, saying that much of the comment and newspaper discussion on these bills would lead one to think that either one would meet the farmers' immediate credit needs, and that the problem is that of a choice between them. Such is by no means the case, he explains, saying that one is a rural credit bill, the other is not. He calls attention to the fact that the Lenroot-Anderson bill has received the cordial approval of President Harding and the farmers of the country.

"The Lenroot-Anderson bill," says the Secretary, "sets up definite intermediate credit facilities with powers and functions broad enough to serve agriculture in all its phases. The bill owes its origin to a plan devised about a year ago as a result of the thorough and exhaustive studies by the Joint Commission of Agricultural Inquiry. The plan has received the careful study of a large number of persons outside of Congress, as well as within, who know the credit needs of agriculture, not only from the banker's standpoint, but also from that of the farmer. As a result of this study the original plan has been amplified and amended in many particulars.

"In regard to the Capper bill," he says, "it is carefully drawn and the credit facilities it authorizes may prove highly useful to ranching interests, if actually brought into existence. The plan does not, however, meet the farmer's needs for intermediate credit. It is not designed to meet the needs of the great surplus-producing States in which diversified farming is followed. It does not protect borrowers against excessive interest rates. It gives the color of Federal support to large money-making corporations, organized for that especial purpose.

"It is highly doubtful that corporations of the kind authorized in the Capper bill would be organized outside of the districts where considerable volumes of live-stock loans are needed, and even if such corporations were organized in other parts of the country they would be absolutely ineffective in providing the farmer with better facilities for working or production credit in general agriculture."

The Secretary states that while there is no objection to the enactment of the Capper bill, he believes that as a substitute for the Lenroot-Anderson bill it would give the farmers of the Nation the best of reasons for feeling that "in reply to their request for bread they had been offered a stone."

TEA REPORT ISSUED.

Imports of tea examined at the ports of entry during the fiscal year 1922 showed an increase of about 15,500,000 pounds over the previous fiscal year, according to a recent report of George F. Mitchell, of the Bureau of Chemistry, which shows in detail the tea importations and per cent of rejections for the year.

A total of 87,398,221 pounds of tea was examined during the fiscal year 1922. Of this total, 1,620,162 pounds, or 1.85 per cent, was rejected by the examiners. Of the total amount rejected, 1,371,560 pounds, or 1.57 per cent, was rejected for quality and 248,602 pounds, or 0.28 per cent, was rejected for impurities. The results obtained at eastern ports of examination showed an increase in the percentage of the total examinations, while the western ports and central ports have fallen off in the percentage of examinations.

According to the table which accompanies the report, the American people are shifting from the use of green teas to black or Oolong teas. The percentage of importations of teas from Japan proper has fallen off considerably. The percentage of China tea imported has been steadily on the increase since 1919. As compared with the last fiscal year, the percentage of the total amount of tea imported from the Dutch East Indies reveals that our export of tea has been more than doubled during this fiscal year over the last fiscal year, but is still far behind the abnormally high fiscal years of 1919 and 1920.

OMAHA EXCHANGE COOPERATES.

That the Packers and Stockyards Administration is obtaining the cooperation of the trade is shown by the fact that the Omaha Live Stock Exchange has

adopted the following rule by formal ballot: "No member of this exchange shall be required or authorized by any rule or by-law to do any act that shall in any manner violate the provisions, or be in conflict with, the packers and stockyards act of 1921 or any of the rules and regulations of the Secretary of Agriculture lawfully issued thereunder."

ON PAYING YOUR BILLS.

If I were giving advice to young men, it would be to be a crank on paying bills. It is not alone that it gives you credit with others, it is the self-discipline it promotes. As for hard work, I did it to begin with because I wanted to get on. I do it still for the best of reasons, because I enjoy it and because once a man begins to let up he slacks away too rapidly. Self-indulgence is a treacherous vice. Give it an inch and it will take a mile. Hard work can cure more ills, physical, mental, and spiritual, than all the drugs in the pharmacopœia.—Robert R. Sizer, head of the New York lumber firm of Robert R. Sizer & Co., in the New York Globe.

FINES INCREASED.

It is evident that the courts are taking a more serious view of the plant quarantine act than formerly. No fine during the present fiscal year has been less than \$25, and in one case, where a small quantity of diseased fruit was brought into San Francisco on a steamer from Hawaii, a fine of \$50 was imposed when it was found that the passenger who brought it in had declared that he would get it in spite of the law. These fines are more effective as a deterrent than the penalties imposed in two cases in a certain court in the Southwest some months ago, where one day a guilty party was fined \$1 and on the next day a similar conviction resulted in no fine at all, but the guilty party was merely paroled in the custody of the marshal for one hour.

POSTER PROVES POPULAR.

The colored poster entitled "Meat is wholesome," which has been prepared by the department, is now being distributed, the first edition of 5,000 copies being practically exhausted at the present time. The poster is in five colors, suitable for mounting and framing for displaying in stores, meat markets, and public places generally. In order to secure a wide circulation, arrangements have been made with the National Live Stock and Meat Board, the American Institute of Meat Packers, and others to take orders for the poster.

U. S. D. A. CLUB ACTIVITIES

CHICAGO U. S. D. A. CLUB.

The Chicago club met February 21 in the Great Northern Hotel for luncheon, and was addressed by Dr. W. A. Evans, of the Chicago Tribune. The Chicago club has recently made a special effort to increase its membership, and letters have been sent to all persons in the city who are eligible. The club is not quite a year old, having been organized in March, 1922. There are between 100 and 150 of the department's employees in Chicago who are eligible. The officers hope to make this the largest and most active U. S. D. A. club in the United States.

ST. JOSEPH CLUB.

The February meeting of the St. Joseph Club was held on the 9th at the St. Charles Hotel. All the members were present. Miss Florence L. Hall, of the Bureau of Animal Industry; Miss E. M. Heil, of the Missouri Agricultural College at Columbia; Stephen A. Bray, of the packers and stockyards administration; and J. B. Abercrombie, of the Gazette-Abercrombie broadcasting station, were the guests at the luncheon which preceded the address. Mr. Abercrombie spoke on broadcasting and radio work.

LAUSDA CLUB.

The regular meeting of the Lausda Club was held February 15 at 4.15 p. m. in the office of Dr. R. W. Tuck, of the Bureau of Animal Industry, in the Post-Office Building. Doctor Tuck, the president, presided. M. C. Virgin, secretary-treasurer, made a report covering the year 1922, which contained a short résumé of each meeting and other activities. Eight new names were proposed for membership.

Officers for 1923 were elected, as follows: Lionel L. Janes, of the Bureau of Agricultural Economics, president; R. S. Hollingshead, Bureau of Chemistry, vice president; M. C. Virgin, secretary-treasurer; and Miss. Mary C. Foley, assistant secretary. E. Foster, collaborator of the Federal Horticultural Board, was elected chairman of the executive committee. The head of each bureau of the Department of Agriculture in Louisiana is a member of the executive committee.

BOSTON U. S. D. A. CLUB.

The regular meeting and luncheon of the Boston U. S. D. A. Club was held at the Boston City Club Tuesday, February 20, at 12.30. Dr. Arthur W. Gilbert was

the guest of the club. J. J. Doheny spoke on the work of the live stock and meats division, Bureau of Agricultural Economics. The last meeting of the club was held December 21, 1922, when Commander A. S. Wadsworth, coordinator, spoke on "Coordination and the Budget."

The January meeting was omitted because of the illness or absence from the city of a number of the members.

ST. LOUIS CLUB.

The regular meeting of the St. Louis U. S. D. A. Club was held February 8 at Melsheimer's restaurant. Dr. E. F. Phillips, of the Bureau of Entomology, and Dr. R. E. Doolittle, of the Bureau of Chemistry, were guests of the club. Both gave short addresses. After the luncheon the club proceeded to the offices of the Bureau of Animal Industry, where talks were made by Dr. J. J. Brougham, Dr. T. B. Pote, and C. H. Swanger, who gave complete descriptions of their work, including an exhibit.

The next meeting will be held March 9 in the offices of the Bureau of Animal Industry, National Stock Yards, Ill., and will be preceded by a luncheon. T. J. Perrin, E. K. Hess, and Dr. J. F. Jenison will speak. The annual election of new officers will take place at the meeting, and a committee consisting of J. F. Burns, Dr. J. F. Jenison, and A. F. Satherthwait was appointed to consider nominations.

ROUND TABLE ON LAND POLICIES.

On account of the growing interest in the department on land policy and the apparent need for integration, interested workers in the different bureaus have organized a round table for the discussion of land problems. The first meeting was held Wednesday, February 14. About 30 persons were present. Dr. C. F. Marbut, of the Bureau of Soils, was elected chairman, Dr. Raphael Zon, of the United States Forest Service, vice chairman, and Dr. L. C. Gray, of the Bureau of Agricultural Economics, was elected secretary. The organization is entirely unofficial and informal in character. It will meet once a week for the purpose of hearing and discussing papers on various aspects of research work in the department that have important bearing on land problems and policies.

LANTERN SLIDES MUCH USED.

Over 520 sets of lantern slides were loaned by the States Relations Service to extension services in 44 States during 1922. North Dakota, Arkansas, Georgia, and Ohio, in the order named, led in the

number of sets used. Shipments were also sent to Porto Rico and Guam for use in the extension work carried on in connection with the experiment stations in these Territories. Of the sets distributed, the most popular were those dealing with swine, better sires, orchard management, poultry, corn production, clean milk, gardening, labor-saving methods on the farm, labor-saving methods in the farm home, home grounds improvement, and stock judging.

These slides were prepared by the service in cooperation with various bureaus of the department and loaned for periods of from one to three months for use in farmers' institutes and other meetings held by extension workers in agriculture and home economics.

WORK OF THE WELFARE ASSOCIATION.

The object of the welfare association is to provide immediate financial assistance to employees in Washington and vicinity in cases of emergency resulting from illness, accident, or other unforeseen misfortunes for which provision has not been made and over which they have no control. This assistance is made possible by the voluntary subscriptions or bequests of employees, and is, in some cases, an outright gift, and sometimes a loan without interest.

The following table indicates how much this privilege is appreciated:

Year.	Em- ployees helped.	Amount ex- pended.
1920.....	12	\$1,735.30
1921.....	41	3,035.43
1922.....	51	4,285.20

Eight Christmas baskets, 1922.

WREATH FOR WASHINGTON MONUMENT.

A wreath sent by the department was placed at the base of the Washington Monument as a part of the Washington Birthday ceremonies held February 22. R. M. Reese, chief clerk of the department, and F. C. Lucas, of the office of inspection, represented the department.

Forty-eight flags, one for each State, were displayed on poles arranged in a circle at the base of the monument. The flags were raised at 9 a. m., accompanied by a salute to the colors. Field music was furnished by the Third Battalion, Twelfth Infantry, from Fort Washington, Md. The ceremonies were arranged by Col. C. O. Sherrill and arrangements at the monument were in charge of F. D. Owen, of the Office of Public Buildings and Grounds.

PEOPLE MENTIONED IN OFFICIAL ORDERS

Dr. E. D. Ball returned February 24 from a speaking trip, in the course of which he addressed the New York Farmers' Club, of New York City, on the work of the department. The following motion-picture films were shown in connection with this address: "The Horse in Motion," "Charge of the Tick Brigade," "Sweet Potatoes from Seed to Storage," "Dangerous Invaders," and "National Bird Refuges." February 21, Doctor Ball addressed the Japanese Beetle Club at Riverton, N. J. His subject was "Training and Compensation of the Scientist." On Friday, February 23, Doctor Ball spoke at Johns Hopkins University before the Journal Club of the Department of Medical Sociology of the School of Hygiene and Public Health. His subject was "Insect Transmission of Filterable Viruses."

On February 14, Dr. L. O. Howard, Chief of the Bureau of Entomology, read a paper before the New Jersey Mosquito Extermination Association in Atlantic City. On the 13th he gave an address to the so-called Japanese Beetle Club at Riverton, N. J.

Dr. U. G. Houck, Chief of the Division of Hog Cholera Control, Bureau of Animal Industry, left Washington February 8 for a trip through the Southeastern States in connection with the cooperative hog-cholera work. Doctor Houck expects to visit the field stations of the division in Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, and Tennessee.

H. S. Paine, of the Bureau of Chemistry, attended the meeting of the southern regional group of State federations of the American Farm Bureau Federation, held in Montgomery, Ala., February 20 and 21.

Dr. J. A. Ambler, of the color laboratory, Bureau of Chemistry, will attend a meeting of the executive committee of the commission on the standardization of biological stains in New York City March 2. This commission is composed of eminent bacteriologists and biologists who are endeavoring to prepare American dyes of standard quality.

Dr. F. P. Veitch, chemist in charge of the leather and paper laboratory, Bureau of Chemistry, has been appointed by the Secretary as a member of the paper specifications committee of the Joint Committee on Printing, which will prepare standard specifications and samples of paper suitable for the public printing and binding.

James S. Vanick, of the Fixed-Nitrogen Research Laboratory, went to New York February 19 to attend conferences of the American Institute of Mining and Metallurgical Engineers on the physical properties of metals. He also conferred with representatives of the American Brass Co., International Nickel Co., and Union Carbide & Carbon Research Laboratories on various other subjects.

George L. Hoffman, who has been in charge of the legal work in connection with the collection of loans made to farmers in the drought-stricken areas of North and South Dakota, Montana, and Idaho, under the seed loan acts of 1921 and 1922, since the middle of September, is expected to return to the Solicitor's Office the latter part of March.

Dr. C. J. Galpin, of the Bureau of Agricultural Economics, is giving a series of four lectures on "Rural Social Problems in the United States" before the National Catholic Welfare Council.

O. I. Snapp, Bureau of Entomology, attended a meeting of the Science Club of the University of Georgia February 23.

W. A. Wheeler, of the Bureau of Agricultural Economics, attended the Northeastern States Extension Conference at New Haven, Conn., February 21-24.

Bruce McKinley and J. J. Vernon, of the Bureau of Agricultural Economics, have gone to Ohio to obtain records of farm business for 1922 in Palmer Township, Washington County. This is the eleventh year of a continued study of incomes and profits of farmers in that area.

H. W. Hawthorne, of the Bureau of Agricultural Economics, is at the agricultural college, Newark, Del., assisting in analyzing the data which were obtained last November in the farm-management survey in Sussex County.

G. C. Wheeler, of the Bureau of Agricultural Economics, went to Albany, N. Y., last Thursday to confer with representatives of the State department of farms and markets relative to a feed market reporting service for New York.

M. A. Crosby, of the Bureau of Agricultural Economics, has been transferred to the Tariff Commission, where he will assist in agricultural-production work, with special reference to cotton.

K. B. Seeds, of the Bureau of Agricultural Economics, went to Harrisonburg, Staunton, and Richmond, Va., last week to confer with hay producers and dealers and representatives of the Virginia division of markets, relative to the formation of a hay producers' association for the purpose of securing Federal hay-inspection service.

A. D. Shamel, Bureau of Plant Industry, sailed from San Francisco February 17 for Honolulu, where for several months, while on furlough, he will continue the work begun in 1920 under the auspices of the experiment station of the Hawaiian Sugar Planters' Association in the application of the principles of the improvement of plants through bud selection to the propagation of sugar cane. Mr. Shamel has spent several months each winter since this work was begun in Hawaii developing it. Through the selection of propagating material a large increase in the yield of sugar has been secured. While absent in Hawaii this winter Mr. Shamel will further develop the selection work with sugar cane and will endeavor to perfect the methods and to extend their application to the entire sugar industry of the islands.

L. A. Hawkins and R. G. Hill, Bureau of Plant Industry, left Washington February 18, 1923, for New York City, Boston, Mass., and Bangor, Me., for the purpose of investigating freezing injuries of potatoes in transit and methods of preventing the same.

FIND BEAN-BEETLE PARASITE.

Efforts toward the control of the Mexican bean beetle have been rewarded by the discovery of a promising parasite. E. Graywood Smyth, who was sent by the Bureau of Entomology to Mexico early in May to search for natural enemies of the bean beetle, has discovered a tachinid parasite that preys upon at least two species of *Epilachna* and seems to restrict itself to that genus. It was respon-

sible for a very high fatality among *Epilachna* larvae in the valley of Mexico and at Cuernavaca. About 2,000 living puparia of this fly were sent to the Birmingham, Ala., laboratory, and from this material Neale F. Howard, in charge of the laboratory, has succeeded in rearing one generation from native *Epilachna* larvae. A considerable number of puparia are now being held in hibernation for the coming spring.

INSPECT BORER PARASITES.

W. E. Haley, J. W. Ingram, and L. P. O'Dowd, of the Bureau of Entomology, have finished an inspection of the Louisiana sugar parishes for the Cuban tachinid parasite of the sugar-cane moth borer. The parasites were released at 41 plantations during 1919 and 1920. They were found this fall at 14 plantations, and probably occur at others. Since their release the parasites have been recovered at a total of 25 plantations.

CONFERENCE HELD IN HAWAII.

The Pan-Pacific Commercial Congress, with delegates from practically all of the countries bordering on the Pacific, was held in Honolulu, Hawaii, last October. J. M. Westgate, of the Hawaii Agricultural Experiment Station, attended as a delegate representing the department and has recently reported.

"At this congress," Mr. Westgate reports, "the importance of a better understanding of the agricultural products which the various countries have available for export was emphasized, as was also the importance of each nation learning more about methods of utilizing the agricultural food products of the other nations, since this is not only valuable economic information but, it is believed, such points of friendly contact between the various nations lessen liability of friction from points of disagreement which may arise from time to time. The methods employed by the department in increasing the supply of agricultural products available for export to other countries were discussed at luncheon talks and emphasized by illustrative photographs and diagrams prominently placed on the walls of the building in which the congress was held."

The Commercial Exchange of Philadelphia at its annual meeting, January 9, adopted the United States grades for hay, to become effective January 22. Arrangements have already been made for a Federal hay inspector to be stationed at Philadelphia to make inspections at any time.

BRIEF REVIEWS OF NEW BULLETINS.

Organization and Management of Cooperative Live Stock Shipping Associations. Prepared in the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics. Pp. 28, figs. 3. (Farmers' Bulletin 1292.)

That in many communities where live stock is produced in small lots or largely as a side line to general farming, marketing through cooperative shipping associations frequently results in larger net returns to the producer than can be obtained in any other way, is shown by the survey upon which this bulletin is based. The reason given is that the live stock is marketed at cost without deduction of a profit as is done when the producer sells to a country drover or speculator.

Requisites to success in marketing live stock cooperatively are a competent manager for the association, good business methods, and loyalty on the part of members. The manager should have had considerable experience in marketing live stock and should stand well in the community. He should possess initiative and be able to gain and hold the confidence of the farmers. If, on arrival at market, the stock is to be sold according to ownership, a uniform system of marking all animals is required.

The returns from the shipments may be prorated by the manager or the commission firm at the terminal. If the returns are prorated by the commission firms they should be carefully checked by the association manager.

A live-stock shipping association may be incorporated as a stock company or a nonstock, nonprofit form of organization may be used in States where legal authority for the incorporation of such organization exists.

Marketing the Cowpea Seed Crop. By J. E. Barr, investigator in marketing seeds, Bureau of Agricultural Economics. P. 27, figs. 7. (Farmers' Bulletin 1308.)

That the wide margin between the average price received by growers of cowpeas and that paid by consuming farmers consists of services in the channels of trade that can be rendered more economically by the grower on the farm is the opinion expressed in this bulletin. Better preparation for market and care in determining the time to market, and in selection of the selling agency are some of the fundamentals of the improvement in marketing cowpeas. Unstable markets for cowpeas are due largely to variation in demand and the uncertainty of production in any section from year to year. The demand is limited, and the buying power of the farmer affects it as well as the price and supply of such seeds as soybeans and velvet beans. Geographical preference for varieties is also an important factor in commercial distribution of cowpeas. Four principal agencies through which growers may market their cowpeas are: Neighboring farmers, local shippers, distant seedsmen or dealers, and direct to farmers through farm-paper advertising. The advantages and disadvantages of these various methods are presented in the bulletin.

The Western Yellow Pine Mistletoe: Effect on Growth and Suggestions for Control. By Clarence F. Korstian, forest examiner, Appalachian Forest Experiment Station, Forest Service, and W. H. Long, forest pathologist, Office of Investigations in Forest Pathology, Bureau of Plant Industry. Pp. 36, pls. 5, figs. 4. December 21, 1922. (Department Bulletin 1112.) Price, 15 cents.

The mistletoe parasite is one of the most widely distributed and serious enemies of western yellow pine. Its work is character-

ized by a decrease in the rate of growth of the infected tree. With infected limbs there first comes a gouty swelling of the limb, and next the formation of abnormal branches called witch's broom. There is also an excessive secretion of resin. The accelerated diameter growth of the limb during the earlier stages of the infection is followed by a pronounced decrease until the limb dies.

The parasite has the effect of shortening the leaf tufts and leaves and materially decreasing their number. Also the leaves are lighter in color on an infected tree. Such an infected tree attracts bark beetles, which feed on the resin and hasten the death of the tree.

The effect of mistletoe on merchantable timber is to cause larger knots in the saw timber and an increased number of knots produced by secondary branches and twigs in stem infections. The grade of lumber is also poorer.

The parasite causes a decrease in the germination percentage of the seed of an infected tree, and the tree's reproductive value is about 40 per cent that of a healthy tree.

Next to fire, mistletoe is one of the most serious causes of destruction of western yellow pine. The parasite is controlled by the removal of infected trees, and it is recommended that in logging operations this fact be kept in mind. If necessary, sanitation clauses should be put in sale contracts.

The bulletin contains a number of tables and diagrams showing the effect of the parasite on growth of western yellow pine.

History and Seed Production of Purple Vetch. By Roland McKee, agronomist, Office of Forage-Crop Investigations, Bureau of Plant Industry. Pp. 5, fig. 1. February, 1923. (Department Circular 256.) Price 5 cents.

A brief account of the history and seed production of purple vetch is contained in this circular. Purple vetch has proved to be a valuable green-manuring crop for orchards, and is much in demand by citrus growers of California. Through efforts of the California Citrus Growers' Exchange, purple vetch seed is being produced under contract by growers in the Coos Bay region of western Oregon, where the conditions are particularly favorable, and also in northwestern California.

Soil Survey of Kootenai County, Idaho. By H. G. Lewis of the United States Department of Agriculture, and W. A. Denecke, Jr., of the University of Idaho. Pp. 45, pls. 4, figs. 2, map 1. (From F. O. Soils, 1919.) Price, 15 cents.

Kootenai County comprises 1,302 square miles, is located in the northern part of the State, commonly known as the "Panhandle," and is one of the few areas that has been surveyed for the purpose of locating and mapping the various types of soil. The topography of the area, according to the report, is quite varied, ranging from flat alluvial valleys, smooth, nearly level bench lands, and gently rolling uplands to steep and rugged mountainous areas. Twenty types of soil with 11 phases are mapped in the county and are described in the report in detail as well as being shown in extent and location by a large colored map included in the bulletin. The average farm in Kootenai County contains 158.4 acres, of which 56.6 acres is improved land. The total number of farms increased from 20 in 1880 to 1,396 in 1920. The present agriculture of the county consists mainly of the growing of grains and hay, the raising of live stock, dairying, fruit

growing, and gardening. The report gives figures showing the average production and acreage of the various crops, and discusses at some length the adaptation of the different phases of agriculture to the soils and climate of the county.

ADDITIONAL PUBLICATIONS.

The Relation of Agricultural Education to Farm Organizations. Address of C. W. Pugsley, Assistant Secretary of Agriculture, before annual meeting American Farm Bureau Federation at Chicago, December 14, 1922. Pp. 19. (Miscellaneous Circular No. 3.) Price, 5 cents.

Service and Regulatory Announcements. Bureau of Chemistry, No. 28. Pp. 35-41. February 14, 1923. Price, 5 cents.

Experiment Station Record. Vol. 47, No. 8. Pp. 701-799. December, 1922. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in two volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

DEPARTMENT GUIDE BOOK ISSUED.

A guide book of the department has recently been issued by the Press Service. It contains a map of the reservation and adjacent buildings, and the text gives brief descriptions of points of interest in the various buildings. Some copies of the book have been given to the chief clerk of each bureau. The book is intended primarily for visitors to the department, though its distribution is not limited to them. Copies may also be obtained from the Press Service.

BETTER SIRES—CAMPAIGN REPORTS.

A summary of current progress of the nation-wide "Better sires—Better stock" campaign up to the end of 1922 has just been issued by the Bureau of Animal Industry. It contains comments on this activity of the various States, and the Department of Agriculture to improve live stock by the use of pure-bred sires, lists States particularly active in the work together with persons enrolled and breeding stock owned, and contains statistical matter dealing with live-stock improvement. The report, which is mimeographed and contains six pages, supplements literature previously issued. Copies may be obtained free from the editorial office, Bureau of Animal Industry.

New York Hay and Grain Dealers' Association adopted the United States grades for hay effective February 1.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Be your own decorator. By Emily Burbank. New York, Dodd, Mead and company, 1922.
- Les champignons vénéneux. Par Auguste Sartory et L. Maire. Paris, Librairie Le François, 1921.
- Economic policies of Richelieu. By F. C. Palm. Urbana, University of Illinois, 1922. (University of Illinois. Studies in the social sciences, v. 9, no. 4.)
- Educational significance of the early federal land ordinances. By H. C. Taylor. New York, 1922. (Teachers college, Columbia university. Contributions to education, no. 118.)
- Flora of the Rocky Mountains and adjacent plains. 2d ed. By P. A. Rydberg. New York, The author, 1922.
- Future of exchange and the Indian currency. By H. S. Jevons. London, H. Milford, 1922.
- Ham's year book, 1922, v. 1. London, E. Wilson, 1922.
- Indexed system of veterinary treatment. By William Scott. London, Baillière, Tindall and Cox, 1922.
- Mechanism of commercial credit. By W. H. Steiner. New York, D. Appleton and company, 1922.
- New economies. By Marten Cumberland and Raymond Harrison. London, C. Palmer, 1922.
- Pests of the garden and orchard, farm & forest. By Ray Palmer and W. P. Westell. London, H. Drane, 1922.
- Populist movement in Georgia. By A. A. Arnett. New York, 1922. (Studies in history, economics and public law, ed. by the Faculty of political science of Columbia university, v. 104, no. 1, whole no. 235.)
- Practical book of furnishing the small house and apartment. By E. S. Holloway. Philadelphia, J. B. Lippincott company, 1922.
- Reconstruction in Europe. Manchester guardian. Manchester, Eng., 1922-23.
- Rural school survey of New York state. Joint committee on rural schools. Ithaca, N. Y., 1922.
- Veterinary bacteriology. 3d ed. By R. E. Buchanan and C. Murray. Philadelphia, W. B. Saunders company, 1922.

OLD BOOKS.

- American gardener's calendar. 2d ed. By Bernard M'Mahon. Philadelphia, 1819.
- De arboribus coniferis. [By] Pierre Belon. Paris, 1553.
- Elements of agriculture. By H. L. Duhamel du Monceau. London, 1764.
- English improver. By Walter Blith. London, 1649.
- Flore du nord de la France. Par F. A. Roucel. Paris, 1803.
- Principles of agriculture and vegetation. 3d ed. By Francis Home. London, 1776.
- Traité de la culture du nopal. Par N. J. Thiery de Menonville. Cap-Français, 1787.

CURRENT PERIODICALS.

- Belgium. Ministère de l'Agriculture. Administration de l'Agriculture et de horticulure. Avis aux cultivateurs. Bruxelles, 1920.
- National horticultural magazine [quarterly] Henning, Minn., 1922.
- Océania (French) Chambre d'agriculture des établissements français de l'Océanie. Séance. Papéete, 1922.

Articles in Current Publications by Department Workers

- Dean, R. H. (Weather Bureau, Anniston, Ala.) Bird Census. Bird-Lore, January-February, 1923.
- Goldbeck, A. T. (Public Roads.) Thicker Edges—Center Joints (Contribution to a symposium on "How Shall We Build Better Concrete Roads?"). Concrete, vol. 22, pp. 3, January, 1923.
- Hathaway, E. O. (Public Roads.) United States Bureau of Public Roads: History and Purpose. North Dakota Good Roads Magazine, vol. 2, p. 9, November, 1922.
- Hatt, W. K. (Public Roads.) Research in Highway Education: Its Importance to the Development of Our Future Highway System. Good Roads, vol. 63, pp. 179, November 22, 1922.
- Johns, C. O., and Finks, A. J. (Chemistry.) Chronic Intoxication by Small Quantities of Cadmium Chloride in the Diet. In J. Pharmacol., vol. 21, No. 1, February, 1923.

- MacDonald, Thomas H. (Public Roads.) A Message to the Highway Industry. Official Catalog-Program, pp. 11, January, 1923.
- Sherman, Carolina B. (Agricultural Economics.) For Value Received. Woman's Weekly, February 17, 1923.
- Schwartz, E. W., and Alsberg, C. L. (Chemistry.) Studies on the Pharmacology of Cadmium and Zinc, with Particular Reference to Emesis. In J. Pharmacol., vol. 21, No. 1, February, 1923.
- Winston, John R. (Chemistry.) Spraying for Citrus Scab. Florida Grower, vol. 27, No. 6, pp. 7, February 10, 1923.

CIVIL-SERVICE EXAMINATIONS.

The Civil Service Commission announces examinations—

For assistant agriculturist for reclamation projects. Applications will be rated as received until July 3. Vacancies in the Bureau of Plant Industry for duty on the Flathead, Sun River, Milk River, Klamath, Huntley, Grand Junction, and Yuma projects will be filled from this examination at salaries of \$1,800 to \$2,400 a year. Men are desired for these vacancies. Competitors will be rated on education and experience and a plan of work dealing with the problems with which they will be concerned. Applicants should apply for Form 2118.

For junior laboratory aid in forest pathology. A vacancy in the Bureau of Plant Industry for duty at San Francisco, in Washington, D. C. and in the field, at salaries of \$840 to \$1,200 a year, will be filled from this examination. Men are desired for this vacancy. Applicants must obtain an eligible rating in practical questions on forest pathology and show that they have had at least six months' experience in a forest pathology laboratory. Applicants should send for Form 304.

The Civil Service Commission announces examinations for assistant bacteriologist (food products), March 6, 1923. Vacancies in the Bureau of Plant Industry will be filled from this examination at salaries of from \$2,040 to \$2,500 a year. The duties of the position will be to assist in investigations on fruit and vegetable utilization, particularly on canning and preserving. The duties of the present vacancy require a knowledge of electricity and mechanical ability. Applicants must show they have graduated with a bachelor's degree from a college or university of recognized standing. In addition applicants must show at least two years' experience in the application of bacteriology to farm, home, or commercial problems. Those interested should apply for Form 2118.

ALASKA STATION THRESHES WHEAT.

A report by the Federal experiment station at Matanuska, Alaska, on the 1922 grain crop in that region, states that the station thrashing machine, the only one in that region, thrashed 350 bushels of grain for the station and about 700 bushels for near-by farmers. The 1922 season was the least favorable for grain production of any since the establishment of agricultural experiment stations in the Territory. A late spring was followed by an unusual number of cloudy days and much rain in July and August. Heavy frosts late in August were thought to have destroyed all but the very earliest maturing grains. Results of germination tests made recently, however, seem to indicate that there will be plenty of seed grain of fairly good

quality for sowing next spring. Among the leading varieties developed by the stations, Siberian No. 1, a spring wheat, germinated 85 per cent; hybrid barley No. 28, 87 per cent; hybrid barley No. 19, 51 per cent; and a selection of Finnish black oats, 74 per cent. Romanow spring wheat gave 32 per cent and Kherison oats 42 per cent germination. Many farmers cut their grain for hay this year and it has made excellent stock feed.

Olaf S. Aamodt, office of cereal investigations, Bureau of Plant Industry, talked before the office seminar held February 15, his subject being "Breeding and Selection for Stem Rust Resistance in Wheat."

1924 APPROPRIATION ACT PASSED BY CONGRESS

(Continued from p. 1.)

the current fiscal year by the Federal highway act for forest roads and trails and \$50,000,000 authorized to be appropriated by the Post Office act for 1923 for rural post roads; \$25,000,000 of the latter amount having already been appropriated by the deficiency act of January 22, 1923, and authority granted to the Secretary of Agriculture to enter into contractual obligations covering the remaining \$25,000,000 of this authorization.

Salary Proviso.

The maximum salary provision affecting scientific employees of the department is continued for the fiscal year 1924, so amended as to increase from 8 to 12 the number of persons who may be paid salaries in excess of \$5,000 and up to \$5,500, and from 3 to 5 the number who may receive in excess of \$5,500 up to the limit of \$6,500.

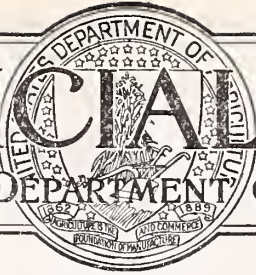
The bill provides for the reorganization plan recommended by the secretary, involving the abolishing of the Division of Publications and the States Relations Service as such, and the establishment under the Office of the Secretary of the Offices of Editorial and Distribution Work, the Office of Experiment Stations, and the Extension Service. It creates the statutory position, under the Secretary, of Director of Extension Service, and also provides for the creation of a Bureau of Home Economics, to which the home economics investigations now conducted under the States Relations Service is transferred.

Adjustments on the statutory rolls involve the dropping of 198 positions in the lower grades, with salaries aggregating \$157,120, and the addition of 80 positions transferred from lump funds. These changes will result in a net saving of \$32,870 in the total for statutory salaries.

MAR 10 1923
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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., MARCH 7, 1923.

No. 10.

DEPARTMENT WORKERS TALK TO FARM EDITORS

Buffet Supper and a Showing of Motion Pictures Included in the Program.

Special discussions by department people featured the program of the visiting members of the American Agricultural Editors' Association, who met at the department Tuesday and Wednesday, February 27 and 28. Due to the small number of editors attending the Washington meeting, copies of the program and of the discussions have been mailed to those who did not attend.

Department Workers Speak.

Secretary Wallace and Assistant Secretary Pugsley opened the program on Monday, extending greetings to the editors and outlining briefly the work of the department and, particularly, the changes in organization as provided in the appropriation bill just signed by the President. Others who took part in the program with the subject of their talks were: Dr. E. D. Ball, the value of research; Dr. H. C. Taylor, marketing problems; Col. W. B. Greeley, timber growing for the farmer; Prof. Milton Whitney, commercial fertilizers; Dr. C. L. Marlatt, plant quarantine laws; Chester Morrill, packers and stockyards administration; W. A. Sherman, shipping point inspection; W. F. Callander, live-stock estimates; Dr. S. B. Detwiler, blister rust control; Dr. Charles Brooks, fruit disease investigations; Dr. J. A. Kiernan, cattle tuberculosis; Dr. C. W. Larson, dairy industry; E. W. Sheets, beef cattle; V. N. Valgren, credit legislation; L. A. Jones, rural engineering; J. G. McKay, development in road work; E. H. Siegler, recent advances in fruit insect control; Dr. E. F. Phillips, apiculture; Dr. W. B. Bell, predatory animals.

The buffet supper tendered the editors on Tuesday evening was prepared by the Office of Home Economics, cooperating with the bureaus of Plant Industry, Animal Industry, Agricultural Economics

and Chemistry. The meal featured food products developed by the department and included: Tangelos, a hybrid between the tangerine orange and the grapefruit; ham taken from hogs pronounced medium soft; Jersey and Nancy Hall sweet potatoes; dasheen crisps; bread made from Kota wheat; sweet cream butter; jelly; egg and canned tomato salad; ice cream flavored by a new synthetic apple oil; sponge cake made from hard winter wheat flour; jellied grapefruit peel; Smyrna figs; dates and pistache nuts. Besides this list included on the menu, the guests enjoyed a helping of Delitus rice, a new beverage made from the Cassina plant, a drink made from the apple oil, and saw on exhibit, peanut bread made from a mixture

(Continued on page 3.)

HUDSPETH RESOLUTION TABLED

The House Joint Resolution 432, introduced by Representative Hudspeth of Texas, was laid on the table by a unanimous vote of the House Committee on Agriculture February 23. This resolution was introduced February 1. It charged that a large number of efficient and competent women in State extension had been discharged in many cases without a hearing and that their discharge from the service had seriously crippled the extension work of the department. It provided that if the Secretary of Agriculture and the proper officials of any college fail to agree on plans employed in extension demonstration work no change should be made in the plan from that followed during the year ending January 1, 1922. The resolution was referred to the House Committee on Agriculture February 1, and hearings were held. The Secretary of Agriculture denied the charges, and the Assistant Secretary presented letters from extension State directors showing that the resolution was evidently based completely on misinformation. No women within or without the department have been discharged during the past two years.

IMPORTANT ITEMS IN THIRD DEFICIENCY BILL

Salary Bill Placed on Senate Calendar—Bonus Bill Passes House.

The deficiency appropriation bill (H. R. 14408) reported by Mr. Madden and debated in the House February 24-26, was passed by the House and referred to the Senate Committee on Appropriations, February 27. The bill as passed by the House carried the following items relating to the work of the department: Control of white-pine blister rust, \$30,000; fighting and preventing forest fires, \$340,000; protection of the so-called Oregon and California railroad lands and Coos Bay wagon road lands, \$16,480; collection of seed-grain loans, \$25,000; preventing spread of the Japanese beetle, \$15,000. The bill was reported to the Senate with the amount for forest fighting increased to \$375,000, the Japanese beetle item increased to \$40,000, and a new item of \$40,000 for developing the use of airplanes as a means of distributing insecticides for the control of the cotton-boll weevil. The other items remained unchanged.

The agricultural appropriation bill (H. R. 13481) was signed by the President February 26.

Salary Bill Reported.

The bill (H. R. 10819) providing increased salaries for chiefs of bureaus of the Department of Agriculture and raising the maximum salary for scientific investigators to \$6,500 was reported from the Senate Committee on Agriculture and Forestry, without amendment and placed on the Senate Calendar, February 24.

The filled-milk bill (H. R. 8086) was taken up for consideration by the Senate February 28 and a unanimous-consent agreement reached to vote on the bill March 1.

The agricultural credit bill (S. 4280) was reported to the House from the Committee on Banking and Currency February 24 and debated by the House Feb-

bruary 28. This bill combines the salient features of the Capper bill, the Lenroot-Anderson bill, and the Strong bill.

The bill (H. R. 14435) to provide for increased compensation for civilian employees of the Government during the fiscal year 1924 (the \$240 bonus) carrying an appropriation of \$35,799,033 was reported from the House Committee on Appropriations (with Report 1724) February 27 and was passed by the House February 28.

Other Bills of Interest to Agriculture.

The following bills and resolutions of interest to agriculture have been considered during the week February 21-28:

H. R. 8928 (Lehlhach-Sterling bill), to provide for the classification of civilian positions in the Government within the District of Columbia and in the field service, was reported from the Senate Committee on Appropriations and referred to the Committee on Civil Service February 24 and reported to the Senate from the latter committee February 26. A unanimous-consent proposal by Mr. Curtis to take up the bill immediately following morning business February 27 was defeated through objection.

S. 4324, providing for the application of the provisions of the cooperative marketing act to producers of turpentine and rosin, was reported from the House Committee on the Judiciary, with Report 1702, and placed on the calendar February 24.

The Harrison substitute for S. 1076, to establish standard grades for naval stores, was passed by the Senate February 24.

H. R. 7103, providing standard weights and measures for wheat-mill and corn-mill products, was reported from the Senate Committee on Agriculture and Forestry, without amendment, and placed on the calendar February 27.

The Senate February 27 passed H. R. 10677, authorizing payment to Quincy R. Craft of \$346.71 to cover expenses incurred in the erection of a building at the Bessey Nursery of the Nebraska National Forest. The bill was presented to the President February 28.

H. Con. Res. 83, for the printing of 2,000 additional copies of the soil survey of Lauderdale County, Ala., was referred to the Senate Committee on Printing February 24.

A preliminary report of the Federal Trade Commission (S. Doc. 311), submitted in compliance with S. Res. 262, discussing the cause of the decline in cotton prices in 1920 and 1921, was submitted to the Senate February 26.

S. 4629 (Kendrick), to permit the relinquishment of farm units on reclamation projects found to be infeasible of reclamation and the reimbursement of construction, operation, and maintenance charges without prejudice to the rights of entrymen to make further entry, introduced and referred to the Senate Committee on Irrigation and Reclamation February 26, was reported back favorably February 27.

S. Res. 455 (McCormick), authorizing the President to appoint a commission to ascertain the facts regarding the present distribution, volume, and value of the agricultural and manufactured exports of the United States and the commercial problems relating thereto, with authority to assign employees of the Departments of State, Treasury, Agriculture, and Commerce to assist the commission, was introduced and referred to the Senate Committee on Foreign Relations February

26, reported back favorably and placed on the calendar February 27.

On February 13 the President signed S. J. Res. 226, authorizing acceptance to title to certain lands within the Shasta National Forest; on February 14, signed S. 3702, providing for the exchange of privately owned lands within the Lincoln National Forest in the State of New Mexico for land on the public domain in that State; on February 23, S. 3220, amending the warehouse act; on February 26, S. 2023, defining a crop failure and releasing borrowers from repayment of loans advanced by the Government for seed purchases, amended to apply to years 1918 and 1919 only.

H. R. 14400 (Little), authorizing the Secretary of Agriculture to purchase, store, and sell wheat and to secure and maintain to the producer a reasonable price for wheat and to the consumer a reasonable price for bread and to stabilize wheat values, was introduced February 21 and referred to the Committee on Agriculture. This is a revision of several other bills with the same title.

H. J. Res. 422, providing for the free entry of domestic animals which have crossed the border line into a foreign country, was reported to the Senate, with amendments and Report 1180, and placed on the calendar February 24; passed by Senate February 28.

A new civil service retirement bill (S. 4626) was introduced by Senator Jones of Washington (by request) February 24. It provides for optional retirement at 65, with 15 years service; annuities to be computed on the basis of 2½ per cent of the average base pay for 10 years previous to retirement multiplied by the number of years of service not exceeding 30, but with no annuity exceeding 75 per cent of the average base pay. Provision is also made for retirement for disability and for automatic retirement at 70, with extensions up to five years in the discretion of the head of a department.

H. R. 12953, providing for the establishment of a national park in the State of Virginia, was reported from the House Committee on Public Lands, with Report 1729, and placed on the calendar February 27.

EXTENSION REPORTS DISCUSSED

A committee of extension directors and home-demonstration agents from the South met in the office of the Assistant Secretary, Mr. Pugsley, Wednesday, February 28, to discuss report forms. Those in attendance were: Dr. T. B. Symons, director of agricultural extension work in Maryland, chairman; Dr. B. W. Kilgore, director of agricultural extension service in North Carolina; and the following State home demonstration agents: Mrs. J. S. McKimmon of North Carolina, Miss Susie B. Powell of Mississippi, and Miss Mary E. Creswell of Alabama.

MEMORIAL TABLET APPROVED.

The design for the war memorial tablet to be erected in the north lobby of the administration building has been approved by the Joint Committee of the Library. A contract with John Flannagan, the New York artist who made the design, is in process of preparation, and a

meeting will be called within the next 10 days to develop plans for raising the additional \$1,700, necessary to pay for the tablet. The tablet as approved will be about 10 feet high and 5 or 6 feet wide at the base. It will show a sculptured ornamental arch, supported by two caryatides, correct representations of a soldier and sailor in the position of present arms. The names of the 67 department employees who lost their lives in the war will be placed on the tablet. The committee in charge is W. C. Henderson, of the Biological Survey, chairman; F. C. Lucas, of the Office of Inspection, secretary; and E. J. Thompson, Biological Survey, treasurer; and R. M. Reese.

FARMING INCOMES TO BE MEASURED.

Incomes from farming in all parts of the country are to be measured for the year 1922 according to the Bureau of Agricultural Economics. A questionnaire covering principal receipts, expenses, and changes in inventory items, in such a way as to show the general results of farm operations, has been mailed to the cooperators on the mailing list of the Division of Crop and Live-Stock Estimates.

This is the beginning of a permanent project to determine the trend of incomes from farming, currently from 1922 forward, and back of 1922 as far as data are available. In addition to the general questionnaire, three other phases of the work are planned as follows: (1) A county detailed broadcast questionnaire will be sent to all farmers in those counties where the Division of Farm Management has already conducted farm business analysis studies, whose addresses can be secured; (2) a farm income survey will be made in each of these regions at least once in every five years either by mail or by visitation; and (3) the several farm management survey series of records taken in different years by different parties will be coordinated.

DE-INK PAPER EXPERIMENTALLY.

One hundred and fifty pounds of currency cut up and pulped has been received from the Treasury Department by the forest products laboratory, to be de-inked and made into paper. It is estimated that the sheets of pulp represented approximately \$2,500,000. The first run of paper made in the laboratory resulted in a poor quality because of a high percentage of foreign particles in the bills. Later runs indicate better success in making a clean product. As two to three tons of bills per day are macerated at the Treasury Department at Washington, the reclamation of the pulp is of importance even if the product can be used only for wrapping paper.

Leon J. Cole Appointed Animal Husbandry Chief

Dr. Leon Jacob Cole, professor of genetics in the University of Wisconsin, has been appointed Chief of the Animal Husbandry Division, Bureau of Animal Industry of the United States Department of Agriculture. The University of Wisconsin has granted him a leave of absence for a year beginning July 1, the date on which his appointment in the Department of Agriculture becomes effective.

Doctor Cole was born at Allegany, N. Y., in 1877. He was a student for two years at the Michigan Agricultural College and graduated from the University of Michigan in 1901 with the degree of A. B. and from Harvard University in 1906 with the degree of Ph. D., since which time he has been engaged in scientific and college work and has been a member of several scientific expeditions. He was assistant in zoology, University of Michigan, from 1898 to 1902; chief of the Division of Animal Breeding and Pathology, Agricultural Experiment Station, Rhode Island, 1906 and 1907; instructor in zoology, Sheffield Scientific School, Yale, 1907 to 1910; associate professor, experimental breeding, University of Wisconsin, 1910 to 1914; professor in the same institution, 1914 to 1918; and professor of genetics since 1918. Doctor Cole has had supervision of all plant and animal breeding work carried on in the University of Wisconsin during this period and has been especially interested in a study of the heredity factors determining the milk and meat production in cattle. He is the author of numerous publications on genetics and holds membership in many important scientific societies.

DOCTOR JONES HEADS PROTEIN LABORATORY.

Dr. D. Breese Jones, who has been acting as chemist in charge of the Protein Investigations Laboratory, Bureau of Chemistry, since the resignation of Dr. C. O. Johns in 1920, was appointed February 16 as chemist in charge of that laboratory. Doctor Jones received an A. B. degree from the Ripon College in 1904, a Ph. D. degree from Yale in 1910, and was instructor in organic chemistry in the University of Wisconsin until 1916, when he accepted a position in the Bureau of Chemistry.

The Protein Investigations Laboratory was established to study vegetable proteins and to obtain a clear understanding of the defects of certain types of feeds and how to remedy these defects. It had already been established by scientists that proteins varied in their amino

acid content and that certain of these acids were essential in promoting the growth of animals. To predict, therefore, with a fair degree of accuracy the nutritive value of a protein, it is necessary to determine the amino acids present.

Since the quality of a protein in a food is of as great if not greater importance than the quantity present, Doctor Jones has not only determined the amino-acid content of a number of seeds, such as the peanut, cotton seed, navy bean, lima bean, kaffir, cowpea, tomato seed, copra, cantaloupe and squash seed, but has supplemented and confirmed his results by feeding experiments with albino rats. The protein concentrates of the peanut, soy bean, copra, and tomato seed have been found to be excellent supplements to the proteins of some feeding stuffs whose proteins are deficient in one or more of the nutritionally essential amino acids. Doctor Jones and his assistant chemists have also made improvements in the methods of separating and determining the amino acids in proteins with a consequent increase of accuracy in these determinations.

TO STUDY TOBACCO BEETLE.

W. V. Tower, entomologist of the Federal agricultural experiment station, Mayaguez, Porto Rico, has been granted leave of absence from his station duties to make a study of methods of combating the tobacco, or cigarette, beetle, which is doing considerable damage in the factories and warehouses of the Porto Rican-American Tobacco Co. Extensive fumigation experiments are to be conducted to determine the possibility of controlling this pest under the conditions prevailing in Porto Rico.

ADOPTS FOOD STANDARDS.

Standards and definitions for butter, condensed milk, cacao products, ginger ale and ginger ale flavor, cayenne pepper, oil of cassia, and breads were adopted by the Secretary of Agriculture in December upon the recommendation of the joint committee on definitions and standards for the guidance of Federal officials in the enforcement of the Federal food and drugs act. These standards became effective at the time of approval. The statement in THE OFFICIAL RECORD for February 28 that these standards would not become effective under the Federal food and drugs act until approved by the Secretary of Agriculture was an error, since they had already been approved in December.

ISSUE MEAT-INDUSTRY STATEMENT.

"Meat Production, Consumption, and Foreign Trade in the United States, 1907-1922" is the title of a nine-page

mimeographed statement just issued by the Bureau of Animal Industry. A substantial increase in meat consumption during 1922 is noted from the figures. The statement is accompanied by tables dealing with Federal meat inspection and the estimated annual production, imports, exports, and consumption of beef, veal, mutton and lamb, pork, and lard. A summarized statement covering all meat is included likewise. The report deals particularly with 1922, but gives figures of previous years for comparison.

Copies of the compilation are obtainable free on application to the Editorial Office, Bureau of Animal Industry.

DEPARTMENT WORKERS TALK TO FARM EDITORS

(Continued from page 1.)

of peanut and wheat flour and bread made from both hard winter and spring wheat.

Following the supper Tuesday evening the editors and department people were entertained at a motion picture show staged in the Office of the Secretary. Another demonstration of motion pictures was held late Wednesday afternoon in the new motion-picture laboratory, at which time the visiting editors had an opportunity of inspecting this plant.

A display of department demonstrational and exhibit material was shown in the motion picture laboratory Wednesday afternoon. By special arrangement this display was maintained throughout the week so that it might be seen by department workers. This display, though small, due to the limited space available and prepared hastily, was intended to give an idea of demonstrational and exhibit material in the department.

The editors in attendance were: Chas. P. Shoffner, The Farm Journal, Philadelphia, Pa.; Walter H. Lloyd, The Ohio Farmer, Cleveland, Ohio; Noble T. Crane, Farm Life, Spencer, Ind.; C. A. Cobb, Southern Ruralist, Atlanta, Ga.; F. B. Nichols, The Capper Farm Press, Topeka, Kans.; Paul B. Talbot, Iowa & Corn Belt Farmer, Des Moines, Iowa; Meade Ferguson, Southern Planter, Richmond, Va.; Alvin T. Steinel, Extension Service, Colorado Agricultural College, Fort Collins, Colo.; Clarence Poe, The Progressive Farmer, Raleigh, N. C.; G. H. Alford, The Progressive Farmer, Dallas, Tex.; John Thompson, Iowa Homestead, Des Moines, Iowa; A. H. Jenkins, Farm Journal, Philadelphia, Pa.; C. I. Lewis and Samuel Adams, American Fruit Grower, Chicago, Ill.; F. H. Jeter, College Farm Papers, Raleigh, N. C.; A. H. Loomis, National Stockman and Farmer, Pittsburgh, Pa.



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OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

Establishment of Office of Accounts, Secretary's Office.

MEMORANDUM NO. 421—February 23, 1923.—Incident to the transfer to the Office of the Secretary, July 1, 1923, of certain activities of the present States Relations Service and the Division of Publications, there will be established on that date in the Office of the Secretary an Office of Accounts under the direction of a chief accountant, who shall be responsible for the administrative examination of all accounts and the maintenance of the necessary books and records of fiscal operations arising under all appropriations administered in the Office of the Secretary. In order that the chief accountant may exercise every precaution to safeguard the expenditure of funds in conformity with the law, all letters of authorization and requisitions and such other money liability papers as may be necessary shall pass through his office before issue.

There will be transferred to the newly created organization the necessary personnel of the accounting offices of the States Relations Service, Division of Publications, and of the Office of Inspection, together with all accounting books and records now maintained in the States Relations Service, the Division of Publications, and the Office of Inspection, and such property and office equipment as will become surplus in those organizations as a result of such transfers of personnel.

The consolidated accounting office herein established will serve the branches of the Office of the Secretary in the same manner as the several bureau accounting offices in the department, and, in common with the other accounting offices, will be subject to such supervision by the Office of Inspection as is contemplated by Memoranda 86 and 356.

Accounting matters affecting the department as a whole, and fiscal matters submitted to the Secretary from the various bureaus, will continue to be referred to the Office of Inspection.

COTTON RESTRICTIONS CHANGED.

The restrictions on the entry of foreign cotton and cotton wrappings will hereafter be limited substantially to the disinfection requirements at port of entry. After such disinfection cotton and cotton wrappings will be unrestricted as to movement and utilization by any person or mill so far as the Department

of Agriculture is concerned, and all existing mill and other licenses will be canceled other than as to the disinfection plants at port of entry.

The permit for the importation of these products has also been very much simplified. Hereafter a single permit will authorize the permittee to enter these products at any port approved by the Federal Horticultural Board for the particular product concerned and for any exporter in any foreign country. These modifications of the restrictions are offset by a somewhat increased strength of fumigation at the port of arrival.

These and other minor changes are embodied in the Revision of the Rules and Regulations Governing Importation of Cotton and Cotton Wrappings into the United States, approved February 24 by the Secretary of Agriculture.

BUDGET BUREAU APPOINTMENTS.

Gen. H. M. Lord, Director of the Bureau of the Budget, has announced the appointment of Commander Charles F. Russell as coordinator of the ninth area. His headquarters will be at San Francisco, and he will relieve Commander Ray Spear. General Lord has also announced the appointment of N. F. Harri-man as chairman of the Federal Specifications Board, pending the appointment of a permanent ex-officio chairman.

TIMBER SALES BREAK RECORDS.

Receipts from the sale of national forest timber broke all previous records and climbed to new high levels in 1922, the total of \$2,307,000 having been turned into the treasury. The largest amount previously received in any one year from this single forest resource was \$2,114,000, in 1920. In 1921 timber sale receipts totaled \$1,515,000.

GIVES FACTS IN 50 PROSECUTIONS.

The facts in 50 successful prosecutions under the food and drugs act brought against shippers of adulterated or misbranded foods or drugs were given in Service and Regulatory Announcements No. 515 recently issued by the Bureau of Chemistry.

Nine of the 12 actions brought under the drug section of the law are based on false and fraudulent claims as to the curative powers of so-called remedies. Three prosecutions were brought for the shipment of decomposed chloroform. In 10 of the 12 cases the court ordered the product to be destroyed by the United States marshal.

Butter, eggs, flour, cottonseed oil, spices, tomatoes, oysters, fish, clams,

vanilla, and vinegar are some of the food products found to be either adulterated or misbranded, water appearing to be the favorite means of adulteration. Fines from \$50 to \$75 were imposed in 6 cases; in 13 the food products were in such a state of decomposition that they were ordered by the court to be destroyed, and in 18 the goods were released on bond.

STATISTICAL WORK STUDIED.

A committee of statistical experts composed of Carroll W. Doten, of the Boston Institute of Technology, Prof. Warren M. Persons, of Harvard, W. I. King, of the Bureau of Business Research of New York, and Dr. G. F. Warren, of Cornell University, recently examined the statistical work of the Bureau of Agricultural Economics. The committee recommended the revision and publication of the historical records of acreage, crop production, live-stock estimates, and other data since the work was begun. It also recommended the ascertaining and forecasting prior to the planting season of the probable intended area to be devoted to various crops, and setting forth clearly the specific purpose for which index numbers are intended. The committee resubmitted certain recommendations made a year ago, including the publication of a monthly statistical supplement to Weather, Crops, and Markets, presentation of statistical results in graphic as well as tabular form, and the improvement of statistics of milk production.

GARDENING IN VIRGIN ISLANDS.

The Federal experiment station in the Virgin Islands is aiding the insular department of education in its efforts to institute the teaching of gardening in the rural schools of the islands. Little vegetable gardening is done in the islands, due largely to the uncertain and scanty rainfall. The station has temporarily loaned over an acre of land, after manuring and plowing it, for school garden work. The agronomist in charge of the station has visited all the rural schools and talked to the children and teachers on the fundamental principles of planting. In St. Croix the educational department is serving hot lunches in its five rural schools with the idea of encouraging the local use of a better food ration and creating in the children a taste for some of the nutritious and easily grown vegetables that have not been extensively used. To further this object the experiment station occasionally turns over to the schools a portion of the products of its experimental plantings of vegetables.

U. S. D. A. CLUB ACTIVITIES

CHICAGO CLUB.

The February meeting of the Chicago Club was held on the 21st at the Great Northern Hotel. Dr. W. A. Evans, of the Chicago Tribune, spoke on health problems in general, explaining somewhat in detail a recent trip to Panama. He also discussed the construction and outlay of slaughtering houses in the Isthmus. Forty-two members were present, 11 of whom were new members. Twenty new members have joined the club this year.

INDIANAPOLIS CLUB.

At the regular noon luncheon meeting in the Chamber of Commerce Building, February 12, 14 members were present. After luncheon T. F. Hatfield, of the Hatfield Electric Co., gave an interesting talk on the subject of radio, and the growing importance of broadcasting information to industrial and agricultural interests.

BIRMINGHAM CLUB.

The technical association of the department employees of Birmingham, Ala., held a regular monthly meeting Saturday night, February 10. Dr. W. H. Meadors, of the Bureau of Animal Industry, was the host of the evening, introducing as the principal speaker J. F. Phillips, president of the Birmingham Packing Co.

Mr. Phillips urged a more careful education of stock raisers throughout the State to the end that a better quality of meat may be produced. He cited the fact that his firm alone had bought hogs during the last year from without the State to the value of \$1,000,000. This resulted from the scarcity in the local markets, or the undesirability of the soft-meated, peanut-fed hogs that were erroneously advocated in the past. He also stressed the importance of an increase in sheep raising, and the high value of the early lambs.

The meeting closed with a brief discussion by Dr. W. H. Meadors of the importance of a careful consideration of temperature and humidity in the meat-packing business.

DENVER CLUB.

The Denver Club held its regular monthly meeting and luncheon at the rooms of the Civil and Commercial Association, February 12. A number of department representatives from outside the city were there as visitors. Dr. H. C. Taylor outlined briefly methods pursued

in meeting the problems presented to the department. W. F. Callander, of the Bureau of Agricultural Economics, and Stephen Bray, of the Packers and Stockyards Association, spoke on the lines of work carried out under their direction. Prof. L. A. Moorhouse, of the State Agricultural College, at Fort Collins, Colo., also spoke. Dr. W. C. Howe, of the Bureau of Animal Industry, gave an instructive address on the eradication of diseases of live stock.

CLUB MEETINGS.

The following statement as to the regular meetings of the U. S. D. A. clubs is given for the benefit of the local department representatives, and also for the information of interested visitors from Washington and elsewhere temporarily in the city who would like to get in touch with the clubs:

Birmingham Club (Federal Agricultural Technical Association), second Saturday, 8 p. m.; Post Office Building; Edgar C. Horton, Weather Bureau, secretary.

Chicago Club, third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.

Denver Club, second Monday; lunch 12.15, Denver Civic and Commercial Association; W. J. Ise, office of the solicitor, secretary.

Indianapolis Club (Unity Club), second Monday; lunch, Chamber of Commerce Building; J. A. Armington, Weather Bureau, secretary.

New York Club (NYUSDA), second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. H. Stanton, 204 Franklin Street, secretary.

Philadelphia Club, third Wednesday; lunch, Snellenberg's Restaurant; C. S. Brinton, 134 Second Street, secretary.

Oklahoma City Club, second Monday; lunch, Chamber of Commerce; Mattie A. Craig, 202 Grand Street, secretary.

Portland (Oreg.) Club, first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, Post Office Building, secretary.

San Francisco Club, first Wednesday, 12.15; Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.

St. Joseph Club, second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary.

St. Louis Club, second Friday; B. S. Jones, 413 Old Custom House, secretary.

RED CROSS OFFERS COURSES.

Miss L. E. Rixey, of the Bureau of Agricultural Economics, will represent the department in the formation of Red Cross classes in home hygiene and care of the sick. The course consists of 15 lessons of one and one-half hours each, a part of the time being devoted to theory and part to practice. Each class will meet once or twice a week at the National Red Cross headquarters, Main Building, Seventeenth and E Streets, from 4.45 to 6.15 p. m. Classes will be held every day except Monday. The minimum number for a class will be

10 and the maximum 18. The charge for a course in a class of 11 to 14 will be \$2.50 and in a class of from 15 to 18, \$2.25. This charge covers the cost of the textbook, the use of materials and equipment, and part of the nurse's salary.

Miss Rixey will take up the formation of these classes with Mrs. Seaton Schroeder, chairman of the Red Cross committee on nursing activities. Additional information may be secured from Miss Rixey, Room 508, Bieber Building.

MESSENGERS' DANCE SUCCESSFUL.

The basket-ball game and dance given by the United States Department of Agriculture Junior Improvement Association in the auditorium of the Center Market on the evening of February 21 was successful financially and otherwise. More than 500 people attended, including the Secretary and Mrs. Wallace and the Assistant Secretary and Mrs. Pugsley.

The basket-ball game, which was in charge of three physical instructors from the Y. M. C. A., resulted in a victory for the picked team of the department over the Bureau of Agricultural Economics team by a score of 27 to 13.

WELFARE ASSOCIATION MEETS.

A regularly called meeting of the Welfare Association was held February 19 for considering the new by laws. C. E. Miles was authorized to put such changes as were suggested and adopted into legal form, after which the by laws as a whole were adopted by those remaining until the meeting closed. As soon as practicable the association will be incorporated under the laws of the District of Columbia, and copies of the articles of incorporation, as well as the by laws, will be sent to all bureaus for circulation.

DISCUSS POTATO-SEED CERTIFICATION.

W. A. Orton, Bureau of Plant Industry, discussed the pathological aspects of potato seed certification works at a meeting of department extension workers in the office of cooperative extension work, States Relations Service, February 27. William Stuart and W. M. Peacock, office of horticultural and pomological investigations, spoke of some horticultural problems related to the potato seed certification program.

The second school for training hay inspectors is now being held at Auburn, N. Y. The term will last two weeks. It will be conducted by K. B. Seeds, H. B. McClure, and S. N. Swarthout.

PEOPLE MENTIONED IN OFFICIAL ORDERS

Dr. F. C. Weber, chemist in charge of the Animal Physiological Laboratory, Bureau of Chemistry, resigned recently to accept a position with the Fleischmann Laboratories, New York. Doctor Weber entered the Bureau as a scientific aid in 1902 and after receiving an M. D. degree from George Washington University, assisted in experimental work to determine the effect of preservatives on health. He was placed in charge of the Animal Physiological Laboratory in 1907 and directed the work of that laboratory until his resignation, except for a short period of detail to the Tariff Commission.

Dr. Sebastian Karrer, of the Fixed Nitrogen Research Laboratory, addressed the meeting of the American Physical Society in New York City, February 24 to 26, on subjects of thermal and electrical ionization as related to problems of nitrogen fixation. He also conferred with representatives of the Western Electric Co.

W. A. Wheeler, of the Bureau of Agricultural Economics, attended the midwinter meeting of the Michigan Hay and Grain Association, held at Lansing, Mich., February 28. He discussed the Federal hay grades.

R. W. Hilts, Chief of the Western District, Bureau of Chemistry, San Francisco, Calif., attended the annual meeting of the Cannery League of California, February 26 and 27, at Del Monte, Calif.

W. S. Frisbie, Office of Cooperation, Bureau of Chemistry, is conferring with the New Jersey and Delaware State and city officials on the cooperative enforcement of State and Federal food and drug laws. Mr. Frisbie will return to the bureau March 5.

W. Mackenzie Stevens, of the Bureau of Agricultural Economics, left March 4 for Boston to confer with bureau representatives and with Doctor Starch, of Harvard University, regarding the study of the advertising of agricultural products.

C. R. Haller, of the Bureau of Agricultural Economics, has tendered his resignation, effective March 21, to become associated with the Bay State Milling Co., of Winona, Minn.

John E. Welch, Federal grain supervisor at Ogden, Utah, spoke on "The Purposes and Work of Federal Grain Supervision" before the Rotary Club of Ogden, February 7.

William Stuart, Bureau of Plant Industry, left Washington February 25 for Canton, Pa., to study relation of storage temperatures, humidity, and aeration to the keeping quality of seed potatoes.

J. H. Beattie, Bureau of Plant Industry, has recently returned from a trip to Newark and Toledo, Ohio, and South Bend, Ind., the purpose of the trip being the making of arrangements for experimental field work on muck soils and the securing of photographs of greenhouse lettuce and tomatoes.

F. G. Robb attended a meeting of State marketing officials from Atlantic Coast States, which was held last week at Trenton, N. J., and also visited the New York offices of the bureau before returning to Washington.

H. A. Spillman, of the Bureau of Agricultural Economics, who has charge of the enforcement of the standard container act, has returned to Washington after a three

months' trip in the interest of the work on standard containers. He visited package factories in Middle Western and Southern States.

H. M. Dixon, States Relations Service, visited Raleigh, N. C., March 1-4, where he conferred with B. W. Kilgore, director of the State extension service, regarding a program for farm management extension work.

W. E. Schneider, of the Bureau of Agricultural Economics, attended the Stockmen's Convention at Davis, Calif., February 20-21. He read a paper on "Activities of the Bureau of Agricultural Economics of Interest to California Stockmen."

S. B. Detwiler, J. F. Martin, and J. E. Riley, of the Bureau of Plant Industry, attended the forestry section of the Conference of Extension Workers of the Northeastern States at New Haven, Conn., February 21-24.

R. W. Hilts, of the Bureau of Chemistry, with headquarters at San Francisco, Calif., attended the annual meeting of the Cannery League of California, which was held at Del Monte, Calif., February 26 and 27.

J. M. Stedman, States Relations Service, studied methods of Conducting farmer's institutes in West Unity, Edgerton, and Edon, Ohio, February 25-March 5.

W. B. Mercier, States Relations Service, was in South Carolina February 20-23, where he conferred with the State director of the extension service, State leaders, and extension specialists regarding extension work and expenditures.

Frank G. Ashbrook, of the Biological Survey, visited the New York branch house of a prominent London furrier February 8 to examine a consignment of blue fox pelts recently received from Alaska. These had been produced on islands leased by the Government to ranchers for fox-farming purposes. Mr. Ashbrook reports a number of excellent skins in the shipment and a decline in prices of fox skins at the winter fur sales from 20 to 25 per cent.

H. L. Viereck, of the Biological Survey, while in Philadelphia the last week of February, compared specimens of *Hymenoptera* in the Biological Survey collection with type specimens in the collection of the Academy of Natural Sciences with a view to ascertaining correct identifications.

H. W. Hochbaum, States Relations Service, attended district conferences of Virginia county agents at Wytheville, Harrisonburg, Petersburg, and Lynchburg, Va., and demonstrated methods of executing programs of work.

I. W. Hill, States Relations Service, visited Petersburg and Lynchburg, Va., February 22 and 23, where he attended district conferences of county agents.

VISITORS TO THE DEPARTMENT.

James Boyd, president of the Pennsylvania Horticultural Society, visited the Library February 27 and 28 for the purpose of obtaining suggestions regarding the reorganization of the library of the society of which he is president. The society, which was established in 1827, is said to be the oldest horticultural society in this country. It has recently moved into its new quarters in Philadelphia and is planning to develop its library.

Signora Olivia Rosetti Agresti called at the Office of the Secretary February 27. Dr. H. C. Taylor gave a luncheon at the

Cosmos Club in compliment to Signora Agresti February 28. Signora Agresti was the chief assistant of David Lubin in the founding of the International Institute of Agriculture at Rome, and has been spending some time in this country where she has made a number of addresses on the work of the institute.

Director T. F. Cooper, dean and director of the Kentucky Agricultural Experiment Station, visited the department last week.

F. A. McClure, of Canton Christian College, Canton, China, visited the department, February 26, to obtain information which would be of assistance in the agronomy teaching in the Canton college. Seed samples, publications, lantern slides, and photographic prints illustrating the department's work relating to agronomic subjects were furnished Mr. McClure for such use.

Prof. J. N. Lipscomb, of the Mississippi Agriculture and Mechanical College, is conferring with members of the Bureau of Agricultural Economics in regard to cooperative work in farm management and cost of production to be undertaken in Mississippi during the coming year. He will be in Washington for about a month.

DINNER FOR DOCTOR HARLAN.

A farewell dinner to Dr. Harry V. Harlan was given by 30 of his associates in the Bureau of Plant Industry at the Washington City Club, February 23. After the dinner brief remarks were made by Dr. W. A. Taylor, chief of the bureau; Dr. K. F. Kellerman, associate chief; Dr. W. T. Swingle, Dr. R. A. Oakley, Dr. H. B. Humphrey, Wilson Popehoe, C. W. Warburton, F. D. Richey, and Doctor Harlan. Dr. Carlton R. Ball, cerealist in charge of the Office of Cereal Investigations, presided and introduced the speakers. Doctor Harlan sailed from New York February 28 on the *President Van Buren*, for a year of agricultural exploration in Europe, Asia, and Africa.

LANTERN SLIDES ON LIVE STOCK.

Two new sets of lantern slides—one dealing with the department's exhibit at the last International Live-stock Exposition and the other with the National Dairy Show—are now available. Each series gives much the same information as would be obtained from a trip to the important expositions and shows the principal features of the department exhibits at the events.

In addition to containing many useful facts about the live-stock and dairy industries, the slides give current department recommendations relating to the breeding, feeding, and care of live stock and the live-stock and dairy industries. The slides are especially suited to use by extension workers and county agents. A synopsis suitable for lecture purposes accompanies each series. Application for the slides should be made to the States Relations Service.

BRIEF REVIEWS OF NEW BULLETINS.

How to Grow Alfalfa. By R. A. Oakley and H. L. Westover, agronomists, Office of Forage-Crop Investigations, Bureau of Plant Industry. Pp. 36, figs. 10. December, 1922. (Farmers' Bulletin 1283.)

This bulletin supersedes an earlier publication, Farmers' Bulletin 339, "Alfalfa," by J. M. Westgate, formerly of the same office, issued originally in 1908. The new publication brings up to date the information on this line of investigation. It may be summarized as follows:

Alfalfa is a perennial legume belonging to the same family as peas, beans, and clover. The leading commercial varieties of alfalfa in the United States are the Common, Grimm, Turkestan, and Peruvian. Grimm alfalfa is superior to the Common in the North, and Peruvian is preferable for the Southwest.

Alfalfa should be sown early enough to permit the plants to become well established before winter begins. The rate of sowing depends upon the condition of the soil. In the East 20 to 25 pounds per acre is generally advised. In the West under irrigation 15 pounds is sufficient, while under dry-land conditions 8 to 12 pounds is ample. Except under very favorable conditions alfalfa should be sown without a nurse crop.

Alfalfa should be cut for hay when the plants are well in bloom. Alfalfa hay and pasture are readily eaten by all classes of farm animals.

Shall I Buy a Tractor? (For a Corn-Belt Farm.) By L. A. Reynoldson, junior farm economist, Bureau of Agricultural Economics, and H. B. Tolley, agricultural engineer, Bureau of Public Roads. Pp. 10, figs. 4. February, 1923. (Farmers' Bulletin 1299.)

The kinds of crops raised and acreage used are regarded as a better guide in determining whether or not a tractor is profitable on any farm than the size of the farm, according to the authors of this bulletin. These outstanding points to be considered in purchasing a tractor are emphasized: (1) The size of farm fields, (2) kind of soil, (3) topography, (4) the work tractors do, (5) the benefits, and (6) the drawbacks of ownership and use. Most tractor owners also use their machines for a number of draw-bar and belt operations, the number usually increasing the longer the machine is owned. The benefits of owning a tractor are said to be the displacing of work stock, saving in feed, increase in yield and size of farm, and saving in hired help. The drawbacks are the first cost, depreciation, interest, repairs, breakage, quality of work, and cost of equipment. Each farm is a problem in itself, so far as the use of tractors is concerned and the peculiarities of one are lacking or magnified on another. The drawbacks and benefits incidental to ownership should be considered, studied, and weighed as they apply to the home farm.

Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction, Bureau of Plant Industry, during the period from January 1 to March 31, 1920. Pp. 96, pls. 8. February 14, 1923. (Inventory No. 62; Nos. 49124 to 49796.)

During the period of three months covered by Inventory No. 62, numerous shipments of seeds and plants were sent to Washington by two agricultural explorers in the field, Dr. H. L. Shantz and Wilson Popenoe. Doctor Shantz forwarded from South Africa a number of forage crops and native fruits, while Mr. Popenoe obtained in Guatemala a subtropical hawthorn (*Crataegus stipulosa*), several

promising new avocados for trial in California and Florida, and several forage crops of interest for the South.

A valuable collection of Chilean trees was introduced through Consul Deichman, of Valparaiso, and 16 species of forage grasses were obtained from India. These and many other plants described have already been distributed by the Office of Foreign Seed and Plant Introduction, and are now on trial in those parts of the United States thought to be best suited to their cultivation. The purpose of the inventory is to place on record for future reference data concerning the sources of new plant immigrants, together with information furnished by those through whom they were obtained as to the use, cultural requirements, and history of each introduction.

Forest Fires in California, 1911-1920: An Analytical Study. By S. B. Show and E. I. Kotok, forest examiners, Forest Service. Pp. 80, 11. February, 1923. (Department Circular 243.) Price, 15 cents.

Fires on the national forests of California have in the 10 years ending in 1920 burned over 1,300,000 acres, causing nearly \$4,000,000 damages, according to this circular by the Forest Service. It is based on a study of more than 10,000 fires, most of which were man-caused.

Data compiled on such an exhaustive analysis of fires, by causes, size, damage, cost, location, season, and other relating factors, and the drawing of conclusions as to the best methods of preventing and fighting fires, should prove interesting and helpful to everyone connected with forest protection, not only in California but elsewhere, especially throughout the West. It contains valuable information as to the various theories and principles that have been tested out both in patrol and actual suppression, leading to a selection of means and methods that have proven most effective.

The circular contains much statistical data and many graphic illustrations pertaining to every phase of the forest fire problem.

List of Serials Currently Received in the Library of the U. S. Department of Agriculture, exclusive of U. S. Government publications of the State agricultural colleges and experiment stations. Arranged by title, subject, and by region. January 1, 1922. (Department Circular 187.)

The list is in four parts, as follows: Part 1, List of periodicals; part 2, List of other serials; part 3, Subject list; part 4, Geographical list.

It will be seen that the list of titles, which contains 5,586 different entries, is divided into two parts, the first including periodicals, and the second other serials such as annual reports and series of bulletins, each number of which is a monograph. In some cases, however, the line has been difficult to draw. In the subject list and in the geographical list no distinction has been made between titles of periodicals and other serials. The list does not include publications received by the Weather Bureau library.

The list of periodicals, which contains 2,610 titles, was prepared by Miss Margaret T. Olcott, formerly Assistant Chief of the Periodical Division. It supersedes Library Bulletin 75, published in December, 1909, which contained a list of the 1,575 periodicals received by the library at that time. It will be seen, therefore, that the number of periodicals

currently received by the library has increased 1,035 in the past 12 years, or at the rate of 86 a year. The list of other serials contains 2,976 different titles. Annual reports and series, each number of which is a monograph, were not contained in Library Bulletin No. 75.

In the subject and geographical lists both periodicals and other serials are included in one arrangement. In the geographical list publications issued in the United States are not included, but the subject list contains a list by States of the agricultural periodicals of this country. The list of serials and the subject and geographical lists were prepared by Miss Emma B. Hawks, assistant librarian, who also edited the bulletin.

Statistics of Cooperative Extension Work, 1922-23. By Eugene Merritt. Pp. 19. February 1, 1923. (Department Circular 253.) Price, 5 cents.

The total amount allotted for cooperative agricultural extension work in the 48 States in 1922-23 was approximately \$18,821,000, of which the Federal Government contributed \$5,880,000, under the provisions of the Smith-Lever Act. In addition, Congress, by direct appropriation to the Department of Agriculture, made available in round numbers \$1,028,000 for farmers' cooperative demonstration work and \$45,000 for extension work by the several bureaus of the department, making a total from Federal sources of \$6,953,000. The remaining \$11,868,000 was derived from sources within the States, including \$5,241,000 appropriated by State legislatures and funds under control of the State agricultural colleges, \$5,654,000 provided by the different counties, and \$1,973,000 from other sources, mostly local.

This circular summarizes statistics relating to sources, amounts, and project allotment of funds used and number and distribution of persons employed in the cooperative extension work in agriculture and home economics, compiled from the approved budget statements in which the State agricultural colleges have outlined their plan of work for 1922-23.

ADDITIONAL PUBLICATIONS.

Service and Regulatory Announcements. Bureau of Chemistry, Supplement 152. Notices of Judgments. 11051-11100. Pp. 29-55. February 21, 1923. Price, 5 cents.

Journal of Agricultural Research. Vol. 23, No. 3, January 20, 1923. Contents: A Cytological Study of Infection of Baart and Kanred Wheats by *Puccinia graminis tritici*. (G-266.) By Ruth F. Allen. After-ripening and Germination of Apple Seeds. (G-267.) By George T. Harrington and Bertha C. Hite. Miscellaneous Tests of Carbon Tetrachlorid as an Anthelmintic. (A-63.) By Maurice C. Hall and Jacob E. Shillinger. Structure, Physical Characteristics, and Composition of Pericarp and Integument of Johnson Grass Seed in Relation to its Physiology. (G-268.) By George T. Harrington and William Crocker. Probable cause of the Toxicity of the So-called Poisonous Greensand. (G-269.) By J. W. Kelly. Pp. 131-228, figs. 10, pls. 9. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volumes 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the Journal was suspended December 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

Better business libraries—talks with executives. By L. B. Krause. Chicago, Indexers press, 1922.

Bureau of mines. By F. W. Powell. New York, D. Appleton and company, 1922. (Institute for government research. Service monographs of the United States government. no. 3)

California vegetables in garden and field. 5th ed. By E. J. Wickson. San Francisco, Pacific rural press, 1923.

Candy as I make it. 2d ed. By M. A. Ricker. Lynbrook, N. Y., The author, 1922.

Common sense of economic science. By Edmund Dane. London, Mills & Boon, Ltd., 1922.

Contribució a l'osteologia comparada del cavall i de l'ase. Zootecnia de la raça asinal catalana. Per M. Rossell i Vilà. Barcelona, 1921. (Catalonia. Escola superior d'agricultura. Arxius, fasc. 1)

Cypress of Monterey. By E. L. Guppy. San Francisco, Sunset press, 1922.

Danske agaricaccer. Af. L. C. S. Petersen. Kjøbenhavn, G. E. C. Gad, 1907.

Elements of plant biology. By A. G. Tansley. London, George Allen & Unwin, Ltd., 1922.

English village, the origin and decay of its community. By Harold Peake. London, Benn brothers, Ltd., 1922.

Études et projets d'amélioration de l'exploitation du palmier à huile. French West Africa. Inspection générale de l'agriculture, de l'élevage et des forêts. Paris, 1922.

Fans, heaters and air washers, a book of information for architects and engineers. B. F. Sturtevant co. Hyde Park, Boston, 1917.

Federal trade commission. By W. S. Holt. New York, D. Appleton and company, 1922. (Institute for government research. Service monographs of the United States government. no. 7)

Gasoline automobile, prepared in the extension division of the University of Wisconsin, by G. W. Hobbs and B. G. Elliott. 2d ed. New York, McGraw-Hill book company, inc., 1920.

Graphic charts in business. By A. C. Haskell. New York, Codex book company, inc., 1922.

Gr. Brit. Ministry of agriculture and fisheries. Departmental committee on foot and mouth disease. Report. London, 1922.

Handbook of chemical engineering. By D. M. Liddell. New York, McGraw-Hill book company, inc., 1922.

Industrial organic chemistry. 5th ed. By S. P. Sadtler and L. J. Matos. Philadelphia, J. B. Lippincott company, 1923.

Información estadística sobre el comercio de carnes. Primera parte: El mercado Británico, por Raul Prebisch. Sociedad rural Argentina, Buenos Aires. Oficina de estadística. Buenos Aires, Imp. "Gadola," 1922.

Life of Pasteur: tr. from the French by Mrs. R. L. Devonshire. By René Vallery-Radot. New York, Doubleday, Page and company, 1920.

Massachusetts. Commission on the necessities of life. Report. January, 1922. Boston, 1922.

National park service. By Jenks Cameron. New York, D. Appleton and company, 1922. (Institute for government research. Service monographs of the United States government. no. 11)

Pears of New York. By U. P. Hedrick. Albany, 1921. (Report of the New York agricultural experiment station for the year 1921. 2)

Le programme agricole. Exposé du programme campagne 1921, par Yves Henry. French West Africa. Inspection générale de l'agriculture, de l'élevage et des forêts. Paris, 1922.

Le propriétaire-planteur: semer et planter. 2. éd. Par David Cannon. Paris, J. Rothschild, 1894.

Researches on Fungi. v. 2. By A. H. R. Buller. London, Longmans, Green and co., 1922.

Rough notes and memoranda relating to the natural history of the Bermudas. By J. L. Hurdis. London, R. H. Porter, 1897.

Rural California. By E. J. Wickson. New York, Macmillan company, 1923.

Tarif commission. By Joshua Bernhardt. New York, D. Appleton and company, 1922. (Institute for government research. Service monographs of the United States government. no. 5)

Travels of a consular officer in northwest China. By Eric Teichman. Cambridge, Eng., University press, 1921.

Weather Bureau. By G. A. Weber. New York, D. Appleton and company, 1922. (Institute for government research. Service monographs of the United States government. no. 9)

Der Weinbau des österreichischen Kaiserthums. v. 1. Von Franz Ritter von Heintl. Wien, Auf kosten des verfassers, 1921.

Wheat costings, 1914 and 1919-1922. By Herbert Grange. London, P. S. King & son, Ltd., 1922.

Why prices rise and fall. By F. W. P. Lawrence. London, Oxford university press, 1920.

Studies in live stock marketing. no. 1-8. Swift & company. Commercial research dept. Chicago, 1921-22.

OLD BOOKS.

Abhandlung von anlegung eines obstgartens. 2. aufl. Von K. F. Benekendorff. Berlin, 1791.

American muck book. By D. J. Browne. New York, 1851.

Beiträge zum Handbuch über die obstbaumzucht und obstlehre von 1797. Von J. L. Christ. Frankfurt am Main, 1802.

Le botaniste français. Par Jacques Barbeau Dubourg. Paris, 1767.

Botanographie Belgique. 2. éd. Par F. J. Lestiboudois. Lille, 1799.

Complete wall-tree pruner. By John Abercrombie. London, 1783.

Description de toutes les plantes qui se cultivent dans le jardin botanique de l'École centrale du département de l'Escault à Gand. Par L. P. Couret-Villeneuve. Paris, 1802.

Deutschlands flora. Von W. L. Petermann. Leipzig, 1849.

Envmario methodica plantarum Horti medici Helmstadiensis. [By] P. C. Fabricius. Helmstadii, 1759.

Epitome of the art of hushandry. By Joseph Blasgrave. London, 1675.

Extrait de la flore française. Par J. B. P. A. Lamarck. Paris, 1792.

Farmers' medical dictionary. By C. W. Johnson. London, 1845.

Flora Amstelædamensis. [By] J. G. H. Romboits. Trajecti ad Rhenum, 1852.

Flora. Jaarboekje voor bloemlieffhebbers en hoemkwekers. jaar. 1-8; 1833-1840. Amsterdam, 1833-40.

Flora leidensis. Scripserunt J. H. Molkenboer et C. Kerbert. Lugduni Batavorum, 1840.

Flora leydensis prodromus. [By] Adrian van Royen. Lugduni Batavorum, 1740.

Das ganze der nelkenzucht. Von C. A. L. von Behr. Leipzig, 1810.

Gardeners dictionary. Abridg'd from the folio ed. By Philip Miller. London, 1735.

Gardeners kalendar. 6th ed. By Philip Miller. London, 1743.

Geschichte der deutschen landwirtschaft von den ältesten zeiten bis zu ende des fünfzehnten Jahrhunderts. Von K. G. von Anton. Görlitz, 1799-1802.

Grove-Hill: an horticultural sketch. By J. C. Lettsom. London, 1794.

Guide pratique de l'amateur de fruits. 2. éd. Simon-Louis frères. Paris, 1895.

Handboek voor liefhebbers van vreemde plantsoenen en tuiners. Door J. B. van Wintershoven. Utrecht, 1795.

Hortus Breiterianus. [By] C. A. Breiter. Leipzig, 1817.

Kort en grondig onderwijz. Door C. H. Kleeman. Breda, 1829.

CURRENT PERIODICALS.

Canadian co-operator [monthly]. Brantford, Canada, 1923.

Fur age weekly. New York, 1923.

Izaak Walton league monthly. Chicago, 1923.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week February 12-17, 1923. These publications can be obtained only from the stations issuing them.

Tractor Situation in Alabama. By M. L. Nichols and J. W. Randolph. (Alabama Sta. Circ. 46, pp. 7, fig. 1.)

Measurement of Irrigation Water on the Farm. By H. A. Wadsworth. (California Sta. Circ. 250, pp. 36, figs. 17.)

The Use of Artificial Light to Increase Winter Egg Production. By J. E. Dougherty. (California Sta. Circ. 254, pp. 6, fig. 1.)

Tobacco Diseases in Gadsden County in 1922 with Suggestions for their Prevention and Control. By W. B. Tisdale. (Florida Sta. Bul. 166, pp. 75-118, figs. 15.)

Comparative Expense of Mechanical and Hand Milking. By F. A. Pearson and H. A. Ross. (Illinois Sta. Bul. 241, pp. 493-506.)

Self-feeders for Swine. J. M. Eppard, J. B. Davidson, and W. A. Foster. (Iowa Sta. Bul. 208, pp. 97-143, figs. 50.)

Work of the Kansas Agricultural Experiment Station during the Biennium Ending June 30, 1922. (Kansas Sta. Director's Rpt. 1920-1922, pp. 45, figs. 4.)

Meteorological Observations at the Massachusetts Agricultural Experiment Station. By J. E. Ostrander and G. E. Lindskog. (Massachusetts Sta. Met. Bul. 409, pp. 4.)

The Occurrence of Protozoa in Plants Affected with Mosaic and Related Diseases. By R. Nelson. (Michigan Sta. Tech. Bul. 58, pp. 30, figs. 18.)

Cattle Feeding Investigations. By W. H. Peters and N. K. Carnes. (Minnesota Sta. Bul. 200, pp. 33, figs. 12.)

Growth Studies of Dairy Heifers.—II. Protein Requirements for Growing Heifers. (Nebraska Sta. Bul. 184, pp. 18.)

Thirty-fifth Annual Report of the Dean and Director, 1922.—II. The Rise and the Significance of Agricultural Extension. By M. C. Burritt. (New York Cornell Sta. Rpt. 1922, Pt. II, pp. 79-173.)

Tohaceo Wildfire in Wisconsin. By J. Johnson and S. B. Fracker. (Wisconsin Sta. Bul. 348, pp. 21, figs. 11.)

The following publications of the State experiment stations were received during the week February 19-24, 1923.

Life History of the Kangaroo Rat, *Dipodomys spectabilis spectabilis*. Merriam, By C. T. Vorhies and W. P. Taylor. (Arizona Sta. Tech. Bul. No. 1, pp. 40, pls. 9, figs. 3.)

The Sugar Cane Mealy Bug and Its Control in Louisiana. By E. R. Barber. (Louisiana Sta. Bul. 185, pp. 16, figs. 6.)

A Thirty-year Fertilizer Test. By S. B. Haskell. (Massachusetts Sta. Bul. 212, pp. 127-158, pls. 2, figs. 3.)

Eighth Report of the Montana Grain Inspection Laboratory. (Montana Sta. Bul. 149, pp. 24.)

Feeding and Managing Dairy Cows in Montana. By J. O. Tretsven. (Montana Sta. Circ. 106, pp. 16, figs. 9.)

Feeding and Management of Breeding Swine. By W. E. Joseph. (Montana Sta. Circ. 107, pp. 21, figs. 14.)

Prices of Farm Products in New York. By G. F. Warren. (New York Cornell Sta. Bul. 416, pp. 63, figs. 16.)

Water-holding Capacity of Irrigated Soils. By O. W. Isrealsen and F. L. West. (Utah Sta. Bul. 183, pp. 24, figs. 7.)

CIVIL-SERVICE EXAMINATIONS.

The United States Civil Service Commission announces examinations for forest assistant March 13-14, and grazing assistant March 15-16. Vacancies in the Forest Service and in the Indian Service will be filled at salaries of from \$1,200 to \$1,800 a year. In filling vacancies in the position of grazing assistant, certification will be made of the highest eligibles examined in the section of the country in which the appointee is to be employed. Competitors in the forest assistant examination will be rated on nine subjects. The duties of grazing assistant will be to carry on field work and experiments in connection with investigations and range reconnaissance. Applicants must have had experience in the work to be undertaken. Those interested should apply for Form 1312.

For editorial clerk, April 4. Two vacancies in the Forest Service, Madison, Wis., will be filled from this examination, one at \$1,440 to \$1,800, and the other at 65 cents an hour actual employment. Vacancies in the departmental service in Washington at \$1,200 to \$1,600 a year will also be filled from this examination. Competitors will be rated on editing, abstracting, proof reading and manuscript preparation, and indexing. Those interested should apply for Form 304.

For laboratory assistant, April 4. A vacancy in the Bureau of Animal Industry will be filled at a salary of \$1,200 a year. Applicants must have attended an institution of recognized standing for at least one year, taking courses in medical or veterinary bacteriology. They will be rated on practical questions, education, and experience. Applicants should send for Form 1312.

BUREAU OF ENTOMOLOGY
MARCH 15 1923
RECEIVED

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II. WASHINGTON, D. C., MARCH 14, 1923. No. 11.

CREDITS ACT PROVIDES ADEQUATE FARM FUNDS

Establishes Intermediate Credit Facilities—Maximum Loan Now \$25,000.

The agricultural credits act of 1923 became a law shortly before the adjournment of the Sixty-seventh Congress. The primary purpose of the act is to provide the farmer with personal and collateral credit in adequate amounts and for periods of time that correspond with his business turnover. The important provisions of this legislation may be briefly summarized as follows:

A Federal intermediate credit bank is to be established in each of the 12 Federal land-bank districts. This bank is to be located in the same city in which the Federal land bank of the district is situated, and the officers and directors of the latter bank will be ex officio officers and directors of the new bank. Each Federal intermediate credit bank will have a capital of not to exceed \$5,000,000, which will be subscribed by the Federal Treasury. To provide additional capital collateral trust debentures may be issued in an amount not to exceed ten times the capital and surplus of the bank.

To Furnish Discount Facilities.

The purpose of these banks is to furnish discount facilities to banks and other financial institutions and to farmers' cooperative-marketing associations for terms of not less than six months nor more than three years. Advances may also be made direct to cooperative associations under specified conditions. The interest on discounts and advances charged by Federal intermediate credit banks may not exceed by more than 1 per cent the interest paid on debentures issued and paper discounted must not involve an interest rate to the borrower more than 1½ per cent in excess of the discount rate.

The law also authorizes the organization under Federal charter of national

agricultural-credit corporations, which may make loans and discounts for agricultural purposes, including the breeding and fattening of live stock. These corporations will operate under the supervision of the Comptroller of the Currency, and, like the Federal intermediate credit banks, are authorized to issue collateral trust debentures up to ten times their capital and surplus. Such corporations, it is assumed, will be more generally organized in parts of the country where at the present time cattle loan companies are in operation. Existing companies of this kind may reincorporate under the new act.

The act also provides for the establishment of the so-called permanent organization of the 12 Federal land banks. Three out of seven directors are to be elected by the borrowers and stockholders of each land bank and three are to

(Continued on page 5.)

HEARING AT FORT WORTH.

A hearing on commission charges at stockyards has been announced for March 19 at Fort Worth, Tex. The hearing will be held by G. N. Dagger, of the Packers and Stockyards Administration.

AMARYLLIS SHOW.

The tenth annual show of Amaryllis hybrids and seedlings grown in the greenhouses of the department is in progress this week.

While its duration is largely contingent on the weather conditions, it probably will continue until about the twentieth.

The collection now in flower has been gradually accumulated through several years of breeding and testing by E. M. Byrnes, Assistant in Charge, Experimental Gardens and Grounds, and comprises a wide range of size and color of flowers, including many seedlings flowering this year for the first time.

The attendance upon these exhibits shows increasing interest on the part of the public, that of 1922, which lasted eight days, having been visited by more than 75,000 people.

ADDITIONAL FUNDS FOR FIGHTING FOREST FIRES

\$40,000 Appropriated to Develop Airplane Control of Cotton Pests.

The third deficiency appropriation bill as finally passed by Congress and approved by the President included the following items for the Department of Agriculture: For fiscal year 1923, \$375,000 for fighting and preventing forest fires, \$16,480 for protection of California and Oregon railroad lands and Coos Bay wagon road lands, and \$25,000 for collection of seed-grain loans. For fiscal years 1923 and 1924, \$40,000 for preventing spread of the Japanese beetle, \$40,000 for developing the use of airplanes as a means of distributing insecticides for the control of the boll weevil and other cotton insects, and \$100,000 for the exploration of rubber-producing regions and studies and experiments with rubber-producing plants.

Bills Passed.

The following bills and resolutions were passed during the final days of the recent session of Congress and received the approval of the President:

- S. 4280, the composite agricultural credit bill.
- H. R. 8086, the filled milk bill.
- S. 1076, the naval-stores standards bill.
- H. R. 12053, the butter standards bill.
- H. R. 14302, the cotton standards bill.
- H. R. 8928, providing for the reclassification of civilian positions in the Government service.
- H. R. 14435, continuing the \$240 bonus (increased compensation) during the fiscal year 1924.
- S. J. Res. 282, extending until July 1, 1924, the time for report of the Joint Committee on the Reorganization of the Administrative Branch of the Government.
- H. J. Res. 422, permitting entry free of certain domestic animals which have crossed the boundary line into foreign countries.
- H. R. 2347, permitting homestead entry up to 320 acres in the case of certain entrymen within national forests who have acquired 160 acres or less under the enlarged homestead acts or the stock raising homestead act.

H. R. 10677, authorizing payment to Quincy R. Craft for expenses incurred for erection of a building on the Nebraska National Forest.

Failed to Pass.

The following bills and resolutions on House and Senate calendars failed of passage:

H. R. 10819, providing increased salaries for chiefs of bureaus of the Department of Agriculture and raising the maximum salary for scientific investigators to \$6,500.

H. R. 4900 (S. 4399), to fix standards for hampers, round stave baskets, and splint baskets for fruits and vegetables.

H. R. 7401, prescribing standards and grades for spring wheat.

H. R. 2238, to amend the cotton futures act by inserting therein a new section for American Egyptian cotton only.

H. R. 11966, defining a crop failure in the production of wheat, barley, oats, and flax by those to whom the Government loaned money, under the act of March 3, 1921, for seed purchases.

H. R. 5823 (S. 1452), for establishing shooting grounds for the public, for establishing game refuges and breeding grounds, for protecting migratory birds, and requiring a license to hunt them.

S. 1034, to establish a game sanctuary in the watersheds of the South Fork of the Flathead River in the Flathead National Forest to perpetuate a breeding place for game animals.

H. R. 13927, for the establishment of a United States industrial home for women at Mount Weather, Va.

S. J. Res. 265, to stimulate crop production through purchase and sale by the Government of nitrate of soda and calcium arsenate.

S. 3757, authorizing the Department of Commerce to collect and publish additional cotton statistics and information.

S. J. Res. 263, authorizing the Secretary of Agriculture to accept membership for the United States in the Permanent Association of the International Road Congresses.

H. R. 12966 (S. 4050), providing for the purchase and sale of farm products.

H. R. 13352, authorizing the Secretary of Agriculture to purchase, store, and sell wheat, and to secure and maintain to the producer a reasonable price for wheat and to the consumer a reasonable price for bread, and to stabilize wheat values.

H. Res. 357, directing the Department of Agriculture and Post Office Department to investigate the feasibility of furnishing market prices of cotton, corn, wheat, live stock, and dairy products by radiophone to farmers.

S. 854, to reimburse J. B. Glanville and others for losses and damages sustained by them through the negligent dipping of tick-infested cattle by the Bureau of Animal Industry, Department of Agriculture.

S. J. Res. 227, rejecting bids for the acquisition of Muscle Shoals.

S. 3146, to amend section 5 of the United States cotton futures act.

S. 799, to prevent deceit and unfair prices that result from the unrevealed presence of substitutes for virgin wool in woven fabrics purporting to contain wool and in garments or articles of apparel made therefrom, manufactured in any Territory of the United States or the District of Columbia or transported or intended to be transported in interstate or foreign commerce, and providing penalties for the violation of the provisions of this act.

S. 4478, to promote agriculture by stabilizing the price of wheat.

H. J. Res. 456, providing for a joint committee of the Senate and House to investigate problems relating to reforestation.

H. R. 7103, to establish standards of weights and measures for wheat-mill and corn-mill products.

S. 4324, applying the provisions of the cooperative marketing act to producers of turpentine and rosin.

S. 4629, to permit the relinquishment of farm units heretofore entered on a Federal reclamation project that may be found unfeasible of reclamation, and the repayment of construction, operation, and maintenance charges without impairing the right of the entryman to make further entry.

S. 581, to repeal the act prohibiting increased pay under lump-fund appropriations to employees transferred within one year.

S. 2302, to extend the terms and powers of the War Finance Corporation for the purpose of promoting and protecting the export of agricultural products in the United States.

Also a number of bills providing for the consolidation of land within various national forests.

On March 3 the Senate received from the Federal Trade Commission a report (S. Doc. 345) setting forth certain facts regarding the calcium-arsenate industry (in response to S. Res. 417); also a report (S. Doc. 347) on certain phases of the fertilizer industry (in response to S. Res. 307).

Articles for 1922 Yearbook Have Been Sent to Printer

All copy for the 1922 Yearbook of the department has been sent to the Government Printing Office, and it is expected that the book will be issued late in the spring. In addition to the Secretary's annual report and much valuable statistical data, this book will contain articles on "Timber: Mine or Crop?" "Hog Production and Marketing," "The Dairy Industry," "History and Status of Tobacco Culture," and "Oats, Barley, Rye, Rice, Grain Sorghums, Seed Flax, and Buckwheat." These subjects will be treated as comprehensively as beef, cotton, and wheat were handled in the Yearbook of 1921, issued last fall. The 1921 Yearbook was the first of a series of four which will discuss all of the major agricultural interests of the United States. Future issues will contain articles on fruits, hay, pasture and forage, land tenure, horses and mules, land utilization, credit and insurance, poultry, country life, education, sheep, and sugar.

The 1921 Yearbook was the first of the new style. Those issued before this time contained statistics and a few brief articles of the magazine type. It was believed that more exhaustive studies of problems and commodities would prove

of greater value to those interested in agriculture. Much statistical data, in addition to the articles, is given. Judging from the newspaper comments and letters from men in various professions, the new scheme has been highly successful. Assistant Secretary C. W. Pugsley is the chairman of the Yearbook committee, a complete list of which appeared in THE OFFICIAL RECORD for September 13.

DO NOT BUY WEED SEEDS.

The following warning against buying weed seeds, which calls attention to the importance of the State seed laws, is issued by the Bureau of Plant Industry.

It doesn't pay to buy weed seeds or to sow weed seeds. It is a waste of money, for weed seeds won't help raise a crop. Most crop seeds will not live over from one season to another in the soil, but most kinds of weed seeds will, so every time you sow a weed seed in place of a crop seed you are sowing future as well as present trouble. Many weed seeds will live in the soil 10 or 20 or 30 years or even longer and be ready to grow when they are plowed up and given a chance.

Buy your farm seeds in your own State and get the protection of your own State seed law. Your State law requires all seeds sold in your State to carry a label giving the quality of the seeds you buy. If you buy your seeds from a dealer in another State, you do not have the protection of your State law. If you want to do all you can to insure a good crop through the use of good seed—

Buy in your own State.

Buy early.

Examine the label carefully for statement of pure seed, weed seeds, and germination.

Buy the best grade you can get.

Send a sample to your State seed-testing laboratory for test if you have any doubt about quality.

Send for a copy of Farmers' Bulletin No. 428; it tells how to recognize forage-plant seeds and how to test them.

ROANOKE (VA.) YARDS TO BE POSTED.

Robert C. Ashby, of the packers and stockyards administration, will go to Roanoke, Va., to-morrow for the purpose of posting the Union Stockyards of Roanoke as coming within the jurisdiction of the packers and stockyards act. This is the result of an investigation conducted by Frank H. Sterling and Robert C. Ashby. The area of the yards is approximately 40,000 square feet.

Department's Cooperative Work Extensive, According to Report

The Department of Agriculture has the largest number and widest range of the cooperative undertakings in which Federal agencies are concerned, according to the report just issued by the committee appointed by the National Research Council in 1921, consisting of E. W. Allen, Chief, Office of Experiment Stations, States Relations Service, chairman; Edwin F. Gay, president New York Evening Post (Inc.); M. W. Glover, Bureau of Chemistry; N. C. Grover, Geological Survey, Department of the Interior; Vernon Kellogg, permanent secretary National Research Council; and E. B. Mathews, State geologist for Maryland and professor of geology, Johns Hopkins University, to study the nature and extent of cooperative scientific work carried on by the Federal Government and outside agencies.

The cooperative projects of this department, it was found, are carried on in all parts of the country. They include, broadly speaking, studies of the principles of agricultural science, the determination of agricultural resources and special adaptations, the discovery and introduction of improved or better-suited methods, the establishment of new crops, the improvement of plants and animals, the marketing of products, and the safeguarding of agriculture from a long list of enemies. Excluding the cooperative extension and experiment station work, road building, and management of forest reserves, the department's cooperative enterprises involved, in the year covered by the report, a total of nearly \$15,000,000, of which the department supplied \$5,844,307.

The cooperative projects of the entire Federal Government numbered 553, and as many of these involve the work of several cooperators, some 1,100 cooperative undertakings were required. Of the 553 separate projects, two-thirds are classed as research; others deal with routine testing and technical service, gathering of statistics, enforcement of regulatory measures, and the like.

The leading purposes of the central government in fostering cooperation are to provide for the more adequate scientific investigation of matters of general interest from a national or regional standpoint and to promote nation-wide movements of various kinds. While the study shows that if assistance rendered by outside agencies other than money is included, these outside cooperating agencies are putting in fully two dollars for every one supplied by the Government; the report states that the stimulat-

ing influence of Federal Government cooperation can rarely be measured by its money contribution. It has served to nationalize many types of effort important to the intelligent advancement of the country and has greatly hastened the development of such measures.

NAT C. MURRAY RESIGNS.

Nat C. Murray, chairman of the Crop Reporting Board and chief statistician of the United States Department of Agriculture, has resigned, effective March 31, and will become statistician and crop reporter of Clement, Curtis & Co., grain brokers, of Chicago.

Mr. Murray entered the department in 1904 as field agent in the former Bureau of Statistics. He came to Washington in 1907 as assistant statistician. In April, 1921, Mr. Murray became chief of the Bureau of Crop Estimates, when Leon M. Estabrook was made associate chief of the Bureau of Markets. When Mr. Estabrook left for Argentina, in January, Mr. Murray became chairman of the Crop Reporting Board. He has long been ranked as one of the leading statisticians of the country.

STANDARDS COMMITTEE MEETS.

The Joint Committee on Definitions and Standards is holding its twenty-fourth meeting in the Bureau of Chemistry March 12 to 16, inclusive. Consideration is being given to definitions and standards for a number of food products. The committee is composed of Dr. W. W. Skinner, chairman, Dr. F. C. Blanck, and R. E. Doolittle, representing the United States Department of Agriculture; Dr. J. Hortvet, of Minnesota, Dr. C. D. Howard, of New Hampshire, and Dr. E. M. Bailey, of Connecticut, representing the Association of Official Agricultural Chemists; and Dr. L. E. Sayre, of Kansas, Dr. W. W. Randall, of Maryland, and Dr. R. E. Rose, of Florida, representing the Association of American Dairy, Food, and Drug Officials. A. S. Mitchell, of the Bureau of Chemistry, is the secretary.

B. A. I. SPECIALISTS GO TO GUATEMALA.

Following recent reports indicating the presence of foot-and-mouth disease in Guatemala, the department has designated two experienced veterinary inspectors, Drs. L. Enos Day and Howard L. Darby, to make a thorough study of the situation. An additional object of the visit is to make arrangements for preventing infection of foot-and-mouth disease from reaching the United States through shipments via Mexico.

The report regarding the appearance of foot-and-mouth disease in Guatemala was received through the Department of State from the American consul at Guatemala City. Other reports received have indicated extension of the outbreak on the Pacific side to within a few miles of the Mexican border. The Government of Guatemala, in reply to inquiries, has indicated that it would be agreeable to have veterinary inspectors of the department visit Guatemala to study the situation.

Doctors Day and Darby sailed from New Orleans March 10 for Puerto Barrios. They will confer with the American minister at Guatemala City, with officers of the veterinary organization of the country, and with commerce officials. Steps will be taken to guard against any direct shipments of possibly infected merchandise to the United States.

COMMITTEE ON COLOR STUDIES.

A committee of dye chemists has been appointed by the Secretary of Agriculture upon the recommendation of W. G. Campbell, Acting Chief of the Bureau of Chemistry, to assist in formulating plans of work for the color laboratory.

The committee consists of R. Norris Shreve, secretary of the dye division of the American Chemical Society; Willard H. Watkins, of the National Aniline & Chemical Co., Buffalo; Louis A. Olney, of Massachusetts, president of the American Association of Textile Chemists and Colorists; Dr. William J. Hale, of Michigan, chairman of the dye division of the American Chemical Society; and Dr. Clarence G. Derick, of Buffalo, N. Y.

This committee will bring the color laboratory of the Bureau of Chemistry into closer contact with those problems of a fundamental nature which affect the dye industry as a whole but which the industry is not in a position to study. Progress has already been made by the laboratory in developing analytical methods by which accurate determinations of colors can be made and work has also been performed in the production of satisfactory biological stains for scientific purposes. New and improved methods of manufacture have also been worked out for a number of important intermediates, such as phthalic anhydride, which is a basic material in the dye industry and which may be used to manufacture a large number of dyes and drugs.

The net result of this cooperative effort, it is believed, will be to assist in placing the dye industry on a sound economic basis in the United States and thereby lessen our dependence on foreign sources of supply.



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OFFICIAL ANNOUNCEMENTS.

Memoranda of the Secretary.

Cooperation in Correspondence.

MEMORANDUM No. 422—February 28, 1923.—It is desirable that the method of handling correspondence pertaining to matters dealt with by more than one bureau be uniform throughout the department, and that such correspondence be handled in a spirit of co-operation between the bureaus. Keeping in mind the correspondent's point of view is essential and the plan followed should be one that will give him prompt and satisfactory information. The following procedure should be followed:

1. If the letter includes a request for information concerning the technical work or administrative policies of more than one bureau, the receiving bureau should answer the inquiry regarding its own work and state that the letter is being referred to the appropriate bureau for further reply. With the reference to the other bureau the original or a copy of the correspondent's letter should be sent, accompanied by a copy of the reply in order that the other bureau may be informed of the action already taken.

2. When the matter dealt with by another bureau concerning which inquiry is made is of only a minor character, it is ordinarily sufficient for the bureau receiving the inquiry to secure the necessary information from the second bureau over the telephone or in such other informal way as will furnish it promptly, and send the correspondent a complete reply.

3. Where the reply is for the signature of the Secretary, the reply should not be presented until it bears the initials of the chiefs of all bureaus concerned in the subject matter, including the initials of the solicitor, if a legal point is involved.

Spacing of Letters.

MEMORANDUM No. 423—March 1, 1923.—The last sentence of the first paragraph of paragraph 139 of the Administrative Regulations, relating to the preparation of correspondence, is hereby revoked and the following substituted:

"Paragraphs should be indented seven spaces. Double spacing should be used if the letter so spaced can be placed on one page. If double spacing would cause the use of another page, or if the letter, however spaced, will require more than one page, single spacing should be used."

Amendment to the Fiscal Regulations.

MEMORANDUM No. 424—March 3, 1923.—Paragraph 32 (h) of the Fiscal Regulations

of the department is hereby amended to read as follows:

32. ACTUAL TRAVELING EXPENSES.—(h) Customary charges for subsistence, except as provided in paragraph 32 (r), not to exceed in the aggregate \$5 for any one day. These charges will include all expenses incurred for meals, lodging, bath, personal use of room at hotel during the daytime, waiter fees not exceeding 30 cents in any one day; laundry, cleaning, and pressing clothes, not exceeding an aggregate of \$12 for each period of 30 days, or a proportionate amount thereof for fractional parts of a 30-day period. Employees will enter charges for laundry and for the cleaning and pressing of clothes in their reimbursement accounts on the dates of payment, and in the administrative examination of the accounts the aggregate of all such charges within the aforesaid maximum will be allowed to the extent that subsistence expenses, including charges for laundry and for the cleaning and pressing of clothes, do not exceed the maximum authorized by law. Laundry periods shall begin with the first day of travel as shown by each account, except that when two or more trips are covered by one account, the first day of each trip shall constitute the beginning of a period. Charges for laundry and for the cleaning and pressing of clothes shall not be brought forward from a previous account or trip. Receipts for laundry and for the cleaning and pressing of clothes must be submitted or a statement filed with the reimbursement account showing that to obtain them was impracticable. Charges for laundry at official headquarters will not be allowed. Telegrams to hotels reserving accommodations to be included in subsistence expenses for the initial date of the period for which the accommodations are occupied; street car and other fares between place of lodging or where meals are taken and place of duty, and all other subsistence expenses. A charge for lodging at a hotel and a charge for sleeping berth for the same night will be allowed only when accompanied by a definite statement of necessity: *Provided*, That because of State laws reimbursement for the payment of waiter fees will not be allowed in Arkansas, Georgia, Mississippi, or Tennessee.

Committees on Clerical Efficiency.

MEMORANDUM No. 425—March 3, 1923.—In accordance with the terms of memorandum No. 325, dated August 18, 1920, which amended paragraph 32 of the Administrative Regulations, the personnel of the committees on clerical efficiency (board of review) of the several bureaus and offices of the department, for the period from November 1, 1922, to April 30, 1923, is as follows:

Office of the Secretary.—R. M. Reese, chairman; C. C. Wilson; A. McC. Ashley (vice H. M. Bain).

Office of the Solicitor.—C. W. Boyle, chairman; P. D. Cronin (vice J. P. Wenchel); Fred Lees (vice J. L. Carr).

Weather Bureau.—R. H. Weightman, chairman; P. C. Day; Miss S. A. Beuter; F. G. Tingley (vice D. T. Maring); C. T. Burns (vice W. R. Gregg).

Bureau of Animal Industry.—C. C. Carroll, chairman; U. G. Houck; A. W. Miller; A. J. Pistor; G. H. Russell.

Bureau of Plant Industry.—H. E. Allanson, chairman; C. R. Ball; R. A. Oakley (vice H. A. Edson).

Forest Service.—E. A. Sherman, chairman; Harry Irion (vice W. C. Barnes); T. W. Norcross (vice T. S. Brock).

Bureau of Chemistry.—S. A. Postle, chairman; A. G. Murray (vice D. J. Price); A. E. Taylor (vice R. W. Balcom).

Bureau of Soils.—A. G. Rice, chairman; J. W. McKercher; C. A. Wolfe (vice H. A. Donovan).

Bureau of Entomology.—E. B. O'Leary, chairman; A. L. Quaintance; W. R. Walton.

Bureau of Biological Survey.—W. C. Henderson, chairman; Mrs. A. B. Morrison; W. Roy Dillon (vice Lisle Morrison).

Division of Accounts and Disbursements.—John M. Kemper, jr., chairman; John H. Lynch; John J. Ackerman.

Division of Publications.—E. C. Powell, chairman (vice F. W. Perkins); C. E. Bracey; J. O. Riley.

Library.—Miss C. R. Barnett, chairman; Miss E. B. Hawks; Miss H. M. Thompson.

States Relations Service.—Mrs. C. E. Johnston, chairman; H. L. Knight; T. W. Harvey.

Fixed Nitrogen Research Laboratory.—Joseph M. Braham, chairman; Franklin E. Allison (vice H. J. Krase); Edwin J. Grayson (vice H. M. Frampton).

Bureau of Public Roads.—C. D. Curtiss, chairman; S. H. McCrory; H. K. Bishop (vice E. W. James).

Insecticide and Fungicide Board.—M. B. Waite, chairman; J. G. Shibley; C. C. McDonell (vice W. D. Lynch).

Federal Horticultural Board.—George B. Sudworth, chairman; E. R. Sasser (vice W. A. Orton); R. C. Althouse (vice J. A. Stevenson).

Bureau of Agricultural Economics.—A. F. Krueger, chairman; C. W. Kitchen; H. S. Yohe; C. E. Gage; R. H. Wilcox; H. F. Fitts.

EXTEND BLISTER-RUST QUARANTINE.

By order issued March 2, 1923, Secretary of Agriculture Wallace has extended blister-rust quarantine No. 54 to cover the entire State of Washington. This action is taken to prevent the spread of the white-pine blister rust from Washington into other States, and for this purpose the order prohibits the interstate movement out of Washington of five-leaved pines and of currant and gooseberry plants. The extension of the Federal quarantine is necessitated by the promulgation by the director of agriculture of Washington of State quarantine order No. 12, effective September 1, 1922, and amending State quarantine order No. 7, effective March 1, 1922, so as to permit the intrastate movement from licensed and inspected nurseries of all currants (except cultivated black currants) and gooseberries from the territory hitherto under quarantine west of the Cascade Mountains. This action leaves the control now exercised by the State, in the judgment of Secretary Wallace, inadequate to prevent the spread of the white-pine blister rust from the infected district west of the Cascade Mountains throughout the State, making it necessary to extend the provisions of the Federal quarantine to the entire State.

The promulgation of Federal quarantine No. 54, which became effective March 15, 1922, followed the discovery by agents of the United States Department of Agriculture of several blister-rust infestations, principally on black currants in the Puget Sound region of Washington. Much concern was felt over the possibility of the disease spreading to the valuable commercial stand of western white and sugar pine forests of the Rocky Mountains and Pacific coast regions.

U. S. D. A. CLUB ACTIVITIES

NEW YORK CLUB.

The Nyusda Club will meet March 14 at the Pig and Whistle Inn. Ole Salthé, director of food and drugs of the New York City department of health, will be the speaker. Doctor Redfield, of the Bureau of Chemistry, will speak on the activities of the tea board.

CONFER ON FOREST EXTENSION.

The conference of State extension directors, State specialists in forestry, State foresters from 11 Northeastern States, and representatives from the Department of Agriculture, which met in New Haven, Conn., February 21 to 24, urged that farm woodlot extension work be undertaken at once. The discussion brought out the great importance of timber as a cash farm crop in the Northeast and the need for having extension workers to advise farmers how to start and tend their wood crops as with other crops. Other facts brought out were the great need for correlating the various agencies for forestry extension, formulating a definite policy, and taking definite steps toward carrying out that policy.

DR. KEMPTON ON BARBERRY ERADICATION.

Dr. F. E. Kempton, Bureau of Plant Industry, summarized the results of the eradication campaign conducted during the past five years in an illustrated talk before the seminar of the office of cereal investigations March 1. A review was given of the publicity of the entire campaign as conducted cooperatively by the office of cereal investigations, the conference for the prevention of grain rust in Minneapolis, and the 13 north-central grain-growing States. The system of survey and resurvey was described, the various methods used in eradication were illustrated, and the proposed plan for treating bushes with chemicals was outlined.

TRIP OFFERED FOR BEST REPORT.

Much interest is being evidenced in a contest in Alabama for negro extension workers for the purpose of stimulating county analyses and program making. A trip to Washington, D. C., has been offered to the negro county agricultural agent and home demonstration agent

performing the best extension work during 1923 and making the best reports of the work. Twenty negro county agents and eight home demonstration agents will participate in the contest, which is financed by the six supervisors of negro extension work. Weekly, monthly, semi-annual, and annual reports will be scrutinized carefully to determine the winners, and all agents will be informed monthly of their standing.

DISCUSS EXHIBITS IN EXTENSION.

At a conference of department extension workers held in the office of cooperative extension work, States Relations Service, March 6, J. W. Hiscox, in charge office of exhibits, spoke on the types of exhibits best adapted to use under the varying conditions existing in agricultural extension work. The function of the motion picture in furthering demonstration teaching was discussed by F. W. Perkins, in charge motion-picture laboratory.

ECONOMICS ASSOCIATION TO MEET.

The local chapter of the Farm Economics Association will meet March 14 at 4.40 in room 411, Bieber Building. The speaker will be Louis B. Zapoleon, of the Tariff Commission. The subject will be "Tariff problems in agricultural production."

C. W. Edwards, animal husbandman in charge of the Federal experiment station on the Island of Guam, who is studying agriculture of the Philippine Islands with the expectation of adapting suitable phases for use in Guam, writes that he has recently visited a former stock farm at Trinidad, on the Island of Luzon, which has been turned into a school for boys of the Igorrote tribe. The boys live in dormitories and are given some academic instruction, but spend most of their time in learning to do farming, live-stock, and shop work. The school has been in progress for some time and the work done by the boys is said to be creditable.

CIVIL-SERVICE EXAMINATIONS.

The Civil Service Commission announces an examination for messenger boy in the departmental service March 10 and 24. The usual entrance salary for this position is from \$360 to \$480 a year. Competitors must take an examination in spelling, arithmetic, letter writing, penmanship, and copying. Applicants must be in sound physical health and capable of being constantly on their feet

during office hours. If interested, apply for Form 304.

The Civil Service Commission announces an examination for assistant marketing specialist (warehousing). Applications will be rated as received until further notice. Vacancies in the Bureau of Agricultural Economics for duty in Washington or in the field, at salaries of \$1,620 to \$2,400 a year, will be filled from this examination. Persons thoroughly acquainted with the commercial grades of tobacco and the warehousing of tobacco, grain, cotton, and wool are urged to enter the examination, as the opportunities for appointment are excellent. The duties of the appointees will be to inspect warehouses licensed or for which licenses are applied under the United States warehouse act. Ability to make thorough analyses and to prepare clear reports is essential. Separate registers will be established in each of the subjects grain, wool, cotton, and tobacco. Competitors will be rated on education and a thesis. If interested, apply for Form 2118.

CREDITS ACT PROVIDES ADEQUATE FARM CREDITS.

(Continued from page 1.)

be appointed by the Federal Farm Loan Board. A seventh member, who will be president of the board of directors, will be appointed by the Federal Farm Loan Board from among three persons who have received the highest nomination vote for this position by the stockholders.

The maximum loan to individual borrowers is increased from \$10,000 to \$25,000 and the purpose for which mortgage loans can be made are broadened to include the repayment of any existing indebtedness.

Federal Reserve Act Amended.

The Federal reserve act is amended by liberalizing the definition of paper drawn for an "agricultural purpose," making such purpose embrace the grading and processing of agricultural products by cooperative marketing associations. Furthermore, the maximum term of discount on paper drawn for an agricultural purpose is increased from six months to nine months.

To encourage State banks more generally to become members of the Federal reserve system and thus make its facilities more directly available to agricultural districts, the capital requirements of State banks who wish to become members is temporarily reduced. A State bank may under certain conditions be admitted, providing its capital is equal to 60 per cent of that required from national banks similarly situated.

The active life of the War Finance Corporation is extended up to February 29, 1924, and the act finally provides for the appointment of a joint committee of Congress to inquire into the problem of encouraging State banks to avail themselves of membership in the Federal reserve system.

PEOPLE MENTIONED IN OFFICIAL ORDERS

Secretary Wallace will make a trip to the Southwest during the latter part of March and early part of April, leaving Kansas City March 19, for the purpose of conferring with department and State officials concerning agricultural conditions and visiting the various places in which the department is conducting work in the States of Oklahoma, Texas, New Mexico, Arizona, California, and Nevada. The Secretary will also visit the State colleges of agriculture in these States.

Dr. H. C. Taylor spent last week in New York and New Jersey. In New Jersey he conferred with Dr. J. G. Lipman, of the New Jersey Experiment Station, and in New York discussed the use of rice grades with Ralph P. Merritt, of the California Associated Raisin Growers' Association.

R. E. Rose, State chemist of Florida, is in attendance at the meeting of the Joint Committee on Definitions and Standards, now being held in Washington.

R. P. A. Johnson, of the Forest Service, attended the meeting of the Detroit Lumber Dealers' Association, held March 5, where he gave an address on grading rules and working stresses.

E. B. Smith, of the Bureau of Public Roads, addressed the New Hampshire Good Roads Association, March 8, at Concord, and on March 9 spoke at the New Hampshire State College, at Durham, on "Research Work of the Bureau of Public Roads."

C. W. Kitchen and John F. Barghausen, of the Bureau of Agricultural Economics, have gone to New York City, Newark, N. J., Pittsburgh, Cleveland, and Toledo to investigate improvements in modern markets and stands and methods of operation and management. Information obtained on their trip will be used in connection with plans for building new stands in Center Market.

C. R. Haller, of the Bureau of Agricultural Economics, has resigned to accept a position with the Bay State Milling Co. at Winona, Minn.

Joseph D. Hale, of the Bureau of Agricultural Economics, has been appointed livestock market reporter, to assist in quoting the live-stock market at Omaha, Nebr.

J. H. McClain, of the Bureau of Animal Industry, attended the meeting of the Louisiana Jersey Breeders' Association, held March 13 at Alexandria, La. He spoke on "The relation of the Jersey breeders to the development of dairying in Louisiana." Mr. McClain will attend a meeting of the Mississippi Creamerymen's Association at the Agricultural and Mechanical College, Mississippi, March 29, and will speak on dairying in Mississippi.

R. R. Graves, of the Bureau of Animal Industry, attended the meeting of the Mercer County Dairy Cattle Breeders' Association, at Grove City, Pa., March 8. He spoke on "The department's dairy cattle-breeding investigations."

E. R. Kalmbach attended a public hearing of the Department of Fisheries and Game of the State of New Hampshire, at Concord, March 8. The desirability of a permanent open season on the rough grouse was discussed.

C. A. Reed, Bureau of Plant Industry, left Washington March 5 for Albany and Thomasville, Ga., and Monticello, Fla., to conduct nut-culture investigations.

M. L. Hancock, Bureau of Plant Industry, left Bell, Md., March 7 for Norfolk, Va., to conduct nursery-stock investigations.

Dr. E. C. Stakman, agent of the office of cereal investigations, Bureau of Plant Industry, and plant pathologist of the Minnesota Agricultural Experiment Station, will leave St. Paul about March 20 to visit several of the States of Mexico to determine the possible relation of early spring occurrence of stem rust in Mexico to the subsequent development of this rust in the United States. He will be joined by Wallace Butler, field assistant in barberry eradication at San Antonio, Tex., who will assist Doctor Stakman during part of his month's survey in Mexico.

James Silver, of the Biological Survey, spent the first week of March in the vicinity of Blacksburg and Winchester, Va., collecting information regarding the results of recent antirrat campaigns and investigating deprecations of field mice in orchards.

E. A. Goldman, in charge of the biological investigation division of the Biological Survey, left Washington March 5 to confer with officials of the Forest and National Park Services and others regarding a cooperative study of wild-life conditions on national parks and forests, particularly with regard to winter conditions affecting deer and the creation of antelope preserves. He will make investigations in Utah, Arizona, Colorado, Kansas, and Oklahoma.

I. W. Hill, States Relations Service, has been in Clemson College, South Carolina, since March 5 conferring with the director of the South Carolina agricultural extension service and assisting in outlining the junior extension program for 1923. Mr. Hill will return to Washington March 17.

VISITORS TO THE DEPARTMENT.

Shigeru Yoshida, secretary in the home department of Japan, who is in the United States at the present time for the purpose of making a special study of rural questions, visited the department March 1.

Dr. William Crocker, director of the Thompson Plant Research Institute, Yonkers, N. Y., visited the department March 3 and 6, and attended a conference on physiological subjects in the office of cereal investigations, Bureau of Plant Industry, on the latter date.

A committee headed by Dr. Milton Fairchild, of the Character Education Institution, and composed of members of the Bureau of Education, visited the department March 8 to investigate methods of research in the interests of research in educational problems.

WALTER BRADFORD BARROWS.

Walter Bradford Barrows, professor of zoology and physiology, of the Michigan Agricultural College, died suddenly of apoplexy at his home at East Lansing, Mich., February 26, 1923, at the age of 68. He was born at Wellesley Hills, Mass., January 10, 1855. He had been head of his department at the college since February, 1894, following a service of nearly nine years with the United States Department of Agriculture.

On July 1, 1886, Professor Barrows was made first assistant ornithologist of the Bureau of Biological Survey, then known as the Division of Ornithology and Mammalogy. He served as execu-

tive head of this branch of the Department of Agriculture while the chief, Dr. C. Hart Merriam, was absent on the Death Valley expedition and on the Ber- ing Sea Commission of 1891.

Professor Barrows was a fellow of the American Ornithologists' Union, elected at its first meeting, and author of numerous works on ornithology and other biological subjects. Among these were a comprehensive work published in 1912, "Michigan Bird Life," and two bulletins of the department—"The English Sparrow (*Passer domesticus*) in North America, Especially in Its Relation to Agriculture" (1889), and "The Common Crow of the United States," written in collaboration with E. A. Schwarz, 1895. The two last-named publications were issued as bulletins of the Division of Ornithology and Mammalogy. Earlier publications included a series of papers on "Birds of the Lower Uruguay" (1883-84), and a chapter on "Accipitres" in the bird volume of the Standard Natural History (1885).

STUDYING EDUCATION TRENDS.

D. J. Crosby, professor of extension teaching, New York State College of Agriculture, Ithaca, N. Y., formerly specialist in agricultural instruction in this department, is spending 10 days or more in conference with the staff of the division of agricultural instruction, States Relations Service, the rural-schools section of the Bureau of Education, Department of the Interior, the Federal Board for Vocational Education, and the National Research Council, to study the trend of vocational education in agriculture, the efforts being made by the land-grant colleges to adapt their instruction to the varying capacities of students, and the problems developing in the various States in rural-school improvement. The results of these studies will be incorporated in the report of the committee on instruction in agriculture, home economics, and mechanic arts of the Association of Land-Grant Colleges, of which he is secretary, at the next meeting of the association.

Reports from nearly 4,000 typical New York State farms obtained by J. B. Shepard, of the Bureau of Agricultural Economics, in cooperation with the New York State College of Agriculture and the New York State Department of Farms and Markets, showed that during the year preceding February 1, 34,000 men and boys left the farms of that State to go to work in towns and cities. One-fourth of this number left the cities to go to work on the farms.

BRIEF REVIEWS OF NEW BULLETINS.

Control of the Common Mealybug on Citrus in California. By Arthur D. Borden, assistant entomologist, fruit insect investigations, Bureau of Entomology. Pp. 11, figs. 3. February, 1923. (Farmers' Bulletin 1309.) Supersedes Farmers' Bulletin 862.

By getting rid of Argentine ants and allowing natural insect enemies of the common mealybug to prey upon it, this enemy of citrus fruit in California can be largely controlled. This publication, which supersedes Farmers' Bulletin 862, describes the nature of the injury inflicted by the mealybug and the relation of the Argentine ant and other insects to its control. Methods of poisoning the Argentine ant are given, and directions for control by spraying when this is necessary. Fumigation is ineffective.

The Saidu Date of Egypt: A Variety of the First Rank Adapted to Commercial Culture in the United States. By S. C. Mason, arboriculturist, Office of Crop Physiology and Breeding Investigations, Bureau of Plant Industry. Pp. 36, figs. 4, pls. 8. (Professional Paper.) February, 1923. (Department Bulletin 1125.) Price, 15 cents.

Discovery of the commercial possibilities of the Saidu date of Egypt, its adaptation to southern California conditions, and the fact that the so-called "Sewi" date of the Nile Valley is identical with the Saidu variety, marks a new era in date production in the United States. As the Saidu variety has proved to be, perhaps, next to the Deglet Noor, the most promising for extensive commercial culture in the hot, irrigated valleys of the Southwest, it was a matter of great importance to determine whether or not the so-called "Sewi" date of the Nile Valley was identical with the Saidu, since offshoots can be obtained in large numbers in the Nile Valley, convenient to water and rail transportation, much cheaper than from the remote oases of the Libyan Desert. Professor Mason upon the occasion of his first visit to Egypt in 1913-14, was able to identify the so-called "Wahi" date sold on the markets of Egypt as being the Saidu date. The present bulletin, based on Professor Mason's second trip to Egypt in 1920, and on observations made on the date gardens in the United States since 1914, brings conclusive proof that the "Sewi" date of the Nile Valley also is exactly the same as the Saidu of the oases of the Libyan Desert.

Nearly 10,000 offshoots of the Saidu variety have been brought into the United States in the past two years, and at the present market price these originally imported trees are worth nearly \$200,000 and the offshoots produced on these original trees, when planted, will represent an investment of several million dollars. The principal commercial varieties of dates, of which there are scarcely a dozen, are discussed in the bulletin along with the methods of culture and adaptation.

The Formation and Pathological Anatomy of Frost Rings in Conifers Injured by Late Frosts. By Arthur S. Rhoades, formerly assistant in Forest Pathology, Office of Investigations in Forest Pathology, Bureau of Plant Industry. Pp. 16, pls. 6. (Professional Paper.) February 13, 1923. (Department Bulletin 1131.) Price, 10 cents.

The conclusions reached in this bulletin are as follows: Young trees injured by repeated frosts often develop an abnormally compact and bushy form, especially in *Abies grandis* and other species of conifers, which readily form compensatory shoots. Frost injury that

results in the killing of the young shoots often detracts greatly from the straight axial growth of the trees and, where frequently repeated, may render the tree absolutely valueless for commercial purposes. In addition, late-frost injury may render young conifers more susceptible to weakly parasitic fungi than they would be otherwise.

Late-frost injury when occurring late in the season after any considerable portion of the growth ring has been formed, results in a false or double ring formation, which is often confusing in age determinations. Frost-ring formation from late-frost injury has not been observed in coniferous stems larger than 2 inches in diameter, although it often occurs in larger stems of fruit trees that are subject to various forms of frost injury.

As may be expected from their structure, frost rings constitute a plane of weakness in the wood, which may not only predispose to the formation of a circular shape in the standing tree, but may require the manufactured wood to be discriminated against for use in small pieces where great strength is required.

The Freezing Temperatures of Some Fruits, Vegetables, and Cut Flowers. By R. C. Wright, physiologist, and George F. Taylor, associate physicist, Office of Horticultural and Pomological Investigations, Bureau of Plant Industry. Pp. 18. February 28, 1923. (Department Bulletin 1133.) Price, 5 cents.

A knowledge of the freezing temperatures of the various fruits and vegetables found on our markets is of considerable importance to those interested in the growing, shipping, storing, and handling of produce.

Each year many thousands of dollars' worth of produce is damaged, due to freezing in transit when not properly protected. This applies not only to apples and potatoes, most of which are grown in the North and shipped during the fall and winter, but to produce such as citrus fruits, strawberries, tomatoes, lettuce, cabbage, and others which are grown in the South and Southwest and shipped North during the winter.

There is a range of several degrees in the freezing temperatures of various fruits and vegetables. It is important to know the proper and safe temperatures at which to store these products so as to prolong their storage life without danger of freezing injury.

Freezing, or freezing injury, does not always occur when certain products are exposed to temperatures at or somewhat below their freezing points. Under certain conditions these products can be undercooled below their true freezing points and again warmed up without freezing or freezing injury. Other products can actually be frozen without apparent injury, while still others are injured when held at temperatures well above their freezing points.

Freezing points should be considered only as danger points at or near which frost injury is liable to take place.

The fruits studied froze at from 26° F. to 30.41° F.; vegetables from 28.44° to 31.20° F. Cut flowers froze from 27.50° F. to 30.39° F.

Composition of Filter Press (Lime) Cake. By Sidney F. Sherwood, chemist, Office of Sugar-Plant Investigations, Bureau of Plant Industry. Pp. 3. February, 1923. (Department Circular 257.) Price, 5 cents.

The dry material of the filter-press cake produced in the process of manufacturing beet sugar consists largely of calcium carbonate,

according to the findings of the United States Department of Agriculture, and undoubtedly affords a satisfactory material for liming soils. It also contains comparatively small quantities of nitrogen, phosphoric acid, potash, and organic material.

The results of the analysis of a number of representative samples of filter-press cake are set forth in this circular.

Annual Report of the Governor of Alaska on the Alaska Game Law, 1922. Pp. 7. March 1, 1923. (Department Circular 260.) Price, 5 cents.

Gov. Scott C. Bone makes certain definite recommendations in this report regarding the extension of the function of local government in Alaska, particularly as it affects the administration of game laws. A spirit of public cooperation in the conservation of wild life in the Territory is widely marked, and there have been few instances of violation of the law. Conditions touching animal and bird life in Alaska have been favorable during the past year. Animal life of all varieties seems to be increasing, especially deer, moose, and caribou. The report gives details of the increase or decrease of each animal of importance, and shows in tabulated form the sums paid for hunting and other licenses.

ADDITIONAL PUBLICATIONS.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 189. January, 1923. Pp. 1-18. February 27, 1923. Price, 5 cents.

Service and Regulatory Announcements. Federal Horticultural Board. No. 73. July-December, 1922. Pp. 101-141. March 3, 1923. Price, 5 cents.

Experiment Station Record. Vol. 47, No. 9. Abstract number. February 10, 1923. Pp. 801-900. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

EXPERIMENT STATION PUBLICATIONS.

The States Relation Service received for its library files copies of the following publications of the State experiment stations during the week February 26-March 3, 1923. These publications can be obtained only from the stations issuing them.

Results of Cotton Variety Tests. (Alabama Sta. Circ. 47, pp. 10, fig. 1.)

Recommendations Concerning the Common Diseases and Parasites of Poultry in California. By J. R. Beach and S. B. Freeborn. (California Sta. Circ. 251, pp. 44, figs. 34.)

Sodium Arsenite as a Killing Agent in Grasshopper Baits. By C. L. Corkins. (Colorado Sta. Bul. 280, pp. 15.)

Methods of Handling Hay in Colorado. By G. A. Cumings. (Colorado Sta. Bul. 281, pp. 39, figs. 44.)

Heat Transmission of Commercial Wallboard. By G. A. Cumings. (Colorado Sta. Bul. 282, pp. 8, figs. 5.)

Additional Instructions for Laying Out and Constructing the Mangum Terrace. By P. Bain, jr. (Missouri Sta. Circ. 98, Sup. 1922, pp. 2.)

Results of Seed Tests for 1922. By M. G. Eastman. (New Hampshire Sta. Bul. 207, pp. 16.)

An Economic Study of the Production of Canning Crops in New York. By L. J. Norton. (New York Cornell Sta. Bul. 412, pp. 82, figs. 6.)

Factors Influencing Catalase Activity in Apple-leaf Tissue. By A. J. Heinicke. (New York Cornell Sta. Mem. 62, pp. 19.)

Farmers' Market Bulletin. (North Carolina Sta. Farmers' Market Bul. 9 (1922), No. 58, pp. 8.)

Farmers' Market Bulletin. (North Carolina Sta. Farmers' Market Bul. 10 (1923), No. 59, pp. 8.)

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- L'Amazonie brésilienne. Par Paul LeCointe. Paris, A. Challamel, 1922.
- American railroads: government control and reconstruction policies. By W. J. Cunningham. Chicago, A. W. Shaw company, 1922.
- Canada. Royal commission on the reindeer and musk-ox industries. Report. Ottawa, 1922.
- Chemistry of tuberculosis. By H. G. Wells, L. M. DeWitt, E. R. Long. Baltimore, Williams & Wilkins company, 1923.
- Conférence internationale de la chimie. Comptes rendus. 1st-3d. Paris, 1920-22.
- Conference on the economics of highway transport. College Park, 1921. Proceedings. Washington, 1922.
- Essentials of chemical physiology for the use of students. 11th ed. By W. D. Halliburton. London, Longmans, Green and co., 1922.
- Forest tree planting. By J. W. Keller. Harrisburg, 1922. (Pennsylvania. Dept. of forestry. Bulletin no. 28).
- History of chemistry. By F. P. Venable. Boston, D. C. Heath & co., 1922.
- Horticulture for schools. By A. V. Stubenrauch, M. N. Wood, and C. J. Booth. New York, Macmillan company, 1922.
- International trade balance in theory and practice. By T. H. Boggs. New York, Macmillan company, 1922.
- Manual of forestry. 4th ed., v. 1. By Sir William Schlich. London, Bradbury, Agnew & co., ltd., 1922.
- Pharmaceutical and food analysis. By Azor Thurston. New York, D. Van Nostrand company, 1922.
- Physiology of twinning. By H. H. Newman. Chicago, University of Chicago press, 1923.
- Practical color photography. By E. J. Wall. Boston, American photographic publishing co., 1922.
- Précis de parasitologie. 3. éd. Par Emile Brumpt. Paris, Masson et cie. 1922.
- Psychological and ethical aspects of Mormon group life. By E. E. Erickson. Chicago, University of Chicago press, 1922.
- Soybean. By C. V. Piper and W. J. Morse. New York, McGraw-Hill company, inc., 1923.
- Starting right with bees. By H. G. Rowe. Medina, Ohio, A. I. Root company, 1922.
- Studies concerning mosaic diseases. By B. T. Dickson. Gardenville, Quebec, 1922. (Macdonald college. Technical bulletin no. 2.)
- Theory of emulsions and emulsification. By William Clayton. London, J. & A. Churchill, 1923.
- Through the heart of the Rockies & Selkirk. By M. B. Williams. Canada. Dept. of the interior. Dominion parks branch. Ottawa, 1921.
- Tobacco land, a book about tobacco. By C. A. Werner. New York, Tobacco leaf publishing company, 1922.
- Vaccine and serum therapy in veterinary practice. By L. C. Maguire. London, Baillière, Tindall and Cox, 1922.
- OLD BOOKS.
- De boomgaard en het woud. Door H. A. von Kamp. Amsterdam, 1830.
- Florilegium novum. A. J. T. de Bry. Oppenheimse, 1612.
- Hortorum libri triginta. [By] Benoit LeCourt. Lvgduni, 1560.
- Hortus ericæus woburnensis. [By] George Sinclair. London, 1825.
- Hortus stydiosorum. [By] Giacinto Ambrosini. Bononia, 1657.
- Korte verhandeling van de boomen, heesters en houtagtige kruidgewassen. Door G. J. de Servais. Mechelen, 1790.
- Nederland's plantenschat. Door H. C. van Hall. Leeuwarden, 1854.
- Nuovo metodo adattato al clima del Piemonte per coltivare gli annanas senza fuoco. Per Francesco Brochieri. Torino, 1777.
- Ouvres diverses. Par C. C. F. d'Albon. LaHaye, 1778.
- Les plantes qui guérissent et les plantes qui tuent. Par Olivier de Rawton. Paris, 1884.
- Practical gardener, and gentleman's directory. By James Garton. London, 1769.
- Remarques nécessaires pour la culture des fevrs. Par Pierre Morin. Paris, 1658.
- Sheep husbandry. By H. S. Randall. New York, 1852.
- Trattato sulla cognizione, e cultura de' giacinti. Per Jean Paul de Rome d'Ardène. Viterbo, 1763.

Treatise upon planting, gardening, and the management of the hot-house. By John Kennedy. York, 1776.

Verzeichnis und kurze beschreibung der im freien ausdauernden stauden-, zwiebel- und knollgewächse. Von J. K. Cortbum. Zerbst, 1802.

CURRENT PERIODICALS.

- Journal of biochemistry. Tokyo, 1922.
- Oils and fats economic review [monthly] Washington, D. C., 1922.
- Zement; wochenschrift für zement und zementverarbeitung. Berlin-Schöneberg, 1923.

Articles in Current Publications by Department Workers

- Aldrich, J. M. (Bur. Entomology.) New Genera of Two-Winged Flies of the Subfamily Leptogastrinae of the Family Asilidae. Sep. No. 2466 from Proc. U. S. Nat. Mus. vol. 62, art. 20, pp. 1-6, 1923.
- (Entomology.) A New Sugar-cane Miner. Brooklyn Ent. Soc. Bull., vol. 8, No. 1, pp. 22-23, February, 1923.
- Ambler, J. A. (Chemistry.) Coal Tar Dyes We Eat and Drink. American Food Journal, vol. 18, No. 2, February, 1923.
- Bailey, Vernon (Biological Survey.) The Friendly Porcupine. Nature Magazine, vol. 1, No. 2, pp. 19-21, 5 fig, February, 1923.
- Barber, E. R. (Bur. Entomology.) The Sugar-Cane Mealy Bug and Its Control in Louisiana, La. Experiment Station Bulletin 185, 1923.
- Barr, J. E. (Agricultural Economics.) What of the Seeds the Gardener Buys? Market Growers Journal, February 15, 1923.
- Bishop, F. C. (Bur. Entomology.) Dengue Fever and Mosquitoes in the South. Journal of Economic Entomology, vol. 16, No. 1, p. 97, February, 1923.
- The Grub or Heel Fly of Cattle. The Country Gentleman, vol. 88, No. 7, p. 32, February 17, 1923.
- Om oksebrensens Bekaempelse (Fight against the ox warble). By Dr. Laust Broderson. Maamedskrift for Dyrlaeger (Copenhagen), vol. 34, pt. 13, October, 1922. (Review.) Journal of Economic Entomology, vol. 16, No. 1, pp. 102, 103, February, 1923.
- Brown, Nellie A. (Plant Industry.) Experiments with Paris Daisy and Rose to Produce Resistance to Crown Gall. Phytopathology, vol. 13, pp. 87-99, February, 1923.
- Caudell, A. N. (Bur. Entomology.) Steiroxys hender soil, a New Katdid. Sep. No. 2468 from Proc. U. S. Nat. Mus., vol. 62, art. 22, pp. 1, 2, 1923.
- Coad, B. R. (Entomology) and Loughlin, G. F. (Geological Survey.) Report on Available Supply of Arsenic to Supply the Demand in 1923. (U. S. Senate, 67th Cong., 4th sess., Doc. No. 290.)
- Campbell, W. G. (Chemistry.) Standards of Quality in Canned Foods. Amer. Food Journal, vol. 18, No. 2, February, 1923.
- Cook, O. F. (Plant Industry.) Are Any Species Uniform? Or Should the Assumption of "Pure" Species Be Discarded and Diversity Recognized as the Normal Evolutionary Condition? Journal of Heredity, vol. 13, pp. 285-287, June, 1922 (Feb. 15, 1923).
- Cushman, R. A. (Entomology.) A New Subfamily of Braconidae (Hym.) from Termité Nests. Proc. Ent. Soc. Wash., vol. 25, No. 2, pp. 54-55, pls. 4, February, 1923.
- Dodge, B. O. (Plant Industry.) The Distribution of the Orange-Rusts of Rubus. Phytopathology, vol. 13, pp. 61-74, February, 1923.
- Fairchild, David (Plant Industry.) Garden for the Propagation of Tropical and Subtropical Plants. Science, vol. 57, pp. 166-168, February 9, 1923.
- Fellows, A. L. (Public Roads.) Studies of Percolation Through and Hydraulic Pressure Under Earth Dams. Engineering and Contracting, vol. 59, pp. 367, February 14, 1923.
- Gable, C. H., and Baker, W. A. (Bur. Entomology.) Notes on a Migration of *Libythes bachmanni* Kirtl. Canadian Entomologist, vol. 54, No. 12, pp. 265, 266, December, 1922.
- Goidbeck, A. T. (Public Roads.) What the Arlington Investigations are Showing. Engineering and Contracting, vol. 59, pp. 301, February 7, 1923.
- What the Arlington Investigations are Showing. Highway News Digest, vol. 3, pp. 87, February 17, 1923.

- Harlan, H. V. and Merritt, N. P. (Plant Industry.) Many-Noded Dwarf Barley. Journal of Heredity, vol. 13, pp. 269-273, June, 1922 (Feb. 15, 1923).
- Hatt, W. K. (Public Roads.) Field for Future Highway Research. Pacific Street & Road Builder, vol. 12, pp. 21, February, 1923.
- Jackson, F. H. (Public Roads.) Comparison of State Specifications for Crushed Stone and Gravel. Rock Products, vol. 26, pp. 23, February 10, 1923.
- Jewel, P. W. (Chemistry.) The Quantitative Determination of Sparteine in Tablets. In Journal Amer. Pharm. Assoc., vol. 22, No. 2, February, 1923.
- Losh, A. R. (Public Roads.) Highways a Part of the Transportation Industry. Nation's Highways, vol. 2, pp. 14, February, 1923.
- McClendon, S. E. (Bur. Entomology.) Rice Weevil. Journal of Economic Entomology, vol. 16, No. 1, p. 99, February, 1923.
- Milliken, F. B., and Wadley, F. M. (Entomology.) Phasia (Phorantia) Occidentis Walker, an Internal Parasite of the False Chinch Bug. Brooklyn Ent. Soc. Bulletin, vol. 18, No. 1, pp. 28-31, February, 1923.
- Oshima, Kokichi, and Church, M. B. (Chemistry.) Industrial Mold Enzymes. Journal Ind. Eng. Chem., vol. 15, No. 1, January, 1923.
- Phillips, E. F. (Bur. Entomology.) Earthworms, Plants, and Soil Reactions. Ecology, vol. 4, No. 1, pp. 89, 90, January, 1923.
- Reddy, C. S., and Godkin, James (Plant Industry.) A Bacterial Disease of Bromegrass. Phytopathology, vol. 13, pp. 75-86, February, 1923.
- Sasseer, E. R., and Weigel, C. A. (Bur. Entomology.) Further Data on Fumigation with Hydrocyanic Acid Gas in Greenhouses on a Commercial Basis. Journal of Economic Entomology, vol. 16, No. 1, pp. 84-87, February, 1923.
- Shannon, R. C. (Entomology.) A Reclassification of the Subfamilies and Genera of the North American Syrphidae. Appendix. Bulletin Brooklyn Ent. Soc., vol. 18, No. 1, pp. 17-21, February, 1923.
- Sherman, Caroline B. (Agricultural Economics.) Farmer Cooperation and Food Prices. Cooperation, March, 1923.
- Smith, Rollin Edson. The Tariff, and Winnipeg v. United States Wheat Prices. (In Barron's; the National Financial Weekly, vol. 3, No. 7, February 12, 1922, p. 5, diags.) A reply to William Peter Hamilton's article, "Like the Dyer's Hand."
- Stockberger, W. W. (Plant Industry.) The Status of Drug-Plant Growing in the United States in 1921. Journal Amer. Pharmaceutical Association, vol. 12, pp. 120-122, February, 1923.
- Tolley, H. R., and Church, L. M. (Public Roads.) Southern Farmers Say What They Think About Tractors. Automotive Industries, vol. 48, pp. 276, February 8, 1923.
- Walker, Ernest P. (Biological Survey.) The Work of the Biological Survey in Alaska. Alaska School Bulletin, vol. 5, No. 6, pp. 1-4, February, 1923.
- Waterman, H. C., Johns, C. O., and Jones, D. B. (Bur. Chemistry.) Conphaseolin: A New Globulin from the Navy Bean, *Phaseolus vulgaris*. In Journ. Biol. Chem., vol. 55, No. 2, February, 1923.

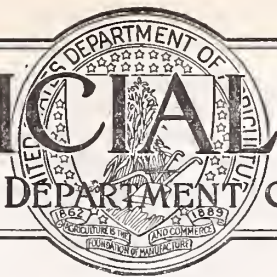
WEATHER, CROPS, AND MARKETS.

Certain changes in the subject matter and style of Weather, Crops, and Markets were made effective with the issue dated March 10. Pages are divided into two columns instead of three as heretofore. The first page contains a table of contents and a general summary of crop and market conditions for the week. Tables are enlarged to include more comparative data. From time to time additional material will be presented to give a complete record of the agricultural industry.

The American Fruit and Vegetable Shippers' Association indorsed the food products inspection service in the report of its annual business meeting.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., MARCH 21, 1923.

No. 12.

CLASSIFICATION ACT DEFINES FIVE CLASSES

All Government Employees Included. Act to be Printed in The Official Record.

The classification act of 1923, passed by Congress just before adjournment and approved by the President on March 4, provides for the classification of civilian positions within the District of Columbia and in the field service. To carry out the provisions of this act a personnel classification board is established to consist of the Director of the Bureau of the Budget, a member of the Civil Service Commission, and the Chief of the United States Bureau of Efficiency. In this board is vested the final responsibility for the classification of all positions to which the act applies and their assignment to one of the grades provided.

The various kinds or types of employment are divided according to their nature and requirements into broad groups or "services." Each service is subdivided into an appropriate number of "grades" to which positions are to be assigned according to the importance, difficulty, responsibility, and value of the work.

The classification board is required to ascertain and record the duties of positions and the qualifications required of incumbents, and to establish regulations under which the head of each department is to allocate all positions in his department in the District of Columbia to their appropriate grades and to fix the rate of compensation of each employee thereunder. The rates of pay fixed by the act apply to civilian employees in the departments within the District of Columbia, with the exception of employees in the skilled trades and laborers whose work is incidental to that of the professional or custodial service.

The classification board is directed to make a survey of the field service and to report to Congress at its next session schedules of positions, grades, and salaries for such services, which shall

follow so far as applicable the principles and rules governing the rates of pay fixed for employees in the District of Columbia.

The act provides that, subject to such rules and regulations as the President (Continued on page 6.)

THE GOVERNMENT'S DOLLAR.

To Department Workers:

A large number of the people in the Department of Agriculture, both in Washington and in the field, are showing by their works that they want to help save Uncle Sam's dollars and want to get the largest value for the dollars they spend. We have made a good record the past year and were commended by General Lord, Director of the Bureau of the Budget, in his address at the meeting of the business organizations of the Government in Washington January 29.

Recently General Lord sent to me an extract from the report of one of the Government coordinating officers in a district in the Middle West, which reads as follows:

On page 14 of the pamphlet reporting your speech on January 29, you speak of the Secretary of Agriculture sending to his representatives outside of Washington an appeal for the conservation of public funds, etc. We can see the result of that appeal whenever we visit any activity of that department. The Department of Agriculture representatives are live men and are doing good work.

Voluntary reports of this kind from budget officers make us all happy. They show that our people in the field, as well as in Washington, have the right spirit. They indicate good team work. One of the fine things about our organization is the increasing evidence that our people all the way along the line from the lowest paid positions to the highest are conscious of their individual responsibility.

Every worker in the Department of Agriculture has the good name of the department in his keeping. The department is judged by the acts of the individual members. Unsolicited testimony such as I have quoted above shows that our people realize this.

I hope that this year we may make a record even better than that of last, not only in economy and efficiency in the spending of money, but in all of our department activities.

In sincere appreciation,

Yewey Wallace

COOPERATION WITH INDUSTRY INCREASES

Packers and Stockyards Unit Handles Large Number of Varied Problems.

More friendly contacts between packers, producers, exchanges, cooperative organizations, and stockyards agencies have been brought about through administration of the packers and stockyards act by the department, according to leaders in both the live-stock and meat industries, despite the fact that much of the time since the act was passed, approximately 18 months ago, has been devoted to building up an organization and the testing of the constitutionality of the act.

Supervisors in 19 Yards.

The Packers and Stockyards Administration is a distinct unit of the department. It is in charge of Chester Morrill, Assistant to the Secretary. The work is divided into five divisions, each in charge of a carefully selected head. These divisions are trade practices; rates, charges, and registrations; audits and accounts; economics; and law. It has live-stock market supervisors stationed at 19 stockyards, as follows: Atlanta, Ga.; Buffalo, N. Y.; Chicago, Ill.; Cincinnati, Ohio; Denver, Colo.; Detroit, Mich.; Fort Worth, Tex.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Calif.; Nashville, Tenn.; National Stockyards, Ill.; New York, N. Y.; Omaha, Nebr.; Pittsburgh, Pa.; North Portland, Ore.; St. Joseph, Mo.; Sioux City, Iowa; and South St. Paul, Minn. From these points the other 60 stockyards coming under the law are visited frequently. There are about 5,000 dealers, commission firms, and other market agencies doing business at these yards.

It has been necessary to file formal complaints in several cases, but by far the largest number have been settled by informal conferences. Many abuses have been corrected in this direct and less expensive manner. Up to March 1, 19 formal complaints had been filed. The

nineteenth was the complaint against the Armour-Morris merger. Final decisions have been handed down in six of these cases, and other decisions will be announced soon.

There has been more or less general complaint regarding the feed charges in the large stockyards. A number of proposed increases have been suspended, and as a result have either been withdrawn or reduced materially. The practices on the part of some commission firms of "string sales" and "marking up" have either been prohibited or placed under certain safeguards.

Auditors of the Packers and Stockyards Administration have completed audits of the books of all commission firms at 22 markets. The administration is thus made familiar with the financial condition of agencies at these markets and can proceed intelligently in protecting the interests of shippers who consign their live stock. Faulty methods of accounting were discovered in several instances and proper corrections suggested. In some cases dishonesty was found on the part of firms or employees and prompt action taken.

Cooperates With Other Bureaus.

Many problems have been settled informally by the supervisors. Among these are the proper assignment or reassignment of pens, better railroad service, the inhumane handling and injury to live stock, disputes arising out of the mixing of live stock in the yards, disputes over scales and weighers, and the matter of feed quality.

The Packers and Stockyards Administration is constantly cooperating with different bureaus in the Department of Agriculture. In cooperation with the Bureau of Animal Industry the buyers in the larger markets were induced to pay prices for reactor cattle equal to those for other cattle of like grade and quality. Before this action was taken the prices were much lower. It is assisting the same bureau in finding better plans for the identification of soft and oily hogs as a means of solving this problem of southern farmers. Development of a governmental market news service is being worked out through cooperation with the Bureau of Agricultural Economics and California authorities.

DOCTOR MOHLER DISCUSSES SOFT PORK.

That some of the live-stock research work being conducted by the Department of Agriculture requires the cooperation of a great many research organizations of the department was pointed out by Dr. J. R. Mohler, Chief of the Bureau of Animal Industry, in an address before the eleventh annual meeting of the Southern Cattlemen's Association at Roanoke, Va., March 13.

Doctor Mohler outlined the method being used to study the causes of soft

pork as an example of a research problem that has both regional and national aspects. In studying the causes of soft and oily pork and in trying to discover a practical solution of the problem the Bureau of Animal Industry has accepted, the cooperation of 10 State experiment stations, the Institute of American Meat Packers, farmers, and branch experiment stations. The hogs are fed and fattened on a variety of rations in those States where peanuts and other feeds known to produce soft pork are grown. They are then shipped to the Department of Agriculture experimental farm at Beltsville, Md., and slaughtered under Federal inspection in the Government abattoir there. Examinations of the carcasses are made by a committee of three composed of a representative of the State experiment stations, a representative of the Bureau of Animal Industry, and a representative of the Institute of American Meat Packers. The facilities of the Government laboratories at Washington are near at hand and the slaughtering conditions and methods of examining the carcasses are more uniform than if the work was conducted at each of the several State experiment stations which are cooperating.

BUREAU CHIEFS SEE FILM LABORATORY.

Chiefs of bureaus of the department met March 10 in the Office of Motion Pictures to inspect the laboratory's improved facilities for making and distributing the department's films. A demonstration of "how movies are made" was given in the studio, after which the visitors were conducted through the dark rooms and other working portions of the laboratory, the inspection giving a view of every step in film production. Several films were shown in the projection room and the Assistant Secretary, Mr. Pugsley, asked the chiefs of bureaus to send to his office any suggestions they may wish to make in regard to changes in the department's motion-picture policies and methods of procedure.

Announcement that the studio may be used by the "still" photographers of the bureaus or for exhibition purposes, and that the projection room may be used for meetings of any kind in which the department is officially interested, was made by Fred W. Perkins, in charge of motion-picture work.

On the preceding day members of the White House Photographers' Association visited the motion-picture laboratory at the invitation of Secretary Wallace. The photographers were much interested in the facilities of the laboratory and praised its arrangement. Secretary Wallace attended and welcomed the visitors, who are accredited representatives at the White House of the film weeklies and other photographic concerns.

Record Amaryllis Show Concludes Successful Week

Work of the department in developing the amaryllis, or "Knight's star lily," from the original tropical strains was brought to the attention of Washington people during the last week, when the tenth annual amaryllis show was held in the department greenhouses. There were 1,200 plants, all in full bloom, in the exhibit, which was held under the auspices of the Bureau of Plant Industry during the period from March 14-21, inclusive.

All of the plants shown this year were hybrids that have been developed in the department greenhouses. A few of the bulbs were as old as eight years, but the majority of them were the result of crosses made in 1920 and 1921. The blooms ranged in color from almost pure white to deep red, with most of the seedlings showing the lighter shades, which are regarded as very desirable.

While at the present time the amaryllis is not extensively handled in this country, either by florists or as a house plant, it lends itself readily to such use. It is not difficult to hybridize, and, while it requires 18 months for the seedlings to come into bloom, the display in the department greenhouses was ample proof of its possibilities both as regards numbers and variety.

In England this plant has for years been much more popular than here and the breeders and fanciers often secure prices which to the amateur seem exorbitant, yet good sorts can be had around \$2 per plant in the English trade. But the greatest satisfaction for the amateur in growing this plant is in the production of hybrid seedlings from crosses he has made between parent plants of his own choosing. The element of chance which is a factor in such work gives zest and encouragement.

RATES SCHEDULE COMPILED.

A schedule of basic commission rates for buying and selling live stock at all the stockyards under the jurisdiction of the packers and stockyards act as filed with the Packers and Stockyards Administration by market agencies was issued in mimeographed form December 28. A schedule of rates covering yardage, feed, bedding, and other miscellaneous stockyard services rendered by stockyards under the jurisdiction of the packers and stockyards act has also recently been compiled in the Packers and Stockyards Administration and issued under date of February 5. The edition of the two mimeographed statements is limited, but a few copies may be obtained from the Packers and Stockyards Administration by those especially interested.

Disinfecting Machines Useful In Pink Bollworm Control

The joint work which the department and several States have under way against the pink bollworm was greatly strengthened the past season by the perfection and installation of cottonseed disinfecting machines. Disinfecting machines were installed in all of the regulated zones in Texas and New Mexico during 1922 and handled the entire seed crop of the year in those zones. There were 37 of these machines in operation. They treated about 35,000 tons of seed. They were found to be perfectly workable in practice and exceedingly economical in operation. The cost of operation ranged from 10 to 25 cents per ton of seed.

The pink bollworm normally feeds on the seeds of the cotton plant. It may remain in a dormant condition in seed for as long as two years. Consequently, the carriage of cottonseed from place to place is by far the most important agency in the dissemination of the pest. The pink bollworm succumbs to a temperature of about 140° F. Cottonseed can withstand a temperature of about 160° without injury to its germinating power. Acting on these facts an exhaustive series of experiments were performed in one of the infested districts in Mexico with various types of machines through which the seed could be run and subjected to a temperature sufficient to kill the worm and not injure the seed. Two distinct types of machines for accomplishing this result were perfected. They are installed in such a manner that the seed passes through them as a part of the continuous process of handling at the gins. The machine is merely interposed between the battery of gins and the seed house. In this way all seed passing through the gins is subjected to a temperature which will kill the pink bollworm.

The installation of these machines practically eliminates any danger of the carriage of infestation over long distances. This has been the principal danger which has confronted the department in its fight against the pink bollworm. The process, however, will not bring about local extermination of the pest for the reason that enough of the larvæ will remain in the fields in seed which has fallen to the ground to maintain the infestation. Nevertheless, the use of disinfecting machines will tend very greatly to reduce the volume of local infestation.

The machines are of two types. The more common one consists of from 17 to 61 steam pipes arranged more or less in cylindrical form. These pipes are stationary. There is an inclosing cylinder

which revolves. On the inner wall of these cylinders are devices which carry the seed from the bottom and repeatedly drop it so that it falls between the heated pipes. The other type discharges live steam directly against the seed, which is thoroughly separated as it passes through the chamber. Both machines are made in sizes sufficient to handle without interruption the discharge of seed from a battery of four gins.

RYE GRADES EFFECTIVE JULY 1.

The final draft of the standards for rye grades are being prepared for promulgation on or before April 1 in order that the 90 days' notice required by law may be given and that the grades may become effective with the movement of this year's crop, on or about July 1. At the four public hearings recently held at New Orleans, Chicago, Minneapolis, and New York City the trade not only indorsed the proposition of official rye grades but agreed with the general structure of the proposed grades and the major factors to be considered, and offered constructive criticism and suggested a few minor changes. The Bureau of Agricultural Economics is now considering the suggestions received at the hearings or contained in written communications from persons unable to attend the hearings.

According to the proposed standards, rye shall be graded and designated No. 1, No. 2, No. 3, No. 4, or sample grade. The specifications for the four numerical grades include such factors as condition, minimum test weight per bushel, and maximum limits of moisture, damaged kernels, and foreign material other than dockage. Sample grade is rye which does not come within any of the grades from Nos. 1 to 4, inclusive, or which has any commercially objectionable foreign odor except of smut, garlic, or wild onions, or is heating, hot, or otherwise of distinctly low quality, or contains small inseparable stones or cinders.

The recommended grades are the result of extensive investigations relating to the various phases of the rye industry made in the Bureau of Agricultural Economics. The principal work of formulating the grades was performed by John H. Cox and H. E. Earp under the supervision of E. G. Boerner.

CONFERENCE ON BEE IMPORTATION.

A conference to obtain additional information regarding the distribution of dangerous diseases of adult bees and to learn the opinions of the beekeepers of the country regarding these regulations was held Monday, March 12, in the New National Museum Building. Several prominent beekeepers were present and, in addition, a considerable number of

letters were received from interested beekeepers. In accordance with the law approved August 31, 1922, the Secretary of Agriculture and the Secretary of the Treasury are authorized to make rules and regulations governing the importation of adult honeybees from countries in which it is determined that no diseases dangerous to adult honeybees exist. Regulations that have been suggested were discussed fully and were indorsed by those in attendance. It was the unanimous opinion of the conference that no importations of adult honeybees should be made unless this can be done without danger to the beekeeping interests of the country.

The law was passed primarily to prevent the introduction of a disease of adult honeybees, known as the Isle of Wight disease, into the United States. This disease has now been found on the continent of Europe and is rather widely distributed there. It has destroyed whole apiaries in many places and is evidently one of the most serious diseases of honeybees ever found. A search during the past two summers has failed to show any cases of this disease in the United States, although it is desirable and necessary that this search be continued for some time.

TO DEMONSTRATE NAVAL STORES.

Practical and profitable methods for the production of naval stores are being demonstrated in the South by George O. Shingler, jr., of the Bureau of Chemistry. The object of the naval stores demonstration work is to help the individual producer conduct his operations in the most practical and profitable way.

Mr. Shingler's headquarters during the month of March will be in the United States food and drug inspection laboratory, customhouse, Canal and Decatur Streets, New Orleans, La., and during the month of April in the United States Customhouse, food and drug inspection laboratory, Bay and Bull Streets, Savannah, Ga. During these two months Mr. Shingler will travel through naval stores producing sections of the South to confer with individual producers who desire assistance in improvements in operation.

More than 250 different varieties of the sweet potato which were grown from seed last year are being cultivated at the Federal experiment station in the Virgin Islands this season. One hundred of these new varieties are being grown in plats and are being checked against their parent varieties. Those not included in this comparative yield test are still in nursery rows where plant material is being propagated for more extensive trial plantings.



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Coordination and the Budget Discussed in Club Meeting

Commander A. S. Wadsworth, U. S. N., coordinator for the First Corps Area, spoke before the meeting of the United States Department of Agriculture Club at Boston December 21, 1922. Commander Wadsworth's subject was "Coordination and the Budget." Speaking of the progress which has been made in connection with coordination with the activities of the Government outside of Washington, Commander Wadsworth said:

"Coordination is in its infancy, but I believe that it is now quite a lusty, healthy infant, that it has a great future before it, and that it will eventually grow into a strong, healthy man. If the same splendid spirit of cooperation which exists between the representatives of the Federal Government in this area and the office of the area coordinator were adopted and practiced by each and every member of the Government service, coordination would rapidly develop into a man full grown.

"The necessity for cooperation between the various departments of the Government increased as the volume of Government business expanded. Methods which were efficient when we were a nation of only a few million people cease to be efficient now that we have grown to over a hundred million. Methods which were efficient and economical 100 years ago are inefficient and extravagant to-day. Due to the increase in population and the development of improved methods of transit and communication, the demands on the Government have multiplied and are constantly becoming more varied and complex. Hence the necessity for the introduction of up-to-date methods and practices into the business organization of the Federal Government.

"It has been proved in the commercial world—and after all the Government is nothing more or less than a vast business organization, the function of which is to render service and protection to the people—that small individual units can not function as efficiently and economically as one large unit under one management in which there are several semi-individual units so organized and administered as to insure cooperative operation, and thus representing a coordinated organization, capable of the maximum in efficiency, service, and economy."

The area coordinator called attention to the fact that one of the principal duties of the coordinating machinery is the advocacy of thinking in general

rather than in individual terms. He said:

"By all means consider the welfare and efficiency of your own department first, but never lose sight of the fact that your obligations are to the General Government and that your cooperation and the cooperation of the particular activity of which you are a member are of major importance to the Government as a whole.

"Until the establishment of the Bureau of the Budget, each department went its own gait without reference to other departments and without any idea or thought as to where the funds necessary to its operation were to be procured. It was considered only necessary to get an appropriation through Congress. No thought was given as to how the department could function efficiently and at the same time economically. The motto was spend all you can get, and if the appropriation exceeds the actual running expenses spend the unexpended balance before the end of the fiscal year, for perhaps if this were not done Congress would cut down your appropriation for the next year."

The departmental clubs present a splendid opportunity for the making of better contacts between the department people and the Budget Bureau coordinators and representatives of other Government departments and it is believed that many of the other department clubs will take up the plan used by the Boston office of meeting the coordinator in this way.

EMPLOYEES' PATENTS PROTECTED.

In accordance with the regulations of the department, which require that inventions by employees resulting from the use and expenditure of Government time and money are to be given to the Government, it has been the practice, when an application for a patent is filed, to put on record at the same time the applicant's assignment of his right therein to the Assistant Secretary and a dedication of the patent by the Assistant Secretary to the Government and the people.

Recently an application for a patent on condensers having been filed by an employee of the Bureau of Chemistry according to the approved practice, it was placed in interference with the application for a similar patent by a private person and the attorney for this applicant sought to have the department employee's application canceled on the ground that his assignment and the subsequent dedication constituted an abandonment of the invention.

An exhaustive brief on the effect of the assignment and dedication and on the law of abandonment was prepared by a representative of the Department of Justice, with the assistance of a representative of the Solicitor's Office of this department, and submitted to the Commissioner of Patents, who thereupon de-

ecided that such assignment and dedication did not constitute an abandonment and that the Government employee therefore had not lost his right to a patent.

RAILROADS PAY FINES.

Representatives from the Office of the Solicitor and the Bureau of Animal Industry recently met in Buffalo to confer with the United States attorney and the officials of certain railroad companies for the purpose of effecting a settlement of a large number of cases pending in that district, under the 28 hour law, for the prevention of cruelty to animals shipped interstate. As a result, the railroad companies entered a plea of guilty in most of the cases pending against them and have been assessed penalties as follows: New York Central Railroad Co., \$52,700; Wabash Railway Co., \$900; Grand Trunk System, \$1,300; Nickel Plate Connecting Railroad Co., \$5,000; and Michigan Central Railroad Co., \$1,800.

Negotiations were also had between representatives of the Solicitor's Office and the Bureau of Animal Industry and officers of the Pennsylvania Railroad Co. in connection with approximately 840 28-hour cases pending against the railroad company in the Pittsburgh district. As a result of this conference, the railroad company entered a plea of guilty in 761 cases and has been assessed penalties amounting to \$76,100.

GERMAN STUDENT REQUESTS JOURNAL.

A request for copies of the Journal of Agricultural Research for the past 15 years has been received from a German student at Kiel. He alludes to the present value of the German currency and the economies that the students are compelled to practice, explaining that if the publications can not be sent free of charge it will be necessary for him "to renounce the hope of having them." To send copies of the publication for the last 15 years is, of course, impossible, but reprints of several special papers likely to be of value will be dispatched to the young man.

The Bureau of Chemistry is making the necessary preparations to collect annual statistics on turpentine and rosin in the hands of the consuming industries and also statistics showing the stocks of rosin and turpentine at the primary ports and chief marketing centers. Figures will be made public jointly by the Bureau of Chemistry and the Bureau of the Census and will be available some time in May.

U. S. D. A. CLUB ACTIVITIES

PORTLAND (OREG.) CLUB.

Dr. J. V. Hoffman, director of the Wind River Forest Experiment Station, at Stabler, Wash., spoke on "Forest research" at the March luncheon meeting of the Department Club of Portland, Oreg. Fifteen members were present. L. C. Pratt, deputy forest supervisor of the Chugach National Forest, Alaska, was a guest at the meeting. The feature of the menu was bear meat.

W. F. Staley, chairman of the smoker committee, made a report on the plans for the smoker, which will be held not later than April 15. The question of a summer camping area was also discussed.

ST. JOSEPH CLUB.

The St. Joseph Contact Club met at the St. Charles Hotel, Friday, March 9. The guest and speaker of the club was Purl E. Manifold, editor of the St. Joseph Stockyards Journal. The importance of the St. Joseph live-stock and meat-packing industry was discussed. This club will elect officers in April.

CHICAGO CLUB.

Secretary Wallace was the principal speaker and guest of honor at the March meeting of the Chicago U. S. D. A. Club, which was held at the Great Northern Hotel March 12. After the Secretary's talk, remarks were made by the following, who discussed the particular lines of work upon which they are engaged: J. T. Voshell, Bureau of Public Roads; L. T. Krake, Packers and Stockyards Administration; J. S. Campbell, E. W. Baker, W. P. Carroll, B. E. Yaden, and Nick Fennema, of the Bureau of Agricultural Economics; G. W. Hoover, Bureau of Chemistry; and Prof. H. J. Cox, Weather Bureau. Forty members were present at the dinner.

Twenty-four new members have joined the club since the first of the year.

SAN FRANCISCO CLUB.

The San Francisco Club met March 7 at the Commercial Club, Merchants Exchange Building. Fourteen were present. C. H. Sweetzer, of the Bureau of Public Roads, discussed his work and sketched the history of the bureau and its activities down to date. Nine bureaus were represented at the meeting.

At the April meeting W. S. Fields, of the Federal Horticultural Board, will speak on the citrus canker and quaran-

tine work. The May meeting of the club will be held at the Faculty Club of the University of California at Berkeley.

LAND ECONOMICS ROUND TABLE.

C. R. Chambers, of the Bureau of Agricultural Economics, read a paper on the valuation of farm land at the meeting of the Round Table on Land Economics, held March 13, and L. S. Murpay, of the Forest Service, read a paper on the valuation of forest land. J. S. Cole, of the Bureau of Plant Industry, discussed conclusions as to problems of land utilization in the Great Plains region as indicated by the data gathered for a number of years in the dry-land experiment stations at the March 20 meeting. E. O. Wooten, also of the Bureau of Agricultural Economics, presented data on the influence of land tenure on the utilization of land in the Great Plains region at the same meeting.

FARMSTEAD DEVELOPMENT DISCUSSED.

The development of the farmstead so as to increase its efficiency, healthfulness, and attractiveness, and the service which may be rendered in this direction by extension workers, were discussed by F. L. Mulford, office of horticultural and pomological investigations, Bureau of Plant Industry, at a conference of department extension workers in the office of cooperative extension work, States Relations Service, March 13. J. Franklin Collins, office of forest pathology investigations, Bureau of Plant Industry, talked of the care of trees and simple measures of dealing with their injury which the average farmer could carry out for himself. Both discussions were illustrated by photographs and lantern slides, and a number of small sections of trees showing methods of treating injuries were exhibited.

BASEBALL CLUB PLANS SEASON.

Agriculture will again be represented in the Departmental Baseball League for the coming season. At a meeting held Friday afternoon, March 9, in the Fourteenth Street greenhouse, which was attended by a large number of candidates, plans and arrangements for the coming season were discussed. Charles J. Benner, of the Division of Accounts and Disbursements, was elected manager. Upon his election he asked the support and cooperation of all those interested in baseball and expressed a desire to organize a ball club capable of producing results and one that will be a credit to the

department. Baseball interest in the department has lagged in the past few years, and an attempt will be made to retrieve the interest that has been shown by employees who have represented the department when Agriculture made a success on the diamond. When weather conditions permit, it is the desire of the manager to arrange practice dates, and all who have played baseball are urged to come out in order that Agriculture may make a favorable showing. Practice dates will be announced at a later date. All those who are interested in baseball are asked to send their names to the manager.

TO STUDY WILD LIFE IN GUATEMALA.

Harry Malleis, field assistant of the Biological Survey, left Washington March 10 for the Lake Peten district and other points in Guatemala, with the plan to stop en route at Belize and at Turneffe Island, off the coast of British Honduras. The main object of the expedition is to procure a number of specimens of the ocellated turkey and the curassow, with a view to attempting to acclimatize them on Sapalo Island, on the coast of Georgia, and to domesticate this species of turkey. In addition to this work, scientific collections and observations will be made of the birds, mammals, reptiles, and batrachians of the region to add to the Biological Survey's study material of North American wild life. Deer, peccaries, and other large species will be obtained when possible, and it is likely that a number of previously unknown birds will be secured, as in the tropical forests many species are encountered only at widely separated intervals. Part of the work will be done cooperatively with an expedition now in the Peten district sent out by the Carnegie Institution.

LEACHING SYSTEM DEVELOPED.

Dr. J. W. Turrentine, formerly in charge of the experimental kelp-potash plant of the Bureau of Soils at Summerland, Calif., has developed a lixiviating system for industrial use, involving some new principles of counter-current leaching, for which a public patent is being sought. This process and apparatus was given a thorough try out and demonstration in the extraction of potash and iodine from kelp. It is applicable to a long list of industrial processes where continuous, automatic, efficient, and economic leaching is desired.

PEOPLE MENTIONED IN OFFICIAL ORDERS

E. O. Whittier, of the Bureau of Chemistry, will attend meetings of the American Chemical Society to be held at New Haven, Conn., April 2 to 7. He will read a paper entitled "The determination of mucic acid." Dr. George E. Holm, of the same bureau, will also attend the meeting and will read papers entitled "The Kreis test" and "The quantitative determination of tryptophane." Dr. R. O. E. Davis and Dr. J. W. Turrentine, of the Bureau of Soils, will also attend these meetings.

Dr. D. Breese Jones, chemist in charge of the protein investigations laboratory, Bureau of Chemistry, attended the meeting of the Chemical Society of Rochester held at Rochester, N. Y., March 19 and 20, and delivered an address entitled "The protein factor in nutrition."

R. E. Doolittle, of Chicago, chief of the central food and drug inspection district of the Bureau of Chemistry, is in Washington attending a meeting of the joint committee on definitions and standards.

W. R. M. Wharton, of New York, chief of the eastern food and drug inspection district of the Bureau of Chemistry, was in Washington March 12 conferring with officials of the Bureau of Chemistry regarding regulatory campaigns.

W. M. Mann, of the Bureau of Entomology, is making a special investigation of the fruit fly situation in Mexico for the Federal Horticultural Board. He left Washington early in January and entered Mexico at Nogales, Ariz.

W. B. Wood, of the Federal Horticultural Board, during the month of February inspected the plants for distribution at the field stations of the Office of Foreign Seed and Plant Introduction at Savannah, Ga., and Brooksville and Miami, Fla.

A. G. Webb, in charge of the work of the Federal Horticultural Board at Seattle, Wash., has been temporarily transferred to Washington, D. C., to assist in the inspection of plants introduced under special permit.

Clyde P. Trotter, who has had about two years' experience in the inspection work on the Mexican border, as well as about eight months' experience in maritime inspection work in New Orleans, La., was recently transferred to Galveston, Tex., to take charge of the work of the Federal Horticultural Board at that port.

G. P. Rixford, of the Bureau of Plant Industry, who is in charge of the Smyrna fig investigations on the Pacific coast, with headquarters at San Francisco, will attend a number of meetings of growers connected with the fig industry during the coming season.

Carlile P. Winslow, of the Forest Products Laboratory, and A. C. Knauss are in attendance at the annual meeting of the Southern Pine Manufacturers' Association at New Orleans. Mr. Winslow will also attend meetings of the National Lumber Manufacturers' Association being held at the same time in New Orleans.

T. Ralph Robinson, of the office of crop physiology, will attend a meeting of the Florida State Horticultural Society to be held at Orlando April 17-19. He will speak on some phase of the department's citrus-breeding work.

H. M. Dixon, States Relations Service, left March 14 to confer with supervisors of extension work regarding farm management exten-

sion programs and to study methods of conducting field work in farm management demonstrations in Illinois, Iowa, Indiana, Ohio, and Kentucky.

O. E. Williams, of the Bureau of Animal Industry, attended a meeting of the Virginia creamery men at Charlottesville, Va., March 7, where he spoke on "Trade obstacles."

I. L. Hobson, States Relations Service, left Washington, D. C., March 11 to confer with supervisors of extension work in Kentucky, Iowa, North Dakota, Minnesota, and Nebraska regarding plans for extension work with farm boys and girls for the coming season. Mr. Hobson will also confer with officials of the Interstate Fair Association at Sioux City, Iowa, concerning junior extension exhibits for 1923, returning to Washington about April 6.

E. R. Kalmbach, assistant biologist of the Biological Survey, attended hearings at the statehouse, Concord, N. H., March 8, by arrangement of the State game and fish commission, and gave expert testimony regarding the food habits and game value of the ruffed grouse. This bird is said by horticulturists to be injurious to apple trees, as it feeds on the buds. Investigation is planned to determine whether control measures are necessary.

Arthur H. Howell, assistant biologist of the Biological Survey, left Washington March 10 for Sebring and other points in Florida to continue investigations carried on during previous years of the bird, mammal, and other wild life of the State.

CLASSIFICATION ACT DEFINES FIVE CLASSES

(Continued from page 1.)

may prescribe, and regardless of the department in which the position is located, an employee may be transferred from a position in one grade to a vacant position within the same grade at the same rate of pay, or promoted to a vacant position in a higher grade at a higher rate of pay, in accordance with civil-service rules.

Rules Governing Compensation.

1. In computing the existing compensation of an employee, any bonus which the employee receives shall be included.

2. If the employee is receiving compensation less than the minimum rate of the grade or class thereof in which his duties fall, the compensation shall be increased to that minimum rate.

3. If the employee is receiving compensation within the range of salary prescribed for the appropriate grade at one of the rates fixed therein, no change shall be made in the existing compensation.

4. If the employee is receiving compensation within the range of salary prescribed for the appropriate grade, but not at one of the rates fixed therein, the compensation shall be increased to the next higher rate.

5. If the employee is not a veteran of the Civil War, or a widow of such veteran, and is receiving compensation in excess of the range of salary prescribed for the appropriate grade, the compensation shall be reduced to the rate within the grade nearest the present compensation.

6. All new appointments shall be made at the minimum rate of the appropriate grade or class thereof.

The act provides that the rates of pay established shall not become effective until July 1, 1924. The present rate of pay plus the \$240 bonus will be continued during the next fiscal year.

Professional and Scientific Service.

This service includes those positions the duties of which are to perform work which is based upon the established principles of a profession or science and which require training equivalent to that represented by graduation from a college or university of recognized standing. There are seven grades in this service and the corresponding range of salary is from \$1,860 to \$7,500.

Subprofessional Service.

Positions in this service are those the duties of which are to perform work related to that required in the professional and scientific service, and which requires professional, scientific or technical training inferior to that represented by graduation from a college or university of recognized standing. There are eight grades in this service, the salary range being from \$900 to \$3,000.

Clerical, Administrative, and Fiscal Service.

In this service are included all classes of positions the duties of which are to perform clerical, administrative, or accounting work or any other work commonly associated with office, business, or fiscal administration. There are 14 grades in the service and the salary range is from \$1,140 to \$7,500.

Custodial Service.

The custodial service includes all classes of positions the duties of which are to supervise or to perform manual work involved in the custody, maintenance, and protection of public buildings, premises, and equipment, the transportation of public officers, employees, or property, and the transportation of official papers. The salary range in this service is from \$600 to \$3,000.

Clerical-Mechanical Service.

This service includes all classes of positions which are not in a recognized trade or craft and which are located in the Government Printing Office, the Bureau of Engraving and Printing, and the mail-equipment shop, the duties of which are to perform or direct manual or machine operations, or to perform or direct the counting, examining, sorting, or other verification of the product of manual or machine operations.

The entire reclassification bill will appear in the issue of THE OFFICIAL RECORD for March 28.

BRIEF REVIEWS OF NEW BULLETINS.

Cost of Using Tractors on Corn-Belt Farms. By L. A. Reynoldson, junior farm economist, Bureau of Agricultural Economics, and H. R. Tolley, agricultural engineer, Bureau of Public Roads. Pp. 14, figs. 6. (Farmers' Bulletin 1297.) Price, 5 cents.

Principal items of cost in operating a tractor, in order of their relative importance, are: Depreciation, fuel, repairs and upkeep, interest, and lubricating oil. Other costs making up the total cost are: Labor in repairing and attending the tractor, housing, grease, taxes, and insurance. Granting that any tractor will do the work for which it is made, first cost is stated to be the item which demands greatest consideration on the part of the purchaser. This item depends on the size, type, and make of machine and should indicate fairly well the quality. To determine depreciation charges on a tractor whether by the day or year, first cost is divided by the total useful life in years, or the days of work done during the life of the machine. The annual cost for interest on a tractor is a fixed charge for each year of life. The bulletin gives a simple formula for figuring the interest on a tractor costing any amount and giving different numbers of years' service. To keep repair expense at a minimum, the farmer is advised to do his own repairing and overhauling so far as possible.

Quackgrass. By L. W. Kephart, assistant agronomist, office of forage-crop investigations, Bureau of Plant Industry. Pp. 32, figs. 15. March, 1923. (Farmers' Bulletin 1307.)

Quackgrass can rarely be exterminated on large areas, but it can be brought under reasonable control. The best plan is to allow it to form a sod and then plow it in mid-summer during dry, hot weather. After plowing the field should be harrowed frequently until winter, and the following year planted with a cultivated crop.

Quackgrass occurs most abundantly in the region north of the Ohio and east of the Missouri Rivers. During recent years it has been found invading the valley lands near the Pacific coast. To combat the pest it is important that farmers should be able to recognize it at sight. Its control depends more than anything else on the character of the season, and fair weather is essential if any progress is to be made. Cultivation in wet weather encourages the weed to spread. Where it is possible to plow infested fields where the roots can be covered to a great depth, as is sometimes practiced, using two plows one following the other in the same furrow, this method has proved satisfactory, though skillful plowmen and special plows are necessary. The bulletin suggests certain systems of cropping, the use of smother crops, and other miscellaneous methods of control.

The Corn Earworm: Its Ravages on Field Corn and Suggestions for Control. By W. J. Phillips, entomologist, and Kenneth M. King, scientific assistant, cereal and forage insect investigations, Bureau of Entomology. Pp. 18, figs. 18. January, 1923. (Farmers' Bulletin 1310.)

The loss from the corn earworm to the field-corn crop of this country amounts, at a conservative estimate, to \$40,000,000 annually. A reduction of this loss by at least one-half is possible if each corn grower will select a variety suited to his local conditions, but having a long tight husk; and if he will plant this variety in good soil so as to have it in silk at the most favorable time, when

the moths of the earworm are least abundant. The information as to the habits and life history of the earworm given in the bulletin serves as a guide in choosing the best time to plant.

Fall or winter plowing under certain conditions is recommended to destroy the pupæ in the soil. Arsenical sprays or dusts, if applied by hand to the silks at the time the moths are laying their eggs, are advisable when the type of crop is sufficiently valuable, but do not pay with field corn. Community effort reduces the percentage of infestation.

The corn earworm, under various names, attacks other plants. As the "hollworm" it infests cotton. As the "tomato fruitworm" it is very destructive to early tomatoes. It attacks tobacco, vetch, alfalfa, cowpeas, beans, and a great variety of other plants, although it prefers corn in the milk stage when this food is available.

Commercial Control of Citrus Melanose. By John R. Winston, pathologist, and John J. Winston, junior pathologist, office of fruit disease investigations, Bureau of Plant Industry. Pp. 8, March, 1923. (Department Circular 259.) Price, 5 cents.

Much of the damage to grapefruit and oranges caused by the fungous disease known as melanose, or "sandpaper russet," may be avoided, according to this bulletin, if the methods suggested by it are put in practice. Theoretically melanose might be controlled by the removal of sources of infection by pruning out all dead wood in citrus orchards. To prune with the required degree of thoroughness, however, would be an endless undertaking and a doubtful paying practice. Spraying tests have indicated that melanose can be readily controlled by one or two applications of standard 3-8-50 Bordeaux mixture plus 1 per cent of oil in the form of oil emulsion applied before May 5 in the average season. A spray schedule for controlling this disease and explanatory material on the making of mixtures is included in the bulletin.

Soil Survey of Washington County, Ore. By E. C. Eckmann and E. B. Watson, of the United States Department of Agriculture, and A. L. Fluharty and C. V. Ruzek, of the Oregon Agricultural Experiment Station. Pp. 51, fig. 1, pl. 1, map. (From F. O. Soils, 1919.)

Prices of farm land in Washington County, Ore., are governed by topography, drainage, amount of clearing and improvements, distance from markets, and proximity to good roads and railroads, rather than by the actual soil characteristics, according to this report of the soil survey made in cooperation with the Oregon Agricultural Experiment Station. The report includes accurate information on the various soils of the area, as well as its agricultural history, topography, climate, crops, farm practices, population, and transportation. It will be found a valuable aid in the determination of suitable location for different types of farming. A colored map shows the extent and location of all soil areas. Washington County has been primarily an agricultural county since its earliest settlement, having progressed through the successive stages of live-stock raising on the open range and grain farming to a system which includes both live stock and grain. Fruits now occupy a prominent place among the commercial crops of the county, fruit growing being rather highly developed in the hill sections of the county and largely taking the place of wheat in what were once the wheat-producing sections of the county. The dairy

industry now constitutes one of the most important sources of income.

In the eastern half of the county the farms range in size from 10 acres to as high as several hundred acres. In the western or middle section of the agricultural part of the county the farms are larger, ranging from 50 to several hundred acres. The townships along the western line of the county are still in fir timber and undeveloped.

ADDITIONAL PUBLICATIONS.

Monthly Weather Review. Vol. 50, No. 12.

December, 1922. (Mar. 9, 1923.) Pp. 615-676, figs. 40, charts 15. Price, 15 cents a copy, \$1.50 a year, payable to the Superintendent of Documents. Special Articles: Daylight illumination on horizontal, vertical, and sloping surfaces, by H. H. Kimball and I. F. Hand; Some meteorological aspects of the ice patrol work in the North Atlantic, by E. H. Smith; Polar ice drift and sun-spots, by G. N. Ifft; A review of Geophysical Memoires No. 19, by A. J. Henry; Relation of weather conditions to wireless audibility, by M. P. Brunig; The connection between pressure and temperature in the upper layers of the atmosphere, by W. H. Dines; Average free-air winds at Lansing, Mich., by C. L. Ray, note by W. R. Gregg; Relation of crop yields to quantity of irrigation water in southwestern Kansas, by J. B. Kincer; The weather of 1922, by A. J. Henry.

Horse-Breeding Suggestions for Farmers. By H. H. Reese, animal husbandman, Animal Husbandry Division, Bureau of Animal Industry. Pp. 20, figs. 10. Revised January, 1923. (Farmers' Bulletin 803.)

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week March 5-10, 1923. These publications can be obtained only from the stations issuing them.

Control of Bacillary White Diarrhea, 1921-22. By G. E. Gage and O. S. Flint. (Massachusetts Sta. Control Ser. Bul. 22, pp. 8.)

The Quarterly Bulletin. (Michigan Sta. Quart. Bul., 5 (1923), No. 3, pp. 93-153, figs. 20.)

Cotton Experiments, 1922. By J. F. O'Kelly and R. Cowart. (Mississippi Sta. Circ. 45, pp. 6.)

Corn Experiments, 1922. By J. F. O'Kelly and R. Cowart. (Mississippi Sta. Circ. 47, pp. 7.)

Potato Diseases in Nebraska. By R. W. Goss. (Nebraska Sta. Bul. 186, pp. 32, figs. 12.)

Preliminary Smudging Experiments. By F. Garcia and A. B. Fite. (New Mexico Sta. Bul. 134, pp. 26, figs. 5.)

The Pears of New York. By U. P. Hedrick et al. (New York State Sta. Rpt. 40 (1921), Pt. II, pp. X1+636, pls. 82.)

Preliminary Study of the Methods and Means of Handling Fresh Produce in Rhode Island. By H. B. Hall. (Rhode Island Sta. Bul. 192, pp. 28, figs. 2.)

Bimonthly Bulletin of the Western Washington Experiment Station, Puyallup, Wash. (Western Washington Sta. Bimo. Bul., 10 (1923), No. 6, pp. 114-136, fig. 1.)

Marketing by Cooperative Sales Companies. By T. Macklin. (Wisconsin Sta. Bul. 346, pp. 32, figs. 10.)

Spring Wheat Production in Eastern Wyoming. By A. L. Nelson. (Wyoming Sta. State Farms Bul. 1, pp. 12.)

Winter Wheat Production in Eastern Wyoming. By A. L. Nelson. (Wyoming Sta. State Farms Bul. 2, pp. 13-22.)

Revised regulations for cotton warehouses have been made available to the public in the form of Circular 158 of the Office of the Secretary issued under the provisions of the United States warehouse act. This publication supersedes Circulars 94 and 143 of this series.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Birds in flight. By W. P. Pycraft. London, Gay & Hancock limited, 1922.
- Body mechanics and health. By L. C. Thomas and J. E. Goldthwait. Boston, Houghton Mifflin company, 1922.
- Business man's commercial law library. By A. S. Bolles. Garden City, N. Y., Doubleday, Page & company, 1919.
- Colloidal state in its medical and physiological aspects. By Sir. W. M. Bayliss. London, H. Frowde, 1923.
- Compendium hymenonymetum. fasc. 6. By Auguste Sartory. Paris, 1922.
- Cotton kingdom, a chronicle of the Old South. By W. E. Dodd. New Haven, Yale university press, 1921. (The chronicles of America series. Textbook ed.)
- Elementary agriculture. By H. J. Waters. Boston, Ginn and company, 1923.
- Fiji blue book, 1920-1921. Fiji Islands. Colonial secretary's office. Suva, 1921-22.
- Flore complète illustrée en couleurs de France, Suisse et Belgique. fasc. 56-58. Par Gaston Bonnier. Neuchâtel, Delachaux et Niestlé [1922?]
- How farm tenants live. By J. A. Dickey and E. C. Branson. A social-economic survey in Chatham County, N. C. Chapel Hill, N. C., University of North Carolina press, 1922.
- Industrial development of Kansas. By P. F. Walker. Lawrence, Kans., 1922. (Kansas. University. Engineering bulletin no. 12.)
- Introduction to co-operation in India. By C. F. Strickland. London, H. Milford, 1922.
- Introduction to theoretical and applied colloid chemistry. By Dr. Wolfgang Ostwald. Translation from the 8th German ed. 2d American ed. New York, John Wiley & sons, inc., 1922.
- Lessons in practical electricity, an elementary text book. By C. W. Swoope. 16th ed. New York, D. Van Nostrand company, 1922.
- New guide to reference books. By I. G. Mudge. Chicago, American library association, 1923.
- Norrland, the land of forests, waterfalls and iron mountains. By H. W. Ahlmann. Stockholm, General export association of Sweden, 1922.
- Outdoor opportunities. Kansas City, Mo., Outdoor enterprise publishing co., 1922.
- Oxford and the rural problem. By Sir Horace Plunkett. London, H. Milford, 1921. (Barnett house papers. no. 6.)
- Philosophic view of the land question. By Henry Fox. London, Kingsley press ltd., 1921.
- Population and resources of Cape Cod. Massachusetts. Dept. of labor and industries. Boston, 1922.
- Record bags and shooting records. By H. S. Gladstone. London, H. F. & G. Witherby, 1922.
- Russia, a consideration of conditions as revealed by Soviet publications. American bankers association. Commission on commerce and marine. New York, 1922.
- Stock exchanges of London, Paris, and New York. By G. R. Gibson. New York, G. P. Putnam's sons, 1889.
- Trade and transportation between the United States and Spanish America. By W. E. Curtis. Washington, 1889.
- Wages and hours of labour in Canada, 1921 and 1922. Canada. Dept. of labour. Ottawa, 1922.

THESES.

- Diastatic enzymes of wheat flour and their relation to flour strength. By L. A. Rumsey. Chicago, Ill., 1922.
- Flour strength as influenced by the addition of diastatic ferments. By F. A. Collatz. Chicago, 1922.
- Untersuchungen über den einfluss von temperaturen auf fermente, besonders von lab und pepsin. Von Adolf Koenig. Berlin, J. Springer, 1920.
- Visual perception of the chick. By H. C. Bingham. Baltimore, 1922. (Behavior monographs, v. 4, no. 4, 1922.)

CURRENT PERIODICALS.

- American geographical society of New York. Research series. New York, 1921.
- Associazione italiana pro piante medicinali, aromatiche ed altre utili. Bollettino [monthly]. Milano, 1918.
- Mexico forestal [monthly]. [Mexico? 1923.] Science bulletin. South Africa. Dept. of agriculture. Division of botany. Pretoria, 1923.

University journal of business [quarterly]. Chicago, 1922.

World convention dates [monthly]. New York, 1922.

MOTION-PICTURE TRUCK IN USE.

A 1-ton motor truck equipped with an electric-light plant and carrying a complete motion-picture outfit is one of the means successfully used by the Bureau of Animal Industry during the last year to familiarize people of the South with the benefits of tick eradication. The electric-light outfit includes a 24-cell plant charged from a generator; it furnishes light for the exterior and interior of buildings where the pictures are shown, as well as for the projection of motion pictures. Due to inferior roads in many regions that must be reached, the equipment is arranged so that it can be detached either by wagon or muleback.

During the calendar year 1922 the message of tick eradication was presented at 194 schoolhouses to audiences aggregating more than 35,000 persons. The work was conducted in North Carolina, Louisiana, and Alabama, and is being continued this year in Mississippi and Arkansas. Pictures shown are entirely educational and deal with agriculture and the work of the United States Department of Agriculture. Those dealing with the eradication of cattle ticks and live-stock subjects are shown chiefly, but are supplemented by other films, depending on the kind of agriculture practiced in the locality. The motion pictures are shown as the result of arrangements made by department representatives with State and county superintendents of schools and with State and local live-stock sanitary organizations.

Although the pictures are supplemented with talks and discussions relating to tick eradication and agriculture, all talks are limited to a maximum of five minutes for any speaker. Reports received by the Bureau of Animal Industry show that the message of the pictures is not only favorably received, but that the truck, outfit, and operator are in some cases the only visible influence of the Department of Agriculture that the persons have seen.

The States Relations Service loaned 972 sets of lantern slides to schools throughout the country for use in connection with their instruction in agriculture in 1922. Among the most popular sets for such use were those on types of beef cattle, dairy cattle, and dairy judging, corn production, wheat production, school gardening, teaching of poultry lessons, features of high school instruction in agriculture, sheep judging, and the swine industry.

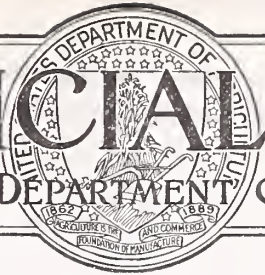
Articles in Current Publications by Department Workers

- Campbell, W. G. (Bureau of Chemistry). Trade associations promote progress. The Canner, Vol. 56, No. 10, Part II, March 3, 1923. Pp. 108-110.
- Clement, C. E. (Bureau of Animal Industry). The relation of the milk plant inspector to the milk plant manager. Internat. Assoc. of Dairy and Milk Inspectors, 11th Ann. Report, 1922. Pp. 67-71.
- Denton, Minna C. (States Relations Service). Ten suggestions for the conservation of gas during household cooking processes. Journal of Home Economics, Vol. 15, No. 3, pp. 125-128.
- Fellows, A. L. (Bureau of Public Roads). Percolation through and hydraulic pressure under earth dams. Engineering News-Record, Vol. 90, p. 399, March 1, 1923.
- George, Frank (Agricultural Economics). Feeding New York a big job which keeps host of farmers busy. The New York Times, March 11, 1923.
- Goldbeck, A. T. (Bureau of Public Roads). What road tests are showing. Power Wagon, Vol. 30, p. 31, February, 1923.
- Hall, M. C. (Bureau of Animal Industry). Oil of chenopodium. Vet. Med. Vol. 18, No. 3, p. 224-226, March, 1923.
- Hatt, W. K. (Bureau of Public Roads). Immediate Tasks of Highway Research. Engineering News-Record, Vol. 90, p. 154, January 25, 1923.
- Holman, H. P., and Jarrell, T. D. (Bureau of Chemistry). The effects of waterproofing materials and outdoor exposure upon the tensile strength of cotton yarn. Journ. Ind. Eng. Chem., Vol. 15, No. 3, March, 1923, pp. 236-240.
- Kiernan, J. A. (Bureau of Animals Industry). The extent of tuberculosis in live stock in the United States and progress in its suppression. Internat. Assoc. of Dairy and Milk Inspectors, 11th Ann. Rept., 1922, pp. 207-225.
- Link, K. P., and Tottingham, W. E. (Bureau of Plant Industry). Effects of the method of desiccation on the carbohydrates of plant tissues. Journal of American Chemical Society, Vol. 45, pp. 439-447, February, 1923.
- MacDonald, Thos. H. (Bureau of Public Roads). Highway engineering and highway transport fields need trained men. Atlantic City, Vol. 96, p. 11, February, 1923.
- Our highways. Journal of Soc. of Automotive Engineers, Vol. 11, p. 345, October, 1922.
- Melton, Benjamin J. (Biological Survey). Killing prairie dogs in Oklahoma. Circular 162, Oklahoma Agricultural and Mechanical College, 7 pages, 5 figs., 1922.
- Mohler, J. R. (Bureau of Animal Industry). Accredited veterinarian examination not a restriction to the practitioner. North Amer. Vet. Vol. 4, No. 3, pp. 161-162, March, 1923.
- Pierce, V. M. (Bureau of Public Roads). Hot-mix asphalt sand roads. Engineering News-Record, vol. 90, p. 154, January 25, 1923.
- Rogers, L. A. (Bureau of Animal Industry). Utilization of dairy by-products. Hoard's Dairyman, vol. 65, No. 8, pp. 270-272, March 9, 1923.
- Smith, E. F. (Bureau of Plant Industry). Appositional growth in crown-gall tumors and in cancers. Journal Cancer Research, vol. 7, pp. 1-49, January, 1922.
- Pasteur, the man. (Dec. 27, 1822-Sept. 28, 1895.) Scientific Monthly, vol. 16, pp. 269-279, March, 1923.
- Sherman, Caroline B. (Agricultural Economics). Know your markets if you would be successful. Modern Farming, March 10, 1923.
- Smith, R. S. (Bureau of Animal Industry). Report of committee on city milk contests. Internat. Assoc. of Dairy and Milk Inspectors, 11th Ann. Report, 1922, pp. 247-250.
- Transportation of milk in metal tanks. Internat. Assoc. of Dairy and Milk Inspectors, 11th Ann. Report, 1922, pp. 133-148.
- Trostel, L. J., and Frevert, H. W. (Bureau of Chemistry). The collection and examination of explosive dusts in air. Jour. Ind. Eng. Chem., vol. 15, No. 3, March, 1923, pp. 232-236.

A recapitulation of unloads of fruits and vegetables at St. Louis for the year 1922, with comparative figures for 1921, has been prepared by V. G. Gibson, of the Bureau of Agricultural Economics.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

Vol. II.

WASHINGTON, D. C., MARCH 28, 1923.

No. 13.

DEPARTMENT GIVES COTTON PLANTERS AID

Boll Weevil Problems Receive Attention From All Important Angles.

With the opening of spring the department has taken active steps to aid the cotton grower. Three airplanes have been loaned by the War Department for experimental use in distributing calcium arsenate dust over the cotton fields of the South, and Congress has appropriated \$40,000 to carry on this work.

B. R. Coad, of the Bureau of Entomology, who developed the calcium arsenate method of boll weevil control, will shortly inaugurate an elaborate series of experiments in Louisiana and Mississippi to determine whether airplanes can be used to advantage in applying calcium arsenate to cotton fields. The work, which will extend over a period of several months, will be carried on in cooperation with the Army Air Service.

The first phase of the work will have to do with the development of the mechanical equipment of the planes for delivering the poison dust to the best advantage. By the time the weevils begin to attack the cotton fields in injurious numbers, which will probably be some time in June, the mechanism should be perfected to the point where actual dusting of experimental fields may proceed without any delay due to defective or ineffective equipment.

A few preliminary tests made last fall indicated that there is a possibility of more economical and efficient dusting by this means than by horse-drawn machines.

To Study Boll Weevil Statistics.

New statistical study of the influence of various factors in the control of the boll weevil is to be made by the department. Mobilization of a full force of statisticians and entomologists is taking place. Statisticians have already moved

to Tallulah, La., to confer with entomologists. The next move will be an analysis of the thousands of records and observations at this station, covering the entire cotton belt over a number of years. It is expected that these studies will develop important data that will permit the planning of an effective offensive against the cotton pest.

Boll weevil emergence in northern Louisiana this spring, it is expected, will be much less than was experienced last year and probably slightly less than in 1916 and 1921, according to a report from the Laboratory of the Bureau of Entomology at Tallulah.

For the past nine years a regular annual examination has been made by this laboratory to determine the prospects of

(Continued on page 7.)

APPOINTED TO TEA BOARD.

Secretary Wallace has appointed Dr. E. T. Davison, of the Bureau of Animal Industry, F. L. Wollard, of the Bureau of Chemistry, and W. H. Stanton, of the Bureau of Agricultural Economics, to serve on the Board of Tea Appeals in connection with the enforcement of the tea inspection act. The first meeting of the board was called by George F. Mitchell, supervising tea examiner, Bureau of Chemistry, for March 20 in New York City.

FOREST-PROTECTION WEEK.

A forest-protection week has been proclaimed by President Harding for April 22-28. The President urges the governors of the various States to set the week apart and bring about its proper observance in the schools, through civic and other associations, by means of the press, and in all proper ways. This is the third year that forest-protection week has been fixed by presidential proclamation, and its observance has been general in the forested regions. Last year it was combined with the fiftieth anniversary of the first Arbor Day.

FOREIGN DELEGATES FOR WORLD'S DAIRY CONGRESS

Many Countries to Be Represented at Congress to Begin Here October 2.

Over twenty foreign countries have accepted the invitation to have representatives present at the World's Dairy Congress to be held in Washington starting October 2 and continued to Syracuse, N. Y., where the National Dairy Show will be held from October 5 to 13, according to an announcement made by Dr. H. E. Van Norman, president of the World's Dairy Congress Association. Other foreign countries are in touch with representatives here and the list will be materially increased as a result of the invitation issued by the State Department on behalf of President Harding as authorized by the Congress of the United States.

Department to Have Important Part.

The Dairy Congress will be held to promote dairy interests on an international scale. It is the outgrowth of a suggestion made to the State Department from Argentina that a Pan-American dairy conference be held. After consideration it was deemed best to make it an international affair and as such has received the authorization of Congress and is being supported by Government departments and all dairy interests. It has been indorsed by the International Dairy Federation at Brussels which has conducted similar affairs in the past.

The Department of Agriculture will play a prominent part in the Dairy Congress. Secretary Wallace is honorary president and Dr. C. W. Larson, chief of the Dairy Division of the Bureau of Animal Industry, is honorary vice president. L. A. Rogers of the dairy division is chairman of the program committee. Other department people on this committee are Dr. H. C. Taylor, chief of the Bureau of Agri-

cultural Economics, and E. B. Meigs, of the dairy division.

The department will also administer a fund of \$30,000 appropriated by Congress for the purpose of printing the proceedings of the international conference. The Office of Exhibits has immediately available a fund of not to exceed \$25,000 for the preparation of a suitable exhibit to be displayed at the show at Syracuse. Preliminary work on the exhibits has already commenced.

Dairy interests in this country have raised nearly \$100,000 to be used in promoting the details of the congress. The World's Dairy Congress Association, under Doctor Van Norman, has maintained offices in Washington for a year and is now completing the details and working on the program.

MOSTLY RECLASSIFICATION ACT.

This week most of THE OFFICIAL RECORD is given over to the reclassification act. This is published in its entirety in order that all the people in the department may have an opportunity of seeing it. This means that a good deal of the other material ordinarily carried in THE RECORD must be left out. As much of it as can be used next week will appear at that time.

PACKER MERGER HEARING POSTPONED.

Upon application of the respondents and by authority of Secretary Wallace, Chester Morrill, assistant to the Secretary, in charge of the packers and stockyards administration, has granted an extension of time under the complaint against the merger of the Armour and Morris packing companies from April 2 to April 23 for filing the answers and April 30 for beginning the hearings.

Kansas City has been named as the place of the first hearing. The hearings will be continued to Omaha, Nebr., East St. Louis, Ill. (National Stockyards), Chicago, and other cities, followed by a final hearing in Washington, at such times and places as shall be fixed and announced later.

MOTION PICTURE SHOW APRIL 13.

The next exhibition in Central High School auditorium of new motion pictures of the Department of Agriculture will be given Friday evening, April 13.

The program will include entertainment features and music, as well as four or five new films dealing with various phases of the department's work.

Department employees, for whom the exhibition is primarily intended, may obtain tickets from chief clerks of bureaus on April 9.

Campaign for War Memorial Fund Completion to Begin Soon.

A campaign to raise \$1,500 to insure the erection of the war memorial in the corridor of the main building will be undertaken about March 31. Memoranda have been sent to the chiefs of the bureaus asking that bureau committees be formed to handle the solicitation of pledges.

The design for the tablet has been approved by Secretary Wallace, the Fine Arts Commission, and by the Committee on the Library. The funds on hand have been invested in Government securities. Secretary Wallace has heartily indorsed the project of completing the necessary sum. In a recent letter to W. C. Henderson, chairman of the Agricultural War Memorial Committee, he said in part: "I understand that it is the purpose of your committee to take the necessary steps for the construction of the tablet as soon as the additional funds required are made available through voluntary subscriptions by the employees of the department in Washington. I am gratified by the prospect of the early consummation of this project, which has my hearty approval, and I trust you will have no difficulty in bringing it to a successful consummation."

The tablet is to be sculptured so as to fit not only in the present surroundings designed for it but to harmonize with the general architecture of the proposed administration building between the east and west wings. It will bear the names of the 67 employees who lost their lives in the World War.

INCREASE IN AUCTION SALES.

Large quantities of fruits and vegetables are sold at auction in the United States, and these auctions have become an important factor in the marketing activities of the country, a recent study by the Bureau of Agricultural Economics developed. A. D. Miller, who conducted the investigation, reports that the auction, combining as it does publicity, competitive bidding, a large number of buyers, concentration of commodities, expert salesmen, and a minimum of expense, has grown by leaps and bounds during the last 10 years. Gross sales amounting to \$42,000,000 in 1912 reached the total of \$148,000,000 in 1921. New York City is the leading auction market, with Philadelphia ranking second, Boston third, and Chicago fourth. According to the study certain conditions are precedent before a commodity can sell successfully at auction. These are a reasonably constant supply in season; well-graded, well-

packed goods in uniform packages, which with but few exceptions should arrive in carlot quantities. Among the products selling successfully at auction may be mentioned: Oranges, grapefruit, lemons, apples, apricots, bananas, cherries, coconuts, figs, onions, peaches, pears, pineapples, plums, prunes, cantaloupes, watermelons, cucumbers, garlic, lettuce, celery, and tomatoes.

DR. H. L. VAN VOLKENBERG TRANSFERRED.

Dr. H. L. Van Volkenberg has resigned as assistant biologist at the Biological Survey's experimental fur farm at Keeseville, N. Y., effective March 31, to accept appointment under the Bureau of Fisheries in connection with work for the production of blue foxes on the Pribilof Islands. This arrangement has been made on recommendation of the Chief of the Biological Survey as to the suitability of Doctor Van Volkenberg for assignment to this work, which has an important bearing and relationship to the fur-farming investigations being conducted by the Biological Survey. Before leaving for Alaska Doctor Van Volkenberg will visit a fur-dressing and dyeing plant in St. Louis, where blue fox and seal skins are dressed for the Government.

DEPUTY GAME WARDEN KILLED.

Robert J. Sellers, United States deputy game warden, and also agent for Louisiana Department of Conservation, was shot at Waggaman, Jefferson Parish, La., March 12, by a negro trapper suspected of violating the State law. He died during the night in the Touro Infirmary, New Orleans. Mr. Sellers was appointed to the Federal cooperative position under the Bureau of Biological Survey on November 16, 1922, and rendered excellent service, particularly during a recent campaign against restaurant owners and others in New Orleans who were selling migratory wild fowl in violation of the Federal regulations. Mr. Sellers was born November 25, 1876, and is survived by a mother, wife, and seven children. The department has just received information that the negro assailant of the warden was killed, probably while resisting capture, but details are lacking.

A study of the shrinkage in salt fish under commercial conditions was made by the Minneapolis station of the Bureau of Chemistry in the vicinity of Bayfield, Wis., along the northern shore of Lake Superior, according to the central district report for December.

CLASSIFICATION ACT AS FINALLY PASSED

Act Signed by the President February 26, to Become Law July 1, 1924.

[PUBLIC—No. 516—67TH CONGRESS.]

[H. R. 8928.]

An Act To provide for the classification of civilian positions within the District of Columbia and in the field service.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this act may be cited as "The classification act of 1923."

SEC. 2. That the term "compensation schedules" means the schedules of positions, grades, and salaries, as contained in section 13 of this act.

The term "department" means an executive department of the United States Government, a governmental establishment in the executive branch of the United States Government which is not a part of an executive department, the municipal government of the District of Columbia, the Botanic Garden, Library of Congress, Library Building and Grounds, Government Printing Office, and the Smithsonian Institution.

The term "the head of the department" means the officer or group of officers in the department who are not subordinate or responsible to any other officer of the department.

The term "board" means the Personnel Classification Board established by section 3 hereof.

The term "position" means a specific civilian office or employment, whether occupied or vacant, in a department other than the following: Offices or employments in the Postal Service; teachers, librarians, school attendance officers, and employees of the community-center department under the Board of Education of the District of Columbia; officers and members of the Metropolitan police, the fire department of the District of Columbia, and the United States park police; and the commissioned personnel of the Coast Guard, the Public Health Service, and the Coast and Geodetic Survey.

The term "employee" means any person temporarily or permanently in a position.

The term "service" means the broadest division of related offices and employments.

The term "grade" means a subdivision of a service, including one or more positions for which approximately the same basic qualifications and compensation are prescribed, the distinction between grades being based upon differences in the importance, difficulty, responsibility, and value of the work.

The term "class" means a group of positions to be established under this act sufficiently similar in respect to the duties and responsibilities thereof that the same requirements as to education, experience, knowledge, and ability are demanded of incumbents, the same tests of fitness are used to choose qualified appointees, and the same schedule of compensation is made to apply with equity.

The term "compensation" means any salary, wage, fee, allowance, or other emolument paid to an employee for service in a position.

SEC. 3. That there is hereby established an *ex officio* board, to be known as the Personnel

Classification Board, to consist of the Director of the Bureau of the Budget or an alternate from that bureau designated by the director, a member of the Civil Service Commission or an alternate from that commission designated by the commission, and the Chief of the United States Bureau of Efficiency or an alternate from that bureau designated by the chief of the bureau. The Director of the Bureau of the Budget or his alternate shall be chairman of the board.

Subject to the approval of the President, the heads of the departments shall detail to the board, at its request, for temporary service under its direction, officers or employees possessed of special knowledge, ability, or experience required in the classification and allocation of positions. The Civil Service Commission, the Bureau of the Budget, and the Bureau of Efficiency shall render the board such cooperation and assistance as the board may require for the performance of its duties under this act.

The board shall make all necessary rules and regulations not inconsistent with the provisions of this act and provide such subdivisions of the grades contained in section 13 hereof and such titles and definitions as it may deem necessary according to the kind and difficulty of the work. Its regulations shall provide for ascertaining and recording the duties of positions and the qualifications required of incumbents, and it shall prepare and publish an adequate statement giving (1) the duties and responsibilities involved in the classes to be established within the several grades, illustrated where necessary by examples of typical tasks, (2) the minimum qualifications required for the satisfactory performance of such duties and tasks, and (3) the titles given to said classes. In performing the foregoing duties the board shall follow as nearly as practicable the classification made pursuant to the Executive order of October 24, 1921. The board may from time to time designate additional classes within the several grades and may combine, divide, alter, or abolish existing classes. Department heads shall promptly report the duties and responsibilities of new positions to the board. The board shall make necessary adjustments in compensation for positions carrying maintenance and for positions requiring only part-time service.

SEC. 4. That after consultation with the board, and in accordance with a uniform procedure prescribed by it, the head of each department shall allocate all positions in his department in the District of Columbia to their appropriate grades in the compensation schedules and shall fix the rate of compensation of each employee thereunder, in accordance with the rules prescribed in section 6 herein. Such allocations shall be reviewed and may be revised by the board and shall become final upon their approval by said board. Whenever an existing position or a position hereafter created by law shall not fairly and reasonably be allocable to one of the grades of the several services described in the compensation schedules, the board shall adopt for such position the range of compensation prescribed for a grade, or a class thereof, comparable therewith as to qualifications and duties.

In determining the rate of compensation which an employee shall receive, the principle of equal compensation for equal work irrespective of sex shall be followed.

SEC. 5. That the compensation schedules shall apply only to civilian employees in the departments within the District of Columbia and shall not apply to employees in positions the duties of which are to perform or assist in apprentice, helper, or journeyman work in a recognized trade or craft and skilled and

semiskilled laborers, except such as are under the direction and control of the custodian of a public building or perform work which is subordinate, incidental, or preparatory to work of a professional, scientific, or technical character. The board shall make a survey of the field services and shall report to Congress at its first regular session following the passage of this act schedules of positions, grades, and salaries for such services, which shall follow the principles and rules of the compensation schedules herein contained in so far as these are applicable to the field services. This report shall include a list prepared by the head of each department, after consultation with the board and in accordance with a uniform procedure prescribed by it, allocating all field positions in his department to their approximate grades in said schedules and fixing the proposed rate of compensation of each employee thereunder in accordance with the rules prescribed in section 6 herein.

SEC. 6. That in determining the compensation to be established initially for the several employees the following rules shall govern:

1. In computing the existing compensation of an employee, any bonus which the employee receives shall be included.

2. If the employee is receiving compensation less than the minimum rate of the grade or class thereof in which his duties fall, the compensation shall be increased to that minimum rate.

3. If the employee is receiving compensation within the range of salary prescribed for the appropriate grade at one of the rates fixed therein, no change shall be made in the existing compensation.

4. If the employee is receiving compensation within the range of salary prescribed for the appropriate grade, but not at one of the rates fixed therein, the compensation shall be increased to the next higher rate.

5. If the employee is not a veteran of the Civil War, or a widow of such veteran, and is receiving compensation in excess of the range of salary prescribed for the appropriate grade, the compensation shall be reduced to the rate within the grade nearest the present compensation.

6. All new appointments shall be made at the minimum rate of the appropriate grade or class thereof.

SEC. 7. Increases in compensation shall be allowed upon the attainment and maintenance of the appropriate efficiency ratings, to the next higher rate within the salary range of the grade: *Provided, however,* That in no case shall the compensation of any employee be increased unless Congress has appropriated money from which the increase may lawfully be paid, nor shall the rate for any employee be increased beyond the maximum rate for the grade to which his position is allocated. Nothing herein contained shall be construed to prevent the promotion of an employee from one class to a vacant position in a higher class at any time in accordance with civil service rules, and when so promoted the employee shall receive compensation according to the schedule established for the class to which he is promoted.

SEC. 8. That nothing in this act shall modify or repeal any existing preference in appointment or reduction in the service of honorably discharged soldiers, sailors, or marines under any existing law or any Executive order now in force.

SEC. 9. That the board shall review and may revise uniform systems of efficiency rating established or to be established for the various grades or classes thereof, which shall set forth the degree of efficiency which

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OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

(Mr. Pugsley, Acting Secretary.)

Amendments to the Fiscal Regulations.

MEMORANDUM No. 426—March 15, 1923.—Effective February 16, 1923, paragraphs 34, 35, and 51 of the Fiscal Regulations of the Department are amended to read as follows:

34(d). Fees to dining-room and bath stewards on steamers: *Provided, however,* That an employee authorized to receive a per diem allowance in lieu of subsistence and who is deprived thereof by paragraph 36(c) while on a steamer where the transportation charges include meals may be reimbursed for such fees in accordance with paragraph 32(g).

35(b). Fees to cabin and deck stewards on steamers, and, where the transportation charges include meals and payment of per diem is prohibited by paragraph 36(c), fees to dining-room and bath stewards.

51. Under the head of "Subsistence," insert "Fees to dining-room and bath stewards on steamers."

Memorandum of the Administrative Assistant (Mr. Jump).

Duties and Assignments of Unskilled Laborers.

CIRCULAR No. 113—March 14, 1923.—The attention of the various bureaus, divisions, and offices is invited to the civil-service rules regarding the employment of unskilled laborers, which require that no unskilled laborer, whether serving under formal appointment or under letter of authorization, shall be assigned to a position the principal duties of which are of a classified nature, such as:

Duties which require educational qualifications.

Duties of watchman, messenger, or similar position.

Duties pertaining to the mechanical trades or other similar skilled occupations.

Supervisory duties.

Duties requiring dexterity or skill not likely to be possessed by the ordinary day laborer.

The Executive order of April 21, 1909, provides that—

"Unclassified laborers may be assigned to classified work incidentally, but not as a part of their main work, in cases where such work can not be conveniently and economically done by classified employees, but never without the prior consent of the commission, obtained before such assignment, and with a view to the doing of the particular classified work in question by unclassified employees."

Cases falling within the provisions of this Executive order should be taken up with

the chief personnel officer of the department by the chief of the bureau proposing to make the assignment in question.

It is requested that chiefs of bureaus issue the necessary instructions, especially to field officials who are authorized to employ assistants outside of Washington, D. C., to insure the assignment of all persons appointed as unskilled laborers to work appropriate to their grade, and to prevent any possibility of their assignment to work of a classified nature, except as provided in the Executive order of April 21, 1909, quoted above.

CLASSIFICATION ACT AS FINALLY PASSED

(Continued from page 3.)

shall constitute ground for (a) increase in the rate of compensation for employees who have not attained the maximum rate of the class to which their positions are allocated, (b) continuance at the existing rate of compensation without increase or decrease, (c) decrease in the rate of compensation for employees who at the time are above the minimum rate for the class to which their positions are allocated, and (d) dismissal.

The head of each department shall rate in accordance with such systems the efficiency of each employee under his control or direction. The current ratings for each grade or class thereof shall be open to inspection by the representatives of the board and by the employees of the department under conditions to be determined by the board after consultation with the department heads.

Reductions in compensation and dismissals for inefficiency shall be made by heads of departments in all cases whenever the efficiency ratings warrant, as provided herein, subject to the approval of the board.

The board may require that one copy of such current ratings shall be transmitted to and kept on file with the board.

SEC. 10. That, subject to such rules and regulations as the President may from time to time prescribe, and regardless of the department or independent establishment in which the position is located, an employee may be transferred from a position in one grade to a vacant position within the same grade at the same rate of compensation, or promoted to a vacant position in a higher grade at a higher rate of compensation, in accordance with civil service rules, any provision of existing statutes to the contrary notwithstanding: *Provided,* That nothing herein shall be construed to authorize or permit the transfer of an employee of the United States to a position under the municipal government of the District of Columbia, or an employee of the municipal government of the District of Columbia to a position under the United States.

SEC. 11. That nothing contained in this act shall be construed to make permanent any temporary appointments under existing law.

SEC. 12. That it shall be the duty of the board to make a study of the rates of compensation provided in this act for the various services and grades with a view to any readjustment deemed by said board to be just and reasonable. Said board shall, after such study and at such subsequent times as it may deem necessary, report its conclusions to Congress with any recommendations it may deem advisable.

SEC. 13. That the compensation schedules be as follows:

Professional and Scientific Service.

The professional and scientific service shall include all classes of positions the duties of

which are to perform routine, advisory, administrative, or research work which is based upon the established principles of a profession or science, and which requires professional, scientific, or technical training equivalent to that represented by graduation from a college or university of recognized standing.

Grade one in this service, which may be referred to as the junior professional grade, shall include all classes of positions the duties of which are to perform, under immediate supervision, simple and elementary work requiring professional, scientific, or technical training as herein specified, but little or no experience.

The annual rates of compensation for positions in this grade shall be \$1,860, \$1,920, \$2,000, \$2,100, \$2,200, \$2,300, and \$2,400.

Grade two in this service, which may be referred to as the assistant professional grade, shall include all classes of positions the duties of which are to perform, under immediate or general supervision, individually or with a small number of subordinates, work requiring professional, scientific, or technical training as herein specified, previous experience, and, to a limited extent, the exercise of independent judgment.

The annual rates of compensation for positions in this grade shall be \$2,400, \$2,500, \$2,600, \$2,700, \$2,800, \$2,900, and \$3,000.

Grade three in this service, which may be referred to as the associate professional grade, shall include all classes of positions the duties of which are to perform, individually or with a small number of trained assistants, under general supervision but with considerable latitude for the exercise of independent judgment, responsible work requiring extended professional, scientific, or technical training and considerable previous experience.

The annual rates of compensation for positions in this grade shall be \$3,000, \$3,100, \$3,200, \$3,300, \$3,400, \$3,500, and \$3,600.

Grade four in this service, which may be referred to as the full professional grade, shall include all classes of positions the duties of which are to perform, under general administrative supervision, important specialized work requiring extended professional, scientific, or technical training and experience, the exercise of independent judgment, and the assumption of responsibility for results, or for the administration of a small scientific or technical organization.

The annual rates of compensation for positions in this grade shall be \$3,800, \$4,000, \$4,200, \$4,400, \$4,600, \$4,800, and \$5,000, unless a higher rate is specifically authorized by law.

Grade five in this service, which may be referred to as the senior professional grade, shall include all classes of positions the duties of which are to act as assistant head of a large professional or scientific organization, or to act as administrative head of a major subdivision of such an organization, or to act as head of a small professional or scientific organization, or to serve as consulting specialist, or independently to plan, organize, and conduct investigations in original research or development work in a professional, scientific, or technical field.

The annual rates of compensation for positions in this grade shall be \$5,200, \$5,400, \$5,600, \$5,800, and \$6,000, unless a higher rate is specifically authorized by law.

Grade six in this service, which may be referred to as the chief professional grade, shall include all classes of positions the duties of which are to act as the scientific and administrative head of a major professional or scientific bureau, or as professional consultant to a department head or a commission or board dealing with professional, scientific, or technical problems.

The annual rates of compensation for positions in this grade shall be \$6,000, \$6,500, \$7,000, and \$7,500, unless a higher rate is specifically authorized by law.

Grade seven in this service, which may be referred to as the special professional grade, shall include all classes of positions the duties and requirements of which are more responsible and exacting than those described in grade six.

The annual rate of compensation for positions in this grade shall be \$7,500, unless a higher rate is specifically authorized by law.

Subprofessional Service.

The subprofessional service shall include all classes of positions the duties of which are to perform work which is incident, subordinate, or preparatory to the work required of employees holding positions in the professional and scientific service, and which requires or involves professional, scientific, or technical training of any degree inferior to that represented by graduation from a college or university of recognized standing.

Grade one in this service, which may be referred to as the minor subprofessional grade, shall include all classes of positions the duties of which are to perform, under immediate supervision, the simplest routine work in a professional, scientific, or technical organization.

The annual rates of compensation for positions in this grade shall be \$900, \$960, \$1,020, \$1,080, \$1,140, \$1,200, and \$1,260.

Grade two in this service, which may be referred to as the under-subprofessional grade, shall include all classes of positions the duties of which are to perform, under immediate supervision, assigned subordinate work of a professional, scientific, or technical character, requiring limited training or experience, but not the exercise of independent judgment.

The annual rates of compensation for positions in this grade shall be \$1,140, \$1,200, \$1,260, \$1,320, \$1,380, \$1,440, and \$1,500.

Grade three in this service, which may be referred to as the junior subprofessional grade, shall include all classes of positions the duties of which are to perform, under immediate supervision, subordinate work of a professional, scientific, or technical character, requiring considerable training or experience, but not the exercise of independent judgment.

The annual rates of compensation for positions in this grade shall be \$1,320, \$1,380, \$1,440, \$1,500, \$1,560, \$1,620, and \$1,680.

Grade four in this service, which may be referred to as the assistant subprofessional grade, shall include all classes of positions the duties of which are to perform, under immediate supervision, subordinate work of a professional, scientific, or technical character requiring considerable training or experience, and, to a limited extent, the exercise of independent judgment.

The annual rates of compensation for positions in this grade shall be \$1,500, \$1,560, \$1,620, \$1,680, \$1,740, \$1,800, and \$1,860.

Grade five in this service, which may be referred to as the main subprofessional grade, shall include all classes of positions the duties of which are to perform, under immediate or general supervision, subordinate work of a professional, scientific, or technical character requiring a thorough knowledge of a limited field of professional, scientific, or technical work, and the exercise of independent judgment, or to supervise the work of a small number of employees performing duties of an inferior grade in the subprofessional service.

The annual rates of compensation for positions in this grade shall be \$1,680, \$1,740, \$1,800, \$1,860, \$1,920, \$1,980, and \$2,040.

Grade six in this service, which may be referred to as the senior subprofessional grade, shall include all classes of positions the duties of which are to perform, under immediate or general supervision, subordinate but difficult and responsible work of a professional, scientific, or technical character, requiring a thorough knowledge of a limited field of professional, scientific, or technical work, and the exercise of independent judgment, or to supervise the work of a small number of employees holding positions in grade five of this service.

The annual rates of compensation for positions in this grade shall be \$1,860, \$1,920, \$2,000, \$2,100, \$2,200, \$2,300, and \$2,400.

Grade seven in this service, which may be referred to as the principal subprofessional grade, shall include all classes of positions the duties of which are to perform, under general supervision, subordinate but responsible work of a professional, scientific, or technical character requiring a working knowledge of the principles of the profession, art, or science involved, and the exercise of independent judgment, or to supervise the work of a small number of employees holding positions in grade six of this service.

The annual rates of compensation for positions in this grade shall be \$2,100, \$2,200, \$2,300, \$2,400, \$2,500, \$2,600, and \$2,700.

Grade eight in this service, which may be referred to as the chief subprofessional grade, shall include all classes of positions the duties of which are to perform, under general supervision, subordinate but difficult and responsible work of a professional, scientific, or technical character, requiring a thorough working knowledge of the principles of the profession, art, or science involved, and the exercise of independent judgment, or to supervise the work of a small number of employees holding positions in grade seven of this service.

The annual rates of compensation for positions in this grade shall be \$2,400, \$2,500, \$2,600, \$2,700, \$2,800, \$2,900, and \$3,000.

Clerical, Administrative, and Fiscal Service.

The clerical, administrative, and fiscal service shall include all classes of positions the duties of which are to perform clerical, administrative, or accounting work, or any other work commonly associated with office, business, or fiscal administration.

Grade one in this service, which may be referred to as the under clerical grade, shall include all classes of positions the duties of which are to perform, under immediate supervision, the simplest routine office work.

The annual rates of compensation for positions in this grade shall be \$1,140, \$1,200, \$1,260, \$1,320, \$1,380, \$1,440, and \$1,500.

Grade two in the service, which may be referred to as the junior clerical grade, shall include all classes of positions the duties of which are to perform, under immediate supervision, assigned office work requiring training or experience but not the exercise of independent judgment.

The annual rates of compensation for positions in this grade shall be \$1,320, \$1,380, \$1,440, \$1,500, \$1,560, \$1,620, and \$1,680.

Grade three in this service, which may be referred to as the assistant clerical grade, shall include all classes of positions the duties of which are to perform, under immediate or general supervision, assigned office work requiring training and experience and knowledge of a specialized subject matter or the exercise of independent judgment or to supervise a small section performing simply clerical operations.

The annual rates of compensation for positions in this grade shall be \$1,500, \$1,560, \$1,620, \$1,680, \$1,740, \$1,800, and \$1,860.

Grade four in this service, which may be referred to as the main clerical grade, shall include all classes of positions the duties of which are to perform, under immediate or general supervision, responsible office work requiring training and experience, the exercise of independent judgment or knowledge of a specialized subject matter or both, and an acquaintance with office procedure and practice, or to supervise a small stenographic section or a small section performing clerical operations of corresponding difficulty.

The annual rates of compensation for positions in this grade shall be \$1,680, \$1,740, \$1,800, \$1,860, \$1,920, \$1,980, and \$2,040.

Grade five in this service, which may be referred to as the senior clerical grade, shall include all classes of positions the duties of which are to perform, under general supervision, difficult and responsible office work requiring considerable training and experience, the exercise of independent judgment or knowledge of a specialized subject matter or both, and a thorough knowledge of office procedure and practice, or to supervise a large stenographic section or any large section performing simple clerical operations or to supervise a small section engaged in difficult but routine office work.

The annual rates of compensation for positions in this grade shall be \$1,860, \$1,920, \$2,000, \$2,100, \$2,200, \$2,300, and \$2,400.

Grade six in this service, which may be referred to as the principal clerical grade, shall include all classes of positions the duties of which are to perform, under general supervision, exceptionally difficult and responsible office work, requiring extended training and experience, the exercise of independent judgment or knowledge of a specialized and complex subject matter, or both, and a thorough knowledge of office procedure and practice, or to serve as the recognized authority or adviser in matters requiring long experience and an exceptional knowledge of the most difficult and complicated procedure or of a very difficult and complex subject, or to supervise a large or important office organization engaged in difficult or varied work.

The annual rates of compensation for positions in this grade shall be \$2,100, \$2,200, \$2,300, \$2,400, \$2,500, \$2,600, and \$2,700.

Grade seven in this service, which may be referred to as the assistant administrative grade, shall include all classes of positions the duties of which are to perform, under general supervision, responsible office work along specialized and technical lines, requiring specialized training and experience and the exercise of independent judgment, or as chief clerk to supervise the general business operations of a small independent establishment or a minor bureau or division of an executive department, or to supervise a large or important office organization engaged in difficult and specialized work.

The annual rates of compensation for positions in this grade shall be \$2,400, \$2,500, \$2,600, \$2,700, \$2,800, \$2,900, and \$3,000.

Grade eight in this service, which may be referred to as the associate administrative grade, shall include all classes of positions the duties of which are to perform, under general supervision, difficult and responsible office work along specialized and technical lines, requiring specialized training and experience and the exercise of independent judgment, or to supervise a large or important office organization engaged in work involving specialized training on the part of the employees.

The annual rates of compensation for positions in this grade shall be \$2,700, \$2,800, \$2,900, \$3,000, \$3,100, \$3,200, and \$3,300.

Grade nine in this service, which may be referred to as the full administrative grade,

shall include all classes of positions the duties of which are to perform, under general supervision, exceptionally difficult and responsible office work along specialized and technical lines, requiring considerable specialized training and experience and the exercise of independent judgment, or as chief clerk, to supervise the general business operations of a large independent establishment or a major bureau or division of an executive department, or to supervise a large or important office organization engaged in work involving technical training on the part of the employees.

The annual rates of compensation for positions in this grade shall be \$3,000, \$3,100, \$3,200, \$3,300, \$3,400, \$3,500, and \$3,600.

Grade ten in this service, which may be referred to as the senior administrative grade, shall include all classes of positions the duties of which are to perform, under general supervision, the most difficult and responsible office work along specialized and technical lines, requiring extended training, considerable experience, and the exercise of independent judgment, or to supervise a large or important office organization engaged in work involving considerable technical training and experience on the part of the employees.

The annual rates of compensation for positions in this grade shall be \$3,300, \$3,400, \$3,500, \$3,600, \$3,700, \$3,800, and \$3,900.

Grade eleven in this service, which may be referred to as the assistant chief administrative grade, shall include all classes of positions the duties of which are to perform the most difficult and responsible office work along specialized and technical lines, requiring extended training and experience, the exercise of independent judgment, and the assumption of responsibility for results, or to supervise the general business operations of an executive department, or to supervise a large and important office organization engaged in work involving extended training and considerable experience on the part of the employees.

The annual rates of compensation for positions in this grade shall be \$3,800, \$4,000, \$4,200, \$4,400, \$4,600, \$4,800, and \$5,000, unless a higher rate is specifically authorized by law.

Grade twelve in this service, which may be referred to as the chief administrative grade, shall include all classes of positions the duties of which are to supervise the design and installation of office systems, methods and procedures, or to be head of a small bureau in case professional or scientific training is not required, or to perform work of similar importance, difficulty, and responsibility.

The annual rates of compensation for positions in this grade shall be \$5,200, \$5,400, \$5,600, \$5,800, and \$6,000, unless a higher rate is specifically authorized by law.

Grade thirteen, in this service, which may be referred to as the executive grade, shall include all classes of positions the duties of which are to supervise the design of systems of accounts for use by private corporations subject to regulation by the United States, or to act as the technical consultant to a department head or a commission or board in connection with technical or fiscal matters, or to act as chief of a large bureau or a bureau having important administrative or investigative functions in case professional or scientific training is not required, or to perform work of similar importance, difficulty, and responsibility.

The annual rates of compensation for positions in this grade shall be \$6,000, \$6,500, \$7,000, and \$7,500, unless a higher rate is specifically authorized by law.

Grade fourteen in this service, which may be referred to as the special executive grade,

shall include all classes of positions the duties and requirements of which are more responsible and exacting than those described in grade 13.

The annual rate of compensation for positions in this grade shall be \$7,500, unless a higher rate is specifically authorized by law.

Custodial Service.

The custodial service shall include all classes of positions the duties of which are to supervise or to perform manual work involved in the custody, maintenance, and protection of public buildings, premises, and equipment, the transportation of public officers, employees or property, and the transmission of official papers.

Grade one, in this service, which may be referred to as the junior messenger grade, shall include all classes of positions the duties of which are to run errands, to check parcels, or to perform other light manual or mechanical tasks with little or no responsibility.

The annual rates of compensation for positions in this grade shall be \$600, \$630, \$660, \$690, \$720, \$750, and \$780.

Grade two, in this service, which may be referred to as the office-laborer grade, shall include all classes of positions the duties of which are to handle desks, mail sacks, and other heavy objects and to perform similar work ordinarily required of unskilled laborers; to operate elevators; to clean office rooms; or to perform other work of similar character.

The annual rates of compensation for positions in this grade shall be \$780, \$840, \$900, \$960, \$1,020, \$1,080, and \$1,140: *Provided*, That charwomen working part time be paid at the rate of 40 cents an hour and head charwomen at the rate of 45 cents an hour.

Grade three, in this service, which may be referred to as the minor custodial grade, shall include all classes of positions the duties of which are to perform, under immediate supervision, custodial or manual office work with some degree of responsibility, such as guarding office or storage buildings; operating paper-cutting, canceling, envelope-opening, or envelope-sealing machines; firing and keeping up steam in boilers used for heating purposes in office buildings, cleaning boilers, and oiling machinery and related apparatus; operating passenger or freight automobiles; packing goods for shipment; supervising a large group of charwomen; running errands and doing light manual or mechanical tasks with some responsibility; carrying important documents from one office to another; or attending the door and private office of a department head or other public officer.

The annual rates of compensation for positions in this grade shall be \$900, \$960, \$1,020, \$1,080, \$1,140, \$1,200, and \$1,260.

Grade four in this service, which may be referred to as the under custodial grade, shall include all classes of positions the duties of which are to perform, under general supervision, custodial work of a responsible character, such as supervising a small force of unskilled laborers; directly supervising a small detachment of watchmen or building guards; firing and keeping up steam in heating apparatus and operating the boilers and other equipment used for heating purposes; or performing general semimechanical new or repair work requiring some skill with hand tools.

The annual rates of compensation for positions in this grade shall be \$1,140, \$1,200, \$1,260, \$1,320, \$1,380, \$1,440, and \$1,500.

Grade five in this service, which may be referred to as the junior custodial grade, shall include all classes of positions the du-

ties of which are to have general supervision over a small force of watchmen or building guards, or to have direction of a considerable detachment of such employees; to supervise the operation and maintenance of a small heating plant and its auxiliary equipment; or to perform other work of similar character.

The annual rates of compensation for positions in this grade shall be \$1,320, \$1,380, \$1,440, \$1,500, \$1,560, \$1,620, and \$1,680.

Grade six in this service, which may be referred to as the assistant custodial grade, shall include all classes of positions the duties of which are to assist in the supervision of large forces of watchmen and building guards, or to have general supervision over smaller forces; to supervise a large force of unskilled laborers; to repair office appliances; or to perform other work of similar character.

The annual rates of compensation for positions in this grade shall be \$1,500, \$1,560, \$1,620, \$1,680, \$1,740, \$1,800, and \$1,860.

Grade seven in this service, which may be referred to as the main custodial grade, shall include all classes of positions the duties of which are to supervise the work of skilled mechanics; to supervise the operation and maintenance of a large heating, lighting, and power plant and all auxiliary mechanical and electrical devices and equipment; to have general supervision over large forces of watchmen and building guards; or to perform other work of similar character.

The annual rates of compensation for positions in this grade shall be \$1,680, \$1,740, \$1,800, \$1,860, \$1,920, \$1,980, and \$2,040.

Grade eight in this service, which may be referred to as the senior custodial grade, shall include all classes of positions the duties of which are to direct supervisory and office assistants, mechanics, watchmen, elevator conductors, laborers, janitors, messengers, and other employees engaged in the custody, maintenance, and protection of a small building, or to assist in the direction of such employees when engaged in similar duties in a large building, or to perform other custodial work of equal difficulty and responsibility.

The annual rates of compensation for positions in this grade shall be \$1,860, \$1,920, \$2,000, \$2,100, \$2,200, \$2,300, and \$2,400.

Grade nine in this service, which may be referred to as the principal custodial grade, shall include all classes of positions the duties of which are to direct supervisory and office assistants, mechanics, watchmen, elevator conductors, laborers, janitors, messengers, and other employees engaged in the custody, maintenance, and protection of a large building, or to assist in the direction of such employees when engaged in similar duties in a group of buildings; or to perform other custodial work of equal difficulty and responsibility.

The annual rates of compensation for positions in this grade shall be \$2,100, \$2,200, \$2,300, \$2,400, \$2,500, \$2,600, and \$2,700.

Grade ten in this service, which may be referred to as the chief custodial grade, shall include all classes of positions the duties of which are to direct supervisory and office assistants, mechanics, watchmen, elevator conductors, laborers, janitors, messengers, and other employees engaged in the custody, maintenance, and protection of a group of buildings; or to perform other custodial work of equal difficulty and responsibility.

The annual rates of compensation for positions in this grade shall be \$2,400, \$2,500, \$2,600, \$2,700, \$2,800, \$2,900, and \$3,000.

Clerical-Mechanical Service.

The clerical-mechanical service shall include all classes of positions which are not in a rec-

U. S. D. A. CLUB ACTIVITIES

DENVER CLUB.

Frank Andrews, of the Bureau of Agricultural Economics, addressed the members of the Denver USDA Club at the regular luncheon meeting held March 12 at the Civic and Commercial Association rooms. Mr. Andrews spoke on the crop and live-stock estimating service of the department.

NYUSDA CLUB.

The regular monthly meeting and luncheon of the NYUSDA Club was held March 14 at the Pig and Whistle Inn, Greenwich Village. W. R. M. Wharton presided. Several committee reports were made, and the type of publicity that should emanate from the club was discussed. Ole Salthe, of the New York City department of health, was the guest of the club. Mr. Salthe outlined the scope of the work being carried on by the New York City department of health and told of the methods employed by his division, including fines and condemnations, for the safeguarding of the food supply of the city. He also appealed for a closer cooperation with the various agencies of the Department of Agriculture in Greater New York. The work of the Board of Tea Appeals was then discussed by Dr. H. W. Redfield. Dr. H. B. Shaw and Dr. N. L. Townsend were appointed members of the publicity committee. W. C. Norris was elected to membership in the club.

BIRMINGHAM CLUB.

Dr. Sumner A. Ives, of Howard College, gave the principal address at the regular meeting of the Federal Agricultural Technical Association of Birmingham, Ala., held March 10. Doctor Ives spoke on the germination of refractory seeds. He discussed experiments that he had conducted for the purpose of securing a higher rate of germination of the seed of the American holly, the natural rate of which is exceedingly low, one in ten million. A method for heating seed several hours which caused shrinkage of the endocarps was discussed. These seeds are later immersed in a solution of glucose and allowed to remain for some time, germination resulting in five or six months.

L. L. English reviewed the reclassification bill. Dr. J. F. Carle, J. D. Topping, Neale F. Howard, and Dr. C. J. Becker also spoke. Dr. A. Bullock, of the Bureau of Animal Industry, was a visitor of the club and spoke briefly.

ognized trade or craft and which are located in the Government Printing Office, the Bureau of Engraving and Printing, the Mail Equipment shop, the duties of which are to perform or to direct manual or machine operations requiring special skill or experience, or to perform or direct the counting, examining, sorting, or other verification of the product of manual or machine operations.

Grade one shall include all classes of positions in this service the duties of which are to perform the simplest operations or processes requiring special skill and experience.

The rates of compensation for classes of positions in this grade shall be 45 to 50 cents an hour.

Grade two shall include all classes of positions in this service the duties of which are to operate simple machines or to perform operations or processes requiring a higher degree of skill than those in grade one.

The rates of compensation for classes of positions in this grade shall be 55 to 60 cents an hour.

Grade three shall include all classes of positions in this service the duties of which are to operate machines or to perform operations or processes requiring the highest degree of skill, or supervise a small number of subordinates.

The rates of compensation for classes of positions in this grade shall be 65 to 70 cents an hour.

Grade four shall include all classes of positions in this service the duties of which are to perform supervisory work over a large unit of subordinates.

The rates of compensation for classes of positions in this grade shall be 80 to 90 cents an hour.

Grade five shall include all classes of positions in this service the duties of which are to be responsible for the administration of a major division of a large bureau or establishment with varied work.

The rates of compensation for classes of positions in this grade shall be \$3,000, \$3,100, \$3,200, \$3,300, \$3,400, \$3,500, and \$3,600 a year.

SEC. 14. That the estimates of the expenditures and appropriations set forth in the Budget to be transmitted by the President to Congress on the first day of the next ensuing regular session shall conform to the classification herein provided, and that the rates of salary in the compensation schedules shall not become effective until the first day of the fiscal year estimated for in such Budget.

Approved, March 4, 1923.

M. L. ALEXANDER.

M. L. Alexander, commissioner of conservation of the State of Louisiana, and member of the United States Department of Agriculture's advisory board, migratory bird treaty act, died March 18 at New Orleans, following an operation for appendicitis. In his death conservation interests have suffered a great loss. He had been head of the State department of conservation since 1912. In this capacity he cooperated in a hearty and effective manner with the Biological Survey in its work for the protection of migratory birds, and with the Forest Service in connection with forestry interests in the State. He was partly responsible for the organization of the ranger force for fire protection, the organization of boys' clubs in forestry, and the writing of progressive forestry and game laws on the statute books.

L. A. Niven, of the Progressive Farmer, discussed ineffective methods for exterminating the boll weevil.

DEPARTMENT GIVES COTTON PLANTERS AID

(Continued from page 1.)

boll-weevil emergence in the spring. Fifteen selected points in northern Louisiana have been used in making these records, which were considered representative of the different types of hibernation conditions found in the district. From reports received it appears that the spring emergence will be about an average rate for the past 10 years. The figure for 1923 is only 19 live weevils per ton of Spanish moss, as compared with 127 in 1922. In other years the percentage of live weevils was less than the figure for this year. Should weather conditions during the coming season be unusually favorable for weevil multiplication abnormally heavy damage may occur, but at least during the initial period of production the farmer has a chance of a bottom crop since few boll weevils will emerge this spring.

The present great interest in the boll-weevil problem has resulted in a large number of patented preparations and machines which are being vigorously exploited, according to the department. This is a repetition of what has occurred in every region invaded by the boll weevil. During the first few years the farmers are exploited and many useless or practically useless devices are sold to them. In a few years, however, history shows that such organizations go out of business. Their operations are especially important at the present time since the losses caused by the boll weevil will be increased by the expense of buying such nostrums.

The claims for these preparations are not based on scientific tests, although in many cases the persons exploiting them are undoubtedly sincere in their belief that they will yield good results. The department points out that in all cases farmers should demand evidence of official test and communicate with their experiment stations for detailed information regarding any of the new remedies. If anything of value is discovered by the State experiment stations or by the Federal department prompt and widespread notice of the fact will be given the public.

Marketing American pork in England is discussed in a report submitted by E. C. Squire, specialist in foreign marketing of live stock and meats, Bureau of Agricultural Economics. The report which has been mimeographed was edited by Leo J. Schaben, jr.

BRIEF REVIEWS OF NEW BULLETINS.

Cost of Using Horses on Corn-Belt Farms.—By M. R. Cooper, assistant farm economist, Bureau of Agricultural Economics, and J. O. Williams, senior animal husbandman, Bureau of Animal Industry. Pp. 16, figs. 4. (March, 1923.) (Farmers' Bulletin 1298.)

The cost of using work horses on Corn-Belt farms was about \$100 a head in 1921, according to the survey on which this bulletin is based. During the year each horse worked an average of 723 hours, on the basis of a 10-hour working day. The average cost was \$1.37 a day, or 13.7 cents per hour of actual work done. Many horses are not at work continuously, and the lack of productive work results in a high cost for their use. Feed and bedding is the largest item in the maintenance of a horse, and should be given first consideration in an attempt to reduce costs. The use of good pasture in place of the grain and hay ration is not only an economical practice but also will have a good effect upon the horse. The use of nonsalable feed for the horse is to be recommended. A smaller number than are needed to carry on the farm operations properly may mean a decrease in farm profit greater than the expense of carrying extra animals. A greater number than required add unnecessary expenses.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations

during the week March 12-17, 1923. These publications can be obtained only from the stations issuing them.

- Fertilizer Experiments with Cotton.** By J. T. Williamson and M. J. Funchess. (Alabama Sta. Bul. 219, pp. 24, fig. 1.)
- Bovine Infectious Abortion and Associated Diseases of Cattle and New-horn Calves.** By G. H. Hart, J. Traum, and F. M. Hayes. (California Sta. Bul. 353, pp. 271-397, figs. 12.)
- The Rose Chafer as a Cause of Death of Chickens.** By G. H. Lamson, Jr. (Connecticut Storrs Sta. Bul. 110, pp. 117-134, figs. 10.)
- Fruit Jellies.**—I. The Role of Acids. By L. W. Tarr. (Delaware Sta. Bul. 134, pp. 38, figs. 10.)
- Meteorological Observations at the Massachusetts Agricultural Experiment Station.** By J. E. Ostrander and G. E. Lindskog. (Massachusetts Sta. Met. Bul. 410, pp. 4.)
- Farmers' Market Bulletin.** (North Carolina Sta. Farmers' Market Bul. 10 (1923), No. 60, pp. 8.)
- New Facts for Oklahoma farmers.** (Oklahoma Sta. Rpt. 31 (1922), pp. 29.)
- Commercial Fertilizers.** By R. H. Robinson. (Oregon Sta. Circ. 31, pp. 16.)
- Strawberries.** By C. E. Schuster. (Oregon Sta. Circ. 32, pp. 16, figs. 2.)
- Oregon Experiment Station Trap-nest.** By A. G. Lunn and F. L. Knowlton. (Oregon Sta. Circ. 33, pp. 4, figs. 5.)
- Forty Years Results with Fertilizers.**—General Fertilizer Experiments. By F. D. Gardner, C. F. Noll, and R. D. Lewis. (Pennsylvania Sta. Bul. 175, pp. 23, figs. 10.)
- The Colon-typhoid Intermediates as Causative Agents of Disease in Birds.**—II. Atypical Organisms. By H. G. May and Helena A. M. Tibbets. (Rhode Island Sta. Bul. 191, pp. 42.)
- Inoculation in the Growing of Legumes.** By P. W. Allen. (Washington Sta. Pop. Bul. 122, pp. 16, figs. 6.)

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Agriculture for southern schools.** Rev. ed. By J. F. Duggar. New York, Macmillan company, 1923.
- Aids to bacteriology.** 4th ed. By William Partridge. New York, William Wood & company, 1922.
- Bettina's best salads and what to serve with them.** By L. B. Weaver and H. C. Le Cron. New York, A. L. Burt company, 1923.
- Les blés cultivés.** 2. éd. Par Denaiffe & Colle . . . Strodot. Paris, Imp. P. Dupont, 1922.
- Cheating the junk-pile.** By E. R. Peyser. New York, E. P. Dutton & company, 1922.
- Chemistry of the inorganic complex compounds.** By Robert Schwarz. New York, J. Wiley & sons, inc., 1923.
- Cotton growing countries. Production and trade.** International institute of agriculture. Bureau of statistics. Rome, 1922.
- Expedición botánica de José Celestino Mutis al nuevo reino de Granada y memorias inéditas de Francisco José de Caldas.** Por Diego Mendoza. Madrid, Librería general de V. Suárez, 1909.
- Fabrics and how to know them.** By G. G. Denny. Philadelphia, J. B. Lippincott company, 1923.
- Flavouring materials, natural and synthetic.** By A. Clarke. London, H. Frowde, 1922.
- Fundamentals of bio-chemistry, in relation to human physiology.** By T. R. Parsons. Cambridge, W. Heffer & sons, ltd., 1923.
- Handbuch der milchwirtschaft auf wissenschaftlicher und praktischer grundlage.** 7. aufl. Von Wilhelm Kirchner. Berlin, P. Parey, 1922.
- Les insectes de la vigne.** Par Valéry Mayet. Montpellier, C. Coulet, 1890.
- Insecticides and fungicides.** By O. G. Anderson and F. C. Roth. New York, J. Wiley and sons, 1923.
- International finance and its reorganization.** By E. M. Friedman. New York, E. P. Dutton & company, 1922.

- Notes on mange and allied mites, for veterinarians.** By A. W. N. Pillers. London, Baillière, Tindall and Cox, 1921.
- Profits, wages, and prices.** By David Friday. New York, Harcourt, Brace and Howe, 1920.
- Risk, uncertainty, and profit.** By F. H. Knight. Boston, Houghton Mifflin company, 1921.
- Social value.** By B. M. Anderson. Boston, Houghton Mifflin company, 1911.
- Some great commodities.** By E. M. Miller [and others]. Garden City, N. Y., Doubleday, Page & company, 1922.

OLD BOOKS.

- Beschouwenne en werkdagde hovenierkonst.** Door J. H. Knoop. Leeuwarden, 1753.
- Flora berolinensis.** Von J. J. Hecker. Berlin, 1757-58.
- Illinois in 1837.** Philadelphia, 1837.
- De landtwinninghe ende hoeue.** Van Kaerle Steuens, ende Jan Liebant. Antwerpen, 1582.
- Specimen botanico-physicum inaugurale.** By W. L. Brown. Trajecti ad Rhenum, 1789.

THESES.

- Contribution à l'étude des facteurs accessoires du développement (auximones).** By Arnold Lobeck. Weida, 1922.
- Nouvelles recherches sur l'urée.** By Henri Spillmann. Weida, 1922.
- NOTE.**—A copy of Linnaeus's Vollständiges Pflanzensystem in 15 volumes has been sent to the Department Library, apparently by some one in the Department. The Library already has the work and would be glad to know to whom this copy belongs.

Articles in Current Publications By Department Workers

- Barr, J. E.** (Agricultural Economics): Buy only Improved Cotton Seed. Southern Ruralist, March 1, 1923.
- Blake, S. F.**: *Oenothera perennis* L. var. *reptipilis* (Blake) nov. comb. *Rhodora*, vol. 25, p. 47, March, 1923.

- Caudell, A. N.** (Entomology): *Phorticolea boliviana*, a new myrmecophilous cockroach from South America. *Psyche*, v. 30, no. 1, p. 28-30, Feb., 1923.
- Cook, O. F.**: Diversity of internode individuals. *Journal of Heredity*, vol. 13, p. 323-328, July, 1922 (March 10, 1923).
- Evenuden, J. C.** (Entomology): Spruce budworm in northern Idaho. *The Timberman*, v. 24, no. 4, p. 48, Feb., 1923.
- Gill, J. B.** (Entomology): The plum curculio in North Carolina: its life history and control. By R. W. Leiby and J. B. Gill. *Bulletin of the North Carolina Dept. of Agr.*, March, 1923.
- Harlan, H. V., and Pope, M. N.**: The use and value of back-crosses in small-grain breeding. *Journal of Heredity*, vol. 13, p. 319-322, July, 1922 (March 10, 1923).
- Harter, L. L., Lauritzen, J. I., and Weimer, J. L.**: Internal breakdown of sweet potatoes. *Phytopathology*, vol. 13, p. 146-147, March, 1923.
- Harter, L. L., Lauritzen, J. I., and Weimer, J. L.**: Mottle-necrosis of sweet potatoes. *Phytopathology*, vol. 13, p. 145-146, March, 1923.
- Heinrich, Carl** (Entomology): On the synonymy of the pea moth. *Canadian entomologist*, v. 55, no. 1, p. 13, Jan., 1923.
- MacDonald, Thomas H.**: The functioning of Federal aid in the development of highway transportation. *Highway News Digest*, vol. 4, p. 1, Dec. 30, 1922.
- Mann, W. M.** (Entomology): A singular habit of sawfly larvae. By W. M. Wheeler and W. M. Mann. *Psyche*, v. 30, no. 1, p. 9-13, Feb., 1923.
- Mann, W. M.** (Entomology): Two new ants from Bolivia. *Psyche*, v. 30, no. 1, p. 13-18, Feb., 1923.
- Pritchard, F. J.**: Tomato diseases and how to overcome them. *Canner*, vol. 55, no. 10, p. 124-125, March, 1923.
- Rand, F. V.**: Bacterial wilt or Stewart's disease of corn. *Canner*, vol. 56, no. 10, p. 164-165, March, 1923.
- Roberts, J. W., and Pierce, Leslie**: The bacterial spot of peach. *Transactions of the Illinois State Horticultural Society*, vol. 56 (1922), p. 78-87, 1923.
- Sherman, Caroline B.** (Agricultural Economics): Agricultural Clearing House for Country Banks. *Banker-Farmer*, March, 1923.
- Shollenberger, J. H.** (Agricultural Economics): Influence of Relative Humidity on Flour Milling Results. *Modern Miller*, March 3, 1923.
- Skinner, W. W.**: Food Standards. *J. Chem. Met. Eng.*, Vol. 28, No. 11, March 14, 1923, p. 483.
- Smith, Rollin E.** (Packers and Stockyards Administration): Wheat Prices and the Tariff. *The Outlook*, vol. 133, no. 11, pp. 484, 485, March 14.
- Stevens, N. E.**: The possible relation of spring temperatures on the keeping quality of the cranberry crop. *Proceedings of the American Cranberry Growers Association*, vol. 53, p. 7-11, 1923.
- Taylor, Henry C.** (Agricultural Economics): How Can the Farmer Improve his Situation? *Country Gentleman*, March 17, 1923.
- Thorne, Gerald**: Beet-nematode control. (Crop rotation the basic methods. Facts about Sugar.) vol. 16, p. 192, 193, March, 1923.
- Waite, M. B.**: Control of fruit diseases of special importance to the canning industry. *Canner*, vol. 56, no. 10, p. 159-161, March, 1923.

FARMERS' INSTITUTES IN OHIO.

Farmers' institute work has been developed to an unusual degree in Ohio, according to the results of a study of such work in that State recently made by J. M. Stedman, office of cooperative extension work, States Relations Service. The average attendance at sessions of institutes in Ohio last year was 203, which is higher than that of any other State. Nearly 550 institutes were held in the State during the year, employing some 45 lecturers at a cost of \$41,590. Of this amount, \$14,185 was appropriated; the remainder, \$27,405, was voluntarily contributed by the farmers, an evidence of their appreciation of this work.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., APRIL 4, 1923.

No. 14.

TWO COTTON COUNCIL COMMITTEES APPOINTED

Group Selected to Study Statistics and One for Methods of Local Associations.

Two subcommittees of the Cotton Commodity Council have been appointed. They are a committee on local associations, of which J. A. Evans, of the States Relations Service, is chairman; a committee on statistical investigations of the boll-weevil problem, of which W. F. Callender, of the Bureau of Agricultural Economics, will be chairman. The other members of the first committee are: Dr. Karl Kellerman, Bureau of Plant Industry; Dr. H. C. Taylor, Bureau of Agricultural Economics; G. L. Bidwell, Bureau of Chemistry; J. H. McClain, Bureau of Animal Industry; W. E. McLendon, Bureau of Soils; Prof. J. Warren Smith, Weather Bureau; and Dr. W. D. Hunter, Federal Horticultural Board.

Members of Statistical Committee

The other members of the committee on statistical investigations are: Dr. Karl Kellerman, Bureau of Plant Industry; G. L. Bidwell, Bureau of Chemistry; Dr. C. W. Larson, Bureau of Animal Industry; I. O. Schaub, States Relations Service; W. E. Hearn, Bureau of Soils; J. B. Kincer, Weather Bureau; Dr. W. D. Hunter, Federal Horticultural Board.

The first committee will study ways of increasing the number and efficiency of local farmers' associations, including local units of existing State and National organizations, in the Cotton Belt, and of securing the active cooperation of such local associations in furthering the cotton extension programs of the agricultural colleges and United States Department of Agriculture cooperating. These programs include the choice of the best variety of cotton for the different sections, establishing single variety cotton communities, maintaining an adequate supply of pure seed, control of

cotton insect pests and diseases, better ginning and handling, and classing and marketing of cotton as well as the promotion of better living conditions. The statistical committee will correlate statistics of the boll-weevil problem, will prepare schedules to be sent to farmers, and also to prepare interpretations of the results of investigations. It is believed that a method of statistical correlation can be used to advantage in determining the

SECRETARY WORK TO SPEAK AT AGRICULTURE FILM SHOW

Dr. Hubert Work, Secretary of the Interior, has accepted an invitation to speak at the exhibition of Department of Agriculture motion pictures to be given in Central High School auditorium Friday evening, April 13. Secretary Work's address will feature a program that will include musical numbers as well as several new films relating to the work of the Department of Agriculture.

Among the motion pictures will be "Mollie of Pine Grove Vat," dealing with cattle tick eradication in the Southern States and showing how the work is being pushed forward despite the opposition of lawless elements in some sections. The climax of the picture is reached in the dynamiting of a dipping vat, the perpetrators later being brought to justice.

The coming exhibition will be the last this season given especially for Department of Agriculture employees. From 1,600 to 2,000 people have attended the previous exhibitions, and another capacity crowd is expected on this occasion. Employees may obtain tickets from chief clerks of bureaus April 9.

importance of the different methods farmers have used in their efforts to produce cotton under boll-weevil conditions. Both committees will work through and in cooperation with the Extension Division of the Agricultural Colleges.

The cotton council was the first of the committee councils instituted by the department representatives from all bureaus and offices dealing with the crop. The same general policy is being followed in regard to all of the principal crops.

AMENDMENT BROADENS WAREHOUSE ACTIVITIES

Many Commodities Now Eligible for Storage—Receipts Acceptable Under Credit Act.

One of the most important amendments of the warehouse act passed February 23 removes the limitations with respect to the products which may be stored. As the law now reads, the Secretary of Agriculture can license a warehouse for the storage of any products which he considers would constitute sound collateral. Another important amendment provides for a system of licensing inspectors and samplers of commodities stored in warehouses, in addition to graders and weighers. The act was amended in certain other respects, but except for increasing the number of offenses which are punishable under the act and the severity of the penalties which may be imposed for violating the act, these other amendments are more or less minor. The amendments made to the penalty section of the law are such as to materially strengthen the law in the eyes of bankers.

Receipts Form Valuable Collateral.

The United States warehouse act was approved August 11, 1916. It provided a permissive system of licensing warehousemen by the Secretary of Agriculture, and applied to four of the principal staple crops—cotton, wool, tobacco, and grain. Its primary purpose is to encourage the orderly marketing of agricultural products by providing for a form of warehouse receipt to be issued while the products are in storage. The terms of the act and the regulations promulgated thereunder are such as to develop a form of receipt which should make it acceptable generally to bankers for collateral purposes.

Comparatively few warehouses were licensed under this act until about two

years ago, when a general licensing movement commenced. On February 1, there were 360 cotton warehouses licensed, 227 grain warehouses, 20 wool warehouses, and 62 tobacco warehouses. The capacities of many of these warehouses were quite large, the licensed capacity for cotton being sufficient to store at one time about one-fourth of a normal cotton crop and for wool about one-sixth of the annual clip. The progress made under this act in the last two years and the acceptability to bankers of receipts issued under it created a demand on the part of producers of other products for enlarging the scope of the act.

That receipts issued under the warehouse act constitute excellent collateral for credit purposes is evident from the fact that the War Finance Corporation in the past season agreed to make loans to various cotton associations, aggregating more than \$59,700,000, on the basis of such receipts, or such other receipts as it might approve of; and further agreed to loan to one of the tobacco growers' associations \$30,000,000 with similar receipts as collateral. Some of the cotton associations stored their cotton exclusively in Federally licensed warehouses, so that they might get the benefit of the Federal warehouse act, and the two largest tobacco associations have followed the same procedure.

The agricultural credits act of 1923 and the Federal warehouse act go hand in hand. The receipts issued under the latter act will constitute excellent collateral for use under the former act. It is not likely that associations will experience any difficulty in securing loans either from private bankers or under the agricultural credits act if they offer as collateral Federally licensed warehouse receipts. In order that producers may have the full benefit of both acts, the different departments charged with the administration of the acts will undoubtedly work in close co-operation.

Plans for Live-Stock Loan Inspectors Being Formulated

A special temporary committee, of which Chester Morrill, assistant to the Secretary, is chairman, has been organized to discuss plans for licensing live-stock loan inspectors in accordance with the terms of the new agricultural credits act. The committee includes: Chester Morrill, chairman; V. N. Valgren and C. V. Whalin, of the Bureau of Agricultural Economics; E. W. Sheetz, of the Bureau of Animal Industry; Stephen Bray, of the Packers and Stockyards Administration; Governor R. A. Cooper, of

the Federal Farm Loan Board; and A. C. Williams, of the War Finance Corporation.

As soon as forms of applications and rules governing the licensing and supervision of live-stock loan inspectors have been prepared in tentative shape they will be submitted to producers' organizations, banks, cattle-loan companies, live-stock exchanges, and others interested for advice and assistance as to the best manner of putting them into practical operation.

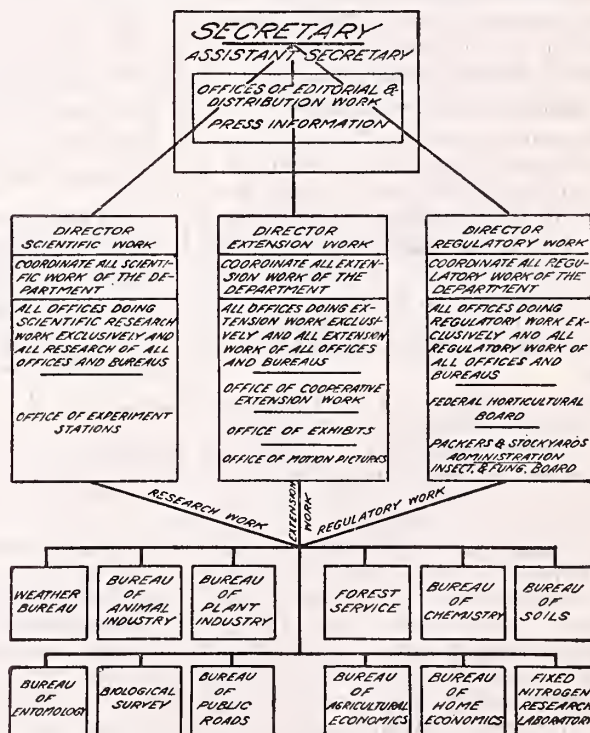
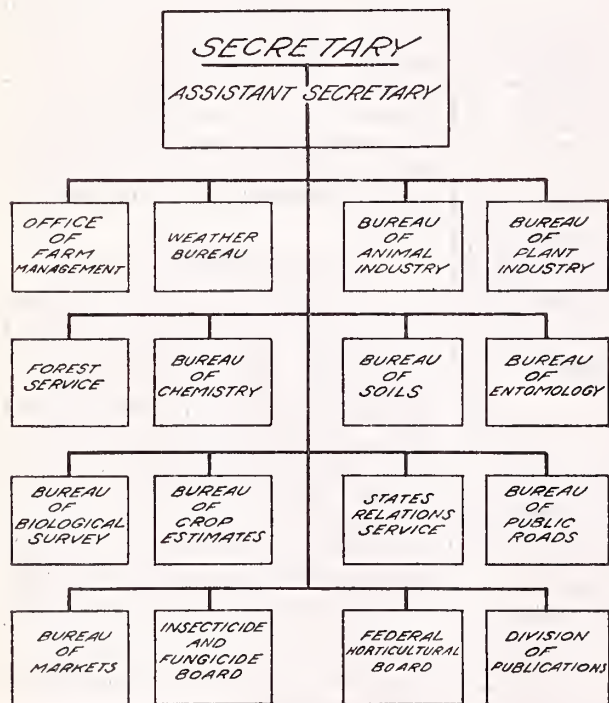
The new law provides that the Secretary of Agriculture may issue a license upon presentation of satisfactory evidence that the applicant is competent to inspect live stock as a basis for loans. These licenses may be suspended or revoked for misconduct. The licensees are not to be employed or compensated by the Department of Agriculture, but may be used by national agricultural credit corporations and others for making inspections of live stock offered as security for loans.

EXTENSION CONFERENCE.

A conference of agricultural extension workers in the Central States on farm management and farm-home problems will be held in Chicago, at the Sherman Hotel, May 16, 17, 18.

OLD ORGANIZATION OF U. S. DEPARTMENT OF AGRICULTURE

PROPOSED ORGANIZATION OF U. S. DEPARTMENT OF AGRICULTURE TO BECOME EFFECTIVE JULY 1, 1923



Several changes have been made since the department was organized, as shown in the chart on the left. The Bureau of Agricultural Economics and the Fixed Nitrogen Laboratory are included in the present organization of the department.

Discover New Bait Effective Against Tobacco Insect Pests

Another insect stronghold hitherto considered to be impregnable to direct attack has fallen before the entomologist through the discovery by the Tobacco Insect Laboratory at Clarksville, Tenn., of a bait which is effective against sod webworms. Fall plowing and other indirect methods have, up to this time, been the only known means of combating these insects.

The attractive principle in this bait was discovered in the course of a series of chemotropism experiments carried out by the above laboratory in which it was found that several substances were somewhat attractive to sod webworms, but that nitrobenzene possessed this quality in a marked degree.

The occurrence of heavy infestations of sod webworms in tobacco fields during the past season has given an excellent opportunity for testing this bait under field conditions, and it has been shown repeatedly that an ordinary unsweetened poisoned bran bait flavored with nitrobenzene is capable of bringing about a mortality of from 80 to 94 per cent of the larvæ in heavily infested fields. The main species concerned were the Tobacco Crambus, *Crambus caliginosellus* Clemens, and *Acrotophus popeanella* Clemens, although it was noted that several other species of Crambus larvæ were present and were attracted to the bait. With further refinement of methods it is believed that a high percentage of control may be expected in tobacco and similar crops and possibly also in grassland.

These larvæ are very important pests of tobacco and a large variety of other crops, where they are commonly known as "screwworms" or "wireworms," and the discovery of this new method of control is therefore important.

NEW HARDY CITRUS HYBRIDS.

Two new hardy types of citrus hybrids promising for home garden use in the colder parts of the citrus-producing territory are the limequat and the citrangequat. Several varieties of each have been recently described and named by Dr. W. T. Swingle, of the Bureau of Plant Industry, viz, the Eustis, Lakeland, and Tavares limequats, and the Thomasville, Sinton, and Telfair citrangequats.

The limequats are hybrids between the common lime and the kumquat and are in effect hardy limes producing a first-class ade fruit fully equal to the

lime. These fruits can be produced in regions much too cold for limes or lemons, maturing crops over a long period of late summer, fall, and winter. Besides its hardiness, the limequat is more disease resistant than the lime, the production of which is seriously curtailed by withertip, to which the limequat is immune. The Eustis limequat is already being propagated by commercial nurseries.

The citrangequats, obtained by hybridizing citranges with kumquats, are tri-generic hybrids having blood of the sweet orange, trifoliate orange, and kumquat and are still hardier than the limequat. The fruits are also rather acid, but not so sour as those of the limequat.

Besides their use in producing ade fruits, these citrangequats offer considerable promise as stocks, particularly for the Satsuma orange.

To Study Heat Value of Smoke Clouds in Protecting Orchards

Arrangements to measure the effectiveness of a smoke cloud in preventing nocturnal cooling have been made recently by the Weather Bureau, as a result of requests from fruit growers and others concerning the effectiveness of smoke clouds in protecting orchards. The tests will be made at Edgewood Arsenal in cooperation with the Chemical Warfare Service of the Army. Prof. Herbert H. Kimball and Prof. J. Warren Smith of the Weather Bureau will be in charge of this work. It is proposed to set up instrument shelters over quite a large area, and to cover a part of this area with a smoke screen on nights favorable for frost. Temperature readings in both the covered and uncovered areas will be made and compared. It is believed that several tests of this kind will establish the feasibility of this method of frost protection, and make it possible for the Weather Bureau to make a definite statement as to whether it is economical and practical. Heretofore, investigations of the Weather Bureau have seemed to indicate that the most effective method of combating frost is to actually heat the lower layer of air by the combustion of oil or other fuels.

The Bureau of Entomology laboratory at Fresno, Calif., in charge of A. J. Flebut, where grape-insect investigations have been carried out for some years, has been discontinued and Mr. Flebut transferred to Lindsay, Calif., to undertake work on the citrus thrips and other fruit insects. The citrus thrips has become exceedingly troublesome in Central California during the last year or so.

Radio Conference Urges Use of Short Wave Lengths for News

The second radio conference called by Secretary Hoover, of the Department of Commerce, resulted in several concrete suggestions, which, when put into operation will undoubtedly result in greatly increased facilities for the dissemination of practically all classes of material now being broadcast.

One of the results of the conference will be the elimination of interference in sending. Weather bulletins, market news, and general agricultural information sent out by the department are usually broadcast on a wave length of 485 meters. High-powered stations are used for the most part, though in some centers information of local interest is sent out over shorter wave lengths.

The conference recommends that all broadcasting be done on comparatively short wave lengths, and suggests the use of wave lengths from 222 to 545. This means that almost every piece of short wave receiving equipment now in the hands of the American public will continue to be useful for receiving the broadcasts.

There probably will be designated two classes of radio broadcasting stations; one, known as class A stations and practically unlimited power and requirements necessitating the highest type of entertainment and services rendered. There probably will not be more than 50 of these stations, and they will be apportioned geographically in order that they will serve the greatest number of people.

The class B stations will be limited as to power and will function primarily as stations of local importance only. It will also be provided that these stations can arrange for the rebroadcasting of the special services of the class A stations. This in itself will especially increase the service in the local territory.

In the opinion of the conference, the Department of Commerce under existing radio law has the power to refuse or revoke licenses for stations when the operation of such stations would result in undue or willful interference with existing satisfactory service.

The Department of Commerce was also requested to put the recommendations of the conference into immediate operation, and it is believed that the quality of services being rendered will be increased within the next few months.

Forest rangers last year killed 274 mountain lions, coyotes, and bobcats on the national forests of California.



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THE OFFICIAL RECORD is published as a means of communicating to workers of the Department of Agriculture official statements by the department, and other information necessary to the performance of their duties.

MARKET OFFICIALS TO MEET HERE.

The annual meeting of the executive committee of the National Association of State Marketing Officials will be held in Washington, D. C., April 16 and 17, in the offices of the Bureau of Agricultural Economics, Bieber Building. The conference will take the form of round-table discussions of matters of general interest to the States, particularly in reference to shipping-point inspection, market reporting, city marketing, and the standardization of fruits and vegetables.

Efforts are being made to arrange for a conference April 18, between the State marketing officials and a committee of the National League of Commission Merchants to discuss the possibility of standardizing the practices to be followed in the commission trade in the handling of fruits and vegetables.

TACT IN LETTER WRITING.

It has been said in the RECORD before that the department often is judged solely by a letter which some one receives from it. In the December number of the System Magazine an interesting article, "How We Cement Friendships by Our Every-Day Letters," points out that most routine letters are dry as dust because no one in authority pays much attention to them and tells how one concern has made its everyday letters ring true and friendly by basic methods easily in reach of any other firm. The following examples of how to say certain things and how not to say them are taken from this article, which is commended to those in the Department who deal with correspondence:

WRONG OPENINGS—BETTER ONES.

Ineffective: "Our sheet metal is the best on the market." "We produce the best sheet metal known to the trade."

Effective: "You will get much longer service from your sheet metal if you use our ingot iron sheets, because this material is rust resisting."

Negative: "We can't understand how you misunderstood our letter of the tenth. We certainly tried to make matters clear."

Positive: "From your letter of the tenth, we can see just what we failed to clear up,

and we thank you for bringing this matter to our attention."

Negative: "You are in our Philadelphia district; consequently we had to send your inquiry back."

Positive: "Since you are so near our Philadelphia office, we have sent your inquiry there, because that office can handle the matter to your greatest satisfaction."

DIRECTORY OF CHICAGO OFFICIALS.

The Federal Business Association of Chicago has recently completed a revised directory of the Government offices and officials located in that city. It includes the addresses and functions of district representatives of the several departments and gives data in regard to the following bureaus of the Department of Agriculture: Animal Industry, Chemistry, Agricultural Economics, Public Roads, Packers and Stockyards administration, Grain Futures, and Weather Bureau. The object of the directory is to facilitate cooperation between Government officials located in Chicago, thereby promoting efficiency and economy in the transaction of Government business.

NEW CIRCULAR OF HOTEL RATES.

The Bureau of the Budget has recently issued Circular No. 97, under date of March 12, giving hotel rates for Government employees and superseding all circulars previously issued announcing reductions in hotel rates. It is suggested that officers and employees of the Government ascertain the regular rates when they apply for accommodations, show their credentials, and ask for reduced rates before registering. Presentation of travel order or other official instructions is believed to be sufficient identification for this purpose. Officers or employees of the Government who have information that other hotels than those listed are willing to grant reduced rates are requested to report such hotels to the Bureau of the Budget. Copies of the circular have been sent to all bureaus and offices.

GRADE ASSIGNMENTS SUSTAINED.

Thirty-five thousand four hundred and eighty-seven appeals from grades assigned by grain inspectors licensed under the United States grain standards act were made during the last calendar year. Of this number 22,242 inspections were sustained. Of the total appeals 29,275 were for wheat, 4,649 for corn, and 1,563 for oats. The largest number handled by any one office was 7,563 at Kansas City. This work brought \$52,637.64 into the Federal Treasury. There was also turned

into the Treasury during this same period the sum of \$7,030.31 from sales by field stations of the residue of grain samples accumulated in connection with official work.

LUNCHEON FOR MR. MURRAY.

A luncheon was held March 16 at the City Club in honor of N. C. Murray, of the Bureau of Agricultural Economics, who has resigned to enter commercial work and has taken up his new duties in Chicago. A gold watch was presented to Mr. Murray by members of the staff of the Division of Crop and Live-Stock Estimates, March 17.

VISITORS TO THE DEPARTMENT.

Sir Charles Ross, of Balmagown Castle, Rosshire, Scotland, visited the department March 25. In addition to calling at the office of the Secretary, he visited the Bureau of Plant Industry.

M. R. Harrison, editor and publisher of the Produce Review, Queensland, Australia, visited the department March 26 and 27 and conferred with officials of the Bureau of Agricultural Economics regarding recent developments in agricultural legislation in Australia. Mr. Harrison, who has spent several months in this country studying cooperation, was the leader in the movement which resulted in the organization of Government-controlled wheat pools in Australia following the war.

Naomichi Tanaka, Secretary of the Ministry of Agriculture and Commerce, Tokyo, Japan, was a visitor at the Bureau of Chemistry, March 23. He was especially interested in the organization of the bureau.

Dr. Rudolf Sucharipa, of the Bureau of Agriculture of the Czecho-Slovak Republic, who for the last two months has been working on pectins with E. K. Nelson of the Bureau of Chemistry, left Washington March 17 for New York City. Before returning to Czechoslovakia he will visit the laboratory of fruit and vegetable chemistry of the Bureau of Chemistry at Los Angeles, Calif. Doctor Sucharipa, who is a doctor of science of the Charles University of Prague, was sent to this country by his Government to study the canning industry and is especially interested in the canning of fruit.

COL. F. N. GRAY.

Col. Flavillus Nathaniel Gray, Texas cotton statistician of the Bureau of Agricultural Economics, stationed at Houston, died suddenly March 25 while on his way to greet Secretary Wallace, then in Houston. Colonel Gray was born November 22, 1855, and was widely known in Texas and Louisiana. He was for many years the manager of a large sugar and cotton plantation in Louisiana, and was subsequently engaged in the growing of rice and other products in Texas. For many years he published a rice journal devoted to the interests of the producers and the trade. In 1905 he was specially selected by Secretary of Agriculture James Wilson to serve as field agent of the bureau of statistics, now the division of crop and live-stock estimates, Bureau of Agricultural Economics. In recent years he has devoted himself entirely to preparing estimates of the cotton crop of Texas. His accuracy in forecasting the cotton crop of the State was remarkable.

U. S. D. A. CLUB ACTIVITIES

DENVER CLUB.

Fourteen members attended the meeting of the Denver Club of the Department of Agriculture, held March 12. L. F. Kneipp, of the Forest Service with headquarters in Washington, described briefly certain lines of investigation being carried on by the several bureaus of the department in Washington. Frank Andrews, of the Bureau of Agricultural Economics, gave an address in which he described the methods used in the collection of material upon which crop and live stock estimates are based, and discussed the value of these estimates to the public.

PHILADELPHIA CLUB.

The Philadelphia U. S. D. A. Club met March 21, and was addressed by C. M. Harris, of the Bureau of Agricultural Economics, whose subject was "Reporting the meat market." His talk was illustrated by charts. It was followed by a discussion on the problems concerned directly with the club management. It is hoped that arrangements can be made soon so that the April meeting can be held at the office of the Weather Bureau, when G. S. Bliss, the club president, will present some lantern slides which he has accumulated in his work over a period of years.

The February meeting of the club was held on the 21st, and was addressed by Stewart Wilson, secretary in charge of the third civil-service district commission. His subject was "Problems of civil service under Federal Government." Both of these meetings were held in the offices of the Weather Bureau and were preceded by luncheons at Snellenburg's restaurant.

INDIANAPOLIS CLUB.

At the March meeting of the Unity Club of the department at Indianapolis questions as how the club might best advance the work of the department and increase the interest of the general public in it were discussed. The sense of the membership was finally expressed that the club should construct and carry out a definite program with this end in view, and a committee was appointed, as follows: President. H. A. Rhoades, Bureau of Agricultural Economics; J. H. Armington, of the Weather Bureau; Dr. G. W. Butler, Bureau of Animal Industry; and Clark A. Russell, of the Bureau of Agricultural Economics.

BUFFALO CLUB.

The regular luncheon meeting of the Buffalo Club was held March 20, at the

Y. M. C. A. building. Four bureaus were represented. F. L. Hedrick, of the Packers and Stockyards Administration, discussed the value of the Department of Agriculture clubs, and also explained some features of the Packers and Stockyards Administration. Mr. Hedrick resigned from the club, as he is leaving the city soon to be transferred to the Detroit office. Dr. B. F. Wende discussed some features of the reclassification bill.

CLUB MEETINGS.

The following statement as to the regular meetings of the U. S. D. A. clubs is given for the benefit of the local department representatives, and also for the information of interested visitors from Washington and elsewhere temporarily in the city who would like to get in touch with the clubs:

Birmingham Club (Federal Agricultural Technical Association), second Saturday, 8 p. m.; Post Office Building; Edgar C. Horton, Weather Bureau, secretary.

Chicago Club, third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.

Denver Club, second Monday; lunch 12.15, Denver Civic and Commercial Association; W. J. Ise, office of the solicitor, secretary.

Indianapolis Club (Unity Club), second Monday; lunch, Chamber of Commerce Building; J. A. Armington, Weather Bureau, secretary.

New York Club (NYUSDA), second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. H. Stanton, 204 Franklin Street, secretary.

Philadelphia Club, third Wednesday; lunch, Snellenburg's Restaurant; C. S. Brinton, 134 Second Street, secretary.

Oklahoma City Club, second Monday; lunch, Chamber of Commerce; Mattie A. Craig, 202 Grand Street, secretary.

Portland (Oreg.) Club, first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, Post Office Building, secretary.

San Francisco Club, first Wednesday, 12.15; Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.

St. Joseph Club, second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary.

St. Louis Club, second Friday; B. S. Jones, 413 Old Customs House, secretary.

W. B. MERCIER AND H. E. SAVELY RESIGN.

W. B. Mercier and H. E. Savely, office of cooperative extension work, States Relations Service, resigned, effective March 31 and 15, respectively. With their resignations the department loses two of its oldest workers, in point of service, connected with the extension work.

Mr. Mercier, following his graduation from Mississippi Agricultural and Mechanical College in 1892, became farm manager for the Louisiana Agricultural Experiment Station. Three years later

he took charge of his own farm, which he operated successfully for 14 years, during that time carrying on special experiments in cooperation with the Mississippi Experiment Station.

In February, 1909, he was appointed special agent in connection with the farmers' cooperative demonstration work and assigned to the territory of Amite County, Miss. In June of that year he was appointed agriculturist and field agent for this department, with headquarters at Washington, where he has remained until his resignation. During that time he was field agent for a number of the Southern States and for a year prior to the combining of the two extension offices was assistant chief of the office of extension work in the Southern States. Since the reorganization of the extension offices he has been agriculturist and field agent for Delaware, Maryland, Virginia, West Virginia, North and South Carolina.

Mr. Mercier resigns to become assistant director of the agricultural extension service in Louisiana.

Mr. Savely is also a graduate of the Mississippi Agricultural and Mechanical College of the class of 1903. Following his graduation he served as director of the Mississippi branch experiment station at Stoneville until June, 1906, when he was appointed local agent for the department in connection with the farmers' cooperative demonstration work for Washington, Bolivar, and Sunflower Counties, Mississippi. In 1907 he became State agent in charge of demonstration work in the States of Mississippi and Alabama. In October, 1908, he was transferred to Washington, D. C., as agriculturist and field agent in charge of demonstration work in a number of the Southern States. He has held a similar position with the department up to the time of his resignation, March 15, to become director of organization and marketing work with the Mississippi Farm Bureau.

VALUE OF EXHIBITS DISCUSSED.

At a conference of department extension workers in the office of cooperative extension work, States Relations Service, March 27, the educational value of exhibits was discussed by A. B. Graham, of that office, who used lantern slides showing different types of exhibits in community and county fairs as illustrations. Reuben Brigham, also of the States Relations Service, discussed features of fairs which attract people of various interests and the appreciation of helpful and educative contributions, as evidenced by the gate receipts.

PEOPLE MENTIONED IN OFFICIAL ORDERS

Dr. Milton Whitney, Chief of the Bureau of Soils, delivered an address Saturday, March 17, before the Brooklyn Institute of Arts and Sciences. His subject was "The modern concept of the soil."

Samuel S. Crossman and Ray T. Webber, of the gipsy moth laboratory, Melrose Highlands, Mass., will visit Europe during the spring and summer of this year to secure beneficial species of parasites to aid in the fight against the gipsy and brown-tail moths. Mr. Crossman spent several months in Europe last year, and as a result of his observations it is believed important to continue the work of importing, breeding, and colonizing of European parasites of the two insects. Material will be shipped to the laboratory at Melrose Highlands, Mass., as collected.

Dr. C. F. Langworthy attended the annual meeting of the State Teachers' Association, held at Nashville, Tenn., March 29-31, where he discussed home-economics problems in relation to high-school work. He also discussed the work of the department in home economics at the Alabama Polytechnic Institute, Auburn, Ala.; the State College for Women, and the Agricultural and Mechanical College for Negroes, at Tallahassee, Fla.; and the Daytona Industrial Institute for Negro Girls, at Dayton, Fla.

Dr. John N. Summers, who visited Japan last year to secure parasites of the gipsy moth, has gone to that country again and will continue his studies of the gipsy moth and its parasites.

R. H. Ellsworth, of the Bureau of Agricultural Economics, left Washington April 2 for Raleigh, N. C., Atlanta, Ga., Jacksonville and Gainesville, Fla., to confer with managers and other officials of cooperative associations of tobacco, cotton, citrus fruits, and peach growers.

John H. Cox, of the Bureau of Agricultural Economics, left Washington this week for Pittsburgh, Columbus, Indianapolis, Louisville, Memphis, St. Louis, Chicago, Omaha, Minneapolis, Milwaukee, and Buffalo to confer with officials, grain inspectors, boards of trade, and others regarding the problems connected with standards for barley and oats.

Dr. E. W. Schwartz, pharmacologist in charge of the pharmacological laboratory, Bureau of Chemistry, delivered three lectures last month, illustrated by laboratory experiments, to a class of graduate physicians from the Veterans' Bureau who are specializing on nervous diseases at St. Elizabeths Hospital. Doctor Schwartz's lectures covered different phases of the chemistry of the central nervous system.

W. A. Sherman, of the Bureau of Agricultural Economics, has returned from a two weeks' trip, in the course of which he visited Baltimore, Neward, Del.; Philadelphia, Trenton, New York, Boston, and Orono, Me. Mr. Sherman conferred with various representatives of the bureau, State officials, and others regarding a program of work on fruits and vegetables. At the State Agricultural College at Orono, Me., he gave an address before a marketing conference held in connection with "farmers' week."

Dr. J. W. Turrentine, of the Bureau of Soils, will present a paper entitled "The efficient recovery of nitrates from caliche" before the division of industrial chemistry

of the American Chemical Society at the New Haven meeting, being held this week.

Raymond Hertwig, assistant chemist, San Francisco station, Bureau of Chemistry, has been assigned to the food-control laboratory of the bureau in Washington for two months.

Dr. E. T. Wherry, chemist in charge of the crop chemistry laboratory, Bureau of Chemistry, delivered a lecture recently before a class of graduate physicians of the Veterans' Bureau.

Charles E. Chambliss, Bureau of Plant Industry, left Washington March 21 for points in South Carolina, Florida, Georgia, Alabama, Louisiana, and Texas to confer with officials of the State agricultural experiment stations and with commercial men interested in rice investigations. Mr. Chambliss also will inspect the experiments being conducted at the rice experiment station at Crowley, La., before his return early in May.

J. W. Tapp, Bureau of Agricultural Economics, left Washington April 1 for points in the States of Pennsylvania and New Jersey to make some investigations preliminary to conducting farm business analysis surveys and to confer with the New Jersey State officials concerning cooperative detail cost work in connection with investigations in farm management and practice.

F. G. Ashbrook and Talbot Denmead, of the Biological Survey, spent several days of March in the marshes of the Eastern Shore of Maryland investigating the raising of muskrats. Dorchester and adjacent counties probably produce more muskrats to the acre than any other known area of the United States, and the increasing value of this kind of fur is making many otherwise useless swamp lands of greater commercial value than similar-sized areas under cultivation.

David Griffiths, Bureau of Plant Industry, left Washington March 18 for Chico, Calif.; Portland, Ore.; Bellingham, Wash.; Lewistown, Idaho; Grand Rapids, Mich.; and Mentor, Ohio, for the purpose of conducting bulb investigations, of consulting with and advising growers and cooperators, and of studying and recording results of investigations in progress.

R. G. Hill and R. C. Wright, Bureau of Plant Industry, left Washington March 20 for New York City, N. Y., and San Juan and Mayaguez, Porto Rico, to continue investigations of the handling, packing, and shipping of citrus fruit from Porto Rico to New York City to obtain information as to the best methods for refrigerated transportation of fruits.

W. R. Meadows, of the Bureau of Agricultural Economics, attended the meeting of the Texas State Cotton Buyers' Association, held at Dallas, Tex., March 23-24.

J. H. Ayres, of the Bureau of Public Roads, with headquarters at Little Rock, Ark., attended a three-day road school held at the University of Arkansas, at Fayetteville, Ark., during the last week in March. He lectured on the construction of earth, sand-clay, and gravel roads.

Dr. E. F. Phillips, of the Bureau of Entomology, gave one of the Ludwig lectures of the Philadelphia Academy of Natural Sciences, at Philadelphia, April 2.

B. S. Jones, of the St. Louis office of the food products inspection service, spoke before the Parent and Teachers' Association of the St. Louis public schools, March 20. His subject was the Federal food products inspection service.

Miss Ruth Johnstin, of the States Relations Service, is in attendance at the session of

the agricultural and food section of the spring meeting of the American Chemical Society, being held at New Haven, Conn., this week.

Walter S. Graham, Bureau of Plant Industry, left Washington March 23 for New York City to inspect Broccoli shipments.

Lon A. Hawkins, Bureau of Plant Industry, left Washington March 24 for New York City and Rochester, N. Y., and Cleveland, Ohio, to make investigations regarding cold storage of apples and to consult with cold-storage men.

J. R. Magness, Bureau of Plant Industry, left Washington March 26 for Rochester, N. Y.; Cleveland, Ohio; and Pittsburgh, Pa., to examine fruit in storage and consult with cold-storage men.

P. M. Lombard, Bureau of Plant Industry, left Washington March 26 for Presque Isle, Me., to superintend the planting of potatoes in connection with the Irish potato investigations of this bureau.

C. F. Clark, Bureau of Plant Industry, left Washington March 26 for Presque Isle, Me., to conduct the breeding and selection work of the Irish potato investigations of the bureau.

Dr. Robert M. Mullings, of the Bureau of Animal Industry, with headquarters at Jersey City, N. J., spoke before the Lions Club, West Hoboken, N. J., March 27, on the subject "What Federal meat inspection means to the American public."

W. R. Walton, of the Bureau of Entomology, will attend a meeting of the Northwestern International Committee on Insect Pests, to be held at Winnipeg April 18-19. He will speak on the problems connected with grasshopper and cutworm control.

Miss Grace E. Frysinger, States Relations Service, conferred with supervisors of agricultural extension work in Madison, Wis., March 14-16, and Columbus, Ohio, March 17, regarding methods of conducting extension work.

H. W. Hochbaum, States Relations Service, attended the annual conference of Maine County agents and extension committeemen held at Orono, March 27-28, and a conference of extension specialists at New Brunswick, N. J., March 29-30, where he discussed methods of detailing extension plans of work.

Miss Madge J. Reese, States Relations Service, left Washington, D. C., March 29, to confer with State and district extension workers in Texas, New Mexico, Arizona, Nevada, Utah, and Colorado, regarding plans for extension work. She will return to Washington about May 30.

O. B. Martin, States Relations Service, visited Hampton, Va., March 24-29, where he discussed plans for extension work among negro farmers with J. B. Pierce, supervisor of negro extension work. Mr. Martin also spoke to the students of Hampton Normal and Agricultural Institute on the development of agricultural extension work and its contribution to community and national life.

A. C. Knauss, of the forest products laboratory, spoke at the annual meeting of the North Carolina Pine Association, held at Norfolk, Va., March 29.

Raphael Zon, of the Forest Service, will address the Brooklyn Institute of Arts and Sciences, at Brooklyn, N. Y., April 7. His subject will be "Forests and human life."

The forest products laboratory float took second prize in the winter sports carnival parade held at Madison, Wis.

BRIEF REVIEWS OF NEW BULLETINS.

Cost of Milk Production of Forty-eight Wisconsin Farms. By S. W. Mendum, junior economist, Bureau of Agricultural Economics. Pp. 23, figs. 2. March 20, 1923. (Department Bulletin 1144.) Price, 5 cents.

The average cost of producing milk in Wisconsin in 1920 as computed from the records of 48 representative farmers was 25 per cent above the average selling price of the milk. Similar results have been observed whenever production costs have been studied on any great number of farms showing a wide variation in the rate of production of cows, in size of herds, in character and amount of feed available and fed, and in the general organization of the farms on which the milk is produced. The survey was an effort to show the effect of these factors on costs through the experience of farmers who were largely dependent on the returns of their dairy enterprise for their livings. Market milk, cheese, butter fat, and condensery milk producers are represented in the report. Feed was the largest item in the cost of producing milk, amounting to about 53 per cent of the total computed cost. The quantities of feed consumed were compared with the theoretical quantities needed as computed by feeding standards experimentally established and found to check closely.

Length of the Dormancy Period of the Sugar-Beet Nematode in Utah. By Gerald Thorne, Assistant Nematologist, Office of Sugar-Plant Investigations, Bureau of Plant Industry. Pp. 5. February, 1923. (Department Circular 262.) Price, 5 cents.

The author of this paper points out the fact that this pest exists in five forms. One of these forms is known as the brown cyst or preservation form. The brown cyst is, strictly speaking, the dead body of the female nematode filled with eggs, the body forming the protecting cover. Each egg contains a larva in the dormant state. It is further pointed out that a few of the eggs hatch each year for a period of six or more years. If the nematodes hatching from the eggs find a host plant, they are able to repeat the cycle of their existence, and form new cysts. If they do not find a host plant, they soon perish. In the course of the six years they are almost sure to find some host plant, upon which they can thrive, thus making it difficult, if not impossible, to eradicate the pest even by crop rotation. In addition to the sugar beet, many weeds form host plants for this pest—another condition which makes eradication difficult. There are crops upon which the sugar-beet nematode does not thrive. When these are grown with clean culture on infested land the number of nematodes is greatly reduced, in spite of the brown cyst form, so that after a few years a profitable crop of beets may be grown. However, under favorable conditions this nematode increases rapidly, so that under sugar beets in one season it may become sufficiently numerous to prevent the production of a second profitable crop of beets.

The Results of Physical Tests of Road-Building Rock From 1916 to 1921, Inclusive. Prepared in the Bureau of Public Roads. Pp. 52. (Professional Paper.) March 21, 1923. (Department Bulletin 1132.) Price, 10 cents.

This bulletin records the results of laboratory tests made by the Bureau of Public Roads on 5,300 samples of road-building rock from all parts of the country and is of value

in determining where suitable material for both road construction and building purposes may be found. Rock deposits usually occur in large quantities, not easily exhausted, and therefore the records are something of permanent value.

ADDITIONAL PUBLICATIONS.

Experiment Station Record. Vol. 48, No. 1. January, 1923. Pp. 1-100. Price, 10 cents.

Report of the Chief of the Weather Bureau, 1921-1922. Pp. 277, charts 7. (March, 1923.) Price, \$1.00. Cloth.

Service and Regulatory Announcements. Bureau of Biological Survey. No. 53. Regulations for the Protection of Game in Certain Localities in Alaska. Pp. 3. March 24, 1923. Price, 5 cents.

Experiment Station Record. Vol. 48 No. 2. February, 1923. Pp. 101-200. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Destroy the Common Barberry. By E. C. Stakman, Pathologist and agent, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 15, figs. 9. Revised February, 1923. (Farmers' Bulletin 1058.)

Monthly Weather Review. Supplement No. 22. The Spring Floods of 1922. Pp. 1-29, charts 15, il. (March, 1923.) Price, 25 cents.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 190. February, 1923. Pp. 19-26. March 23, 1923. Price, 5 cents.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 153. Notices of Judgments 11101-11150. Pp. 57-83. March, 1923. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the experiment stations during the week March 19-24, 1923. These publications can be obtained only from the stations issuing them.

Results of Rice Experiments in 1922. By C. F. Dunshee. (California Sta. Bul. 254, pp. 399-415, figs. 14.)

Leguminous Plants as Organic Fertilizers in California Agriculture. By P. B. Kennedy. (California Sta. Circ. 255, pp. 8, fig. 1.)

Progress of Agricultural Experiments, 1922.

A Report of the Director of the New Hampshire Agricultural Experiment Station for the Year 1922, Including a Financial Statement for the Fiscal Year Ending June 30, 1922. (New Hampshire Sta. Bul. 208, pp. 31.)

The Nature and Reaction of Water from Hydrathodes. By J. K. Willson. (New York Cornell Sta. Mem. 65, pp. 11.)

Periodicals Available for Reference. (New York State Sta. Circ. 59, pp. 18.)

Proposed Program of Development. (New York State Sta. Circ. 60, pp. 7.)

List of Projects under Investigation. (New York State Sta. Circ. 61, pp. 4.)

Available Bulletins. (New York State Sta. Circ. 62, pp. 4.)

Spraying and Dusting Experiments with Apples in 1922. By P. J. Parrott, F. C. Stewart, and H. Glasgow. (New York State Sta. Circ. 63, pp. 8.)

1922 Experiments on Control of Borers and Leaf Curl of Peaches. By P. J. Parrott,

F. C. Stewart, and H. Glasgow. (New York State Sta. Circ. 64, pp. 7.)
Spraying and Dusting Experiments for Pear Psylla in 1922. By F. Z. Hartzell. (New York State Sta. Circ. 65, pp. 8.)

LAND ECONOMICS ROUND TABLE.

At the Land Economics Round Table on March 20 C. W. Chambers, of the Bureau of Agricultural Economics, was given an additional 20 minutes to clear up problems in his paper on "Valuation of farm land." G. C. Haas, also of the Bureau of Agricultural Economics, discussed a formula for land appraisal based on numerous factors, drawing his deductions from a study made in Blue Earth County, Minn. L. S. Murphy, of the Forest Service, discussed the valuation of forest land. Practically all members of the Round Table participated in the open discussion which followed.

J. S. Cole, of the Bureau of Plant Industry, spoke on land utilization in the Great Plains region as indicated by data gathered for a number of years in dry-land experiment stations. E. O. Wooten, of the Bureau of Agricultural Economics, discussed the influence of land tenure on the utilization of land in the Plains region of Montana.

NEW TICK FILM RELEASED.

The Bureau of Animal Industry has just released a new tick-eradication film entitled "Mollie of Pine Grove Vat." The picture is in three reels and was photographed in and near Washington, N. C. It is designed for use as a preliminary weapon in combating the cattle-fever tick in the South, and is suitable for use in all tick-infested regions. The film will be circulated through the film-distribution system of the department, but the primary use in the near future will be on a motion-picture truck that the Bureau of Animal Industry is sending through many regions in the South.

The film contains a human-interest story woven into a complete plot, with a hero and heroine, two good villains, a fist fight, and a dynamiting scene. It has been made unusually interesting by the excellent photography of Eugène Tucker of the department's office of motion pictures. The preliminary showing was favorably received.

The results of the analysis of a number of representative samples of filter press cake are set forth in Department Circular 257, Composition of Filter Press (Lime) Cake, by Sidney F. Sherwood, chemist in the Bureau of Plant Industry.

PRINCIPAL LIBRARY ACCESSIONS

- A B C's of business. By H. S. McKee. New York, Macmillan company, 1922.
- Advertising yearbook for 1922. Ed. by N. T. Praigg. New York, Doubleday, Page & company, 1923.
- American library directory. New York, R. R. Bowker co., 1923.
- Anleitung zur quarkbereitung und zur handkäsereifabrikation. 3. auf. Von W. Steiger. Berlin, P. Parey, 1920.
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- Die bodenkolloide. 3. auf. Von Paul Ehrenberg. Dresden, T. Steinkopff, 1922.
- Chemie der nahrung und genussmittel, v. 2. 5. auf. Von F. J. König. Berlin, J. Springer, 1920.
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- Cooking for profit. By Alice Bradley. Chicago, American school of home economics, 1922.
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- Thirty important forest trees of Maryland. Maryland State board of forestry. Baltimore, 1922.
- Larson, A. O. (Bur. Entomology). Shall California Continue to Grow Beans for Hungry Bugs? Los Angeles Sunday Times, Farm and Tractor section, p. 8, illus. March 11, 1923.
- Losh, A. R. (Bur. Public Roads). Highways a Part of the Transportation Industry. Texas Highway Bulletin. Vol. 3, p. 9. March, 1923.
- MacDonald, Thos. H. (Bur. Public Roads). What Our Highways Mean to Us. Trade Winds, Vol. —, p. 9, February, 1923.
- Meigs, Edward B. (Bur. Animal Industry). The Mineral Requirements of Dairy cows: Present Status of the Question. Journal of Dairy Science, Vol. 6, No. 1, p. 46-53. Jan., 1923.
- Shannon, R. C. (Bur. Entomology). The Anophelines of Northeastern America (Diptera, Culicidae). By Robert Matheson and R. C. Shannon. Insector Inscitiae Menstruus, Vol. 11, No. 4-6, pp. 57-64. Apr.-June, 1923.
- Shollenberger, J. H. (Agricultural Economics). Determines Humidity Basis. Southwestern Miller, March 13, 1923.
- Influence of Relative Humidity on Flour Milling Results. Millers Review, March, 1923.
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- The Bot Flies of Domestic Animals. The Cornell Veterinarian, Vol. 12, No. 3, pp. 240-262, illus. July, 1922.
- A New Microdon from Bolivia. Insector Inscitiae Menstruus, Vol. 11, Nos. 4-6, pp. 80-81. Apr.-June, 1923.
- The Use of Nutrient Agar for Rearing Dipterous Larvae. American Journal of Tropical Medicine, Vol. 2, No. 6, pp. 555-557. November, 1922.

CIVIL SERVICE EXAMINATIONS.

The Civil Service Commission announces an examination, April 24, for associate dust explosion prevention engineer at salaries of from \$2,500 to \$3,600 a year; and assistant dust explosion prevention engineer at \$1,800 to \$2,500 a year. Vacancies in the Bureau of Chemistry and in positions requiring similar qualifications will be filled from these examinations. Applicants for the dust explosion prevention engineering positions must qualify in at least one of 10 branches. The duties will be to direct and conduct investigations relative to the cause and prevention of dust explosions and resulting fires in grain mills, grain elevators, thrashing machines, cotton gins and cotton-oil mills, and related work. Applicants for these positions must have training equivalent to that represented by graduation with a bachelor's degree from a college or university. For the position of associate dust explosion prevention engineer, four years of practical engineering experience are also required; and for assistant, two years are required. Apply for Form 2118.

For junior dust explosion prevention engineer, April 25. Vacancies in the Bureau of Chemistry will be filled at salaries of \$1,440 to \$1,800 a year. Applicants must qualify in one of the branches required for the other positions. The duties of this position are similar to those of the other two. A prerequisite is college graduation. Applicants should send for Form 1312.

For assistant in date scale eradication, at salaries of \$1,200 to \$1,500 a year, will be held April 25. Vacancies in the Federal

Horticultural Board for duty in the field will be filled from this examination. The duties will be to assist in the field work in detecting and eradicating the date palm scale in areas in Texas, Arizona, and California. Applicants must have had practical experience, and must write a thesis. Form 1312.

For cold-storage warehouse assistant, April 11. A vacancy in the Center Market will be filled from this examination, and future vacancies requiring similar qualifications. The salary range is from \$1,200 to \$1,800 a year. Experience in handling cold-storage products is required. Send for Form 1312.

For pattern maker (wood). A vacancy in the department will be filled at a salary of \$1,500 a year. The duties consist of making wood patterns for castings. If interested, apply for Form 1800.

For engineer in forest products, \$2,760 to \$3,600 a year; associate engineer in forest products, \$2,160 to \$2,700 a year; chemist in forest products, \$2,760 to \$3,600; associate chemist in forest products, \$2,160 to \$2,700; wood technologist, \$2,760 to \$3,600; associate wood technologist, \$2,160 to \$2,700. Receipt of applications will close April 24. Vacancies in the forest products laboratory of the Forest Service, at Madison, Wis., or elsewhere, will be filled from this examination. Details as to the duties and requirements of these various positions can be obtained from the announcement of the examination. If interested, applicants should send for Form 2118.

For laboratory and field aid in crop acclimatization, April 25. Vacancies in the Bureau of Plant Industry, for duty in Washington and in the field, will be filled from this examination at salaries of \$1,000 to \$1,400 a year. Applicants must show that they have a standard high-school or equivalent education, and at least two years' experience in practical farm work. Send for Form 1312.

For food and drug inspector, April 25. Vacancies in the Bureau of Chemistry for duty in Washington or elsewhere will be filled from this examination at salaries of \$1,600 a year. Three registers of eligibles will be established from this examination: Food inspector, drug inspector, and food and drug inspector. Education, practical questions, and a thesis will be taken into consideration in making up the registers. Those interested should apply for Form 1312.

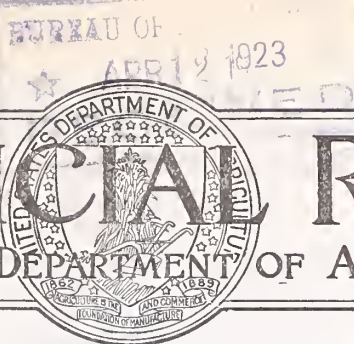
For junior engineer in forest products, April 25; junior chemist in forest products, April 26; and junior wood technologist, April 27. Vacancies in the forest products laboratory at Madison, Wis., will be filled from this examination at salaries of \$1,500 to \$2,100 a year. Details regarding these positions can be obtained from the announcement of the examination. Apply for Form 1312.

For junior agronomist, junior animal husbandman, junior dairy husbandman, junior dairy manufacturing specialist, junior in home economics, junior horticulturist, junior landscape architect, junior nematologist, junior plant introducer, junior plant pathologist, junior pomologist, junior poultry husbandman, junior seed botanist, junior soil scientist, April 30. The entrance salaries for these positions will range from \$1,320 to \$1,860. Competitors will be rated on practical questions on the scientific subject chosen, a thesis, education, and training. The applicant must be a graduate of a university or college of recognized standing, or be a senior student in such an institution. The requirements under each of these classes vary. Vacancies in the Bureaus of Plant Industry, Animal Industry, Soils, and States Relations Service will be filled. More complete information can be obtained from announcement of the examination. If interested, ask for Form 1312.

Articles in Current Publications

By Department Workers.

- Aldrich, J. M. (Bur. Entomology). Notes on the Dipterous Family Hippoboscidae. Insector Inscitiae Menstruus, Vol. 11, Nos. 4-6. Pp. 75-79. Apr.-June, 1923.
- Collier, G. A. (Agric. Economics). Federal Hay Grades Aid Marketing. Orange Judd Farmer, March 15, 1923.
- Coville, F. V. (Bur. Plant Industry). The Effect of Aluminum Sulphate on Rhododendron Seedlings. Bulletin of the American Horticultural Society. No. 1, p. 6. March 24, 1923.
- Estabrook, Leon M. (Agricultural Economics). Use of Crop Reports by Farmers. Journal of Farm Economics, January, 1923.
- Hann, R. W. (Bur. Chemistry). The Interaction of Aliphatic Alcohols and Beta-Gamma-Dibromophenyl Isothiocyanate. Journ. Am. Chem. Soc., Vol. 45, No. 2, Feb., 1923.
- James, E. W. (Bur. Public Roads). Fundamental Economic Considerations in Locating and Designing Highways. Transit, Vol. 27, p. 95. March, 1923.
- Kitchen, C. W., and Sherman, Caroline B. (Agricultural Economics). A Public Market that Performs a Public Service. American Food Journal, March, 1923.



THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., APRIL 11, 1923.

No. 15.

DEPARTMENT EARNS OVER EIGHT MILLIONS A YEAR

Most of Money Covered Into the Treasury Enters General Government Fund.

The Department of Agriculture has an annual income of about \$8,500,000, which is earned incidentally through service work, regulatory work, and in some cases through actual sales of products. Money is collected and covered into the Treasury by every bureau in the department. A small portion of it is reappropriated to the department. The Forest Service makes the largest contribution of any, paying in over \$4,500,000 each year from sales of timber, grazing fees, and fees for the use of forest lands.

B. A. E. Contributes Large Sums.

A large part of the total income of the department is earned by the Bureau of Agricultural Economics. This bureau administers several laws. It maintains a permissive inspection service, through which products of all kinds are inspected at terminal points at the request of the consignees. A certain fee is charged for the inspection, and in 1922 the sum of \$131,000 was earned in this way. Whenever a dealer appeals from a decision of a grain inspector as to the grade and quality of his product, the matter is taken to the supervisor of the district, who finds the true grade of the grain. In case the decision sustains that of the inspector, the dealer is required to pay for charges of reinspection. The sum of \$53,000 was collected through appeals of this type in 1922. The sum of \$4,800 was collected from warehouse disputes. Cotton standards, by which cotton may be graded in accordance with the Federal standards, are made up on the eighth floor of the Bleber Building. These consist of boxes showing the grade and small samples showing the length of staple. The boxes sell for \$5 each and the staple types for \$1; \$100 is the cost

of a full set of official cotton standards. This includes the upland cotton, Egyptian, and sea Island. Sales of these cotton standards amounted to \$8,900 in 1922. When these samples are made up, a large amount of cotton is discarded in order to produce the exact quality needed for the standard. The discarded cotton is resold and the sales from this source in 1922 amounted to \$30,800. Grain samples which are sent in for appeal and other purposes in the administration of the grain standards act are also sold. Sales of grain derived from this source amounted to \$7,800 in the last year.

(Continued on page 3.)

Record Crowd Will Hear Dr. Work and See Pictures

The demand for tickets for the Department of Agriculture motion-picture exhibition to be held in Central High School auditorium Friday evening, April 13, indicates that a record-breaking crowd will attend. Much interest is expressed in the fact that Dr. Hubert Work, Secretary of the Interior, will be the speaker. A large number of officials of various bureaus in the Department of the Interior also are expected to be present.

Five new films relating to the work of the Department of Agriculture will be shown. One of them will be "Roads to glory," a scenic feature dealing with the building of highways in the great mountains of the Western States, and the others also will be of general interest.

Among the entertainment features will be the Lyric Mando Orchestra of 14 players, which has been organized for the occasion by Department of Agriculture employees. Another orchestra and the pipe organ will furnish accompaniment for the pictures, and a second entertainment feature, the exact nature of which has not been made public, is being arranged.

Department employees who have not obtained tickets should make request to the chief clerks of their bureaus.

CAMPAIGN CONTINUED UNDER INSECTICIDE ACT

Legal Action Recommended in Only Eighty-nine Out of Nearly One Thousand Cases.

Eighty-nine cases presenting alleged violations of the insecticide act were recommended for criminal action or seizure proceedings in the fiscal year 1922, according to the annual report of Dr. J. K. Haywood, chairman. The insecticide act of 1910 was designed to prevent the manufacture, sale, or transportation of adulterated or misbranded insecticides or fungicides. Samples are collected all over the country and at the ports by agents of the board and examinations are made. Wherever possible cases involving minor violations of the act are disposed of by correspondence. Within the last fiscal year 153 were settled in this way. A total of 957 samples was collected within the United States, and 122 unofficial import samples were collected through the various port laboratories of the Bureau of Chemistry. Of the import samples, eight were found to be misbranded, and it was recommended that future shipments of these brands be detained.

Use Simple Method of Test.

The campaign involving the inspection of the calcium arsenate used for the control of the cotton-boll weevil, inaugurated in 1919, was continued throughout 1922. A simple method of test that could be used to show the presence of an excessive quantity of water soluble arsenic oxide was devised by the board. The improvement in quality and labels of Bordeaux mixture and Bordeaux lead arsenate was continued and the labels for most of these preparations brought into conformity with the law. A campaign against pine-oil disinfectants and coal-tar dips, adulterated with mineral oil, was carried on during the year. As a result, 19 seizures were made and the prosecution of

29 manufacturers was recommended. Several cases involving the adulteration of insect powder with daisy flowers and flower stems are now pending in the courts as a result of the board's activities. Through the efforts of the board, insecticidal and disinfectant claims have been removed from the labels and literature of most of the naphthalene nest eggs sold on the American market.

Special investigation of calcium arsenates were made, which included a study of the behavior of these substances under storage conditions. The properties of larkspur seeds in their relation to use against body lice were also studied. Studies were also made of nicotine dust, chlorinated lime, pine oils, para dichlorobenzene, Bordeaux mixtures, dusting mixtures, liquid lime sulphur, and many proprietary remedies.

Conference on Inheritance Studies to be Held April 27

A conference for the exchange of ideas on inheritance studies and methods being followed in cattle-breeding investigations at the present time will be held at the National Research Council Building April 27 and 28, under the joint auspices of the National Research Council and the Department of Agriculture. It will be attended by experiment station representatives and several from the department. The program will probably be informal for the most part and will include reports on the methods of carrying on work along these lines at various experiment stations. This will be followed by discussion on standardization of methods of work. The following have been invited to attend the conference:

Dr. E. D. Ball, Director of Scientific Work, Department of Agriculture; L. J. Cole, of the University of Wisconsin; C. H. Eckles, of the University of Minnesota; W. L. Gaines, of the University of Illinois; J. W. Gowan, University of Maine; R. R. Graves, of the Dairy Division; F. R. Lillie, of the National Research Council and the University of Chicago; E. B. Meigs, of the Dairy Division; Raymond Pear, of Johns Hopkins University; E. W. Sheetz and Sewall Wright, of the Bureau of Animal Industry; and W. W. Yapp, of the University of Illinois.

The Forest Service fire exhibit, shown in cooperation with the California State Auto Association held at San Francisco, consisted of a forest fire shown on a circular-painted background, with burned stumps and logs, and the figure of a forest ranger with a shovel in hand in the foreground.

Department Exhibit for National Dairy Show Planned

An exhibit to portray the development of the dairy industry in the United States is being constructed by the office of exhibits and will be shown at the National Dairy Show at Syracuse, N. Y., in October. It will combine newly developed features in the line of portable exhibits. Its construction is being supervised by Charles A. Corwin and Paul J. Fair, both of whom have worked along this line for the Academy of Science in San Francisco, and the Field Museum in Chicago. The central feature of the exhibit will be a model in relief of a dairy farm, showing three stages of development comparable to the progress of the dairy farming industry as a whole, and will require 100 feet in length for its display. The foreground of the exhibit will be a model farm done in miniature, showing the type of animals on the farm, buildings, and trees. This merges into a background so painted that it is difficult for the eye to distinguish where the modeled material leaves off and the painting begins.

Practically every bureau in the department has contributed something in the way of information and matter to be used in making this exhibit, as there is scarcely a branch of the department, the work of which does not have some bearing on or connection with the dairy industry. The first scene of this large feature will depict the average dairy farm as it was in the past before the advent of scientific agriculture and improved methods. The next picture shows the improvement brought about by the adoption of some of the improved practices now in use. The third scene marks a more ideal stage in the future of the industry which would be possible if all the present-day knowledge were put into practice. Aside from this main feature there will be in the department's exhibit numerous other displays relative to the dairy industry.

CAN GROW SEEDS IN ALASKA.

The successful growing of Copenhagen market cabbages at the Fairbanks station in 1922 is reported by the Alaska agricultural experiment stations. The important fact in connection with this is that the seed for this crop was produced at the Rampart station in 1920. This station is situated at latitude 65° 30' and the Fairbanks station at 64° 51', yet at both places the stations have shown that seed of a number of vegetables and other crops can be successfully produced. Tur-

nip seed, especially of the variety Petroski which is now widely grown in the Territory, has been produced in large quantities at both stations. Garden peas of the variety Alaska have been grown for a number of years, and through seed selection at least two weeks have been gained in earliness of production. This varietal strain is now widely grown in the Territory for human food, stock feed, and for plowing under as green manure. Parsley, carrots, parsnips, radishes, and many varieties of annual flowers seed abundantly in the interior. Smooth brome grass seeds abundantly in that latitude and one ounce of hardy alfalfa seed, *Medicago falcata*, secured from the South Dakota experiment station in 1911, has been reproduced until there are now more than a dozen acres of this crop at the Fairbanks station and considerable plantings elsewhere. A selection made from a sample of a few ounces of spring wheat received from Siberia in 1914 has proved so well adapted to the Fairbanks area that about 175 acres were sown to this one strain in 1922.

These few examples cited show not only some of the crops grown in the interior of Alaska but also that these crops will mature seed so that the farmer may perpetuate any desirable variety he may develop.

CITRUS SCAB WORK IN PORTO RICO.

In Porto Rico citrus scab is one of the most serious troubles with which the growers must contend. The Federal agricultural experiment station at Mayaguez, P. R., has just completed a successful series of cooperative experiments for the control of the scab on grapefruit, in which trees were sprayed with Bordeaux mixture to which 0.5 per cent of oil emulsion was added. More than 3,000 grapefruit trees were sprayed four times between December 29 and March 9 with the result that 94.4 per cent of the fruit was entirely free from scab and only 0.4 per cent severely injured by the disease. An unsprayed grove near by gave only 3.5 per cent of fruit free from scab, 41.7 per cent scabbed but salable, and 54.8 per cent unmarketable. Two other orchards of 900 and 800 trees each were sprayed with the oil-Bordeaux mixture twice after the late spring blooming and they yielded 97.3 and 93.8 per cent perfectly clear fruit.

When orchards are sprayed for the control of scab, the beneficial fungi that hold scale insects in check are destroyed and additional spraying with oil emulsion may be necessary to destroy scale insects.

Aluminum Sulphate Found of Value for Rhododendron Soils

A method for making the ordinary garden soil suitable for rhododendrons has been discovered by Dr. Frederick V. Coville, of the Bureau of Plant Industry, which, although still in the experimental stage, will be of importance to nurserymen and others interested in growing ornamental shrubbery. This knowledge is likely to be of importance at the present time when the importation of these plants has been greatly curtailed through the plant quarantine laws, and nurserymen are now trying to grow the needed plants inside the United States.

Native rhododendrons, unlike most plants and crops, require an acid soil and will not thrive in the ordinary fertile garden or greenhouse soil, but they grow with great luxuriance in sand mixed with peat, with rotting wood, or with half-rotted leaves. Experiments have made it clear that rhododendrons thrive in this kind of soil because its chemical reaction is acid, and they die in the ordinary fertile soil because its reaction is neutral or alkaline.

Doctor Coville's experimental work, which has been done in the greenhouse, has shown that aluminum sulphate when applied to an ordinary soil is an effective and inexpensive method of changing the soil reaction from neutral or alkaline to acid. Where soils have been so treated the stimulation of growth of the rhododendrons has been very great, as much as 250 per cent increase in the diameter of the rosettes of seedling rhododendrons having been secured in three months. Crude aluminum sulphate is used in the chemical industries, is not expensive, and in large quantities can be purchased from dealers in chemical supplies at about \$5 per hundred pounds. The full statement is being published by the American Horticultural Society, 503 Cedar Street, Takoma Park, D. C.

MR. BRAND DISCUSSES AGRICULTURE.

Charles J. Brand, consulting marketing specialist of the department, who is now traveling in Europe, recently appeared before the British Tribunal of Investigation into Agricultural Conditions, where he discussed American agricultural conditions and practices. The commission was set up by the late government, under parliamentary authority to inquire into methods adopted in other countries during the last 50 years to increase agricultural prosperity, to insure the most satisfactory use of the land and the employment of labor at a living wage, and to advise on methods by which those

results can be achieved in the United Kingdom.

Mr. Brand's testimony covered the following broad subjects: Agricultural credit, including both long and short time loans covering the Federal farm loan act and its operations and the intermediate and short-time credit legislation; marketing practices and distribution problems of all kinds; legislation that has been passed with a view to assisting agriculture and rendering it more efficient; the effect of high transportation rates on the farming industry; the progress of agriculture during the last 50 years as effected by our system of agricultural colleges and experiment stations; the work of the United States Department of Agriculture and the promotion of the industry.

The members of the tribunal are: Sir William Ashley, professor of commerce and vice principal of the University of Birmingham; Prof. W. G. S. Adams, Gladstone professor of political theory and institutions, Oxford; and Prof. D. H. MacGregor, Drummond professor of political economy, Oxford; with C. S. Orwin, director of the Institute for Research in Agricultural Economics at Oxford, serving the tribunal as agricultural assessor.

DEPARTMENT EARNS OVER EIGHT MILLIONS A YEAR

(Continued from page 1.)

Center Market, which has been under Government control for a year, has proved to be self-supporting. In addition to paying for its own maintenance, the sum of approximately \$50,000 was earned over and above its requirements.

The Weather Bureau has cable lines along the Atlantic seacoast, and at times permits their use for commercial messages. Last year over \$5,000 was taken in from such use of these lines.

The Bureau of Biological Survey and the Bureau of Soils sell some of the by-products incidental to their work. The sum of \$25,000 was received from the sale of animal skins last year, which were collected in the predatory animal control and eradication work. The Bureau of Soils sold \$37,000 worth of kelp, char, potash, and carbon.

A small charge is made for the examination of samples of various food products, and from the sale of typewritten copies of hearings conducted by the Bureau of Chemistry. The Bureau of Chemistry contributed about \$500 to the general fund last year, which originated from this source.

Ninety thousand dollars worth of various items which may be listed under the head of "miscellaneous" were sold

by the various bureaus last year. This included the sale of agricultural products and of condemned Government property.

The regulatory work of the department is a constant source of income. The Federal Horticultural Board collected \$128,000 for fumigating cars and wagons at border stations last year incident to the enforcement of the plant quarantine laws.

The laws administered by the department are a frequent subject of litigation, and fines and judgments recovered represent a source of income. Sums brought in as a total of the fines and judgments collected during the year amounted to \$168,769. The 28-hour law administered by the Bureau of Animal Industry, which provides that animals on the way to market may not be kept in cars for longer than that period, was one of the most productive regulatory activities, \$70,225 being collected last year for fines and judgments under this law.

Fines for violations of forest laws amounted to \$45,000. The sum of \$20,745 was collected through the enforcement of the food and drugs act. Litigations surrounding the animal quarantine laws brought in fines and judgments amounting to \$16,905. The other laws administered by the department which were responsible for fines and judgments are as follows: Migratory bird treaty act, \$8,825; insecticide act, \$2,600; meat inspection act, \$1,190; Lacey Act, \$660; Pisgah game preserve, \$345; national forest game regulations, \$970; bird reservation trespass law, \$25; plant quarantine act, \$1,202; and virus-serum toxin act, \$20.

TO STUDY BIRD PROTECTION.

About the 1st of June bird censuses will again be taken on selected areas of the United States, under supervision of the Biological Survey. The purpose is to continue the gathering of data required by the bureau in its study of the numerical distribution of birds, their relative abundance, and any fluctuations taking place in their numbers. Volunteer cooperators of the bureau have been doing this work for several years, and their reports furnish information needed in the proper administration of the migratory-bird treaty act and bird protective laws in general, the data being especially useful in showing the effect of such laws on the bird population of the country. To extend the scope of the work the volunteer aid of persons interested will be welcomed. Detailed instructions and report blanks are being prepared and can shortly be obtained from the Biological Survey.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary.

(Mr. Pugsley, Acting Secretary.)

Amending Memorandum No. 412 Regarding Series of Department Publications.

MEMORANDUM No. 412 (Supplemental)—March 30, 1923.—In addition to the four series of publications described in Memorandum No. 412, an additional series has been provided for as follows:

Statistical Bulletin Series.—Statistical bulletins for this series shall contain statistics relating to one or more closely related agricultural commodities. Such bulletins will contain all available statistics, annual, monthly, or weekly, according to the data and as seems best in each case. In addition to the statistics for the production year given in each bulletin comparable data will be given for as many years in the past as it seems desirable to give for use in noting trends. Such bulletins will contain, in so far as possible, statistics of production, movement from the farm, receipts at principal markets, re-shipments, farm and market prices, exports and imports, production in foreign countries, and foreign market prices.

Memorandum of the Administrative Assistant (Mr. Bain).

Veteran Preference Under Civil Service.

CIRCULAR No. 115—March 24, 1923.—The President on March 3, 1923, issued an Executive order amending the civil-service rules with reference to the granting of preference in appointment to Government positions of honorably discharged war veterans and their widows and disabled veterans and their wives, and the Civil Service Commission in promulgating this order has issued the following instructions to be observed in its execution:

"1. For eligibility, a rating of 70 per cent is required of all applicants. Veterans are given 5 points and disabled veterans 10 points in addition to their earned ratings in examinations. In examinations where experience is an element of qualifications time spent in the military or naval service of the United States during the World War or the war with Spain shall be credited in an applicant's ratings where the applicant's actual employment in a similar vocation to that for which he applies was temporarily interrupted by such military or naval service but was resumed after his discharge. This will mean that the veteran's papers will be rated, giving due regard to his military service, and that he will then have 5 points (or if a disabled veteran, 10 points) added to his earned ratings, and his name will be placed on the register with other eligibles in the order of his augmented rating. A nonveteran must earn a rating of 70, while a veteran who is not disabled must earn a rating of 65 to have his name entered on the register. A disabled veteran need earn a rating of only 60 per cent to have his name entered on the register.

"2. An appointing officer who passes over the name of a veteran and selects a non-veteran with the same or a lower rating from a certificate of eligibles must place his reasons for so doing in the department's records.

"3. In the event of reductions being made in any part of the classified service, no person entitled to preference in original appointment shall be discharged or dropped or reduced in rank or salary if his record is good.

"4. The veteran is released from all age limitations, except for the positions of fireman and policeman of the District of Columbia, and is released from many of the physical requirements.

"5. The veteran is released from all requirements of the apportionment of appointments in the District of Columbia and among the States.

"6. The period of eligibility for reinstatement of a veteran, or an Army nurse who served in time of war, or the widow of a veteran who was his wife while he was in the military service, is five years.

"7. Examinations are reopened to World War veterans who lost opportunity for examinations by being in the service, or by confinement in a Veterans' Bureau hospital, or to those undergoing vocational training, if they apply while in the service or within 90 days of discharge, recovery, or completion of training.

"The foregoing benefits will apply to examinations held after March 15, 1923."

Chiefs of bureaus will please see that the foregoing instructions are carried out fully in all cases. Where deviation therefrom is believed necessary for the good of the service in any instance, the recommendation of the chief of bureau concerned should be supported by a memorandum stating the reasons therefor, which will be made a matter of record in the office of personnel of the department.

SWEDISH AGRICULTURAL SHOW.

Through the Department of State, the Secretary of Agriculture has been advised by the Swedish minister that the Twenty-second General Swedish Agricultural Show will be held at Gothenburg, Sweden, June 19 to 24, 1923.

According to a booklet describing the show received by the Secretary, these shows demonstrate "all that is best in Swedish agricultural science and practice, and the various classes include horses, cattle, sheep, swine, poultry, seeds, dairy produce, and general agricultural produce, together with machinery and implements employed in agriculture, and also the results of experimental work." The General Swedish Agricultural Show is held every fifth year, but because of the World War more than 10 years have elapsed since the last show.

The agricultural show this year will be held in connection with the jubilee exposition in Gothenburg, which opens May 8 and remains open until the evening of September 30, 1923. The exposition celebrates the three hundredth anniversary of the foundation of the city of Gothenburg.

CORN BORER QUARANTINE EXTENDED.

Extension of the Federal quarantine against the European corn borer to include additional cities and towns in New England and Michigan, effective April 1, has been announced by the Federal Horticultural Board. While fairly large,

the new areas brought under the quarantine represents the spread of the pest determined by prolonged fall and winter scouting. The new areas include 13 towns in Maine, 95 towns in New Hampshire, 33 towns in Massachusetts, 10 towns in Rhode Island, and 11 towns in Michigan.

INVESTIGATE MISUSE OF GRADES.

A nation-wide investigation of the alleged misuse of Federal fruit and vegetable grades is being made by the Bureau of Agricultural Economics. Several instances of the misbranding of potato sacks and other containers have come to the department's attention and prompt action to discourage the practice is being initiated.

Misuse of Federal grades for agricultural products through the misbranding of packages moving in interstate commerce has been held by the United States district court to be a violation of the food and drugs act, as is any other form of misbranding, and the law has been invoked by the Department of Agriculture in four cases. In each case sacks purporting to contain United States Grade No. 1 potatoes held potatoes of an inferior quality, and the defendants were required to pay court costs and to relabel the packages to show their true contents. A first offense is punishable by a fine of \$200 and subsequent offenses by \$300.

The Federal food and drugs act does not require that fruits and vegetables be graded or that the grades be stated upon the packages, but, if the packages bear a statement regarding grade the statement should be true. Any untrue statement on packages of fruits and vegetables shipped within the jurisdiction of the Federal food and drugs act, or in papers accompanying such shipments, violates the provisions of the law.

CARTERS SURRENDER.

Mann Carter and Will Carter, the two men who are thought to be guilty of the murder of Max Lockridge, of the Bureau of Animal Industry, in Echols County, Ga., have surrendered to the authorities and have been released on \$17,000 bail.

INCREASED TARIFFS SUSPENDED.

The Packers and Stockyards Administration has announced the suspension of tariffs increasing certain rates and charges of the East Tennessee Stock Yards, Knoxville, the Newark Stock Yards Co., Newark, N. J., and the Seattle Union Stock Yards Co., Seattle, Wash.

Research in Home Economics Makes Valuable Contributions

The extent and importance of scientific research along home-economics lines in this country appear to be rather generally underestimated. As a matter of fact, a large amount of valuable research work bearing directly or indirectly on this subject has been done and is now being carried on by the United States Department of Agriculture and the State agricultural experiment stations. It is true that problems primarily of interest and concern to the farm have usually received a larger share of the attention of investigators than those of immediate concern to the farm home, but the latter have been by no means overlooked and many of the research projects have borne equally upon farm and home problems.

Pioneer investigations on food and human nutrition, organized by Dr. W. O. Atwater, began practically with the establishment of the stations. They have been continued and extended by the Department of Agriculture and have been cooperated in by many of the experiment stations. The control work in relation to foods and food products which the department and many of the stations have been called on to do has given rise to much investigation of fundamental importance from the standpoint of home economics.

In recent years there has been an increasing interest in investigations relating to home economics. A classified list of the projects carried on by the experiment stations at the present time contain some 64 titles under the specific head of "Foods and Nutrition." No less than 24 stations, or practically half of them, are represented in the list. The projects cover such fundamental subjects as food preservation, milling and baking, storage, and various others. In addition to the projects specifically classified under foods and nutrition, there are 75 other projects which have an important bearing on or possible application to some phase of home economics.

The research work of the department and the experiment stations has contributed largely to our exact knowledge of the composition, digestibility, and nutritive value of foods and food materials of all kinds, the food habits of different classes of people, and the food requirements of people of different ages and occupations.

The investigations have been especially thorough and complete with reference to the food values of such staple products as wheat and other cereals, meat, and milk and milk products, but have covered a great variety of other food materials.

The functions of vitamins in nutrition, the conditions that control their proportion in foods, and their stability under different processes of preservation are receiving a large amount of attention. Our knowledge in the fundamental subjects of the efficiency of different proteins and of the function of the mineral constituents of food has been greatly enlarged and clarified, especially by the research work of several of the experiment stations. Questions involved in securing and maintaining desirable qualities in foods, such, for example, as flavor in milk and milk products, have received much attention.

The research work has not been confined to that bearing on foods and nutrition but has included other subjects of importance from the standpoint of home economics, as, for example, studies of the quality of wool and other fibers; water supply, sewage disposal, and sanitation in country homes; household arrangement, equipment, and work; various phases of marketing; cost and standardization of living on the farm; and certain problems of rural sociology.

The work thus briefly and incompletely outlined has covered a broader field than is generally realized and has done much to supply a foundation and a background for the science of home economics.

ALASKA COW GOOD MILK PRODUCER.

For a number of years the Federal experiment station at Kodiak, Alaska, has been endeavoring to secure a race of hardy cattle for that region. Galloway cattle have been found to do well under the climatic conditions, but the cows are quite generally poor in milk production; the milk-producing breeds are not well suited to the Alaskan climate. The settlers require, therefore, a hardy beef type that is also a fair milk producer. Milking Shorthorns are being tested at the Matanuska and Fairbanks stations and in 1917 an experiment was begun at the Kodiak station in crossing the Galloway and Holstein-Friesian races. Reciprocal crosses have been made but progress in the experiment has been slow on account of the small number of purebred animals available and due also to the fact that of all calves produced only about 20 per cent have been heifers. A young crossbred cow at the Kodiak station, freshened October 3, produced from October 16 to November 30, 778 pounds of milk, on a ration of native hay, silage, a very little grain, and pasture.

The production by this young crossbred cow compares very favorably with

that of the station's best milker, a 6-year-old milking Shorthorn at Matanuska, which freshened in September and produced 1,101 pounds of milk during the same period, October 16 to November 30. This cow was fed hay, silage, and grain, there being no pasture at Matanuska at this time of the year.

MOVABLE SCHOOLS IN MISSISSIPPI.

Movable school extension work, which has been widely used among negro farmers in Alabama, since it was originated by Booker T. Washington, has now been adopted in Mississippi.

Realizing that sanitary and living conditions are not improving among the negroes of the State very rapidly, because of the great number not reached by the usual means of instruction, R. S. Wilson, director of the extension service in Mississippi, detailed Agents M. M. Hubert and G. C. Cypress to spend a week with Alabama negro extension workers last May to study their movable-school plan. As a result of this study a similar organization has been perfected in Mississippi. This type of extension work is conducted by demonstrators who visit all parts of the State with a truck equipped with farm implements and conveniences and home canning and housekeeping equipment. Stops of from three to five days are made at farms of negroes, with whom arrangements have been previously made, and demonstrations conducted on these farms. Farmers and farm women of the community attend the school, and under the supervision of the State demonstrators learn to make improvements in farm and home equipment and approved methods of performing the work on the farm, putting the farm selected in the best condition possible, so that it may serve as a permanent demonstration.

TALKS ON ECONOMICS.

At a conference of department extension workers in the office of cooperative extension work, States Relations Service, April 3, W. F. Callander, Bureau of Agricultural Economics, spoke of the market news service which has been developed by that bureau and methods of making the market news available to farmers. Market statistics and information work relating to live stock and meats was discussed by C. V. Whalin, work relating to fruits by E. W. Stillwell, and work relating to dairy and poultry work by R. C. Potts, all of the Bureau of Agricultural Economics.

PEOPLE MENTIONED IN OFFICIAL ORDERS

A number of representatives of the department attended the meetings of the American Chemical Society, held at New Haven, Conn., April 2 to 7. Several of them read papers. Dr. E. D. Ball, director of scientific work, was present, as well as Dr. F. C. Cottrell, of the fixed-nitrogen laboratory, and Dr. W. W. Skinner, assistant chief of the Bureau of Chemistry. Others from the Bureau of Chemistry attended as follows: Dr. J. A. Ambler, H. L. J. Haller, O. A. Nelson, Dr. G. S. Jamieson, Dr. D. B. Jones, Dr. C. C. McDonnell, Dr. J. Davidson, Dr. F. C. Cook, Dr. I. K. Phelps, H. S. Paine, C. S. Brinton, F. P. Veitch, Dr. E. T. Wherry, Miss L. M. Manross, Dr. J. T. Keister, and J. L. Heid. Doctor Davidson also visited the Delaware Experiment Station, the New Jersey Experiment Station, and the Thompson Institute for Plant Research, at Yonkers, N. Y., before returning. Dr. Joseph M. Braham and Dr. Alfred T. Larson, of the fixed-nitrogen research laboratory, also attended the meetings. Doctor Larson gave a paper on "The Ammonia Equilibrium." From there he went to Boston for the purpose of conferring with Dr. A. B. Lamb and to attend a meeting of the Harvard-Technology Physical Chemical Society April 10. At this meeting he presented a paper entitled "Ammonia Synthesis."

Four members of the Forest Service attended the meetings. They were: John D. Rue, who gave two papers—"Investigation of the Hypo-Bromite Method for Determining the Bleaching Requirements of Pulps," by T. M. Andrews, and "The Chemistry of Soda Pulps," by M. W. Bray; E. C. Sherrard, who presented four papers—"The Presence of Mannose in White Spruce Cellulose," prepared in cooperation with S. S. Aiyar; "The Effect of Concentrated Hydrochloric Acid upon Different Celluloses," prepared in cooperation with A. W. Frohoke; "The Hydrolysis of Wood," prepared in cooperation with W. H. Gauger; and "Note on the Preparation of Cellulose," written in cooperation with G. W. Blanco; L. F. Hawley, who presented two papers—"The Methoxyl Groups in Wood Charcoal," and "The Relation Between Chemical Composition and Durability of Wood," which was prepared in cooperation with L. C. Fleck; and G. J. Ritter, who also presented two papers—"The Relation Between Methoxyl Groups and Lignin in Different Woods," and "The Chemistry of Wood—VI," which was prepared in cooperation with L. C. Fleck.

From the Bureau of Entomology, C. M. Smith attended the meetings at New Haven, Conn., and gave a paper entitled "Excretions from Leaves as a Factor in Arsenical Injuries to Plants."

D. S. Bullock, of the Bureau of Agricultural Economics, has returned to Washington after two years spent in Argentina, Uruguay, and Chile, where he collected data on live stock. Mr. Bullock states that the Argentine cattle industry is demoralized and that the cattle crisis has become a political issue there. Bills before congress would regulate the packing houses and auction markets, prevent combination in restraint of trade, and perhaps establish a Government-owned packing house.

Dr. J. G. Dickson, plant pathologist of the Wisconsin Agricultural Experiment Station, and agent of the Office of Cereal Investigations, Bureau of Plant Industry, will present a paper entitled "The Nature of Resistance

to Seedling Blight of Wheat and Corn" before the National Academy of Science in Washington, April 23 and 24. Before returning to Madison, Wis., Doctor Dickson will confer with officials of the Bureau of Plant Industry regarding cereal disease investigations.

The following representatives of the Forest Service were present at the meetings of the Technical Association of the Pulp and Paper Industry held this week in New York: John D. Rue, R. N. Miller, S. D. Wells, and Charles W. Boyce. Mr. Wells has a paper before the association on "Chemistry of the Alkaline Pulping Processes."

A. M. Daniels, of the Bureau of Public Roads, will attend the tenth annual convention of the National Warm Air Heating and Ventilating Association, at Cleveland, Ohio, April 18 and 19.

A. O. Kay, of the Bureau of Public Roads, will give an address along the lines of irrigation as applied to citrus fruits before the Florida State Horticultural Society at the meeting to be held at Orlando, April 17 to 20.

R. S. Smith, of the Bureau of Animal Industry, will attend a meeting of the South Central States Association of Food, Feed, and Drug Officials at Louisville, Ky., May 1 to 4, inclusive, and will give an address on "The Control of Pasteurization."

C. A. Reed, Bureau of Plant Industry, left Washington April 3 for St. Louis, Mo.; Beardstown, Ill.; and Jeanerette and Lake Providence, La., for the purpose of conducting nut culture investigations.

A. B. Graham and Grace E. Frysinger, office of cooperative extension work, States Relations Service, attended conferences of New York home demonstration agents at New York City April 4 and of New Jersey home demonstration agents at New Brunswick April 5.

J. C. Brinsmade, jr., of the flax experiment work at the Northern Great Plains Field Station, Mandan, N. Dak., returned to his field headquarters April 2 after spending four months in Washington in the preparation of manuscripts.

J. Allen Clark, of the Bureau of Plant Industry, returned to Washington April 1, after an absence of 10 months spent in studying material in wheat-breeding nurseries in Kansas, California, Oregon, Minnesota, and North Dakota. At University Farm, St. Paul, Mr. Clark made a special study of inheritance in a cross between Kota and Hard Federation wheats, upon which is based his thesis presented to the University of Minnesota as a partial fulfillment of the requirements for the degree of Master of Science.

C. H. Kyle, of the Bureau of Plant Industry, will leave Washington about April 10 for Florence and Darlington, S. C., to arrange for corn experiments in cooperation with farmers in that vicinity. He will return about the 1st of May.

VISITORS TO THE DEPARTMENT.

Prof. T. Mori, of the Keijo High School, Seoul, Korea, visited the Bureau of Biological Survey March 23 and 24 to learn something of the bureau's methods for the control of predatory mammals. These were explained to him by Dr. A. K. Fisher. It appears that tigers and wolves in Korea cause serious depredations, their activities extending not only to live stock but also to the human population. Firearms are scarce, and it seems that trapping or poisoning would be the most effective means of control. Methods for the study of life history of mammals and their distribution were explained to Professor Mori by

E. A. Preble, while F. C. Lincoln outlined the work of the Biological Survey in studying the distribution and migration of birds, with particular reference to the methods of banding. St. Louis and Sacramento are the next points in Professor Mori's itinerary, and at the latter place he will meet C. G. Poole, one of the predatory animal inspectors of the Biological Survey, who will illustrate further in the field the technique of poisoning and trapping large mammals.

Bengt Berg, eminent writer, explorer, and bird photographer, of Stockholm, Sweden, who is in the United States to lecture on and to study bird life, visited the Biological Survey on March 26, 27, and 28. On the 27th he lectured at the National Museum under the auspices of the Audubon Society of the District of Columbia on the migratory birds of Africa observed in the valley of the Upper Nile, and on the 28th he visited the motion picture laboratory of the department.

D. N. Borodin, of the Russian Agricultural Bureau, who is interested in rodent-control methods, visited the Biological Survey March 29.

Dr. L. J. Cole, of the University of Wisconsin, who will have charge of the work of the Division of Animal Husbandry in the Bureau of Animal Industry after July 1, spent last week in Washington.

Eight club boys and girls from New York State visited Washington under the guidance of their county club agent and a representative of the States Relations Service from March 30 to April 2. These club members were county champions in various lines of club work, winning the trip to Washington as a reward for outstanding achievements in club activities. Prize trips to Washington and Albany are given each year to this club in Elmira, Chemung County, N. Y., by a New York City banker who was a member of the first boys' club in the county 30 years ago.

There were also in the party two girls from Illinois and one boy from Indiana, all State champions, who had won trips to Washington offered by the Baltimore & Ohio Railroad.

SIR HORACE PLUNKETT ILL.

In a letter to Assistant Secretary Pugsley, dated March 24, from the secretary of Sir Horace Plunkett it was stated that Sir Horace "has been continually unwell since his return to this country (England) and last week sustained a major operation. I am glad to say that it was completely successful, but the convalescence is slow, and he will be kept on his back for a couple of weeks. He requests, therefore, that you will excuse him from not writing personally."

Sir Horace Plunkett visited the Department of Agriculture during the spring.

A black-letter, loose-leaf notebook containing results of experiments in pectin investigations has been lost. The data includes some very valuable tables. Any information concerning it should be given to Miss Ruth Johnston, of the diet kitchen of the Division of Home Economics.

BRIEF REVIEWS OF NEW BULLETINS.

The Club Wheats. By J. Allen Clark, agronomist in charge, and John H. Martin, agronomist, Western Wheat Investigations, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 18, figs. 12. January, 1923. (Farmers' Bulletin 1303.)

Fourteen varieties come under the classification of club wheats. These differ from other classes of wheat in having short, compact heads and small kernels. They are most important in irrigated sections west of the Rocky Mountains. Hybrid 128, one of the newer varieties of club wheat, has become the most important variety of this class. It is grown in the southeastern part of Washington and in adjoining districts in Oregon and Idaho, where it is perhaps the best-yielding variety grown.

The Durum Wheats. By J. Allen Clark, agronomist in charge, and John H. Martin, agronomist, Western Wheat Investigations, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 16, figs. 5. (Farmers' Bulletin 1304.)

The 12 varieties of durum wheat grown commercially in the United States are described in this bulletin. These wheats are all spring varieties. They differ in their adaptation and yielding ability, resistance to drought and rust, and in the quality of their grain, as well as in their appearance. They are grown principally in the northern Great Plains area. During the past 10 years the center of the durum acreage has moved northward and westward.

The grain is used chiefly for the manufacture of semolina, from which macaroni, spaghetti, and other pastes are made. A considerable trade has been developed and a large macaroni industry established in this country recently. More than 20,000,000 bushels of wheat are used annually, which is nearly half the annual production in recent years. Kurbanka is the best variety for the varying conditions in sections producing durum wheat. Monad and Acme are similar varieties which are resistant to stem rust.

Dispersion of the Boll Weevil in 1922. By F. F. Bondy, R. C. Gaines, W. B. Williams, and M. T. Young, Bureau of Entomology. Pp. 6, figs. 1. (April, 1923.) (Department Circular 266.) Price, 5 cents.

Only 4.01 per cent of the entire cotton crop is produced outside the territory infested by the boll weevil. This area is largely in western Texas and western Oklahoma. The boll weevil has now reached practically the limit of its regular forward movement, as established by the limits of the cotton-producing belt. The important changes to be expected in the future will be fluctuating movements in the western territory, and shifts northward or southward along the northern line defined by extremes of temperature from year to year.

In western Texas and western Oklahoma the weevil lost ground in 1922, due to dry climatic conditions. This bulletin gives, by counties, the line reached during 1922 by the boll weevil, and compares the total area infested in each State from 1892 through 1922. In Virginia a small area of 392 square miles has been reached which was not previously infested. The situation for the Western States is practically the same as in 1921. A total of 22,386 square miles of new territory were invaded in 1922, the greatest increase for a single State being in North Carolina, where 16,363 square miles of new territory were infested. Eradications in Texas and Oklahoma amounted to 8,344 square miles, a

net increase of 13,442 square miles being recorded for the boll weevil in the cotton belt.

Symptoms of Wheat Rosette Compared with those Produced by Certain Insects. By Harold H. McKinney, assistant pathologist, Office of Cereal Investigations, Bureau of Plant Industry, and Walter H. Larimer, scientific assistant, Office of Cereal and Forage Insect Investigations, Bureau of Entomology. Pp. 8, pls. 4. (Professional Paper.) March 22, 1923. (Department Bulletin 1137.)

The rosette disease of wheat, discovered in Illinois and Indiana in 1919, affects seedlings in somewhat the same way as do attacks by the Hessian fly and certain other insect pests. Wheat seedlings attacked by rosette disease alone show no evidence of the presence or work of insects. When the trouble is caused by insects, their presence or evidence of their work shows the cause of the trouble. Infested fields are spotted with irregular patches of dwarfed plants, the leaves of which are dark-blue-green in color and rather broad and stiff. The plant has a bunched, rosette appearance. When both rosette disease and insect injuries occur together in the spring, it is somewhat difficult to determine accurately the injuries caused by each. Rosette disease is not apparent in the autumn, and as it becomes evident in the spring before the emergence of the adult Hessian fly, there is little chance to confuse the two maladies during these periods.

ADDITIONAL PUBLICATIONS.

Journal of Agricultural Research. Vol. 23, No. 4, January 27, 1923. Contents: Two Important New Types of Citrous Hybrids for the Home Garden—Citrangequats and Lime quats. (G-270.) By Walter T. Swingle and T. Ralph Robinson.—Production and Dispersal of Conidia in the Philippine Sclerosporas of Maize. (G-271.) By William H. Weston, Jr.—Mechanics of Inoculation with Sugar-Cane Mosaic by Insect Vectors. (G-272.) By E. W. Brandes.—Relation of Potato Skinspot to Powdery Scab. (G-273.) By Michael Shapovalov. Pp. 229-294, pls. 21, figs. 3. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the Journal was suspended Dec. 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly, beginning Jan. 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price is \$5.25 per year.

Monthly Weather Review. Vol. 51, No. 1, January, 1923. Pp. 1-54, figs. 11, charts 13. Price, 15 cents a copy, \$1.50 a year, payable to the Superintendent of Documents. Special articles: History of radio in relation to the work of the Weather Bureau. By E. E. Calvert.—Meteorological stations in high altitudes. By Sir F. Stupart.—Frequency distributions of daily and hourly amounts of rainfall at Galveston, Tex. By I. R. Tannehill.—Lowering of Kansas River channel at Topeka, Kans. By S. D. Flora.—Snowfall and the run-off of the upper Rio Grande. By C. E. Linney.—Frankenfeld on the spring floods of 1922. By A. J. Henry.—The Amazon River Flood. By Doctor Hagemann.—Frost-fighting in the Pecos Valley. By C. Hallenbeck.—A climatological calendar for Columbia, Mo. By G. Reeder.

NOTE.—The Monthly Weather Review is sent free to cooperating meteorological services, universities, and institutions of learning which offer courses of instruction in meteorology, and to a limited number of individuals and students interested in the science of meteorology who make application for the Review, addressed to the Chief of the U. S. Weather Bureau, and showing sufficient reasons why they should receive copies free of cost.

Duck Raising. By Alfred R. Lee, poultryman, and Sheppard Haynes, junior poultryman, Animal Husbandry Division, Bureau of Animal Industry. Pp. 22, figs. 15. Revised January, 1923. (Farmers' Bulletin 697.)

Potato Production in the South. By William Stuart, horticulturist, Office of Horticultural and Pomological Investigations, Bureau of Plant Industry. Pp. 39, figs. 22. Revised January, 1923. (Farmers' Bulletin 1205.)

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week March 26-31, 1923. These publications can be obtained only from the stations issuing them:

- Agriculture in Cut-over Redwood Lands. By W. T. Clarke. (California Sta. Bul. 350, pp. 165-186, figs. 9.)
 Further Experiments in Plum Pollination. By A. H. Hendrickson. (California Sta. Bul. 352, pp. 245-266, figs. 5.)
 The Peach Twig-borer (Anarsia lineatella Zeller). By W. P. Duruz. (California Sta. Bul. 355, pp. 419-464, figs. 19.)
 Preliminary Report on Controlling Melanose and Preparing Bordeaux Oil. By O. F. Burger, E. F. DeBusk, and W. R. Briggs. (Florida Sta. Bul. 167, pp. 121-140, figs. 5.)
 Preliminary Report.—Business Analysis of 181 General Crop, 11 Dairy, and 10 Fruit Farms, Twin Falls County, Idaho, 1921. By B. Hnnter. (Idaho Sta. Bul. 132, pp. 19.)
 The Clover Aphid: Biology, Economic Relationships, and Control. By R. H. Smith. (Idaho Sta. Res. Bul. 3, pp. 75, figs. 35.)
 Biennial Report, 1921-22. By E. J. Iddings. (Idaho Sta. Circ. 30, pp. 15.)
 Tobacco Wildfire in 1922. By P. J. Anderson and G. H. Chapman. (Massachusetts Sta. Bul. 213, pp. 27, fig. 1.)
 Combating Apple Scab.—Spraying and Dusting, Experiments in 1922. By W. S. Krout. (Massachusetts Sta. Bul. 214, pp. 29-41.)
 Testing Fertilizers for Missonri Farmers, 1922. By L. D. Haigh. (Missouri Sta. Bul. 200, pp. 51, fig. 1.)
 The Practical Control of Infectious Abortion in Cattle. By J. W. Connaway. (Missouri Sta. Bul. 201, pp. 11.)
 The Durability of Fence Posts. By J. C. Wooley. (Missouri Sta. Circ. 108, pp. 4, figs. 2.)
 Forty-first Annual Report for 1921-22. (Ohio Sta. Bul. 362, pp. LIX+5, figs. 8.)

That taxes on farm lands have more than doubled during the past eight years, a recent survey by the Bureau of Agricultural Economics shows. In 1922, the average tax per acre for the entire United States was 71 cents, compared with 31 cents in 1914. The increase is attributed in part to larger assessments due to higher farm land values, increased State and Federal activities, and increases in the number and salaries of public employees.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Age and area. By J. C. Willis. Cambridge, Eng., University press, 1922.
- Bibliography of colloid chemistry. By H. N. Holmes. Washington, D. C., National research council, 1923. (Mimeographed)
- Calculations of quantitative chemical analysis. By L. F. Hamilton and S. G. Simpson. New York, McGraw-Hill book company, inc., 1922.
- Enemies of the rose. New ed. By George Massee and E. V. Theobald. National rose society. Croyden, Eng., 1915.
- Engineering economics. 2d ed. By J. C. L. Fish. New York, McGraw-Hill book company, inc., 1923.
- Facts and figures on Pennsylvania state forests. Pennsylvania. Dept. of forestry. Harrisburg, Pa., 1921. (Bulletin no. 22)
- Foreign commerce handbook, 1922-1923. Washington, D. C., Chamber of commerce of the United States, 1922.
- Heuschrecken und libellen. By K. E. Floerke. Stuttgart, Kosmos, 1922.
- Importance of bird life. By G. I. Hartley. New York, Century co., 1922.
- Lingnaam agricultural review. v. 1, no. 1. Canton Christian college, Canton, China. College of agriculture, 1922.
- Die methoden der organischen chemie (Weyls methoden). 2. aufl. v. 2. Von Joseph Houben. Leipzig, G. Thieme, 1921-22.
- Money, credit & commerce. By Alfred Marshall. London, Macmillan & co., ltd., 1923.
- Mosquitoes and mosquito control. By G. W. Simons and G. F. Mozzette. Jacksonville, Fla., Florida state board of health, 1922.
- Office international d'hygiène publique, Paris. Session extraordinaire de mai 1922. Procès verbaux des séances. Paris, 1922.
- Potato. By William Stuart. Philadelphia, J. B. Lippincott company, 1923.
- Repertory of British archives. pt. I. England. Comp. for the Royal historical society by Hubert Hall. London, 1920.
- Report on forestry in Uganda. By R. S. Troup. London, Crown agents for the colonies, 1922.
- Report on the disinfection of wool infected with anthrax spores. Item 5 of the agenda. International labour office. Geneva, 1921.
- Western Canadian society of agronomy. Proceedings of the 1st-2d annual meeting, 1920-1921. Winnipeg, 1921-22.

OLD BOOKS.

- Adulterations detected. 2d ed. By A. H. Hassall. London, 1861.
- De atmosphæra, ejusque quam exserit in vegetabilia actione. Johannes Ruardi, praeses. Groningae, 1795.
- De re hortensii libellus. [By] Charles Estienne. Lugduni, 1539.
- Georgicorum libri quatuor. The georgicks of Virgil, with an English translation and notes. By John Martyn. London, 1741.
- Historische verhandelinge over de voor-naemste opkomste en voord-gang der land-bouwkonst in de Kempen. [By] Adrianus Heylen. 's Hertogenbosch, 1789.
- Methodi herbariae libri tres. Adami Zaluzanii a Zaluzaniis. Francofurti, 1604.
- Prairie artificelles. 3. éd. [By] Simon Philibert de La Salle de l'Étang. Bruxelles, 1762.
- Stirpium præcipuarum littoris et agri Nicænsis enumeratio methodica. [By] Carolo Allionio. Parisiis, 1757.
- Systema vegetabilium. Mantissa. v. 3. [By] Carl von Linné. Stuttgartiae, 1827. (Photostat copy.)

CURRENT PERIODICALS.

- Chaco, Argentine Republic. Camara de comercio e industria. Boletin mensual. año 1, no. 2; Sept. 1922.
- Home lands [bi-monthly]. v. 4, no. 6; Feb. 1923. Lebanon, Pa., 1923.
- Printers' ink monthly. v. 6, no. 3; Mar. 1923. New York.

LOST BOOKS.

The following books belonging to the library cannot be found. It will be appreciated if anyone having information in regard to them will report the fact at the loan desk of the main library:

- Dyke's auto and gasoline engine. Ed. 12, 1920.
- Favary. Motor vehicle engineering. Ed. 2, 1920.

CIVIL SERVICE EXAMINATIONS.

The Civil Service Commission announces examinations for general clerical promotion, April 14; file clerk promotion, April 14; minor clerical promotion, April 9. Examinations will be held in Washington, D. C., only, to test the qualifications of applicants for promotion to the grade of clerk and minor clerk in the departmental service. The following examinations, which will be considered equivalent to the general clerical examination, will be held on the dates indicated: Bookkeeper, April 14; stenographer, April 10; typist, April 10; stenographer and typist (combined), April 10.

The examinations are open only to persons now employed in Washington in classified positions below the grade of clerk. Persons must have served at least two years. Those who pass the minor clerical examination will be eligible only to subordinate clerical positions paying not more than \$1,000 per annum. For the position of general file clerk the applicant must have been employed as file clerk for at least six months. Information as to subjects and weights may be obtained from the announcement of the examination. Application Form 372 is required for these examinations.

For assistant market specialist, April 24. Vacancies in the Bureau of Animal Industry, with headquarters in Washington, will be filled from this examination at salaries of from \$2,000 to \$2,880 a year. The duties of the position will require travel throughout the United States and conducting research work in problems connected with dairying.

Applicants must have had training equivalent to graduation from an institution of recognized standing, with major work in dairying and practical experience with market milk. A thesis will be required. If interested send for Form 2118.

For radio news editor, May 8. A vacancy in the office of the Secretary of Agriculture at a salary of \$1,800 to \$2,100 a year, will be filled from this examination. The duties require experience in agricultural or daily newspaper work. Applicants must show that they have graduated from a college or university of recognized standing and have had at least two years' experience as writer or editor of a newspaper or magazine. Applicants should apply for Form 2118.

For assistant observer in meteorology, May 23. Vacancies in the offices of the Weather Bureau will be filled at salaries of \$1,080 a year. Qualified persons are urged to apply, as the commission has had difficulty in securing sufficient eligibles. The duties will be to assist in ordinary routine work in meteorology. Applicants should send for Form 304.

Articles in Current Publications By Department Workers

- Barr, J. E. (Agricultural Economics): Delinted Cotton Seed. Southern Cultivator. March 15, 1923.
- Blake, S. F. (Plant Industry): Three new Compositae from Bolivia. Proceedings Biological Society of Washington, vol. 36, pp. 51-54. March, 1923.
- Two new genera related to Narvalina. Journal Washington Academy of Science, vol. 13, pp. 102-105. March, 1923.
- Brown, B. E. (Plant Industry): Fertilizer experiments furnish further indications to guide local farmers. Suffolk County (N. Y.)

- Farm and Home Bureau News, vol. 7, p. 9. February, 1923.
- Caudell, A. N. (Entomology): A new species of Zoraptera from Bolivia. Proc. Ent. Soc. Wash., v. 25, no. 3, pp. 60-62. March, 1923.
- Collier, G. A. (Agricultural Economics): Federal Hay Grades and the Farmer. Maine Farmer. March 17, 1923.
- Edmondson, R. B., Thom, Chas., and Giltner, L. T. (Chemistry): Experiments with Bacillus (Clostridium) Botulinus Under Household Conditions. In Am. Food J., vol. 18, no. 3. March, 1923.
- Gahan, A. E. (Entomology): An eulophid parasite of the chrysanthemum midge. (Hymenoptera, Chalcidoidea) Proc. Ent. Soc. Wash., v. 25, no. 3, pp. 65-66. March, 1923.
- The rôle of the taxonomist in present-day entomology. Proc. Ent. Soc. Wash., v. 25, no. 3, pp. 69-78. March, 1923.
- Greene, C. T. (Entomology): The immature stages of Hydrophorus agalma Wheeler (Diptera). Proc. Ent. Soc. Wash., v. 25, no. 3, pp. 66-69. March, 1923.
- Humphrey, C. J. (Plant Industry): The destruction by the fungus "Poria incrassata" of coniferous timber in storage and when used in the construction of buildings. Southern Lumber Journal, vol. 49, pp. 36-37, 49-53, 55. February, 1923.
- Koser, Stewart A. (Chemistry): Bacillus Welchii in Bread. In Am. J. of Hygiene, vol. 32, no. 3. March, 1923.
- Mitchell, G. F., and Sale, J. V. (Chemistry): Beverages Produced from Cassia. In Bev. J., vol. 59, no. 3. March, 1923.
- Morse, W. J. (Plant Industry): Growing soy beans as a cash crop. Will it pay to produce soy beans for oil and meal in the Corn Belt? Wallace's Farmer, vol. 48, pp. 155, 161. February, 1923.
- Powick, Wilmer C. (Animal Industry): A new test for acrolein and its bearing on rancidity in fats. Journal of Industrial and Engineering Chemistry, vol. 15, no. 1, p. 66. January, 1923.
- Schreiner, Oswald (Plant Industry): Organic phosphorus in soils. Journal American Society of Agronomy, vol. 15, pp. 117-124. March, 1923.
- Schwartz, L. J. (Chemistry): A Brief Review of the Crude Drugs Entered at the Port of New York During the Past Year. In J. Am. Pharm. Assoc., vol. 12, no. 3. March, 1923.
- Sechrist, E. L. (Entomology): Beekeeping in Haiti and the Dominican Republic. American Bee Journal, vol. 63, no. 4, pp. 167-170. April, 1923.
- Shollenberger, J. H. (Agricultural Economics): Influence of Relative Humidity on Flour Milling Results. Miller's Review. March, 1923.

MANUFACTURE SYNTHETIC APPLE OIL.

The synthetic apple oil prepared by Dr. F. B. Power and his associate, V. K. Chesnut, of the Bureau of Chemistry, for which a public service patent was granted in 1922, is now being manufactured by a commercial concern in New York. This apple oil possesses the aroma of ripe apples and is the result of a prolonged chemical investigation of their odorous constituents. It contains no substance that has not been found in apples, and is especially suitable for flavoring cold drinks and ice cream.

The only apple flavors which were hitherto available and known as "artificial apple oil" or "imitation apple oil" consist entirely of empirical mixtures and frequently contained compounds which do not occur in the apple or even in nature. Doctor Power and Mr. Chesnut first determined the chemical composition of the volatile substances emanating from ripe apples and then combined these substances in the form of a synthetic preparation which possesses in a high degree the characteristic odor and flavor of the choicest fruit.

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UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

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No. 16.

INTERIOR SECRETARY TALKS ON RELATIONS

Secretary Work Discusses Activities of Two Departments at Picture Show.

Relationships and points of contact between his department and the Department of Agriculture were discussed by Secretary of the Interior, Dr. Hubert Work, at the department motion picture show held in the Central High School on the evening of April 13. Secretary Work's address follows:

"There is so much in common between the Department of Agriculture and the Department of the Interior that it gives me the greatest pleasure to meet so many hundreds of those employed with the Department of Agriculture.

Indorses Reallocation of Responsibilities.

"The two departments are accomplishing much by cooperation and have many working points of contact, so that certain duplications have heretofore appeared to be unavoidable, and many separations of now joined services would appear to warrant the reallocation of departmental responsibilities proposed by President Harding to the Sixty-seventh Congress. When the President speaks for the Department of the Interior, as he does in this instance, it is my pleasure to subscribe to his views. For more than two years he has considered, with mature judgment, a program which is designed to correlate the administration of governmental functions, and I quite approve those affecting the Department of the Interior. No student of economics will dispute the incalculable benefits to be accrued through a logical reallocation of Government services. The Interior Department and the Department of Agriculture are units of a great Government, not miniature Governments in themselves, and therefore both departments are obligated to contribute through

mutual cooperation to the successful administration of the Government as a whole.

Opposed to Overlapping.

"The lost motion and time expenditure incident to duplication or overlapping does not make for intensive organization, the lack of which is a weakness of the Government service. One department should not be dependent on another for an incidental service because not prepared to do it alone. That service should be the responsibility of the department best equipped to render it.

"Related services should, generally speaking, be wholly in one department, and the line between interlocking services should be clearly defined so that equipment, employees, bureaus, and divi-

(Continued on page 2.)

European Corn Borer Taken In Passengers' Baggage

Twice during the month of March Mr. J. W. O'Brien, inspector of the Federal Horticultural Board located in New York City, in cooperation with the customs officials, intercepted living larvæ of the European corn borer in stalks of broom corn contained in passengers' baggage. One interception was made from the baggage of a third-class passenger, arriving from Italy, whose intention was to take the infested material to Missouri. On March 26, 1923, the same inspector intercepted corn borer larvæ in broom corn (from Germany) which was also in the baggage of a passenger.

These fortunate interceptions emphasize very forcibly the need and importance of carefully examining, in cooperation with the customs officials, passengers' baggage arriving from various foreign countries. Work of this nature is now carried on by the Federal Horticultural Board at a number of the important ports of entry, and as funds permit, it is proposed to enlarge this phase of the board's activities.

ANNUAL B. A. I. REPORT SHOWS MANY ACTIVITIES

Disease-Control Work of Special Importance—Hookworm Remedy Discovered.

The annual report of the Chief of the Bureau of Animal Industry, lately published, shows a variety of activities and much work accomplished in the fiscal year 1922.

One of the most successful and far-reaching accomplishments of the bureau during the last year was recorded in the progress made in controlling bovine tuberculosis. During the fiscal year 16,216 herds were accredited as free from the disease, as compared with 8,201 herds for the previous year. There was even greater gain in the number of herds tested once without showing reactors, the number being 161,533, compared with 49,814 for the preceding year. The support which tuberculosis eradication is receiving from live-stock owners may be judged from the fact that on June 30, 1922, there were on file unfiled applications for testing 35,239 herds, containing more than half a million cattle.

Area Plan Successful.

Experience with the area plan for the eradication of bovine tuberculosis shows that it is not only more economical than the former system of testing scattered herds, but that it makes the work more effective by creating a strong sentiment in the locality for maintaining the cattle in the county on a strict tuberculosis-free basis. Up to June 30, 1922, more than 150 counties had either completed or were engaged in area tests and nearly 300 additional counties were arranging for testing all the cattle within their boundaries.

Satisfactory progress was made in the eradication of cattle-fever ticks from the South. Of the 975 counties originally held under Federal quarantine in 1906,

715 counties have been released. The number of dippings in the State of Texas shattered all previous records for any State. During June, the last month of the fiscal year, dippings in Texas exceeded 6,600,000, and about 10,000 vats were in operation in that State.

Foreign Plagues Barred.

Federal quarantine stations located on the borders of the United States have prevented all destructive foreign plagues affecting live stock from gaining entrance into the country. This has been accomplished in spite of the fact that the country is more nearly surrounded by foot-and-mouth disease than ever before in its history. The ravages of this destructive disease have been reported from most European, Asiatic, and South American countries.

The Federal meat inspection, which is another of the bureau's extensive activities, shows an increase over the preceding year in the number of animals slaughtered, quantity of meats processed, and in quantity of meat and products certified for export. More than 63,000,000 animals were inspected both before and after slaughter in establishments where Federal meat inspection is maintained.

Live-Stock Improvement.

The nation-wide activity of the bureau to improve the breeding of the domestic animals of the country by the "better sires—better stock" campaign has been rapidly developing. At the end of the fiscal year nearly 8,000 live-stock owners had begun the use of pure-bred sires in all their live-stock breeding operations. Nearly a million head of breeding stock are thus affected, and it is believed that coming generations of domestic animals will show much improvement.

Investigations in the feeding of meat animals include an inquiry into the causes of soft pork, a series of experiments showing conclusively the importance of animal protein in the ration of laying hens, and another series of experiments, conducted cooperatively with several States, showing the influence of various winter rations for cattle and calves on the ability of the animals to use pasture economically the following season.

In the field of animal-parasite control, experiments with carbon tetrachlorid have given excellent results. It has been shown that this comparatively cheap chemical possesses great effectiveness, combined with a large factor of safety for animals treated. So promising is the possibility of this drug that it is attracting favorable attention in the field of human medicine, notably for the treatment of hookworm.

The bureau contributed during the year 72 new and revised publications, including 16 Farmers' Bulletins, 11 department bulletins, 3 papers for the Yearbook, 7 articles for the Journal of Agricultural Research, 4 department circulars, and other miscellaneous publications. Seventy-one other manuscripts were prepared for outside publication.

In cooperation with the department's office of exhibits, the bureau designed and aided in preparing exhibits for numerous agricultural expositions, fairs, and shows. Special exhibits were prepared for the National Dairy Show and the International Livestock Exposition.

Among new motion pictures prepared during the year in collaboration with the department's motion-picture laboratory was one entitled "Exit Ascaris," depicting in story form the life history of the roundworm of swine and the methods of prevention. An earlier film, "Great Dairy Sires and Their Daughters," has proved to be among the most popular in the department's collection and necessitated many new copies during the year to meet the demand for its use.

INTERIOR SECRETARY TALKS ON RELATIONS

(Continued from page 1.)

sions of the Government departments may not be duplicated. I am a believer in centralization of authority and of individual responsibility throughout the service.

"To illustrate: A vital concern of the Interior Department is reclamation of land, particularly in the arid regions, by irrigation. The first steps when reclamation by this method is contemplated should be taken by the Agricultural Department—a study by soil analyses to determine what crops the land will grow, the probable production, together with the marketing competition when crops have matured. If favorable report warrants, the Interior Department should then study water supply available without storage during the crop season, or, if the natural flow is inadequate, to estimate the amount and cost of impounding water for the growing season; survey ditches, locate and construct dams and reservoirs, and compute acre cost and total expenditure. With this scientific data available, supplementing that already supplied by the Agricultural Department, corporate funds preferably, working with this knowledge might be interested. Certainly prospective settlers would be intelligently advised in advance.

Work on Irrigation Projects.

"If the Government elected to construct, the Interior Department neces-

sarily would complete the irrigation facilities and continue its responsibilities to the farmers for perfect title and water supply, but the Agricultural Department should then assume responsibility for instruction on farming and marketing, at least until the Government had been reimbursed and its obligations to water users discharged. It would appear that all Government irrigation projects should be put under the control of the water users at the earliest possible moment. Bureaucratic government has never appealed to the American people. It is offensive, often unavoidably inefficient, and should be withdrawn from community projects without unnecessary delay. Experience has demonstrated that irrigation to be successful must be operated by those using the water. The Agricultural Department's contact should then be renewed for purposes of instruction in farming economics and should continue after the Department of the Interior had been relieved from its obligations. Reclamation by irrigation is essentially a joined service by the two departments, each having clearly defined lines of division.

"It can not be broadly stated that because prices of farm products do not represent cost production at this time that cultivated acreage should be arbitrarily limited or restricted geographically.

Transportation is Fundamental.

"Farmers nearest good Eastern markets have tremendous advantage, but those near the Pacific coast are at the gateway to the Orient. Economic writers estimate that within five years California, Oregon, and Washington can not feed their people from their own farm products unless their production acreage is increased. The grain States of Iowa and Kansas, for illustration, which are midway to either ocean, should not say that new land, far distant, may not be brought under cultivation for local consumers or for foreign markets through more nearly adjacent water routes which otherwise would compel a supercharge for freight. These States do, however, have a right to insist that economics laws be considered before new land is brought under cultivation, and that farmers on this new land receive no financial favors from the Government not received by themselves. Under the new rural credits law the Government secures loans for all farmers and expects them to meet their obligations. The advancement of money for irrigation projects is nothing more than a loan and must likewise be repaid.

"Farmers must compete in the markets precisely as other industries do, and the question of transportation is a fundamental factor in the marketing of

farm products. These are questions the two departments must study together, for they have to do with the food supply not of this year and our own people alone, but for many years in the future and for other nations as well. There is no longer any frontier in the United States. We are all one people, having a common interest and obligation to the Government, and I shall ask the Secretary of Agriculture to lend the good offices of his most scientific, practical, and effective department to appraise soil fertility and markets in advance of our reclamation commitments, and to aid our settlers in profitable farming.

"There can be no objection to taking tax money raised in the East to develop land in the West, providing it will be repaid, with interest, and taxable property thereby increased. Eastern people, incorporated, have been doing it for half a century.

"Production was overstimulated during the war. Foreign countries can not buy from us as they once did. The old law of supply and demand continues to influence prices as it always has, but transportation often affects farm profits. The business acumen of farmers has been stimulated by the past depression. They now study production and marketing, each for himself and collectively, and are profiting by it.

"One summer's drought, such as has occurred in the memory of those now living, would put this most prosperous country in want. The population of our cities is much greater than that of the rural districts. Our margin of safety between plenty and famine is no greater in grain than it is in coal, but our expanding markets and rebuilding transportation facilities are opening up a bright future for the farmers, which will be further broadened when their old customers overseas are again in funds. Besides, now that every employable American is already at work and his buying power increasing, the farmer has much before him to inspire hope.

"I referred at the beginning of my talk to the points of contact between our two departments, which, by the way, are many. I believe some one has attempted to count them up and his estimate is that there are more than 30 distinct points where the work of the Agricultural and Interior Departments touch.

Points of Contact.

"It is interesting to note a few in which the several activities of our departments would be affected by the proposed reallocation of departments.

"Reforestation is properly placed now in the department skilled in soil analysis, tree culture, parasite control, hor-

ticulture, and forest protection. Reforestation is forest reclamation. The forests are nature's conservation agencies. They hold snow and rainfall, preventing soil erosion and destructive floods, but the border line between reforestation and forest preservation is too narrow for purposes of division.

"The reindeer of Alaska—180,000 in number—are a care of the Interior Department under the Bureau of Education, but their place in a teaching faculty has not been determined. They properly belong in the department skilled in animal husbandry. The live stock of the Indians has its place in their livelihood and training as farmers, but its breeding up and its eradication of diseases are clearly within the confines of the Agricultural Department.

"I have not had opportunity to consult with the Secretary of Agriculture on these lines I have been discussing with you. I am new to my department, while he has been in the far West for several weeks, where, incidentally, he has missions to perform for my department, but we are long-time personal friends; I know the trend of his mind and feel assured that we will not be far apart in our conclusions bearing on the important services our respective home-making departments should render to the Government."

BARBERRY ERADICATION CONFERENCE.

The annual conference of State leaders, cooperators, and collaborators in the barberry eradication campaign, and the men engaged on studies of stem-rust epidemiology, will be held April 23, 24, and 25 at the Illinois Union Building, University of Illinois, Urbana. The results of the barberry eradication and rust epidemiology studies conducted during the past year will be presented and plans for spring and summer surveys and methods of eradication discussed.

It is expected that the following from the Bureau of Plant Industry will be in attendance at the conference: H. E. Allanson, assistant in charge of business operations; Carleton R. Ball, cerealist in charge, office of cereal investigations; F. E. Kempton, pathologist in charge of barberry eradication, and N. R. Carmichael, assistant in barberry eradication; F. C. Meier, pathologist, office of cotton, truck, and forage-crop disease investigations; the leaders of barberry eradication in the 13 north-central States; and E. C. Stakman and his assistants in stem-rust epidemiology. It is expected that several cooperating State officials, as well as Harrison Fuller and assistants of the Conference for the Prevention of Grain Rust, Minneapolis, Minn., also will be present.

Cotton Representatives Here for Consultation

Tentative regulations of the Secretary of Agriculture under the United States cotton standards act were considered by representatives of cotton growers and shippers of the South and of the cotton manufacturing industry of the South and New England at the conference held by the Bureau of Agricultural Economics in Washington, April 9 and 10.

As a result of the conference, officials in charge of the enforcement of the act agreed that the act was not retroactive, that it would be illegal for an American merchant to accept a foreign offer for the sale of cotton based upon grades other than those of the United States Official Standards, that arbitration as proposed is not compulsory, that the sale of futures abroad would not be interfered with, and that the publication of Liverpool quotations by American newspapers or by exchanges would not be unlawful.

The cotton standards act, which was passed in the closing hours of Congress and which becomes effective August 1 next, establishes the compulsory use of Federal standards in the United States in so far as any standards are used to describe cotton.

Field agents of the Bureau of Agriculture Economics in attendance were W. P. Barbot, chairman of the Board of Cotton Examiners, New York City; A. C. Poulton, chairman of the Board of Cotton Examiners, New Orleans, La.; and B. R. Oastler, in charge of the Atlanta cotton office.

A second tentative draft of the regulations is being made with due regard to the discussion and opportunity for public consideration of the new draft of the regulations will be given in a series of hearings to be conducted in the principal cotton markets of the South and at the manufacturing centers of the Carolinas and New England.

Tentative schedule of hearings:

Norfolk, Va.....	April 23
Charlotte, N. C.....	April 24
Augusta, Ga.....	April 25
Savannah, Ga.....	April 27
Atlanta, Ga.....	April 28
Montgomery, Ala.....	April 30
New Orleans, La.....	May 1
Houston, Tex.....	May 2
Dallas, Tex.....	May 3
Little Rock, Ark.....	May 4
Memphis, Tenn.....	May 5

Subsequent hearings will probably be held in New York and Boston, after which the regulations will be drafted in their final form, and presented to the Secretary for action.



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OFFICIAL ANNOUNCEMENTS.

Memoranda of the Secretary.

(Mr. Pugsley, Acting Secretary.)

Amendment to the Fiscal Regulations.

MEMORANDUM No. 427—March 26, 1923.—Paragraph 12 of the Fiscal Regulations of the Department is hereby amended to read as follows:

"12. *Bonds.*—Every employee whose duties require him regularly to receive and disburse money for the account of the United States will be placed under bond in a sufficient sum to protect the Government. In cases where the employee is called upon occasionally to transmit inconsequential sums to a receiving officer no bond will be required, but the chief of each bureau will be expected to see that bonds are procured in proper cases. The penalty of the bond of each receiving and disbursing officer will be fixed by the Secretary of Agriculture, giving consideration to the amount of cash and funds intrusted to the officer as an incident of his service, and of the safeguards and checks by which he is surrounded. The Secretary will approve all requisitions for funds where the amount requisitioned together with the balance on hand exceeds the penalty of the bond: *Provided*, That unless previously authorized in writing, such excess shall in no case be greater than twice the penalty of the bond unless an emergency exists, which fact must be clearly set forth in a letter accompanying the requisition and have the approval of the bureau chief. Employees of the Forest Service and Bureau of Public Roads may be temporarily detailed as special deputy fiscal agents under the supervision of a fiscal agent of the Forest Service for the purpose of making payments in cases of emergency. Such special deputy fiscal agents shall give bond to the United States and the fiscal agent jointly and severally in a sum not less than \$5,000; such bonds will be examined by the assistant to the solicitor and approved by the district forester before funds are placed to the credit of the deputy. In no event will the funds in possession of a special deputy fiscal agent at any one time be permitted to exceed the penalty of his bond. Special deputy fiscal agent's bonds, together with premium receipts and notices of renewal, will be filed in the office of the fiscal agent. The account of each deputy will be closed out as soon as the emergency for which he was appointed has passed, and in any event such action will be taken on or prior to the date of expiration of his bond."

Mileage Rates for Use of Personally Owned Vehicles at Official Stations.

MEMORANDUM No. 428—March 28, 1923.—On November 15, 1922, the Comptroller General of the United States in a decision to the Secretary of Agriculture (2 Comp. Gen. 329) held that the provision in the current agricultural appropriation act providing reimbursement to employees on a mileage basis for the use of personally owned automobiles and motor cycles in official work did not au-

thorize mileage allowances for the use of vehicles at employees' official stations.

In the circumstances the department, during consideration by Congress of the agricultural act for 1924 requested that the language of the provision be amended so as to authorize such reimbursement. The words "including travel at official stations" were inserted in the mileage provision in the act for 1924 (Public No. 446, p. 34), and accordingly on and after July 1, 1923, the department is at liberty to revert to the practice of authorizing employees to use their personally owned vehicles in official work at official stations and be reimbursed for such use on a mileage basis at the rates provided in the act.

Payment by Disbursing Officers of Vouchers Involving Appropriation Credits.

MEMORANDUM No. 429—March 28, 1923.—The attention of officers and employees of the Department of Agriculture is invited to General Regulations No. 21, office of the Comptroller General, March 10, 1923, which read:

"1. Hereafter payment of vouchers for services rendered or supplies furnished by one department, establishment, bureau or office to another department, establishment, bureau, or office of the United States shall be made by disbursing officer's check, and the procedure directed by Treasury Department Circular No. 54, dated August 14, 1907 (14 Comp. Dec. 966), of sending such vouchers to the proper accounting officer for settlement, is discontinued.

"2. The officer to whom the check is made payable shall schedule all such checks and in the next account rendered by him take up the amounts thereof under proper account headings, with supporting information.

"3. The paying disbursing officer shall forward to the General Accounting Office with his next account the original paid voucher and a memorandum copy thereof, which memorandum shall show thereon the date, name of payee, number and amount of check issued in payment.

"4. The respective auditing divisions of the General Accounting Office will withdraw the memorandum copies from the disbursing account and promptly transmit them to the proper auditing divisions where they will be checked against the account of the officer to whom payment was made and proper action taken as to account headings to which entitled to be credited."

Accordingly, the following procedure will hereafter obtain with regard to vouchers involving transfers of funds between appropriations for supplies furnished or services rendered one department, establishment, bureau or office, to another department, establishment, bureau or office, authorized to be paid by disbursing officers by the above regulations:

A voucher involving an adjustment between appropriations of the Department of Agriculture will be rendered in duplicate on voucher Form 5A. After examination in the bureau from whose appropriations it is payable, the voucher will be approved and scheduled to the disbursing clerk of the department for payment. The disbursing clerk will pay the voucher by check drawn "Treasurer of the United States" and deposit same in the Treasury to the credit of the appropriation indicated on the voucher, reporting such deposit to the proper bureau in his next quarterly abstract of money receipts.

A voucher in favor of another department of the Government will, after examination and approval in the proper bureau, be scheduled to the disbursing clerk or fiscal officer for payment in the manner provided by paragraph 1 of General Regulations No. 21.

In order that fiscal officers of the department may comply with the provisions of paragraph 3 of General Regulations No. 21, bureaus procuring supplies or services from other departments will make an effort to have vouchers in payment rendered in duplicate. In all cases where vouchers are not rendered in duplicate a memorandum copy thereof shall be prepared in the bureau concerned.

Bureaus having claims against other departments will prepare vouchers in tripli-

cate, using department Form 5A for the original and duplicate. The original and duplicate copies will be forwarded to the department concerned and the triplicate copy furnished the disbursing clerk or proper fiscal officer in order that suitable disposition may be made of the check in payment. The coupon of the original voucher will be completely filled in by the bureau rendering the account and should contain sufficient data to enable the disbursing clerk or fiscal officer to reconcile it with the triplicate voucher in his possession. Each voucher rendered against another department will bear a notation, conspicuously placed, requesting that check in payment be drawn to the official designation of the fiscal officer to whom remittance should be made as "Draw check in payment to Disbursing clerk, Department of Agriculture."

Bureaus rendering accounts against other bureaus or departments will, upon rendition thereof, take the amounts up on their books as credits to the appropriations involved.

CIVIL SERVICE EXAMINATIONS.

The Civil Service Commission announces an examination for information assistant, at salaries of \$2,000 to \$3,600 a year. Applications must be in by May 15. A vacancy in the Forest Products Laboratory, at Madison, Wis., will be filled from this examination and other vacancies requiring similar qualifications. Applicants must have graduated from the English or journalism department of a university of recognized standing, or have had the equivalent thereof in combined undergraduate or postgraduate work, including journalism; and at least three years of writing or editorial experience on a newspaper or periodical of national prominence or three years of experience in publicity work. The duties of the position are to review the results of technical studies in wood utilization and to supervise and assist in the preparation of this information for the public press; also to plan and carry out informational campaigns regarding the use of wood and wood products. Those interested should apply for Form 2118, stating exact title of examination.

For assistant pomologist, at salaries of \$2,040 to \$2,740, receipt of applications to close May 22. A vacancy in the Bureau of Plant Industry, at Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Applicants must have been graduated from a college or university of recognized standing, and must have had at least two years' practical experience in the cultivation and commercial handling of nuts or fruits. Additional credits will be given applicants with teaching or investigational experience comparable to the work conducted at State experiment stations. A thesis is required. The duties of the position will be to conduct investigations with nuts, Japanese persimmons, figs, and other fruits and plants. Those interested should apply for Form 2118, stating exact title of examination.

For assistant in plant propagation, May 23, at salaries of \$1,200 to \$1,600. Two vacancies in the Bureau of Plant Industry, one at Bell, Md., and the other at Washington, D. C., and vacancies in positions requiring similar qualifications throughout the United States will be filled from this examination. The duties of the position will be the propagation and care of plants under glass, care of nursery stock in the field, and keeping notes on new plant introductions. Applicants must have completed a two years' course in an agricultural college of recognized standing, and have had at least six months' practical experience. Those interested should apply for Form 1812, giving title of examination desired.

U. S. D. A. CLUB ACTIVITIES

THE PORTLAND CLUB.

Sixty members of the Portland Club attended the club's annual smoker given at the University Club of Portland on the evening of March 31. Two guests, Wm. L. Finley, the naturalist, and C. L. Fairfield of the Federal Farm Loan Bureau, also attended. Mr. Finley showed two reels of his unusual wild-life films, accompanied by a very interesting talk; this was the main event of the evening. Mr. Fairfield made an impromptu talk touching briefly on the work of the Farm Loan Bureau, but especially dealing with the importance of reforestation. Other features on the program were a vocal solo by E. N. Bates, of the Bureau of Markets; slight-of-hand performance by Victor Flach, and the "community singing," led by A. G. Jackson, both of the Forest Service. Doctor Joss, of the Bureau of Animal Industry, president of the club, presided, and made a very excellent introductory talk on the purpose of the department club and the reason for the smoker. Sandwiches, punch, and coffee were served, the party breaking up about 11 o'clock. These smokers serve as a further means for the members of the Department of Agriculture in Portland becoming better acquainted with each other.

The regular monthly meeting of the club was held on April 4 at the chamber of commerce, 19 members being present. Instead of a talk the entire meeting was devoted to the full discussion of a possible summer camp grounds for members of the department, the idea having been worked out in a more definite shape since the last meeting. Chairman Joss appointed a committee of one in each of the bureaus represented in Portland to canvass the bureau in order to secure a definite idea as to how many department employees would be interested in such a camp ground. This committee is to report to Mr. Staley, of the Solicitor's office, not later than April 7, and on April 8 a party of 12 or 15 will examine on the ground several possible camp sites within the Oregon National Forest. It was tentatively decided that all members of the department in Portland would share in the privileges of such a camp and that there would probably be two classes of membership.

The following were present at the April meeting: Bureau of Animal Industry, Doctors Joss, Hall, and Fladness; Weather Bureau, Gillam; Bureau of Markets, Leroy, Bates, Whitlock, Stub-

blefield, Kent, and Nelson; Solicitor's office, Staley; Forest Service, Cecil, Hoffman, Waha, Cousins, Kavanagh, Gibbons, and Guthrie.

THE P. R. U. S. D. A. CLUB.

A meeting for organizing a Department of Agriculture club of Porto Rico was called during November, 1922, at the food and drug inspection laboratory in San Juan, by H. C. Hendricksen, of the office of farm management, and W. J. McGee, of the Chemistry Bureau. A constitution and by-laws were adopted and a temporary organization effected. It was decided to call the organization the P. R. U. S. D. A. Club.

At the second meeting, held on February 16, 1923, at the office of the forester of Porto Rico, permanent organization was completed. Officers were chosen for 1923 as follows: President, H. C. Hendricksen, specialist in farm management; vice president, Oliver L. Fassig, meteorologist, Weather Bureau; secretary, E. Murray Bruner, forester of Porto Rico; chairman program committee, W. J. McGee, inspector food and drug inspection service; chairman publicity committee, George V. Sager, meteorologist, Weather Bureau.

It has been decided to devote the program for the first few meetings to acquainting the members of the club with the work of their coworkers in other bureaus and offices of the department. At the February meeting, which was held at the office of the forester of Porto Rico, the work of the Forestry Service was discussed by Forester E. Murray Bruner. The field nursery was then visited and the progress made in various phases of the work demonstrated.

The program of the third meeting, held March 29 at the local office of the Weather Bureau, was devoted to an exposition by Dr. Oliver L. Fassig, meteorologist in charge of the work of the Weather Bureau in Porto Rico, of the climatological work of the Weather Bureau in Porto Rico, and its extension during the last four years to include the entire region of the Caribbean with collection and publication of the data centered in San Juan. All branches of the department with offices in Porto Rico are represented in the membership of the club and actively interested in its aims and purposes.

Farming in central Indiana is rapidly changing from a cash-rent to a share basis according to a recent survey made by the Bureau of Agricultural Economics. The former system of renting for cash in 1920 in Clinton County has practically disappeared. The number of cash-rented farms in Boone County has decreased 50 per cent.

Arkansas Club Members Manage Own Affairs Unaided

Boys' and girls' club members in Arkansas are learning to carry on many of the business and parliamentary features of their clubs without the customary assistance of an adult, according to a recent report to the States Relations Service. Over one-fourth of the clubs in the State conducted their elections in 1922 unaided by the extension agent; over 200 clubs held their business meetings without help. Club members in all States are urged to keep daily records of progress, expense, labor, and similar items involved in the farm and home enterprises undertaken; members of 160 Arkansas clubs last year relieved the extension agent of the matter of seeing that records were kept, collecting the books and turning them over to the extension agent at the proper time. Thirty clubs were able to hand in daily record books from every member. It is customary in club work for the county extension agent to solicit and enroll members but over one-third of the Arkansas clubs managed this feature for themselves. In one community in the State every boy and girl eligible for club membership is enrolled.

These young farmers and home makers raised \$3,288 toward financing club work last year, the largest amount contributed from any source in the State. Over \$1,700 was used in sending club members to agricultural short courses and \$919 in paying expenses of judging teams.

It is felt that through participation in such executive features, the boys and girls learn fundamental principles of co-operation and citizenship as well as better methods of production, conservation, and farm and home management.

CORN BORER IN BROOM CORN.

Harry B. Shaw, in charge of the work of the Federal Horticultural Board at New York City, reports that commercial shipments of Italian broom corn are arriving infested with larvæ of the European corn borer, *Pyrausta nubilalis*, Hbn. A careful examination of several bales contained in one of the shipments showed that 10 per cent of the stems bore evidence of borer injury and one-half of 1 per cent exhibited larvæ. These shipments, as a condition of entry, were sterilized with live steam. Mr. Shaw also reports that small shipments of broom corn arrived in New York invoiced as buckwheat.

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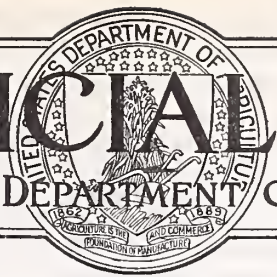
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Cost of producing range cattle on 75 cattle ranches in Colorado is being studied by the Bureau of Agricultural Economics with a view to reducing the high mortality of ranching enterprises in the West. This cost study is based on the calf as a unit and includes the cost of handling the cow herd for one year.

BUREAU OF ENTOMOLOGY
APR 23 1923



THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., APRIL 25, 1923.

No. 17.

PLAN COOPERATIVE ATTACK ON BARBERRY

Recent \$425,000 Appropriation for the Work Makes Expansion Possible.

Congress has appropriated \$425,000 for barberry eradication, of which the sum of \$300,000 will be made available July 1, 1923, and the remaining \$125,000 will be made available whenever the whole of a similar amount is raised by the States of the barberry-eradication area. With the \$300,000 the office of cereal investigations, Bureau of Plant Industry, will be enabled to complete an original farm-to-farm survey of approximately 100,000 square miles, after deducting the expenses for administration and necessary investigation of the spread of escaped bushes and of the use of chemicals for their eradication. This estimate is based on survey costs in 1922.

Survey Costs \$2.28 a Square Mile.

In Illinois, Indiana, Iowa, Michigan, Minnesota, Nebraska, North and South Dakota, Ohio, and Wisconsin these costs averaged in 1922 approximately \$2.28 a square mile, varying from \$1.07 to \$3.18. This figure includes overhead expenses within the States, but not general overhead expenses for administration, nor does it allow for a resurvey for sprouts and seedlings on all the area covered in farm-to-farm surveys previous to 1922. In Colorado, Montana, and Wyoming the farm-to-farm survey is practically completed. There remain approximately 276,000 square miles to be surveyed in the other 10 States. Of these 123,000 square miles are in the five States east of the Mississippi, while approximately 153,000 are in the five States west of the Mississippi.

The Legislature of North Dakota has appropriated \$15,000 for the biennium beginning July 1, 1923; South Dakota has appropriated \$10,000 for the same pe-

riod; and the Ohio State Legislature has provided \$5,000 for each of the next two years. If the States are able to meet the required condition, it is hoped to complete during the season of 1923 the first survey of an additional 53,000 square miles. This will make possible the completion of the original survey in the States west of the Mississippi, namely, North and South Dakota, Minnesota, Nebraska, and Iowa. East of the Mississippi River the area still to be covered in the farm-to-farm survey is distributed among the States as follows: Wisconsin, 32,448 square miles; Illinois, 48,114 square miles; Indiana, 16,153 square miles; Michigan, 23,472 square miles; and Ohio, 28,032 square miles. Not all of this area can be covered during the fiscal year ending June 30, 1924.

It is proposed to use some of the funds raised by, or in, the States for publicity, for law enforcement where necessary, for labor and chemicals in the eradication of escaped bushes where they occur in large numbers, and for necessary resurveys to destroy sprouts and seedlings. The remainder will be used in the farm-to-farm survey.

The fifth annual conference of State leaders, cooperators, and collaborators in the barberry eradication campaign and the investigators of rust epidemiology was held April 23, 24, and 25 at Urbana, Ill., to discuss the results of last year's work and to consider plans for the conduct of the campaign during the coming field season.

CATTLE CONGRESS AT THE HAGUE.

The library of the department has received an announcement of an International Congress on Cattle Breeding, to be held August 29 to September 5 at The Hague, at which a number of papers will be presented. Associations which become members of this congress may nominate one or more delegates. The contribution for each member is 12 guilders. Interested individuals are also invited to become members, the membership contribution in each case being 12 guilders.

ECONOMIC COMMITTEE REPORTS ON CONDITIONS

To Aid in Interpretation of Earlier Statement of Intention To Plant.

That the foreign demand for American farm products seems slightly less favorable to American farmers in 1923 than in 1922, but that the domestic demand will be active so long as the present prosperous condition of business continues, was the statement made by the special committee called by Secretary Wallace as a basis upon which readjustment to meet the economic situations may be made. The committee met Saturday afternoon, April 21, in the crop reporting board room. Both the foreign and domestic situations were considered in detail, as were the conditions with respect to wheat, cotton, corn, and hogs. The report is intended to supplement the report on intentions to plant, issued by the department April 20.

Many Factors in Foreign Demand.

The favorable factors with respect to foreign demand are: First, the influence of American prosperity upon the demand for European goods, and, second, the possibility that the slight business recovery that has occurred in a number of European countries may gradually gain momentum, European exports to the United States in recent months have been considerably larger than for the same period a year ago. American prosperity increased purchases by the United States in South America, Asia, Africa, and Australia, which enables those countries to purchase somewhat more in Europe, thus giving Europe funds with which to buy United States foodstuffs and other commodities.

The unfavorable factors are: First, the progressive piling up of Government debts on the continent of Europe, with

its effect upon exchange, currency, and business; second, the Ruhr situation.

The only possibility of an important increase in purchasing power lies in the ability of Europe to expand her manufactured exports. It is of the most vital interest to American agriculture that the United States lend aid in every way possible to the settlement of the reparation and other European problems. Revival in Europe has been much more marked in agriculture than in manufacturing.

It was necessary in 1920-21 to submit to great price reductions in farm products in order to get Europe to take them.

The prospect with reference to the supply of farm products for the coming year is that there will be at least no reduction in output in the United States. With some overflow of the business activity of the United States to the rest of the world, particularly the non-European part of the world, the prospect would rather be that there will be some increase in the production of foods in foreign countries. We can not, therefore, confidently offer any reason for the expectation that our farmers will meet any less severe competition in European markets during the coming year than they have met during the past year.

Domestic Demand.

The domestic demand for agricultural products will be active so long as the present prosperous condition of business with full employment continues. Beyond a period of six to nine months in the future most authorities at present hesitate to make business forecasts, but most competent observers seem to agree that we may expect general business prosperity to last at least six to nine months longer. If this opinion is correct, demand will be distinctly more active next autumn than it was last autumn in so far as the demand for farm products depends upon the purchases of American families, not themselves, on farms.

Those Preparing the Statement.

The following economists and statisticians took part in the conference: George L. Roberts, National City Bank, New York City; Carl Snyder, Federal Reserve Bank, New York City; Wesley C. Mitchell, Bureau of Economic Research, New York City; B. K. Anderson, jr., Chase National Bank, New York City; E. W. Wentworth, research department, Armour Co., Chicago, Ill.; B. W. Snow, Bartlett-Frazier Co., Chicago, Ill.; William G. Reed, George H. McFadden & Bro., Philadelphia, Pa.; Warren M. Persons, Harvard University, Cambridge, Mass.; George F. Warren and F. M. Pearson, Cornell University, Ithaca,

N. Y.; Thomas S. Adams, Yale University, New Haven, Conn.; H. A. Wallace, secretary Corn Belt Meat Producers' Association, Des Moines, Iowa; H. W. Moorhouse, Farm Bureau Federation, Chicago, Ill.; H. G. Moulton, Institute of Economics, Washington, D. C.; Walter W. Stewart, Federal Reserve Board, Washington, D. C.; Dr. Frank M. Surface and E. G. Montgomery, Bureau of Foreign and Domestic Commerce, Washington, D. C.; Dr. William T. Foster, Pollak Foundation for Research, Newton, Mass.

Designs New Type Dehydrator For Fruits and Vegetables

A new type of duplex dehydrator, having a capacity of 2 tons, has been designed by W. A. Noel, assistant development engineer, laboratory of fruit and vegetable chemistry, of the Bureau of Chemistry, located in Los Angeles, Calif., and is now in operation. The dehydration work of the bureau was transferred from Washington to Los Angeles on July 1, 1922, and placed under E. M. Chace, chemist in charge of the laboratory of fruit and vegetable chemistry.

In order to collect data under typical factory conditions at a minimum cost for operation, it is planned to use the machine to dehydrate fruits and vegetables donated by the Near East Relief workers in Los Angeles. The dried products will then be sent to relief depots in Syria, Palestine, Greece, Armenia, etc. It is also proposed to dehydrate spinach and other vegetables for eastern companies having facilities for marketing such products.

JOHN BUCHANAN ON EXHIBITS STAFF.

The Office of Exhibits has just secured the services of John Buchanan, specialist in exhibits, for a temporary period to assist in the preparation of the department's special exhibits this year for the National Dairy Exposition, Syracuse, N. Y., in October, and the International Live-Stock Exposition, Chicago, in December.

Mr. Buchanan graduated from the Ontario Agricultural College in 1899 with the degree of B. S. A., where he was crop experimentalist and plant breeder 1899-1912 and lecturer and associate professor for five years. From 1912 to 1920 he was connected with the Iowa Experiment Station, Ames, Iowa, as superintendent of cooperative experiments and county agent for Story County, Iowa, 1920 to 1922.

Mr. Buchanan has had extensive training in the preparation of exhibits and

has been successful in this line of work at local, State, and international expositions. He designed and installed the exhibit of the State of Iowa at the Panama-Pacific International Exposition at San Francisco, which won first prize in its class. This large exhibit proved so successful that the Iowa State Board of Agriculture reproduced it full size at the Iowa State Fair for two successive years.

WAREHOUSE WORKERS CONFER.

Specific instructions as to what will be expected of field men in examining the operations of warehousemen were given to the group of representatives of the Warehouse Division from the cotton States, who came to Washington last week to confer with H. S. Yohe and other members of the division in Washington. Such subjects as preservation of samples when grade is not stated on the receipts, insurance rates and credits, bond premiums, and general plans for the next cotton season were under consideration. Those in attendance were: James P. Brown, Joseph H. McLure, Robert C. Rowland, and H. B. Miller, of the Raleigh office; F. G. Crout, John P. Joines, John T. Coffee, Knowlton L. Hollis, John F. Treadaway, Curtis C. Bost, of the Atlanta office; and R. L. Newton, R. D. Cunningham, and E. J. Truemper, of the Dallas office.

TONGASS HAS LARGEST TIMBER CUT.

The Tongass Forest, which stands seventh in the total timber sale receipts for the five fiscal years 1918-1922, inclusive, leads all the national forests in the amount of timber cut. A total of 196,000 M is reported cut in that forest during that period. Saw timber and piling taken from the Tongass forest are sold in quantity chiefly for use in the fish industry. The fishing industry has recovered from its depression, and there is a considerable demand for wood for boxes, and for piling for fish traps. The cash receipts from the Coeur d'Alene Forest were larger than those from any other, totaling \$500,200. The other forests show cash receipts as follows: Whitman-Minam, \$456,500; Maniksupend Oreille, \$441,375; Coconino, \$331,800; Plumas, \$315,600; Crater, \$298,400; Tongass, \$297,300; Stanislaus, \$256,375; Lassen, \$253,950; Shasta, \$238,900; Medicine Bow, \$232,200; Arkansas, \$204,960.

The Secretary of Agriculture has placed the enforcement of the new naval stores standards act in the Bureau of Chemistry, and regulations for the operation of the act are now being prepared by that bureau.

Counties Vie for Honors in Live-Stock Improvement Work

A report on the progress of the "Better Sires—Better Stock" campaign recently issued by the Bureau of Animal Industry shows the excellent results being obtained by county agents in conducting such work. During the first three months of 1923, which was a record-breaking quarter, measured by the number of farms agreeing to use purebred sires only in all breeding operations, four new counties qualified for the county "roll of honor" list, which contains the names of counties in which 100 or more persons are enrolled. Following are listed the counties on the roll of honor, showing the name of the county agent and the number of persons enrolled in each county:

County.	County agent.	Persons enrolled.
Pulaski, Va.	E. C. Grigsby	465
Rockingham, Va.	Chas. W. Wampler	374
Greene, Ohio	Ford S. Prince	339
Hardin, Ohio	F. S. Hagy	236
Miami, Ohio	C. M. Senn	206
Kittitas, Wash.	W. L. Davis	198
Greenville, S. C.	A. H. Chapman	176
Hancock, Ohio	E. M. Rowe	156
Guernsey, Ohio	E. H. Reed	149
Oldham, Ky.	Gordon B. Nance	147
Belmont, Ohio	J. C. Neff	146
Orange, Va.	Edward V. Breedon	141
Orleans, Vt.	W. T. Abell	124
Webster, Nebr.	Henry B. Fausch	123
Lamoille, Vt.	Frank D. Jones	122
Columbiana, Ohio	C. E. Rowland	121
Coshocton, Ohio	G. C. Musgrove	111
Nance, Nebr.	J. P. Ross	104
Stafford, Va.	Volney B. Perry	100
Dodge, Nebr.	R. M. Houser	100

While some who enroll in the better-sires movement have been users of purebred sires, reports show that a large proportion of the persons who enroll dispose of scrub or grade sires to do so and become purebred-sire users for the first time. This gives an idea of the value of the better-sires movement for live-stock improvement. County agents are largely responsible for the large numbers of farmers being won over to the use of purebred sires. County sire sales, butchering and weighing demonstrations, live-stock feeding and growing contests, live-stock surveys, pedigree schools, and booster meetings are some of the novel ways by which county agents are winning honors for their counties in this country-wide crusade.

FOREST WEEK BEING OBSERVED.

This is Forest Protection Week, and the importance of preserving forests and preventing forest fires is being brought to the attention of people all over the United States. President Harding issued

a proclamation in March proclaiming Forest Protection Week, and many governors have issued State proclamations urging its observance. Letters have been received by the Forest Service from governors of a number of States in which they have pledged their interested cooperation. The field force of the Forest Service is stressing the importance of reforestation and care with fire in various ways. Much publicity is being given through the newspapers and special exercises are being held in many schools and churches. Business organizations and boys' and girls' scout groups are also taking up the subject.

It is expected that forest protection pictures will be featured in the news service of the various important film producers, and wherever possible that brief addresses will be made by representatives of the Forest Service. A number of prominent men will speak over the radio in various parts of the country. A trial showing of one film, entitled "Red Enemy," was given at the Dumbarton Theater, in Georgetown, and at that time a service man in uniform made a short address. This film is being shown in four Washington theaters this week.

FOOD AND DRUG OFFICIALS MEET.

The Central Atlantic States Association of the Association of American Dairy, Food, and Drug Officials held its seventh annual convention in Washington, D. C., April 23, 24, and 25, in the Lieber Building. This association is composed of the food, feed, and drug control officials of Delaware, the District of Columbia, Maryland, New Jersey, New York, Pennsylvania, Virginia, and West Virginia, who meet once a year to discuss the food, feed, and drug problems of their respective States. Dr. J. W. Kellogg, of Pennsylvania, is the president and W. S. Frisbie, Office of Cooperation, Bureau of Chemistry, is the secretary.

SOFT-PORK CONFERENCE HELD.

A number of employees of the Bureau of Animal Industry attended a soft-pork conference held in Atlanta, Ga., the early part of this week. In addition to the department representatives several from the agricultural experiment stations that are cooperating with the department in the study of soft pork and representatives from the American Institute of Meat Packers were also present. Those who went from the department were E. W. Sheets, E. Z. Russell, O. G. Hankins, N. R. Ellis, R. H. Kelly, J. R. Quesenbury, L. J. Cole, and S. W. Green.

State Marketing Officials Discuss Variety of Problems

Round table discussions featured the meeting of the executive committee of the National Association of State Marketing Officials, held in Washington April 16 and 17, under the auspices of the Bureau of Agricultural Economics. The program included many subjects of interest. Dr. H. C. Taylor, chief of that bureau, opened the conference with a discussion of the bureau's work and organization, and told how the Federal and State work is coordinated. Chester Morrill, assistant to the Secretary, discussed the provisions of the packers and stockyards act, and explained its administration. Recent agricultural legislation was discussed and explained. H. S. Yohe spoke on the United States warehouse act, V. N. Valgren reviewed the agricultural credit act, and L. S. Hulbert analyzed the Capper-Volstead Act.

Live-stock estimating work was presented by W. F. Callender, in charge while shipping-point inspection and the standardization of fruits and vegetables were covered by W. A. Sherman. J. Clyde Marquis spoke on the service the department renders through its various publications. Others who led discussions were: W. A. Schoenfeld who told of city-marketing investigations now being carried on cooperatively with large cities and some States and the bureau; J. C. Gilbert, who discussed radio-market reporting. The following State officials participated: F. B. Bomberger, University of Maryland, who is president of the national association; A. L. Clark, chief, Bureau of Markets, Trenton, N. J.; J. H. Meek, director, Division of Markets, Richmond, Va.; W. A. Munson, director, Division of Markets, Boston, Mass.; P. R. Taylor, acting director, Bureau of Markets, Harrisburg, Pa.; S. B. Shaw, University of Maryland, College Park, Md.; G. P. Warber, Virginia Polytechnic Institute, Blacksburg, Va.; C. R. White, chief, License Bureau, Albany, N. Y.; and H. D. Phillips, chief, Bureau of Markets and Storage, Albany, N. Y., and secretary of National Association.

American standards for rosin are now in use in England and France. A recent request for an official set of American standards was received through the State Department from an engineering school in Milan, Italy, known as the "Politecnio." Since no set of the department's official glass standards was available, a set of commercial standards or type samples, made of rosin, was carefully checked against the glass standards, and approved for transmission to Italy by the State Department.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary.

(Mr. Pugsley, Acting Secretary.)

Office of Traffic Manager Established.

MEMORANDUM No. 430.—April 6, 1923 (superseding Memorandum No. 368 of February 6, 1922).—Effective immediately, an office of traffic management is hereby established in the office of the Secretary, with Mr. Elmer E. Forbes, traffic manager, in charge.

The traffic manager will be responsible to the Secretary for the efficient and economic conduct of the traffic activities of the department, and to that end he may call upon the bureaus, divisions, and offices of the department for such information as may be necessary to the proper performance of his duties. He will keep in touch with all traffic activities and give such advice to the bureaus and offices as may be necessary to insure the prompt and efficient movement of traffic and the proper disposition of all matters connected therewith. He is authorized to conduct such correspondence with the carriers, the general public, and the bureaus of the department as may be necessary, and in that connection, will maintain appropriate files and records.

He will keep in close touch with traffic conditions in the Government service generally, and will recommend to the Secretary such changes in the department's regulations and such issue of bulletins and circulars pertaining to transportation matters as he may deem advisable.

He will advise shipping and receiving clerks of the proper nomenclature to be used in billing shipments and of the methods of packing and loading which will insure the application of proper classifications. He will assist in the preparation of notations on bills of lading adequate to protect the interest of the Government in cases of loss, damage, or special services. He will also assist in expediting emergency shipments, in institution of tracers in cases of unusual delay or non-delivery, in the securing of equipment where necessary, and in the preparing of car orders so as to prevent loss to the department through excess minimum weight.

He will arrange for the disposition of unclaimed shipments, give advice as to the proper loading of carload shipments, and, upon bureau request, investigate claims for loss, damage, or reparation, secure refunds on unused or partially used tickets and similar collections, and arrange for proper bureau credits. Upon bureau request he will also prepare itineraries, give special advice on

train service, routes, connections, and facilities, make sleeping and parlor-car reservations, and secure tickets and Pullman accommodations.

He will have custody of the general supply of bills of lading and transportation requests, and will issue these forms in bulk to the bureaus upon proper request therefor.

He will see to it that no unnecessary files of freight or passenger tariffs are maintained in the department. He shall have access to memorandum copies of bills of lading issued by the bureaus of the department and to all other bureau records of transportation activities. Upon the direction of the head of the department, or upon bureau request, he will investigate irregularities pertaining to traffic with a view to the correction of such errors in practice as may be found to exist.

He will act as intermediary between the bureaus of the department and the Federal Traffic Board, and, upon bureau request, between the bureaus and the carriers or agencies of the carriers, such as the various classification or passenger committees, demurrage bureaus, and the like.

He will make to the Secretary recommendations for the adoption of such procedure and the maintenance of such records as may be necessary to prevent duplicate payments.

Through the head of the department, the traffic manager will render such reports as may be required of him by the Federal Traffic Board and will also render such additional reports to the head of the department as may be required of him.

ANY SUGGESTIONS ON TERMINOLOGY?

Meetings of the terminology committee are being held each Wednesday at 10 a. m. in the office of the Assistant Secretary, and problems of terminology and style are being discussed. Any suggestions as to words or styles that should be considered will be welcomed by the committee. Suggestions of this sort should be sent to the office of the Assistant Secretary. The exact meaning, definition, and use of a number of words have already been determined. An announcement of the findings of the committee will be made when the meetings are concluded.

GRAIN FUTURES ACT CONSTITUTIONAL.

The grain futures act was declared constitutional in a Supreme Court decision handed down by Chief Justice Taft Monday, April 16. Justices McReynolds and Sutherland dissented from the decision. The grain futures act, which was passed at the last session of Congress, took the place of the future trading act of August 24, 1921, which was declared unconstitutional by the Supreme Court in May, 1922. The regulatory provisions of the first act were based on the taxing power of the Federal Government. In the decision declaring the unconstitutionality of the first act the way was pointed for the enactment of a law which would be constitutional. The act just declared

constitutional is based on the interstate commerce powers of the Government. Specific reference was made by the court to the provision for the admission of cooperative associations of producers to membership on the boards of trade.

The grain futures act is administered by the Secretary through the Grain Futures Administration, of which Chester Morrill, assistant to the Secretary, is in charge, and the skeleton organization which has been handling the work in the past.

DOCTOR HOWARD HONORED.

Word has come from Holland that Dr. L. O. Howard, Chief of the Bureau of Entomology, has been made honorary president of the International Conference of Phytopathologists and Economic Entomologists which is to be held June 24 at Wageningen, Holland. Doctor Howard will sail for Europe May 5. While abroad he will attend the International Congress of Agriculture at Paris, May 22-26, and the international conference concerning *Dacus oleae* to be held at Madrid June 18. He will visit entomological institutions in England, France, Italy, Spain, Belgium, and Holland, and will consult with many experts concerning the entomological exchange of living beneficial parasites of injurious insects.

ECONOMIZE!

Business firms find it necessary to constantly caution their employees against the wasteful use of stationery and supplies. Because economy is of first importance in the Government service, this advice given by a railroad company is called to your attention:

"Save stationery. Take care of your individual supply. All haste makes a waste of stationery forms. Top sheet of a pad of forms should be used, not destroyed. It is the smaller items that run into big figures. Order only what you need. Not what you use but what you save is what counts. Every item of stationery wasted is a direct loss. Regard stationery as a personal representative of your desk. Your allotment of stationery supplies cost money; if you were paying for them you would not waste them."

MEETINGS THIS WEEK IN WASHINGTON.

The National Academy of Science at the New National Museum, April 23, 24, and 25.

Federation of Biological Societies of the National Research Council, April 28, at the National Research Council Headquarters.

U. S. D. A. CLUB ACTIVITIES

NEW YORK CLUB.

The regular monthly meeting and luncheon of the NYUSDA Club was held at the Pig and Whistle Inn, Greenwich Village, April 11. Sixteen members were present. Walter P. Hedden, research agent in marketing, who is doing cooperative work for the Bureau of Agricultural Economics and the Port Authority, and Dr. T. J. Keene, traveling inspector of the Bureau of Animal Industry, were guests of the club.

Dr. R. M. Mullings reported for the program committee, and told of an invitation extended to the club by Conservation Commissioner McDonald of a boat ride down the bay. He also requested expressions of opinion as to the kind of open meeting which the club should have this year. This was later referred to a committee.

Dr. H. B. Shaw presented a report for the publicity committee, and the committee was authorized to draw up a definite program for the dissemination of information, which will be sent to the office of Secretary Wallace for approval. Dr. Oscar Nelson was elected to membership in the club, as was F. L. Wollard, chairman of the United States Board of Tea Appeals. Mr. Hedden and Doctor Keene spoke and W. F. Schroeder read a paper on functions of the meat inspection laboratory.

THE DENVER CLUB.

Fourteen members attended the regular monthly meeting of the Denver Club held April 9 at the Civic and Commercial Association rooms. E. M. Ammons, ex-governor of Colorado, was a guest of the club and made an address. He described the development of the State during the past 50 years, the difficulties that had been overcome in such development, and the necessity and advantage of cooperation of all agencies, both State and Federal, in solving the problems that will arise in the future in the further development of the State.

KANSAS CITY CLUB PLANNED.

A meeting was held April 19 at the Sexton Hotel, Kansas City, Mo., to discuss the organization of a Kansas City U. S. D. A. Club.

INCORPORATE WELFARE ASSOCIATION.

The certification of incorporation was recorded March 16, 1923, under sub-

chapter 3 of the incorporation laws of the District of Columbia. Copies with by-laws attached were distributed at the last meeting of the association held March 19, 1923, to be circulated throughout the department.

The feeling was expressed at this meeting that our department is far behind others of its size in providing adequate emergency rooms for its employees with registered nurses in charge. It was urged that a visiting nurse would save the department the equivalent of her salary in calling on absentees who are ill, just as has been the case in the Post Office and other branches of the Government.

A meeting of the bureau committees was held in the assembly room of the main building at 3.30 April 23 instead of the regular date.

B. A. E. TO HOLD SHOW AND DANCE.

A minstrel show and dance will be the form of the Bureau of Agricultural Economics annual get-together, to be held May 9 at Center Market Auditorium. W. A. Wheeler, general chairman of the executive committee, has appointed a number of representative committees, and plans for the fete are well under way. The minstrel show, made up of bureau talent, will begin at 8.15 p. m., after which refreshments will be served. General dancing will follow. Gifts for the holders of lucky tickets will be presented after the show.

Secretary and Mrs. Wallace and Assistant Secretary and Mrs. Pugsley have been invited as honor guests. The bureau extends a cordial invitation to any member of the department to join in the merrymaking. Tickets, at 50 cents each, may be obtained from Miss Catherine M. Viehmann, chairman of the publicity committee.

The executive committee in charge of the party includes: W. A. Wheeler (chairman), C. J. Galpin, J. Clyde Marquis, W. A. Schoenfeld, Lloyd S. Tenny, C. L. Snow, E. W. Stillwell, Miss Bertla Henderson, Miss Mayme Parker, Miss Catherine M. Viehmann, F. J. Hughes, G. C. Edler, and J. F. Barghausen.

HOME MANAGEMENT DISCUSSED.

The place of home management in the extension program was discussed by Ruth Van Deman and Ilena M. Bailey, office of home economics, States Relations Service, at a conference of department extension workers held April 17 in the office of cooperative extension work of the same service.

Motion-Picture Exhibit and Entertainment Well Received

The department's motion-picture exhibition and entertainment given at the Central High School, Friday, April 13, was well received and appreciated by the large audience who filled the auditorium to overflowing in spite of the inclemency of the weather.

The six department films—Roads to Wonderland; Keeping Out Bad Food; Birds of a Feather; Pines that Come Back; Bill Jones, Champion; and Molly of Pine Grove Vat, gave an excellent idea of the educational and feature form of films the department is using in carrying the message of better agriculture to the farmer. Two orchestras, under the leadership and management of T. Weed Harvey, of the States Relations Service, and D. S. Burch, of the Bureau of Animal Industry, supplied the music in a creditable manner.

A 10-minute comedy skit, Three Thousand Years Ago, a scene depicting the trials and tribulations of King Tutankhamen with his department of agriculture, written and directed by Fred W. Perkins, in charge of motion pictures, served to give variety to the program and drew considerable applause. Miller Hamilton and Edward Kelly, of motion pictures, starred in the act.

Doctor Work, Secretary of the Interior, delivered an address on the relation of his department to the Department of Agriculture, which appeared in last week's issue of THE OFFICIAL RECORD.

A number of similar film programs and entertainments have been given annually by the department during the past three years, but this most successful one marks the last one to be given until next fall.

MR. KELLETER TO SPEAK.

Paul D. Kelleter, of the United States Forest Service, will give an illustrated lecture on Wednesday, May 2, at 8 p. m., at the Y. M. C. A. Assembly Hall, 1736 G Street. His subject will be "Our National Forests." Mr. Kelleter's talk is a part of a series being given Wednesday evenings. On April 18 Dr. Edgar Wherry, of the Bureau of Chemistry, spoke on "Exploring for Wild Flowers in the South."

Lieutenants Tasker, Sorrell, Marsh, and Lieber, of the Bureau of Supplies and Accounts, Navy Department, are receiving a course of instruction in the Bureau of Chemistry in the examination and purchase of subsistence supplies required by that department.

PEOPLE MENTIONED IN OFFICIAL ORDERS

A. C. True, Director States Relations Service, and C. B. Smith, chief office of cooperative extension work of the same service, left Washington April 7 for Tallahassee, Fla., to attend a conference of the Florida State Board of Agriculture and the board of control of the University of Florida regarding further plans for cooperative agricultural extension and research work in the State. Florida College for Women, Florida Agricultural and Mechanical College for Negroes, and the University of Florida were visited, and at meetings of the agricultural faculties of these institutions the functions of research and extension work were discussed. A number of counties in central Florida were then visited to note the progress made by the extension service in this citrus and winter-gardening section. Some time was also spent at the Florida Citrus Experiment Station near Lake Alfred, recently established, where experiments in the use of fertilizers for citrus orchards and methods of combating citrus diseases are to be carried on.

E. W. Allen, chief office of experiment stations, States Relations Service, left Washington April 14 to note the progress being made in projects now being carried on under the provisions of the Hatch and Adams Acts at the agricultural experiment stations of the Southwest, and to discuss plans for additional studies which may be undertaken by these stations. Doctor Allen will visit stations in Oklahoma, Texas, New Mexico, Arizona, California, Nevada, Utah, Colorado, Kansas, Missouri, and Arkansas, returning to Washington about June 1.

W. A. Wheeler, of the Bureau of Agricultural Economics, discussed Federal hay inspection at a meeting of the Tri-County Association held at Bluffton, Ind., April 20.

Dr. C. S. Shear, of the Bureau of Plant Industry, attended the meeting of the Growers' Cranberry Co. at Philadelphia April 17, where he gave an address on Cranberry Rots and Their Control.

Dr. F. P. Morgan, of the Bureau of Chemistry, attended the convention of the United Medicine Manufacturers of America, held April 17, 18, and 19 at Atlantic City.

Dr. H. L. Dozier, in charge of the camphor scale project of the Bureau of Entomology at New Orleans, La., has resigned from the bureau to accept a position with the Gulf Coast Citrus Exchange, Mobile, Ala. Doctor Dozier will be succeeded by Harold K. Plank.

H. L. McIntyre, who has been associated with the gypsy moth and brown-tail moth investigations in the Bureau of Entomology for more than 16 years, has accepted a position with the State of New York Conservation Commission. Mr. McIntyre will take charge of the work against the gypsy moth in that State, an appropriation of \$150,000 having been made by the legislature for that purpose recently.

Drs. E. B. Ernest, Elmer Lash, and O. L. Lockwood, of the Tuberculosis Eradication Division of the Bureau of Animal Industry, are spending the latter half of April in Mercer County, Pa., where they will assist State employees in a county-wide drive to eradicate bovine tuberculosis from Mercer County.

B. E. Brown, Bureau of Plant Industry, has returned from Freehold and Hightstown, N. J., where he supervised the application of

fertilizers in the cooperative experiments being conducted in that State.

Dr. J. J. Skinner, Bureau of Plant Industry, returned April 14 from Fayetteville and New Bern, N. C., where he supervised the application of fertilizers in the cooperative experiments and inaugurated fertilizer experiments with cotton.

Dr. A. P. Dachnowski, Bureau of Plant Industry, left Washington April 18 for the purpose of addressing the Cape Cod Cranberry Growers' Association, meeting at Wareham, Mass., on the subject "Contribution of Peat Investigations to the Cranberry Grower."

R. G. Hill and R. C. Wright, Bureau of Plant Industry, left Washington April 13 for New York City and San Juan and Mayaguez, Porto Rico, for the purpose of continuing investigations on the handling, packing, and shipping of citrus fruit from Porto Rico to New York City to obtain information as to the best methods for refrigerated transportation of fruits.

J. H. Beattie, Bureau of Plant Industry, left Washington April 15 for Newark, Ohio, South Bend, Ind., and Farmington, Ill., for the purpose of conducting truck-crop investigations.

C. A. Garner, Bureau of Plant Industry, left Washington April 15 for Steenburg, Ind., Holland, Mich., and South Bend, Ind., for the purpose of conducting truck-crop experimental work in muck soil.

R. P. Teele, of the Bureau of Agricultural Economics, left April 16 for points in Virginia, North and South Carolina, Alabama, and Florida to study methods of land reclamation and settlement.

Miss Mary G. Lacy, librarian of the Bureau of Agricultural Economics, left Washington the latter part of last week for Hot Springs, Ark., St. Louis, Madison, and Chicago. At Hot Springs she will attend the meeting of the American Library Association. She will visit the Library of the Missouri Botanical Gardens, St. Louis, the Legislative Reference Library, Madison and the John Crerar and University of Chicago libraries at Chicago before returning to Washington.

Guy S. Meloy, of the Bureau of Agricultural Economics, left Washington April 10 for points in North Carolina, Georgia, and Texas to confer with the agents employed in the cotton demonstrational work conducted cooperatively between the State extension service and this bureau.

Delos L. James, of the Bureau of Agricultural Economics, is in Virginia assisting in the conduct of a poultry and egg marketing survey in cooperation with the extension department of the Virginia Polytechnic Institute at Blacksburg, the division of markets of the Virginia State Department of Agriculture at Richmond, the Virginia State Farm Bureau, and the farmers' union of the Virginia Poultry Producers' Cooperative Marketing Association.

G. F. Moznette, of the Bureau of Entomology, with headquarters at Miami, Fla., attended a meeting of the State Horticultural Society, held April 16 at Orlando, where he gave advice on tropical and subtropical fruit insects.

F. O. Bartel, of the Bureau of Public Roads, attended the annual convention at New Bern, N. C., April 18-19, where he addressed the meeting on "Groundwater Experiments at Terra Ceia, Beaufort County, North Carolina."

D. A. Spencer, of the Bureau of Animal Industry, addressed the Animal Husbandry

Club of the Massachusetts Agricultural College April 20, on "Lamb Production in New England."

Dr. A. M. Brunson, formerly of the Illinois Agricultural Experiment Station, who has been majoring in genetics under Drs. R. A. Emerson and H. H. Love at Cornell University, receiving his doctorate degree in February, was appointed agent in the Office of Cereal Investigations, effective April 16. He will have charge of cooperative corn experiments at the Kansas Agricultural Experiment Station, with headquarters at Manhattan, and will supervise corn experiments at field stations of the Office of Cereal Investigations in the northern Great Plains. Doctor Brunson spent several days in Washington conferring with bureau officials before proceeding to Manhattan.

Dr. E. P. Meinecke, of the Bureau of Plant Industry, will attend the fifth annual conference of the Western Plant Quarantine Board, to be held at Phoenix, Ariz., May 14, 15, and 16.

VISITORS TO THE DEPARTMENT.

Percy A. Francis, commissioner of poultry of the British Ministry of Agriculture and Fisheries, and Theodore R. Robinson, also of the British Ministry of Fisheries, called at the office of the Assistant Secretary April 17.

Four prominent foreign chemists visited interested offices in the department April 18 in company with Dr. E. D. Ball, Director of Scientific Work. The guests were Prof. F. G. Donnan, of the University of London; Prof. James C. Irvine, of the University of St. Andrews; Prof. F. G. Holleman, of the University of Amsterdam; and Prof. G. Bruni, of Milan, Italy. During the week these men were guests of honor at a joint meeting of the Washington Academy of Sciences, the Philosophical Society, and the American Chemical Society.

Dr. Frantizek Rozinek, of Czechoslovakia, is spending a week in the Bureau of Chemistry studying practical methods for the control of dairy products. Doctor Rozinek, who is in charge of the dairy work in his country, was sent by his Government to the United States to study control problems connected with the dairy industry.

G. W. Robinson, head of the department of agricultural chemistry, University College, of Bangor, North Wales, visited the States Relations Service April 18 to learn something of the research work being done in soil physics in the United States. Professor Robinson, who holds a traveling fellowship from the Wales university, plans to spend about two months in studying the experimental work in soil physics at State experiment stations in Georgia, Texas, Arizona, California, Utah, Kansas, Illinois, Michigan, New York, Massachusetts, and New Jersey. Following his visit in the States, Professor Robinson expects to spend a short time in the department before returning home the early part of June.

Dr. Eduard Stepan, of the Austrian Immigration Commission, Vienna, Austria, visited the department April 16, accompanied by Edgar L. G. Prochnik, chargé d'affaires of the Austrian legation, to obtain information, lantern slides, and other illustrative material for use, upon his return to Austria, in educational lectures on general farming methods in the United States. He was particularly interested in material relating to agriculture in the Far West and Pacific coast regions.

BRIEF REVIEWS OF NEW BULLETINS.

Insect Enemies of Chrysanthemums. By Charles A. Wiegel, entomologist. Greenhouse Insect Investigations, Bureau of Entomology. Pp. 36, figs. 33. February 23, 1923. (Farmers' Bulletin 1306.)

Florists who specialize in raising chrysanthemums, gardeners, extension entomological workers, and even amateur growers will find information on the life history and control measures of the more important insect enemies of chrysanthemums, compiled to take care of the many specific requests for such information received by the department. Since the insects discussed are likely to occur on chrysanthemums at any time throughout the year, and since the production of floral crops goes on without interruption, the bulletin is timely at any season.

The chrysanthemum midge, the greenhouse leaf-tyer, aphids, the common red spider, and cutworms are among the pests described in detail. Methods of control, such as stomach poisons and contact poisons and fumigation with tobacco or hydrocyanic-acid gas, are discussed in connection with each pest. General formulas for insecticides and fumigants are included.

Good Proportions in the Diet. By Caroline L. Hunt, specialist, Office of Home Economics, States Relations Service. Pp. 24, figs. 5. March, 1923. (Farmers' Bulletin 1313.)

The author points out that all food materials may be grouped under five heads, and shows by means of pictures some of the common foods under each group, which are later combined into a week's menu. Other food materials not in the illustrations are tabulated elsewhere in the bulletin to show which foods serve similar purposes in the diet, and which may therefore replace each other to a considerable extent in the menu. Attention is called to certain exceptionally important foods under each group that must not be omitted for any long period of time.

Suggestions are made for adapting the allowance of foods given in the text to the needs of families requiring more or less food than the average, or census, family, and for changing the proportions of the diet in the interest of economy. Tables for measuring food by weight and by hundred-calorie portions aid in estimating the amount of nourishment obtained for a given sum of money.

Motor Trucks on Corn Belt Farms. By H. R. Tolley, agricultural engineer, and L. M. Church, assistant in agricultural engineering, Division of Agricultural Engineering, Bureau of Public Roads. Pp. 18, figs. 8. March, 1923. (Farmers' Bulletin 1314.)

The experience of other farmers who have owned motor trucks is the best guide in determining if one will prove profitable on a farm; if so, what size will prove most profitable. Data based on the experience of over 500 grain and live-stock farmers located in the Corn Belt who have owned motor trucks for more than two years are given. From these men there has been collected information on size of truck used, cost of operation, amount of hauling done, and the advantages and disadvantages of owning a truck. The bulletin is intended for use primarily in the section where the data were collected, but will be of interest to farmers in other sections.

Cleaning Milking Machines. By L. H. Burgwald, assistant market milk specialist, Dairy Division, Bureau of Animal Industry. Pp. 16, figs. 13. March, 1923. (Farmers' Bulletin 1315.)

The systematic cleaning and sterilizing of milking machines are of great importance in turning out a high-quality product. That careful dairymen can produce clean milk with machines is proved by the fact that they are used in dairies where certified milk is made.

The construction of the milking machine makes it necessary to exercise great care in cleaning it. The steps necessary in properly sterilizing milking machines are illustrated in the bulletin by a series of pictures.

The effectiveness of the heat method of sterilization described in the bulletin is shown by comparison with other methods. Samples of milk taken on 13 farms using the various methods other than heat for sterilizing the machines had an average bacterial count of 257,900 per cubic centimeter for 74 samples. When the heat method was used on these same farms 261 samples showed an average bacterial count of 19,300. In all cases this work was done under actual farm conditions, the machines being handled by the farmers or their hired men.

Dry-Land Pasture Crops for Hogs at Huntley, Mont. By A. E. Seamans, assistant agronomist, Office of Dry-land Agriculture Investigations, Bureau of Plant Industry. Pp. 24, figs. 3. April 10, 1923. (Department Bulletin 1143.) Price, 5 cents.

The year 1921 completed a series of hog-pasturing experiments begun in 1915 at the Huntley (Mont.) Experiment Farm, and while the results are in no wise to be regarded as final, rather marked indications have been obtained regarding the seasons during which each crop may give the best returns from grazing, the comparative number of hogs which an acre of each crop will carry, and the possibility of furnishing continuous grazing.

The data on pasturing of four crops, rye, peas, barley, and corn, in the four-year rotation for the years from 1916 to 1921, inclusive, are assembled in tabular form in this bulletin.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week April 9-14, 1923. These publications can be obtained only from the stations issuing them:

- Report of the Alaska agricultural experiment stations, 1921. (Alaska Stas. Rpt. 1921, pp. 58, pls. 12.)
- A study of sidedraft and tractor hitches. By A. H. Hoffman. (California Sta. Bul. 349, pp. 113-163, figs. 78.)
- Black measles, water berries, and related vine troubles. By F. T. Bioletti. (California Sta. Bul. 358, pp. 509-524, figs. 6.)
- Report on commercial fertilizers, 1922. By E. H. Jenkins and E. M. Bailey. (Connecticut Sta. Bul. 241, pp. 55-144.)
- Report on commercial insecticides and fungicides. By E. M. Bailey, R. E. Andrew, and W. E. Britton. (Connecticut Sta. Bul. 242, pp. 145-165.)
- Report of the director, 1922. By E. H. Jenkins. (Connecticut Sta. Bul. 243, pp. 167-180.)
- Soybeans. By H. D. Hughes and F. S. Wilkins. (Iowa Sta. Circ. 84, pp. 15, figs. 7.)
- Sterility in relation to animal breeding. By W. S. Anderson. (Kentucky Sta. Bul. 244. (Res. Bul.), pp. 203-234.)
- Self-fertility in red clover. By E. N. Fergus. (Kentucky Sta. Circ. 29, pp. 19-36.)
- Meteorological observations at the Massachusetts agricultural experiment station. By J. E. Ostrander and G. E. Lindskog. (Massachusetts Sta. Met. Bul. 411, pp. 4.)
- Grape production in Michigan. By N. L. Partridge. (Michigan Sta. Spec. Bul. 121, pp. 23, figs. 11.)
- Relation of environment and other factors to potato wilt caused by fusarium oxysporum. By R. W. Goss. (Nebraska Sta. Res. Bul. 23, pp. 84, figs. 5.)
- Potato diseases in New Jersey and their control. By W. H. Martin. (New Jersey Stas. Circ. 146, pp. 32, figs. 25.)
- Summary of codling-moth investigations, with spraying schedules. By A. B. Fite. (New Mexico Sta. Bul. 135, pp. 24, figs. 7.)

The influence of precipitation on soil composition and on soil organic matter maintenance. By F. J. Sievers and H. F. Holtz. (Washington Sta. Bul. 176, pp. 32, fig. 1.)

Minerals for live stock. By E. B. Hart, H. Steenbock, and F. B. Morrison. (Wisconsin Sta. Bul. 350, pp. 21, figs. 16.)

Farm Homes. (Wisconsin Sta. Bul. 353, pp. 24, figs. 15.)

Thirty-second annual report, 1921-22. (Wyoming Sta. Rpt. 32, pp. 143-170.)

ADDITIONAL PUBLICATIONS.

Breeds of Sheep for the Farm. By F. R. Marshall, collaborator in Sheep and Goat Investigations, Animal Husbandry Division, Bureau of Animal Industry. Pp. 20, figs. 10. Revised March, 1923. (Farmers' Bulletin 576.) Price, 5 cents.

Crop and Live-Stock Estimates, 1910-1912. A Summary of Area, Average Yield, Production, and Exports (or Imports) of Crops and Live Stock for the United States. Compiled by the Bureau of Agricultural Economics. Pp. 30. (April, 1923.) (Miscellaneous Circular No. 6.)

Experiment Station Record. Vol. 48, No. 3. Abstract Number. March 28, 1923. Pp. 201-300. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Journal of Agricultural Research. Vol. 22, No. 10. December 3, 1921. Contents and Index to Volume 22. Pp. III-V, 517-526. Price, 5 cents.

Journal of Agricultural Research. Vol. 23, No. 6. February 10, 1923. Contents: Iron and Manganese Content of Certain Species of Seeds. (Ky.-11.) By J. S. McHargue.—Studies upon the Life Cycles of the Bacteria—Part II: Life History of Azotobacter. (G-278.) By F. Lohnis and N. R. Smith.—Influence of Fertilizers Containing Borax on the Growth and Fruiting of Cotton. (G-279.) By J. J. Skinner and F. E. Allison.—Genetics of Bunt Resistance in Wheat. (Wash.-1.) By E. F. Gaines.—A Bacterial Leafspot of Tobacco. (G-280.) By James Johnson. Pp. 395-494, figs. 2, pls. 20. Price, 10 cents.

Journal of Agricultural Research. Vol. 23, No. 7. February 17, 1923. Contents: Parasitic Fungi Internal of Seed Corn. (Del.-4.) By Thomas F. Manns and J. F. Adams.—Cotton Rootrot in Arizona. (G-281.) By C. J. King.—Correlations Between Various Characters of Wheat and Flour as Determined from Published Data from Chemical, Milling, and Baking Tests of a Number of American Wheats. (Me.-16.) By Jacob Zinn.—Aplastomorpha vandinei Tucker, an Important Parasite of *Silphophilus oryzae* L. (K-104.) By Richard T. Cotton.—Inheritance in Swine. (Kans.-28.) By Edward N. Wentworth and Jay L. Lush. Pp. 495-582, fig. 1, pls. 16. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the Journal was suspended December 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 154. Notices of Judgments 11151-11200. Pp. 85-111. April 20, 1923. Price, 5 cents.

Storage of Wheat in Soil and Its Utilization by Spring Wheat. By O. R. Mathews, assistant agronomist, with introduction by E. C. Chilcott, agriculturist in charge, Office of Dry-Land Agriculture Investigations, Bureau of Plant Industry. Pp. 28, fig. 1. (Professional Paper.) April 14, 1923. (Department Bulletin 1139.) Price, 5 cents.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

La agricultura en Chile en los últimos cincuenta años. Por Teodoro Schneider. Santiago de Chile, Impr. Barcelona, 1904.

Apontamentos de silvicultura. Dr. Adalberto de Queiroz Telles. São Paulo, Brazil (State) Secretaria de agricultura, commercio e obras publicas. Serviço de publicações. São Paulo, 1922.

Berentning om Foreningen "Skolehaven" s 20 aars virksomhed fra 1903-1923. Ved P. W. Lindholm. København, Foreningen "Skolehaven," 1923.

Birds of Australia. v. 10, pt. 2. By G. M. Mathews. London, Witherby & co., 1922.

British Portland cement research association. Pamphlet no. 2. The viscosity of raw material slurry. Comp. by J. W. Christelow and E. Bowes. London, 1922.

Le chien. 3. ed. Par Pierre Mégnin. Vincennes, L'éleveur, 1893.

La coltivazione degli agrumi in provincia di Salerno. Cattedra ambulante di agricoltura per la provincia di Salerno. Bari, 1912.

Comprehensive geology. By A. W. Grabau. New York, D. C. Heath & co., 1920-21.

Comprehensive treatise on inorganic and theoretical chemistry. v. 3. By J. W. Mellor. London, Longmans, Green and co., 1923.

Depreciation of cane caused by fire and by delays in shipping. By F. A. López Domínguez. San Juan, 1922. (Porto Rico. Insular experiment station, Rio Piedras, P. R. Bulletin no. 30.)

Désinfection de la laine en Grande-Bretagne. Prévention du charbon. International labor office, Geneva. Genève, 1921.

Distillation of hardwoods in Canada. By J. S. Bates. Ottawa, 1922. (Canada. Dept. of the interior. Forestry branch, Bulletin no. 74.)

East Indies (Dutch) Departement van landbouw, nijverheid en handel. Landbouwvoorzichtingsdienst. Mededeelingen. no. 1-5. Batavia, 1918-20.

Engineering on the farm. By J. T. Stewart. Chicago, Rand, McNally & company, 1923.

Expansion of Europe. 3d ed. By Ramsay Muir. London, Constable and company, Ltd., 1922.

Feeds and feeding. 18th ed. By W. A. Henry. Madison, Wis., Henry-Morrison company, 1923.

Fern lover's companion. By G. H. Tilton. Melrose, Mass., The author, 1922.

Forests of New York state. By A. B. Recknagel. New York, Macmillan company, 1923.

Glue and gelatin. By Jerome Alexander. New York, Chemical catalog company, iuc., 1923.

Guide to the reptiles and batrachians exhibited in the Department of zoology of the British museum (Natural history). 3d ed. London, 1922.

Hydrogen ion concentrations of some Indian soils and plant juices. By W. R. G. Atkins. Calcutta, 1922. (Pusa, India. Agricultural research institute. Bulletin no. 136)

Icones of the essential forest trees of Hokkaido. fasc. 7-9. By Kingo Miyabe and Yushun Kudo. Sapporo, Hokkaido government, 1922-23.

Instrucciones para el empleo de los abonos. 6. ed. Sociedad anónima eros. Barcelona [19-]

Introduction to the plant-life of the Oxford district. pt. 1. By A. H. Church. London, H. Milford, 1922. (Botanical memoirs. no. 13.)

Irish free state. Ministry of economic affairs. Report on the cost of living in Ireland, June, 1922. Dublin, 1922.

Jurisdiction and procedure of the Federal courts. 2d ed. By J. C. Rose. Albany, N. Y., 1922.

La Plata. Universidad nacional. Facultad de veterinaria. Revista. año 1, no. 1. La Plata, 1922.

Latvia; actual conditions and possibilities in one of the Baltic republics. Riga, Government printing office, 1922.

Manuel suisse des denrées alimentaires. 3. éd. Verein schweizerischer analytischer chemiker. Berne, 1919.

Manuel théorique et pratique d'assurance mutuelle agricole, contre l'incendie. 8. éd. Par Pelud & A. des Essarts. Grenoble, F. Eymond, 1922.

Mélanges lépidoptérologiques. Études sur les lépidoptères du Brésil. Par R. Ferreira d'Almeida. Berlin, R. Friedländer & Sohn, 1922.

Migration of birds. By R. M. Barrington. London, R. H. Porter, 1900.

Neotropical Tingitidae. By K. J. Drake. Pittsburgh, Carnegie institute, 1922. (Memoirs of the Carnegie museum. v. 9, no. 2)

Office international d'hygiène publique, Paris. Session ordinaire d'octobre 1922. Procès-verbaux des seances. Paris, 1922.

L'organisation économique. By Étienne Jouzier. Paris, J.-B. Baillière et fils, 1904.

Pecan in Texas. By J. H. Burkett. Austin, 1922. (Texas. Dept. of agriculture, Bulletin no. 73)

Productive soils. 2d ed. By W. W. Weir. Philadelphia, J. B. Lippincott company, 1922.

Quantitative agricultural analysis. By E. G. Mahin and R. H. Carr. New York, McGraw-Hill book company, inc., 1923.

Repairing the farmer's dollar. By G. N. Peck. Columbus, O., The author [1922?]

Report on the diseases of silkworms in India. By A. P. Jameson. Calcutta, Supt. govt. printing, 1922.

Le soja et son lait végétal. Par L. Rouest. Carcassonne, Auteur, 1921.

Standards of production in agriculture. By A. W. Ashby. London, Longmans, Green and co., 1922.

Studies in plant respiration and photosynthesis. By H. A. Spoehr and J. M. McGee. Washington, 1923. (Carnegie institution of Washington. Publication no. 325)

Ténériffe & son port. Par Hardisson frères. Paris, Impr. Leconte & Ras, 1921.

Trade guide of the members of the chambers of commerce of Scotland. 1st issue. Glasgow, E. J. Parker, 1922.

Treatise on the law of surveying and boundaries. By F. A. Clark. Indianapolis, Bobbs Merrill company, 1922.

U. S. government documents (federal, state and city) By J. I. Weyer. Chicago, American library association, 1922.

El valor de la cachaza como fertilizante. Por José Hipólito Ramírez. San Juan, 1922. (Porto Rico. Insular experiment station, Rio Piedras. Bulletin no. 31)

Ventilation; report of the New York state commission on ventilation. New York, E. P. Dutton & company, 1923.

OLD BOOKS.

Abhandlung von baumschulen. By K. F. Benekendorff. Berlin, 1791.

De admirabili perovm antiqvorvm et rerum suspiciendarum praestantia. By Pierre Belon. Parisiis, 1553.

De herbarvm virtvibvs. [By] Macer Floridus. Basileae, 1559.

Neue unterweisung zu dem blumenbau. Leipzig, 1705.

THESES.

Beiträge zur monographie des Bunder-Oberländerschafes. Von Gallus Eugster. Zürich, 1921.

Contribution à l'étude de la tyrosinase. Par Fernand Wyss. Genève, 1922. (Université de Genève. Institut de botanique. 10. serie, fasc. 5)

La reconstitution d'une ferme dévastée. Par Edmond Dutruel. Lille, 1922.

Ueber beleuchtungsmittel in der veterinärmedizin. Von A. W. Arendsee. Berlin, 1921.

CURRENT PERIODICALS.

Dédalo: revista quincenal iberoamericana de la industria del papel de las artes gráficas, del libro y de la publicidad. Madrid, 1922.

Indian scientific agriculturist [monthly] Calcutta, 1923.

Michigan sugar beet grower and manufacturer [monthly] Durand, Mich., 1923.

Milan. Istituto sieroterapico milanese. Bollettino [quarterly] Milano, 1921.

Milk goat news [semi-monthly]. San Francisco, 1923.

National garden bureau, Chicago. Clipping sheet. Chicago, 1923.

Société des apiculteurs du Gâtinais et du Loiret. Bulletin mensuel. 1923.

LOST BOOKS.

The following books belonging to the library can not be found. It will be appreciated if anyone having information in regard to them will report the fact at the loan desk of the main library:

Franklin institute. v. 189. Jan.-June, 1920.

Zoologischer anzeiger. v. 37, Jan.-June, 1911.

CIVIL SERVICE EXAMINATIONS.

The United States Civil Service Commission announces an examination—
For surveyor-draftsman, May 29. A vacancy in the Forest Service for duty at Og-

den, Utah, will be filled at a salary of \$1,400 a year, and vacancies in positions requiring similar qualifications elsewhere in the United States. Applicants must have graduated from a common school and have had at least five years' field and office experience, at least two years of field work, or have graduated in engineering from a college or university of recognized standing, in which case two years of experience is also required. Applicants should send for Form 1312.

For junior in cotton testing, June 6. Vacancies in the Bureau of Agricultural Economics will be filled at salaries of \$1,200, to \$1,800 a year. Applicants must have graduated in textile engineering from a textile school or college or university of recognized standing or have had one year's training in a textile school, in addition to experience in cotton-mill operations and high-school graduation. A thesis of from 2,000 to 5,000 words must be submitted. If interested apply for Form 1312.

For plant quarantine inspector, June 16. Vacancies in the Federal Horticultural Board, for duty in the field or in Washington, will be filled at salaries of \$1,400 to \$2,740 a year. The duties of the appointee will be to assist in the enforcement of the various quarantine and regulatory orders. Graduation from a college or university of recognized standing or high-school graduation with at least two years' experience in State or Federal plant-quarantine or plant-inspection work are prerequisites. If interested apply for Form 1312.

Articles in Current Publications By Department Workers

Brauns, D. H. Fluoro-acetyl Derivatives of Sugars. J. Am. Chem. Soc., vol. 45, No. 3, March, 1923.

Dill, D. B. Comparative Efficiency of Fish Meal. Am. Fertilizer, vol. 53, No. 7, April 7, 1923.

Holloway, T. E. (Entomology.) Sugar-cane Insects in 1922. Louisiana Planter, vol. 70, No. 4, pp. 70-71, Jan. 27, 1923.

Larson, A. O. (Entomology.) Bean Weevil Investigation in Chino District. California Bean Growers' Journal, vol. 4, No. 6, pp. 82-83, April, 1923.

Larson, C. W. The Importance of Dairying. DeLaval Monthly, vol. 17, No. 2, p. 3. February, 1923.

Ligon, J. Stokley. (Biological Survey.) Nesting of the Evening Grosbeak in Northern Michigan. The Auk, vol. 40, No. 2, pp. 314-316, pl. 18, April, 1923.

Oberholser, Harry C. (Biological Survey.) The Generic Name *Eucarthmus* Wied. The Auk, vol. 40, No. 2, p. 327, April, 1923.

Note on the generic name *Pteroptochos* Kittlitz. The Auk, vol. 40, No. 2, pp. 326-327, April, 1923.

Sherman, Caroline B. (Agricultural Economics.) Uncle Sam, Marketman. The Survey, April 15, 1923.

Stewart, C. L. (Agricultural Economics.) To Forge Ahead in Farming. Journal American Bankers' Association, April, 1923.

Taylor, W. P. (Biological Survey.) Unusual Shelter of Some Hepburn Leucostictes in Winter. The Condor, vol. 25, No. 2, pp. 69-70. March-April, 1923.

Tilley, F. W. Variations in Hydrogen Sulphide Production by Bacteria. Journal of Bacteriology, vol. 8, No. 2, pp. 115-120, March, 1923.

Weir, J. R. The Effect of Broadcast Pruning of Salt Areas on the Growth of Cull-producing Fungi. Journal of Forestry, vol. 21, pp. 183-184, February, 1923.

Wetmore, Alexander. (Biological Survey.) An Additional Record for the Extinct Porto Rican Quail-Dove. The Auk, vol. 40, No. 2, p. 324, April, 1923.

Wherry, E. T. Soil Chemistry—Relations Between the Active Acidity and the Lime Requirement of Soils. J. Wash. Acad. Sci., vol. 13, No. 6, March, 1923.

Wherry, E. T. Wall Ferns in Wilmington, N. C. In Am. Fern J., vol. 13, No. 1, January-March, 1923.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



RECEIVED
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CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., MAY 2, 1923.

No. 18.

1922 YEARBOOK TO BE COMPLETED BY JUNE 15

To Be Issued Earlier Than Any Book in Past—Plans for 1923 Progress.

In spite of the fact that the 1922 Yearbook of the Department is only the second one to be issued in the new form, its compilation and printing have been handled with greater speed than any previous number. It will be available for distribution about June 15. The first copy of 1,130 pages was sent to the Government Printing Office in March. By April 14 the entire book was in page proof and mostly plated and a great amount of the press work completed. It will be ready for the bindery during this week. The early delivery of the 1922 Yearbook is in accordance with the desires of the Secretary to issue the Yearbook annually as early as possible in the year following the period with which it deals.

Separates to be Issued Later.

Heretofore it has been the custom to submit the material for the Yearbook by subjects and at various times throughout the year. It was then published as separates, many of which were often made available to the public before the remainder of the book was completed. The 1922 book is printed as one complete issue, and no part of the text therein has yet appeared in its present form for distribution, nor will appear until after the book has been completed and distributed. It is quite likely that Separates will be published from it later. In a measure this manner of assembling the book has made it possible to speed up the time required for its publication.

In addition to the Secretary's report the book will contain separates dealing with five subjects, as follows: Timber: Mine or Crop?; Hog Production and Marketing; The Dairy Industry; History

and Status of Tobacco Culture; Oats, Barley, Rye, Rice, Grain Sorghums, Seed-Flax, and Buckwheat; and Statistics. There are 460 pages of statistics and over 300 illustrations, half-tones, graphs, and maps.

Preparation of the 1923 Yearbook has already started, and it is the expectation of those in charge to be able to issue this book during the early part of next year. It will probably cover the following subjects: Forage Resources; Sugar; Fruits; Sheep; Horses and Mules; Land Utilization; and Land Tenure.

The 1924 Yearbook will consist of material relating to Poultry, Potatoes and Truck Crops, Roads and Transportation, Credit and Insurance, Country Life, and Rural Education.

COMMITTEE ON CHEMICAL RESEARCH.

A special committee of chemists from outside the department met in Washington Tuesday and Wednesday of last week and considered plans for lines of research that should be carried on in the Bureau of Chemistry. The committee consisted of Dr. R. W. Thatcher, director of the Geneva, N. Y., experiment station; Dr. E. B. Forbes, head of the Institute of Animal Nutrition; Dr. C. O. Johns, of New York, formerly head of the nutrition laboratory of the Bureau of Chemistry and now connected with the Standard Oil Co.; Dr. T. C. Cottrell, of the fixed nitrogen laboratory; and Dr. Lyman J. Briggs, of the Bureau of Standards, formerly of the Bureau of Plant Industry. Recommendations were made to the secretary at the close of the meeting.

Although not nearly so acute as was expected in the early fall, a definite shortage of calcium arsenate by the time cotton dusting becomes active appears likely from present indications, according to a recent report by B. R. Coad, of the Bureau of Entomology, United States Department of Agriculture, in charge of the Delta Laboratory at Tallulah, La.

DEPARTMENT ISSUES NEW TYPE OF REPORT

Statement of Intention to Plant Believed to be of Special Value at this Time.

The department issued a report on April 20 showing farmers' intentions to plant covering nine of the leading crops in the United States. This report was based upon statements received from a large number of farmers indicating the acreage planted last year and the acreage they intend to plant this year. The purpose of this report is to give the farmers the facts with regard to what others are doing, in order that they may adjust their acreage on the basis of market needs and thus put production on a more orderly basis. It is thought that when a report shows an intended acreage that may result in overproduction of one product and underproduction of another, farmers will redirect their energies toward the more needed and therefore more profitable production.

First Report Sent Out in 1922.

The first "intentions" report to be issued by the department was sent out last year. It was a pig survey taken through the cooperation and assistance of the Post Office Department. It is thought by department officials that this survey had an important bearing on pig production last year. It is proposed to issue other reports of this same general type in the future.

The acreage report just issued shows intended plantings of principal spring crops in 1923 compared with the acreage of such crops planted or grown in 1922. It also shows comparisons with the five-year acreages, 1919-1922 and 1909-1913. The report covers cotton, spring wheat, corn, oats, barley, flax, sweet potatoes, tobacco, and potatoes. The full

report includes comments on the crops. A table of the statistics follows:

Intended Planting, 1923.

Crops.	Per cent 1922 acreage.	Per cent of past five years' acreage (1918-1922).	Per cent of five-year average acreage (1909-1913).
Cotton			
per cent of planted acreage..	112.0	109.0	108.7
Spring wheat			
per cent of harvested acreage..	94.5	83.8	96.5
Corn.....do.....	102.6	103.2	100.9
Oats.....do.....	102.6	97.8	111.9
Barley.....do.....	105.7	100.5	102.5
Flax.....do.....	189.0	162.7	99.3
Irish potatoes.....do.....	90.9	99.6	107.0
Sweet potatoes.....do.....	97.5	107.6	175.8
Tobacco.....do.....	110.0	108.9	155.1

FORECASTS AT SEA FOUND PRACTICABLE.

E. H. Bowie, chief forecaster of the Weather Bureau, has returned from a cruise on the French training ship *Jaques Cartier*, which was made for the purpose of studying the possibilities of making weather forecasts at sea. Mr. Bowie is convinced that such forecasts are entirely practicable. Forecasting at sea is simpler than forecasting on land areas, because diversified topography does not have to be taken into consideration in its effect on winds, weather, and the movement of cyclones and anticyclones, which move with more regularity on the sea. During the voyage to and from France, the *Jaques Cartier* received broadcasts of meteorological observations twice a day from Europe and America, and many vessels within range forwarded by radio their observations of the barometric pressure, temperature, wind, weather, and state of the ocean. From these observations, both on land and on sea, weather charts were constructed twice each day, and from them forecasts of wind, weather, and storms were prepared and broadcast to all ships.

DAIRY EXHIBIT COMMITTEE.

A department committee which will direct the preparation of the exhibit for the World's Dairy Show is now holding regular meetings and discussing the various matters concerned with this exhibit, and the subject is being discussed from every angle. The exhibit will be prepared in the office of exhibits. The committee consists of Dr. C. W. Larsen, of Animal Industry, chairman; Reuben Brizham, States Relations Service; J. E. Lapham, Soils; F. C. Blanck, Chemistry; R. A. Oakley, Plant Industry; B. C. Kadel, Weather Bureau; Ward Shepard,

Forest Service; J. Clyde Marquis, Agricultural Economics; F. W. Perkins, Motion Pictures; W. B. Bell, Biological Survey; H. S. Fairbank, Public Roads; J. L. Webb and J. F. Hyslop, Entomology; and Dr. H. E. Van Norman, president World Dairy Congress Association.

Operation of Center Market by Department Proves Successful

Several changes have been made in the management of the Center Market within the year that it has been under the control of the Department of Agriculture, and the revenues derived from its operation have exceeded expenses by \$50,000. Just a year ago this property was purchased by the Government at a cost of \$960,250 and its management taken over by the Bureau of Agricultural Economics. The changes in management have included the promulgation of new rules and regulations, the establishment of expert meat inspection, an advertising campaign calculated to call attention to the advantages offered by the market, and the construction of new and sanitary market stalls for the sale of fruits, vegetables, fish, and poultry.

The District Commissioners have cooperated with the market management in prohibiting parking of passenger-carrying vehicles around the market for longer than one hour.

Center Market is the largest public market in Washington, and one of the largest in the United States. Market stands are rented under yearly leases to 173 standholders, who handle almost every variety of food products. An indication of its importance in the distribution of food in Washington is shown by the financial reports recently received by the Superintendent, C. W. Kitchen, covering the calendar year 1922, and showing gross sales aggregating \$14,594,904. This does not include the sales made by the nearly 200 farmers for whom spaces are provided along the south side of the building.

When the property was taken over April 1, 1922, it was apparent that a large amount of improvement and repair work was needed, and this was undertaken in the first three months. About \$25,000 was spent, exclusive of labor, for such items as painting, repairs to insulation in the cold-storage rooms, repairs, replacements, and additions to mechanical equipment, enlarging and modernizing rest rooms.

The construction of modern and sanitary stands was undertaken under the direction of J. F. Barghausen, and the first of these, a fish stand, was in place about the first of the present year. Mr.

Barghausen is working on the modernizing of market stands and equipment, and he has designed model stands for various classes of produce.

SHIPPING POINT INSPECTION.

Federal State shipping-point inspection of tomatoes is under way in the Lake Okeechobee district of Florida, according to arrangements completed by F. G. Robb and H. W. Samson, of the Bureau of Agricultural Economics. This special service, which may last for six weeks, is being conducted by C. W. Hauck, assisted by H. C. Miller. Inspections will cover shipments from the following packing-house points: Canal Point, Pahokee, Belle Glade, South Bay, Clewiston, Moore Haven, and Okeechobee. Inspection of tomatoes and watermelons from shipping points around Ocala, Fla., will begin about May 20.

JOHN L. COBBS, JR., RESIGNS.

John L. Cobbs, jr., chief of the Division of Publications since November 16, 1920, has resigned to become director of public relations of the Atlantic Coast Line Railroad, with headquarters at Wilmington, N. C. Mr. Cobbs entered the department as forest assistant in the Forest Service June 25, 1909, and has been in the department ever since, with the exception of one year and eight months, when he was employed by a private lumber company. In 1916 he was placed in charge of the office of information of Forest Service.

Edwin C. Powell, chief editor, has been designated as acting chief of the Division of Publications.

COLONEL GREELEY DECORATED.

Col. William B. Greeley, Chief of the Forest Service, received the Distinguished Service Medal from the War Department on April 25 for exceptionally meritorious and distinguished services during the World War. Colonel Greeley, who was with the forest engineers in France from August, 1917, to July, 1919, also has received the Legion of Honor from the French Government and the Distinguished Service Order from Great Britain.

The citation accompanying the conferring of the Distinguished Service Medal mentioned Colonel Greeley's long service with the American forces in France, where from June, 1918, to July, 1919, he supervised the operations of all forestry troops in France.

SECRETARY BACK FROM TRIP IN SOUTHWEST

Agriculture and the Department's Activities in Six States Studied on Tour.

Secretary Wallace has returned to Washington after a trip of five weeks' duration in the Southwestern States. The trip was made for the purpose of meeting the personnel of the various bureaus and inspecting the various lines of work of the department in the Southwest, visiting the State colleges of agriculture and experiment stations in that region, and in meeting farmers and stock raisers and State officials and observing personally agricultural conditions in the territory visited. He spent some time in each of the States of Oklahoma, Texas, Arizona, New Mexico, California, and Nevada. Conferences were held by the Secretary with individual farmers, representatives of farm organizations, and the employees of the Department of Agriculture at each of the places visited.

In Oklahoma the Secretary visited the State college of agriculture and experiment station at Stillwater and met with farmers of the State at Enid. He also spent a day in Oklahoma City, where he called upon the governor and State officials and conferred with the Department of Agriculture employees. The Secretary addressed a joint meeting of the State legislature during his stay at Oklahoma City. He also visited the cooperative association of cotton growers, with headquarters at Oklahoma City, and saw first-hand the cotton-marketing work being conducted by that organization.

Cotton Marketing Organizations Visited.

In Texas he visited Fort Worth, Dallas, Greenville, Houston, Galveston, San Antonio, and El Paso, meeting with farmers and stockmen and with Department of Agriculture employees assigned to stations at and near each of these points. The Secretary's trip to Dallas included a visit to the cotton-marketing organization of the farm bureau, and he also attended the annual meeting of the Texas Cotton Association. The Secretary also visited the college of agriculture and experiment station at College Station, Tex., and the negro college at Prairie View. At El Paso he observed the border-inspection work conducted by the department.

In New Mexico the Secretary spent some time at the State college of agriculture and experiment station at Las Cruces, inspected national forests and

road projects in that State, and had conferences with the department employees at Albuquerque and Santa Fe, including conferences with State officials at the latter point. He also visited the Elephant Butte irrigation project at Las Cruces. At Albuquerque a general meeting was held with the cattlemen and sheep raisers of the State.

In Arizona the Secretary held conferences at Phoenix with the cattlemen and sheep raisers in connection with grazing and other problems, visited the national forests, inspected the Federal-aid road work in the vicinity, and visited the Roosevelt Dam and the Salt River Valley and Yuma irrigation projects. He also visited the State university at Tucson and observed the timber-sale work in the forests in the vicinity of Flagstaff.

In California the Secretary spent about 10 days in visiting the Coachella and Imperial Valleys, the citrus fruit and nut growing regions, the northern fruit districts, and the national forests and road building projects. Brawley, Calexico, El Centro, San Diego, Claremont, Riverside, Los Angeles, Bakersfield, Fresno, Stockton, Sacramento, and San Francisco were included in the itinerary. At Sacramento he addressed a joint session of the State legislature. The Secretary also visited the State college of agriculture at Berkeley and the State experiment station at Davis, Calif. At Sacramento and other points in the State conferences were held with cooperative marketing agencies.

While in the West the Secretary also visited the proposed Boulder Canyon dam site on the Colorado River. The trip from Las Vegas, Nev., to the canyon was made in company with Governor Scruggam, of Nevada, and the engineers of the Reclamation Service in charge of the survey at that point.

At the points visited the Secretary conferred with individual farmers and stockmen, farm organizations, commercial associations, and with the employees of the Department of Agriculture. The meetings with the department employees were arranged through the medium of the department clubs where such clubs were organized, and where the department clubs were established the Secretary attended the club luncheons. The Secretary also visited the field experiment stations of the department in the Southwest and conferred with county agricultural agents at all points along the route, more than 2,000 miles of the trip being made by automobile. Through his meeting with delegations of stockmen, farmers, and fruit growers in the States named the Secretary feels that he obtained an understanding of the department work, its relation to the various

agricultural and commercial interests, and the condition of agriculture which he could not possibly have obtained in any other way. The Secretary states that he feels he will be able to administer the affairs of the department in its relations with the great southwestern section of the country much more intelligently than in the past, because he has seen things with his own eyes and has a much better understanding of local conditions. He was impressed with the vitally important relation of the work of the department in the Southwestern States to the prosperity and living conditions of the people in that region and was gratified to find the department people and the work they are doing in general high standing in all of the places visited.

Secretary Wallace was accompanied on his tour by W. A. Jump, administrative assistant and Budget officer of the department.

TABLET TO G. H. POWELL UNVEILED.

A bronze tablet to the memory of the late George Harold Powell, formerly assistant chief of the Bureau of Plant Industry and for many years a scientist in that bureau, was unveiled April 25, at 3 p. m., in the corridor of the Administration Building. The tablet is the gift of some of Mr. Powell's former associates in the United States Food Administration, and was presented by Frank A. Horne, of New York, on behalf of the donors. Secretary Wallace accepted the tablet for the department. Secretary Hoover made an address on behalf of the Food Administration. The tablet was unveiled by Dr. W. A. Taylor. The inscription is as follows:

George Harold Powell	
Born	Died
February 8, 1872	February 18, 1922
Agriculturist	Economist
Public Servant	
U. S. Department of Agriculture 1901-1910	
U. S. Food Administration 1917-1919	
From the earth his understanding and patience brought increase of fruitage.	
From life his deep wisdom and radiant personality wrought productive friendships among his fellow men.	
Presented in memory of his high ideals and great usefulness by some of his former associates in the public service.	

WILL STUDY COTTON ODORS.

Dr. F. B. Power and his associate, V. K. Chesnut, of the Bureau of Chemistry, are planning to undertake an investigation of the odorous substances of the cotton plant, as it is surmised that these attract the boll weevil. Work on this project will be started in one of the Southern States as soon as the plants have arrived at that stage of growth best adapted for the experiments. The control of the boll weevil is one of the most important economic problems that confront the cotton planters of the South.



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MERGER HEARINGS BEING HELD.

Chester Morrill, assistant to the Secretary, in charge of the packers and stockyards administration, left Washington last Friday for Kansas City, Mo., where he conducted hearings on the Armour-Morris merger April 30. Mr. Morrill will conduct similar hearings at East St. Louis May 7, at Omaha May 10, and at Chicago May 14. The final hearing on the merger will be held in Washington May 21, in the office of the Secretary.

As required by the formal complaint issued by the Secretary of Agriculture against the merger, the respondents have filed answers to the charges, in which they denied that the merger was in violation of the packers and stockyards act, or that it would tend to create a monopoly in restraint of interstate commerce and permit them to manipulate prices in the buying of livestock or selling of livestock products.

BEETLE REGULATION REVISED.

A revision of the regulations under the quarantine on account of the Japanese beetle, effective April 15, has been issued by the Secretary of Agriculture. This quarantine regulates and safeguards the interstate movement from the areas in New Jersey and Pennsylvania infested by the Japanese beetle of (1) farm, garden, and orchard products of all kinds; (2) grain and forage crops of all kinds; (3) nursery, ornamental, and greenhouse stock, and all other plants; and (4) soil, compost, and manure. It is understood that these States will promptly issue supplemental quarantines covering similar internal control.

This revision is based on a conference held by the Federal Horticultural Board October 12, 1922, participated in by the official representatives of New Jersey and Pennsylvania. A new policy in control methods was agreed upon at this conference, involving what is termed the "zoning system." Under this system

the city of Philadelphia and its suburbs are included within the controlled area so as to allow free movement of locally produced food products within the inner or more important feeding radius of Philadelphia. In point of fact, the Japanese beetle has already extended its range to include most of the city of Philadelphia and a considerable portion of the outlying district.

BEAN BEETLE MAP PREPARED.

A map has been prepared showing the distribution of the Mexican bean beetle in the United States. With the cooperation of State entomologists and entomological agencies in the infested States, in addition to the scouting done by the bureau, it has been possible to make this map quite complete. A rapid spread to the North is shown, and if the beetle continues to spread as it has in the past two years it will reach Indiana, Ohio, and West Virginia this year.

A progress report on the research investigations of the Mexican bean beetle for the years 1921 and 1922 is under preparation at the Birmingham laboratory, and will soon be available for publication.

H. J. BAKER GOES TO NEW JERSEY.

H. J. Baker has been appointed director of the agricultural extension service of the New Jersey College of Agriculture, with headquarters at New Brunswick, effective June 1, to fill the vacancy caused by the death of L. A. Clinton in January. Mr. Baker is at present director of the Connecticut Agricultural Extension Service, Storrs, Conn.

WINS QUACK REMEDY CASE.

The Department of Agriculture recently won an important suit under the food and drugs act against the John Dobry Manufacturing Co., which has been manufacturing and selling an alleged cure for hog cholera, tuberculosis, and other swine diseases at Cedar Rapids, Iowa. Unusual interest was shown in the case because of the positive claims made for the remedy by the manufacturers. The case was based on a shipment of the alleged remedy from Cedar Rapids, Iowa, to Maywood, Ill., which was forwarded to a laboratory of the Bureau of Chemistry for analysis. It was found to contain a few common drugs and a large amount of arsenic. The testimony given by Dr. D. B. Clark, of Purdue University, and by farmers who had used

the alleged remedy indicated that the manufacturers' claims were unfounded.

Veterinarians engaged in the country-wide fight against hog diseases regard this victory against the Dobry Manufacturing Co. and its fake hog cure of great value because of its warning to others who seek to sell fake cures for animal diseases.

INFECTED FRUIT STOCK FOUND.

It is evident from reports received from State and Federal inspectors that foreign shipments of fruit and rose stocks are showing considerable infestation with insects which are not known to occur in this country. Infested shipments have arrived during the period January 1 to February 24, 1923, inclusive, as follows: Pupæ of the dagger moth (*Acronycta auricomica*, Fab.) from France on fruit stocks three times, rose stocks once; nests of the sorrel cutworm (*Acronycta rumicis*, L.), from France on fruit stocks four times; nests of the white tree pierid (*Aporia crataegi*, L.), from France on fruit stocks four times; cocoons of *Calophasia lunula*, Hufn., from France on rose stocks twice and on pear and cherry seedlings once; the snag-boring Emphytus (*Emphytus cinctus*, L.), on rose stocks from England eleven times, from France five times, and from Holland once; one egg mass of the European tussock moth (*Orgyia antiqua*, L.) was taken on pear seedlings from France. Doubtless other interceptions have been made but have not been reported to Washington as yet.

INFORMATION FOR EVERYBODY.

The United States Bureau of Efficiency has established an information service for the purpose of answering inquiries regarding Government activities, past and present. The bureau, in connection with its study into the duplication of work in the Government service, built up an index of all major activities of the Government from 1913 to date. This index contains about 35,000 cards, arranged alphabetically by subject, and forms a storehouse of information. It is open to the public. Not only can the bureau tell you what has been done in any given field of inquiry or research, from accidents to zoology, but it can also tell when and by what agency of the Government the work was done.

The index is a reference index only, from which to refer the inquirer to the proper office or offices for first-hand information in the particular field in which he may be interested.

U. S. D. A. CLUB ACTIVITIES

BIRMINGHAM CLUB.

The Federal Association of Birmingham met April 14 for a short business session, at which time four new members were elected. This was followed by a talk by O. L. Ayrs, formerly of the Bureau of Soils. Mr. Ayrs spoke on "A backward look in agriculture." His remarks were based principally on data obtained from a geography published in England in 1757. The old textbook showed a general knowledge of world agriculture of that time. The benefits of crop rotation were recognized, and many of the standard crops of to-day were being extensively cultivated.

CHICAGO CLUB.

R. D. McManus, of Armour & Co., was the guest and speaker at the April meeting of the Chicago, U. S. D. A. Club, held April 18 at the Saddle and Sirloin Club, Union Stock Yards. Mr. McManus spoke on "The relations between the livestock producer, the packer, and the U. S. Department of Agriculture." Fifty employees were present, 36 of whom were club members.

THE SAN FRANCISCO CLUB.

Secretary Wallace, W. A. Jump, and Congressman A. M. Free were the guests of honor at the April meeting of the San Francisco U. S. D. A. Club. Thirty-one members of the club were present, and every bureau of the department, except the Bureau of Entomology, was represented. Each club member made a short statement of the character of his work for the information of the Secretary.

Secretary Wallace spoke, describing the large field of departmental activities and the need of hearty cooperation with other departments. A specific instance of the latter has occurred in the help afforded the Bureau of the Budget in securing information in different parts of the country. He also impressed on the members their responsibility to the department, particularly in public contracts, and stated that the department would be judged largely by the impression conveyed by its members in the field.

Mr. Jump followed the Secretary, speaking briefly on the budget and the need for efficient handling of appropriations, and concluded his address with some remarks on reclassification. Congressman Free spoke briefly on the preparations he is making for the next ses-

sion of Congress. The San Francisco Club was the first of the department clubs to be organized.

PHILADELPHIA CLUB.

The regular meeting of the Philadelphia Club held April 18 in the post office building was an evening meeting, and included members of the families and such friends as they desired to bring.

G. S. Bliss, of the Weather Bureau, presented an interesting collection of lantern slides, and C. S. Brinton gave some interesting light phenomena, illustrated with apparatus and experiments. Officers were elected for the year. A program and entertainment committee was appointed consisting of Messrs. Harris, Biddle, and Kisliuk.

EXTENSION ESSENTIALS DISCUSSED.

Some of the essentials in maintaining an effective extension organization were discussed by H. W. Hochbaum, of the States Relations Service, at a conference of county extension agents and members of county extension organizations recently held in Orono, Me. Attention was called to the importance of a carefully planned program of extension work, since this in a large sense determines who will be interested in the work. The importance was stressed of acquainting all of the people of a county, by circular letters, newspaper articles, charts, exhibits, and other publicity, with the problems that are given a place on the program and the reasons why these are important in the agricultural development of the county.

TO FORM LADIES AID TO V. F. W.

The members of Federal Post No. 824, Veterans Foreign Wars, held an open meeting Monday, April 23, in their new quarters in the Odd Fellows Hall, at which time they gave a musical program and refreshments. This meeting was held to get the mothers, sisters, wives, and daughters of overseas men together for the purpose of organizing a ladies' auxiliary to the post. Anyone who is eligible is asked to mail her name and address to Miss Helen L. Moore, in the secretary's office.

DR. DICKSON SPEAKS ON ENVIRONMENT.

Dr. James G. Dickson, plant pathologist of the Wisconsin Agricultural Experiment Station and agent of the Bureau of Plant Industry, gave an illustrated talk before the seminar of the

office of cereal investigations April 24 on the influence of environmental factors on the development of head blight and seedling blight of wheat and seedling blight of corn. He gave a brief description of the apparatus used in controlling soil and air temperature and relative humidity and followed with a discussion of the results, (1) of the influence of air temperature and relative humidity upon the development of head blight of wheat; (2) influence of soil temperature and soil moisture upon the development of seedling blight of wheat and corn caused by the wheat-scab parasite, *Gibberella saubinetii*; and (3) influence of soil temperature upon the chemical composition of the wheat and corn seedlings and the possible correlation of this composition with predisposition and resistance to the seedling blight.

FARM HOME SURVEY DISCUSSED.

Some results of a survey of 400 farm homes made in Livingston County, New York, in 1921, were presented by E. L. Kirkpatrick, Bureau of Agricultural Economics, at a conference of department extension workers held in the office of cooperative extension work, States Relations Service, April 24. This survey was conducted cooperatively by the office of home economics, States Relations Service, the division of farm population and rural life, Bureau of Agricultural Economics, and the department of rural social organization of Cornell University, Ithaca, N. Y. Following Doctor Kirkpatrick's discussion, Miss Atwater, of the office of home economics, explained the method of classification used in summarizing the data obtained and made comparisons between these data and information secured in previous surveys of farm and industrial home conditions.

MISS GERRY ON INSPECTION TRIP.

Miss Eloise Gerry, of the Forest Products Laboratory, left for Florida April 21 to visit 20 test tracts where special features of turpentine are under experiment, in cooperation with Dr. Austin Cary, of the branch of forest management. One of the stations visited was the new naval stores substation of the Southern Forest Experiment Station at Starke, Fla., where 2,000 trees have been placed under test this year. At Starke, on the Florida National Forest, at Camp Pinchot, Valparaiso, narrow chipping, which promotes the flow of resin and causes little injury to the wood, is being studied as a result of indications of the desirability of this practice. Miss Gerry will return to Madison about June 9.

PEOPLE MENTIONED IN OFFICIAL ORDERS

Dr. K. F. Kellerman, associate chief Bureau of Plant Industry, has returned from a five weeks' trip through the West on bureau business. Doctor Kellerman accompanied Secretary Wallace from Yuma, Ariz., through Coachella and the Imperial Valley into the forest reserve between the Imperial Valley and San Diego. At San Diego Doctor Kellerman made provisions for some work with rubber that the bureau is to undertake in the near future. He also spoke at Salt Lake City, Fort Collins, Colo., and East Lansing, Mich., in connection with the work of the bureau before returning to Washington.

W. A. Schoenfeld, of the Bureau of Agricultural Economics, returned recently from the South. At Auburn, Ala., in company with C. E. Gage, he met the extension workers of the State to discuss a basis of organizing cooperative egg-marketing work. While there arrangements were made for a three-cornered arrangement for reporting in Georgia on a county basis and for extension work in the use of crop and livestock reports. This arrangement will be effective on a temporary basis within the next two weeks.

Dr. E. L. Kirkpatrick, of the Bureau of Agricultural Economics, left Washington May 1 to visit points in the States of Kentucky, Tennessee, Kansas, Iowa, Illinois, Indiana, and Ohio to make cooperative studies of the farmer's standard of living.

After seven years of satisfactory service, B. E. Yaden, acting supervising food-products inspector at Chicago, of the Bureau of Agricultural Economics, has tendered his resignation. Mr. Yaden plans to leave about May 1 to accept the position of assistant manager in the Chicago office of the Stewart Fruit Co.

Miss Emma B. Hawks, of the department library, attended the conference of the American Library Association held at Hot Springs, Ark., April 23-28. Before returning to Washington, Miss Hawks will stop at St. Louis and visit the library of the Missouri Botanical Garden.

A. V. Swarthout, of the Bureau of Agricultural Economics, will speak before the State convention of Kansas retail butchers, to be held in El Dorado, Kans., May 8 and 9. His subject will be "Bookkeeping system for retail meat dealers."

Dr. Frank A. Waugh, of Amherst Agricultural College, collaborator in the Forest Service on recreation matters, will attend the national conference on State parks to be held May 7, 8, and 9 at Turkey Run State Park, Ind.

Frederick D. Richey, Bureau of Plant Industry, will leave Washington April 26 to visit Ames, Iowa, North Platte, Nebr., Manhattan, Kan., and Akron, Colo., to confer with officials of agricultural experiment stations and others with reference to cooperative corn investigations.

Dr. George S. Jamieson, of the Bureau of Chemistry, attended the annual convention of the American Oil Chemists' Society at Hot Springs, Ark. April 30 to May 5.

Dr. F. P. Morgan, of the Bureau of Chemistry, attended the Convention of the Association of Medicine Manufacturers held in Atlantic City April 19.

Dr. E. W. Schwartz, of the Bureau of Chemistry, has received a medical fellowship from

the National Research Council for a year's study with Sir William M. Bayliss, professor of general physiology at the University College, University of London. Doctor Schwartz expects to sail for England in the fall and will remain there a year.

Dr. C. J. Galpin, of the Bureau of Agricultural Economics, will speak before the students of the College of William and Mary at Williamsburg, Va., May 3.

Miss Caroline L. Hunt, of the States Relations Service, attended the meeting of the Georgia Home Economics Association at Atlanta, Ga., April 19-21, where she discussed the department's work in home economics. She also consulted with experts and discussed food problems with instructors at the Georgia School for the Deaf, at Cave Spring, and at the School for Mountain Whites, at North Berry, Ga.

A. T. Semple, of the Bureau of Animal Industry, will attend the cattle feeders' convention to be held at Wooster, Ohio, May 4, and will study the results of the beef-cattle feeding experiments with calves.

WOMAN STATE GAME HEAD.

The Biological Survey has received newspaper clippings stating that Mrs. Grace Melaven, of Santa Rosa, N. Mex., has been appointed to the position of State game and fish warden. Her nomination has been sent by Governor Hinkle, of New Mexico, to the State senate for confirmation. Mrs. Melaven enjoys the distinction of being the first woman to be appointed in charge of a State game department so far as known by the Biological Survey. Several women have held appointments as State deputy game warden and some have made enviable records in the enforcement of the game laws.

MANY ENROLLED IN JUNIOR CLUBS.

The enrollment in boys' and girls' clubs, conducted cooperatively by the department and the State agricultural colleges, reached 600,957 in 1922, according to reports to the States Relations Service, the highest which has been attained in club work with the exception of totals for the years 1917 and 1918, when a large number enrolled temporarily in connection with war emergency work. Nearly 60 per cent, or 358,090 members, carried their club project through to completion.

ESTIMATES BY AIRPLANE.

Airplane photography as an aid in estimating cotton acreage will be tried out this year by the Bureau of Agricultural Economics, in cooperation with the War Department. Photographs of land in cotton and other crops will be made of selected areas from War Department airplanes. Although estimating acreage and forecasting crops by airplane photog-

raphy is purely an experiment, it is believed that the arrangement offers interesting possibilities, as large areas of land can be photographed in a relatively short time and the entire Cotton Belt pictured in about 2,000 flying hours.

The airplane as an adjunct to farming practices is an experiment. The department has experimented with the uses of airplanes for insect control, notably in the case of the boll-weevil work in the South and with the gypsy moth in New Hampshire. Experiments to determine the height to which wheat rust spores rise have also been made by airplane.

"ST. CROIX 12/4" SUGAR VALUABLE.

A report by the Station Agronomique de la Guadeloupe on the record made by the seedling variety of sugar cane "St. Croix 12/4," originated and developed by the Virgin Islands experiment station, which was grown by the Guadeloupe station in competition with 50 other varieties, states that this seedling outyielded all other varieties by a wide margin both in the amount of cane produced per acre and the quantity of sugar. The variety "St. Croix 12/4" produced at the rate of 202,985 kilos of cane per hectare (about 90.4 tons of cane per acre) and 20,575 kilos of sugar per hectare (about 9.16 tons per acre) as against 172,269 kilos per hectare for the nearest competitor in yield of cane and 13,020 kilos for its nearest rival in yield of sugar.

FOUR-H CAMPS IN WEST VIRGINIA.

Forty-one West Virginia counties will hold Four-H camps for boys' and girls' club members this year. The camps will last one week each, the dates of opening being divided into seven periods, extending from July 16 to September 1. It is expected that about one-third of the 12,000 farm boys and girls in the Four-H agricultural clubs will have opportunity to attend a camp.

SCHOOL FOR HAY INSPECTORS.

A school for hay inspectors at the hay standardization laboratory, Alexandria, Va., of the Bureau of Agricultural Economics, will be held as soon after July 1 as the necessary arrangements can be made. The course will cover a period of about three weeks and will include thorough training in the application and use of the United States grades for timothy, clover, and mixed grass hay and their mixtures. Other schools will be held from time to time as occasion warrants.

BRIEF REVIEWS OF NEW BULLETINS.

Tree Planting in the Great Plains Region. By Fred R. Johnson, forest examiner, Forest Service, and F. E. Cobb, assistant in dry-land arboriculture, Bureau of Plant Industry. Pp. 33, figs. 18. April, 1923. (Farmers' Bulletin 1312.) Price, 10 cents.

Fifteen species of hardwoods and about seven species of conifers which can be grown successfully under semiarid conditions are listed in this bulletin. The facts that the absence of trees in the Great Plains has been a hindrance to the most rapid development of the territory and that trees and shrubs are essential to the making of a real home are pointed out. On the average farm in the plains region the first consideration should be to provide a windbreak or shelter belt. In addition, a woodlot should be started for the production of fence posts and fuel. The bulletin discusses the varieties adapted to various purposes and deals with the species suitable for different sections of the Great Plains. Best practices in tree planting are dealt with fully, as is the choice of stock, source, time of planting, care of plantations, and similar matters.

Use of Water by Spring Wheat on the Great Plains. By John S. Cole, Agronomist, and O. R. Mathews, assistant agronomist in Dry-land Agriculture, with an introduction by E. C. Chilcote, Agriculturist in Charge of the Office of Dry-Land Agriculture Investigations, Bureau of Plant Industry. Pp. 34, figs. 10. (Professional Paper.) March 31, 1923. (Department Bulletin 1004.) Price 10 cents.

Investigators studying the relation of the water supply available for spring wheat growth in the Great Plains have determined that the normal rate of the use of water by the wheat crop during its period of rapid growth averages from about .15 to about .20 inch per day, the rate depending upon the quantity of crop as influenced by culture practices. The quantity of available water in the soil can be quickly determined at any time. Knowing the daily rate of use and the time necessary to mature the crop, or the total quantity of water required for a given production, the probable yield from a given precipitation during the remainder of the growing season or the precipitation necessary to produce a given yield can be calculated.

Because the total consumption of water by the crop shows a high degree of correlation with the yield produced by it, this knowledge enables the forecasting of yields of the wheat crop. Although this method of forecasting has its limitations, it affords a better basis of approximation than has heretofore been available.

The Influence of Copper Sprays on the Yield and Composition of Irish Potato Tubers. By F. C. Cook, physiological chemist. Insecticide and Fungicide Laboratory, Miscellaneous Division, Bureau of Chemistry. Pp. 27. April 5, 1923. (Department Bulletin 1146.) Price, 5 cents.

Spraying potatoes with such copper sprays as Bordeaux, Pickering sprays, and barium water sprays not only has the effect of controlling the diseases for which they are applied, but thorough and timely spraying usually greatly increases the yield, influences the composition of the tubers, and increases their keeping qualities in storage.

For many years observers have reported also a stimulating effect of Bordeaux mixture on potato foliage, and a gain in yield even when no diseases were present. The why and how of this effect of copper have been much discussed by scientists, and many ex-

periments have been made. Evidence is presented to show that Bordeaux and other copper sprays increased the starch and nitrogen constituents of the potato tubers, and consequently made them more valuable for food and industrial uses.

The bulletin contains considerable data collected from a number of stations doing experimental work with copper sprays on potatoes, and should be of interest to the plant physiologists and others doing investigational work of this nature. Results obtained in Virginia, Maine, Minnesota, Pennsylvania, New York, Connecticut, and New Jersey showed an average of 2,591 pounds of solids of the tubers per acre for the noncopper-sprayed plants and 3,430 for the copper-sprayed plants, an average increase of 32.4 per cent or 48 bushels, due apparently to the use of copper sprays. The results should furnish additional support to the practice of spraying potatoes.

Inventory of Seeds and Plants Imported. Office of Foreign Seed and Plant Introduction, Bureau of Plant Industry, during the period from April 1 to May 31, 1920. P. 99, pls. 4. March, 1923. (Inventory No. 63; Nos. 49797 to 50647.)

This inventory contains a wide range of products, some suited to the arid Southwest, others to the Central and Eastern States, and still others to Porto Rico, Hawaii, and other tropical dependencies of this country. A soft-seeded variety of Job's tears, now used in the Philippines as a cereal crop, is included. Kafir corns, sorghums, and varieties of grasses sent from Africa by Dr. H. L. Shantz, which will be grown for cultural and comparison tests in this country, with the possibility of securing superior strains of these important crops, are also listed. Some of the trees and shrubs introduced from South Africa will be used in helping to reforest parts of the Hawaiian Islands, and some of them are believed to be suitable for California and Florida. A wild avocado, which is believed by its discoverer, Wilson Popenoe, to be the parent of the cultivated varieties, will probably be valuable as a stock plant on which to graft some of the cultivated varieties, and several other interesting plants are included in the inventory.

Report of the Alaska Agricultural Experiment Stations, 1921. Pp. 58, pls. 12. March, 1923.

This report predicts that as agriculture is developed Alaska will become settled with a permanent population. The first experiment station was established in 1898 at Sitka. Tracts offering special advantages for experiment work were later selected for branch stations, and buildings were erected at Kodiak, Kenai, Rampart, Copper Center, Fairbanks, and Matanuska, in the order named. As Alaska has a territory of widely varying physiographic and climatic conditions, stations were established in regions which seemed representative of these varied conditions.

The report recommends that a hardy breed of domestic cattle other than reindeer be developed in Alaska. Milking Shorthorn cattle, shipped to the Matanuska station from Iowa a year ago, are readily adapting themselves to the region. This region is best suited to mixed farming. All early crops at the Fairbanks station matured, notwithstanding the frost-free period was only 95 days. A hybrid

barley developed at the station matured in 80 days from seed. At the Kodiak station the problem receiving first consideration in experimental work is the production of a utility cow for Alaska.

ADDITIONAL PUBLICATIONS.

Service and Regulatory Announcements. Bureau of Agricultural Economics. No. 73. Official Grain Standards of the United States for Rye. March 29, 1923. Pp. 1-5. April, 1923. Price, 5 cents.

Report of the Guam Agricultural Experiment Station, 1921. Pp. 43, pls. 6. March, 1923.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week April 16-21, 1923. These publications can be obtained only from the stations issuing them.

Facts about College of Agriculture, University of Arkansas. (Arkansas Sta. Bul. 182, pp. 31, figs. 24.)

The Strawberry Tiger Moth. W. J. Baerg. (Arkansas Sta. Bul. 183, pp. 14, pls. 5, figs. 4.)

A self-mixing dusting machine for applying dry insecticides and fungicides. R. E. Smith and J. P. Martin. (California Sta. Bul. 357, pp. 497-505, figs. 3.)

The small-seeded horse bean. P. B. Kennedy. (California Sta. Circ. 257, pp. 23, pl. 1, figs. 14.)

Thinning deciduous fruits. W. P. Tufts. (California Sta. Circ., pp. 13, figs. 5.)

Report of the Guam Agricultural Experiment Station, 1921. (Guam Sta. Rpt. 1921, pp. 43, pls. 6.)

Cattle feeding—Winter steer feeding. J. H. Skinner and F. G. King. (Indiana Sta. Bul. 265, pp. 23.)

Stallion enrollment.—XI. Report of stallion enrollment work for the year 1922, with lists of stallions and jacks enrolled. (Indiana Sta. Circ. 108, pp. 56, fig. 1.)

Indiana flour. (Indiana Sta. Circ. 109, pp. 15, figs. 9.)

Report of the director for the year ending June 30, 1922. (Indiana Sta. Rpt. 35 (1922), pp. 68, figs. 35.)

Self-feeders for swine. J. M. Evvard, J. B. Davidson, and W. A. Foster. (Iowa Sta. Bul. 208, pp. 32, figs. 26.)

Studies in milk secretion.—XVII. Relation between milk yields and butter-fat percentages of the 7-day and 365-day tests of Holstein-Friesian advanced registry cattle. M. S. Gowen and J. W. Gowen. (Maine Sta. Bul. 306, pp. 21-60.)

Sterility relationships in Maine apple varieties. K. Sax. (Maine Sta. Bul. 307, pp. 61-70, fig. 1.)

Commercial fertilizers, 1922. J. M. Bartlett. (Maine Sta. Off. Insp. 105, pp. 45-76.)

Commercial agricultural seeds, 1922—Insecticides and fungicides, 1922. (Maine Sta. Off. Insp. 105, pp. 77-90.)

Spraying Irish potatoes. J. T. Rosa, jr. (Missouri Sta. Bul. 198, pp. 8, figs. 2.)

Cooperative live stock shipping associations in Missouri. R. Loomis. (Missouri Sta. Bul. 199, pp. 10.)

Controlling San Jose scale with lubricating oil emulsion. L. Haseman and K. C. Sullivan. (Missouri Sta. Circ. 109, pp. 4, figs. 2.)

The Missouri colony brooder house. H. L. Kempster. (Missouri Sta. Circ. 110, pp. 2, figs. 3.)

The Nebraska farm family—Some land tenure phases. J. O. Rankin. (Nebraska Sta. Bul. 185, pp. 31, figs. 9.)

Farmers' market bulletin. (North Carolina Sta. Farmers' Market Bul. 10, No. 61, pp. 8.)

Monthly bulletin of the Ohio Agricultural Experiment Station. (Ohio Sta. Mo. Bul. 8, Nos. 1, 2, pp. 32, figs. 9.)

Field peas. G. R. Hyslop. (Oregon Sta. Circ. 34, pp. 2.)

The cherry-fruit fly. A. L. Lovett. (Oregon Sta. Circ. 35, pp. 4, figs. 3.)

The hop red spider. A. L. Lovett. (Oregon Sta. Circ. 36, pp. 4, fig. 1.)

Truck crop investigation—Spraying and dusting vegetable crops in 1922. F. W. Geise, H. H. Zimmerley, and H. Spencer. (Virginia Sta. Bul. 41, pp. 237-256, figs. 9.)

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

Accomplished muskrat trapper. By A. E. Schmidt. Chicago, The author, 1922.

America and world finance. By J. H. Williams, a study prepared for the Economic policy commission, American bankers association. [n. p., 1923?]

Bird biographies. By A. E. Ball. New York, Dodd, Mead and company, 1923.

British journal photographic almanac. 1923. 62d issue. London, 1922.

Challenge of agriculture; the story of the United Farmers of Ontario. Ed. by M. H. Staples. Toronto, G. N. Morang, 1921.

Compendium hymenomycetum. fasc. 7. By Auguste Sartory. Paris, Le François, 1922.

Conférence internationale pour l'organisation de la lutte contre les sauterelles. Actes. Rome, Institut international d'agriculture, 1921.

Documents and their scientific examination. By C. A. Mitchell. London, C. Griffin & company, ltd., 1922.

Effective type-use for advertising. By Benjamin Sherbow. New York, The author, 1922.

Evolution of atoms and isotopes. By W. D. Verschoyle. London, J. J. Keliber & co., ltd., 1922.

Farm bookkeeping. By John Kirkwood. Edinburgh, W. Green & son ltd., 1922.

Food lessons for nutrition classes. By M. S. Rose. New York, 1922. (Teachers college bulletin, 13th ser., no. 11. Technical education bulletin, no. 41.)

Gt. Brit. Ministry of agriculture and fisheries. Committee on agricultural credit. Report. London, 1922.

Guide to serial publications founded prior to 1918 and now or recently current in Boston, Cambridge, and vicinity. pt. 1-2. Ed. by T. J. Homer. Boston, Public Library, 1922.

Guide to the specimens of the horse family (Equidae) exhibited in the Department of zoology, British museum (Natural history) 2d ed. London, 1907.

History of everyday things in England, 1066-1799. By Marjorie and C. H. B. Quennell. London, B. T. Batsford, 1918.

How to use the new agricultural credits act of 1923. By Herbert Myrick. Chicago, Phelps publishing company, 1923.

Insurance against unemployment, with special reference to British and American conditions. By J. L. Cohen. London, P. S. King & son, ltd., 1921.

International eugenics congress. 2d, New York, 1921. Scientific papers. Baltimore, Williams & Wilkins company, 1923.

Manchurian tussore silk. By Norman Shaw. London, C. Odell, ltd. [191-]

Meat inspection. Lanarkshire county sanitary districts. By J. T. Wilson. Lanarkshire. Scot., County council. Glasgow, 1922.

Method for the identification of pure organic compounds. v. 4. By S. P. Mulliken. New York, J. Wiley, 1922.

Montreal. Université. Laboratoire de botanique. Contributions no. 1. Montreal, 1922.

Occasional memoirs. v. 1, no. 1. Chicago entomological society. Chicago, 1900.

Pamphlets and clippings in a business library. By Virginia Fairfax. San Francisco, Journal of electricity and western industry, 1921.

Plant physiology. By V. I. Palladin. Ed. by B. E. Livingston. 2d American ed. Philadelphia, P. Blakiston's son & co., 1923.

Productivity of hill farming. By J. P. Howell. University of Oxford, Institute for research in agricultural economics. London, 1922.

Rural life and education. Rev. ed. By E. P. Cubberley. Boston, Houghton Mifflin company, 1922.

Sewerage and sewage disposal. By Leonard Metcalf and H. P. Eddy. New York, McGraw-Hill book company, inc., 1922.

Skin wools; a manual for the fellmonger and wool user. By K. O. Lefeaux and S. B. Hainsworth. Bradford, Eng., Wool record, limited [192-?]

Standard handbook for electrical engineers. 5th ed. Ed. by F. F. Fowle. New York, McGraw-Hill book company, inc., 1922.

Synthetic resins and their plastics. By Carleton Ellis. New York, Chemical catalog company, inc., 1923.

Text book of filtration. By C. L. Bryden and G. D. Dickey. Easton, Pa., Chemical publishing co., 1923.

Uncle Reuben in Washington. By C. S. Barrett. Washington, D. C., Farmers national publishing company, incorporated, 1923.

Utilisation of whey. Royal agricultural society of England. London, 1923.

Wealth and taxable capacity. By Sir J. C. Stamp. London, P. S. King & son, ltd., 1922.

CURRENT PERIODICALS.

Associated Arizona producer [semimonthly]. Phoenix, Ariz., 1923.

Dairyman's monthly review. Cincinnati, Ohio, 1923.

Fur farmer magazine [monthly]. Seattle, 1923.

Rice [monthly]. Carlisle, Ark., 1922.

Seed tree [monthly]. Albany, N. Y., 1923.

Societas botanicorum Poloniae. Acta [quarterly]. Warszawa, 1923.

Der Tierzüchter [semimonthly]. Berlin, 1922.

Articles in Current Publications By Department Workers

Blake, S. F. (Bur. Plant Industry.) Notes on the North American Species of Limonium. Rhodora. Vol. 25, pp. 55-60. April, 1923.

Fairbank, H. S. (Bur. Public Roads.) Banner Year in Federal Aid Road Work. The Constructor. Vol. 5, pp. 21. April, 1923.

Goldbeck, A. T. (Bur. Public Roads.) What Arlington Investigations are Showing. Highway Engineer and Contractor. Vol. 8, pp. 43. April, 1923.

Heinrich, Carl. (Bur. Entomology.) Revision of the North American Moths of the Subfamily Eucosminae of the Family Olethreutidae. U. S. National Museum. Bulletin No. 123. p. 298, pl. 59, 1923.

MacDonald, Thos. H. (Bur. Public Roads.) Federal Aid in the Development of Highway Transportation. Highway Engineer and Contractor. Vol. 8, p. 61. April, 1923.

Newcomer, E. J. (Bur. Entomology.) Application of Calyx Spray. Better Fruit. Vol. 17, No. 10, pp. 6-19. April, 1923.

Peirce, Vernon M. (Bur. Public Roads.) Developments in the Use of Local Materials. The Canadian Engineer. Vol. 44, p. 401. Apr. 10, 1923.

Shamel, A. D. (Bur. Plant Industry.) Citrus Fruit Improvement Work in Arizona. Citrus Leaves. Vol. 3, No. 4, pp. 1-3. April, 1923.

Smith, Earl B. (Bur. Public Roads.) A New Impact Strain Gage. Engineering & Contracting. Vol. 59, p. 750, Apr. 4, 1923.

Tolley, H. R. & L. M. Church. Bur. Public Roads.) Tractors on Southern Farms. (Continued from February issue.) Automotive Manufacturer. Vol. 64, p. 22, March, 1923.

CIVIL-SERVICE EXAMINATIONS.

The United States Civil Service Commission announces the following examinations:

Statistician.—A vacancy in the Packers and Stockyards Administration will be filled from this examination at a salary of \$3,900 a year. Date of examination, May 22, 1923. The duties of the appointee will be the analysis and interpretation of statistical data relative to the livestock industry. Applicants must have graduated from a college or university of recognized standing, and must have had at least five years' progressive statistical experience. A thesis is required. Applicants should send for Form 2118.

Lay inspector; junior veterinarian.—Vacancies in the Bureau of Animal Industry, in the position of lay inspector, at \$1,080, and junior veterinarian, at \$1,500 a year, will be filled from this examination. The duties of the lay inspector are to assist at slaughterhouses in the inspection of meat and meat-food products. Application Form 304 is required for this examination.

For junior veterinarian applicants must have graduated from a veterinary college of recognized standing or be a senior student in such an institution. Application Form 1312 is required for this examination.

Technical and scientific illustrator in exhibits.—Three vacancies in the Office of Exhibits will be filled from this examination at

salaries of \$1,200 to \$1,800 a year. The duties of the position require that the appointee be able to prepare drawings with pen and ink and with brush from objects, photographs, sketches, and from verbal descriptions. Further information can be obtained from the announcement of the examination. If interested, apply for Form 304.

Livestock market reporter; meat market reporter.—Applications will be rated as received until June 30, 1923. Vacancies in the Bureau of Agricultural Economics for duty in the field will be filled at entrance salaries ranging from \$1,800 to \$2,400 a year. The duties will be to obtain information and prepare reports for publication. Applicants must have graduated from a high school and have had six years' experience, or from a college or university of recognized standing with at least two years' practical experience. A thesis is required. Applicants should send for Form 2118.

PLANS FOR PLUMAS FOREST.

Plans for the management of timber resources on 28,000 acres in the Meadow Valley working circle of the Plumas National Forest, Calif., have been approved by officials of the Forest Service. The stand of timber on this area is estimated at 793,000,000 board feet, consisting of western yellow pine, Jeffrey pine, fir, and cedar.

The approved management plan provides that the area will be cut over twice during the next 100 years. The cutting can be maintained in this area at an average rate of 16,000,000 board feet a year. The annual yield of the working circle for a number of years has already been contracted for and the harvesting of the mature timber is under way.

GOOD RESULTS FROM ANTIRAT CAMPAIGN.

A summary of reports to the Biological Survey from 71 county leaders in the recent Virginia antirat campaign reveals an estimated total of more than 600,000 rats killed in one week. Although the campaign was distinctly a poisoning campaign, contests for the largest number of rat-tails turned in through the schools were carried on in most of the counties. Altogether 91,365 rat-tails were submitted for prizes by actual count, and in addition more than 500,000 rats were reported destroyed by the use of baits poisoned with the 44,198 pounds of barium carbonate distributed throughout the State.

RATTLESNAKE DEALERS, ATTENTION!

Letters requesting the names of dealers in live rattlesnakes, rattlesnake skins, and rattlesnake oil are rather frequently received by the Bureau of Biological Survey. If anyone knows of a market for such things, the bureau would like to obtain a list of dealers and the present market quotations.

MAY 1923



THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

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EXTENSION DIRECTORS CONFERRING ON PLANS

Discussing Cooperative Problems and Policies With Department Workers.

Many phases of cooperative extension work are now being discussed by extension directors from all over the United States who are coming to Washington for that purpose. State extension work is discussed in this way with the office of cooperative extension work of the States Relations Service each year, so that budgets and policies for the coming fiscal year may be formulated July 1. Problems brought up at this time are those connected with the requirements of the individual States. The directors will visit the offices of the various bureaus of the department to study the results of recent investigations and obtain other material available which will be helpful in carrying on the lines of work to be given attention in their territories during the coming year while in the city.

Many Conferences in May.

It is expected that Assistant Director K. L. Hatch, of Wisconsin, Director Thomas Bradlee, of Vermont, Director T. O. Walton, of Texas, Director H. C. Ramsower, of Ohio, Director R. S. Wilson, of Mississippi, and Director G. I. Christie, of Indiana, will spend the week of May 7 in such conferences with the States Relations Service and other department bureaus; Director F. W. Peck, of Minnesota, plans to be here May 9-14; Director Roud McCann, of Colorado, May 10-16; Director W. H. Brokaw of Nebraska, probably about May 20; Vice Director A. P. Spencer, of Florida, Director J. C. Kendall, of New Hampshire, Assistant Director, T. R. Bryant, of Kentucky, and Director J. D. Willard, of Massachusetts, about May 21-26; Director L. W. Fluharty, of Idaho, May 24-30; Director R. K. Bliss, of Iowa, Director H. J. C. Umberger, of Kansas, Director P. V.

Maris, of Oregon, Director R. J. Evaus, of Utah, Director C. W. Creel, of Nevada, Director G. W. Randlett, of North Dakota, and Director S. B. Nelson, of Washington, the week of May 28; Director C. F. Monroe, of New Mexico, will probably be here May 29-June 5; Director R. J. Baldwin, of Michigan, and Prof. Montgomery Robinson, of the New York extension service also will be in Washington during May. Director A. E. Stene, of Rhode Island, and Director J. Phil Campbell, of Georgia, plan to reach the department June 1 for a six-days' visit. Director M. T. Payne, of Arkansas, will be in Washington June 4-10, and Director W. R. Perkins, of Louisiana, will spend the week of June 11 here. The time of arrival of representatives of other State extension services has not yet been determined. Director E. A. Miller, of Oklahoma, Director F. S. Cooley, of Montana, and Director H. J. Baker, who goes to New Jersey June 1, visited the department during April and the early part of May.

EXTENSION COMMITTEE MEETS.

Meetings of the committee on extension organization and policy of the Association of Land-Grant Colleges are being held this week at the Hotel Harrington. Director H. C. Ramsower, of Ohio, secretary of the subsection of extension of the Association of Land-Grant Colleges, will meet with the committee. G. I. Christie, of Indiana, is chairman of this committee, and the other members are: T. O. Walton, Texas; B. H. Crocheron, California; T. B. Symons, Maryland; Thomas Bradlee, Vermont; K. L. Hatch, Wisconsin; and R. S. Wilson, Mississippi.

Plans for a conference on flag smut to be held at Springfield, Ill., soon after the middle of this month are now being made. This conference will be attended by representatives of the Bureau of Plant Industry, the Federal Horticultural Board, and State workers in Illinois and Missouri.

LIVE-STOCK FEEDING CAMPAIGN IS OPENED

Department Offers New Service to Farmers with Special Feeding Problems.

Information on up-to-date feeding methods will be brought to the attention of every live-stock feeder in the country, and individual assistance will be offered farmers having special and difficult feeding problems through the "Better feeding for live-stock" campaign just announced by the Bureau of Animal Industry. The individual service will be extended through cooperation with State agricultural colleges, county extension agents, and other agencies.

Will Feature "Feeding-Problem Sheet."

The plans of the department are designed to render definite service to those who ask for feeding help and also bring a knowledge of better feeding methods to many who would not make inquiries. One of the principal features of this service will be a "Feeding-problem sheet," which farmers may obtain from their county agents, State agricultural colleges, or direct from the department at Washington. On the feeding-problem sheet the farmer outlines his problem briefly and describes his stock and available feeds. The sheet is designed to enable the farmer to give sufficient information in brief form to make additional correspondence unnecessary. The farmer then refers the sheet to his county agent, who makes a recommendation. When the sheet reaches the department a live-stock feeding specialist will study the problem and make suitable reply.

In addition to this a vest-pocket-size handbook, entitled "A handbook for the better feeding of livestock," is being prepared by department feeding specialists for free distribution to farmers who desire a handy sized set of simple rules

and reference tables to be followed in feeding the different classes of farm animals. Requirements of animals, simple analyses of feeds, feeds to substitute for other feeds, and simple feeding instructions will enable farmers to understand the principles of better feeding and fit their own practice to suit the conditions on their farms.

In order to accomplish the most good, a drive for nation-wide better feeding of livestock must have the cooperation of all persons interested in the subject. Summaries of the progress of the work will be published to keep those interested informed, and suggestions, criticisms, and comments will be welcomed.

Dr. M. A. Jull to Take Charge of Poultry Work of B. A. I.

Dr. Morley A. Jull has been appointed in charge of the poultry office of the Animal Husbandry Division of the Bureau of Animal Industry, effective July 1. Doctor Jull will fill the position formerly occupied by H. M. Lamon. Doctor Jull has been in charge of the poultry work of the British Columbia Department of Agriculture, and has also served as manager and lecturer of the poultry department of MacDonal College at McGill University. Since 1919 he has been taking special studies at the University of Wisconsin under Dr. Leon J. Cole, recently appointed to take charge of the Division of Animal Industry.

Doctor Jull is a graduate of Toronto University and has completed all the requirements for a Ph. D. degree at MacDonal College, and will receive the degree in June of this year. He is the author of a number of bulletins and articles on subjects connected with the production of poultry. His training and experience especially qualify him to take charge of the enlarged program of poultry-breeding work that is under way.

Dr. F. P. Veitch, of the Bureau of Chemistry, has made arrangements with large growers of tobacco in Connecticut for cooperative experiments for extending the life of tobacco shade cloth. Doctor Veitch is planning to conduct extensive experiments on the preservative treatment of tobacco shade cloth during the current season. Shade cloth now lasts but a year, being greatly deteriorated by exposure to the weather in summer and through mildewing after it is stored away in the fall. It is hoped by the proper preservative treatment to double the life and thus to cut nearly in half the cost of shade cloth to the growers of tobacco.

Chemistry to Hold Conference on Food and Drugs Act Work

A joint conference of the field employees of the eastern, central, and western food and drug inspection districts of the Bureau of Chemistry and of the staff laboratories in Washington will be held at chemistry headquarters from May 21 to 26, inclusive, to consider and to formulate plans for next year's work in enforcing the food and drugs act.

A comprehensive program has been arranged for the week in which the morning hours are devoted to a consideration of different phases of regulatory projects of the bureau as a whole, while during the afternoons the three districts will hold separate meetings to consider problems applicable to their particular territories.

The subjects to be considered include: May 21, "The relative importance of regulatory projects," "A simplified project procedure," "Production of maximum results in the most economical way"; May 22, "Coordination and cooperation between districts," "A new aspect of cooperation," "Plans for drug control," "Imports"; May 23, "Moisture and weight of flour," "The analysis of jams and jellies."

On May 24 Messrs. O'Donnell, Cronin, and Silloway, of the solicitor's office, will deliver talks on "The preparation and presentation of cases," followed by discussions of "The method of reporting laboratory evidence" and "Uniform and representative methods of sampling."

Judge W. W. Warwick, chairman of the personnel classification board, will deliver an address on "Reclassification" on May 25. "Information cards" and "The selection and training of analysts and inspectors" will also be discussed, and the meeting will close with a talk on "What the accounting office is doing for the field force."

A dinner will be given by the Bureau of Chemistry May 22, during the conference held here at that time.

GENETICS CONFERENCE HELD.

That the best use of the present-day knowledge of genetics in relation to cattle breeding is not being made at the present time was brought out at the conference on inheritance and breeding of cattle, held in Washington April 27 and 28, under the joint auspices of the National Research Council and the Department of Agriculture. The reason for this was found to be incomplete and

inadequate records and the lack of standardization of methods.

In order to make fuller use of the information already brought out and put it into more available form, the conference decided to appoint a number of special committees to study certain problems and report at a subsequent meeting. The committees will work on the following subjects:

1. Formulation of a genetic program in cattle breeding.
2. Standardization of methods in general record keeping and management practices.
3. Standardization of methods for correction for age and of taking measurements, photographs, and other kinds of data.

Those present at the conference were: Dr. F. R. Lillie, University of Chicago, chairman of division of biology and agriculture of the National Research Council; from the Department of Agriculture—Dr. E. D. Ball, director of scientific work; Dr. J. R. Mohler, chief of the Bureau of Animal Industry; E. W. Sheets and Dr. Sewall Wright, Animal Husbandry Division; R. R. Graves and Dr. E. B. Meigs, Dairy Division; from State experiment stations—Dr. J. W. Gowen, Maine; Prof. W. W. Yapp, Illinois; Dr. C. H. Eckles, Minnesota; and Dr. L. J. Cole, Wisconsin, recently appointed chief of the Division of Animal Husbandry, chairman.

INTEREST IN FARM MANAGEMENT.

Some of the more outstanding developments of farm-management extension work in New York, according to H. M. Dixon, who has just returned from Rhode Island and New York are: The special farm-management service work for which farmers pay \$10 to \$15 per year and in return get a farm-layout map, a building layout map, and suggested improvements for their farm business; increased attention to enterprise-cost work; correspondence course for farmers in farm management; increased use of farm-management tours. Last year 11 tours, attended by 2,751 farmers, were conducted. This year application has been made by the county agents for 25 tours.

Tentative grades for table eggs have been proposed by the Dairy and Poultry Division of the Bureau of Agricultural Economics. Mimeographed specifications provide for five grades of eggs of sound, clean shells; two grades for eggs with sound, dirty shells and one grade for cracked eggs.

Forest Service Does Business of About \$4,500,000 Yearly

The income from business done by the Forest Service during a normal fiscal year amounts to approximately \$4,500,000, though this figure is a little under the average yearly income derived from this source. It appears quite certain that receipts for the current year will at least equal the general average.

The fiscal records of past years indicate the receipts from the sale of timber and for grazing privileges to be about a stand-off, both classes netting around two and one-quarter million dollars annually. Special-use privileges on the forests, which are issued for summer homes, resorts, pastures, apiaries, and other similar purposes, return approximately \$175,000 to the Treasury each year, while water-power permits net around \$100,000.

Practically the entire receipts from timber activities result from commercial sales, there being only \$20,000, in round figures, received from actual cost sales, which sales are made settlers when timber is desired by them for their own consumption. Turpentine operations on the forests produce between ten and fifteen thousand dollars annually, and an amount perhaps a little smaller accrues by reason of timber-settlement cases.

The grazing receipts are subdivided according to two main classes, namely, cattle-horses-swine and sheep-goats, the first class accounting for approximately two-thirds of the total grazing revenue. Goats produce only about \$9,000 annually in grazing fees and swine around \$1,000. By far the bulk of the grazing fees are derived from the grazing of cattle and sheep on the forest ranges.

STUDY LITTLE USED TIMBER.

Throughout the United States there are many species of trees which for various reasons are regarded as of little value, although the aggregate quantity of these species is large. In determining how these may be used by industry the Forest Products Laboratory, at Madison, Wis., is assembling and analyzing the information on the species, finding the needs and requirements of the wood-using industries with respect to quantities and qualities desired, wood properties, and sizes, and then correlating this data.

The results of this study will reduce the drain on the fast diminishing species and distribute it among others equally suitable, effect closer and more complete woods' utilization, decrease the waste of

by-products, and encourage the practice of forestry.

For the present work will be concentrated on such woods as the true firs, western hemlock, western junipers, aspen, and the Lake States paper birch.

SUGAR FROM OAT HULLS.

Sugar can be obtained in large quantities in the hydrolysis of oat hulls, so Forest Products Laboratory experiment showed, but they can not be fermented to alcohol. This was a disappointment to the oatmeal company which had hoped to utilize a by-product, and incidentally confirms the belief of the laboratory that most of the cellulosic materials which are counted on by the statistical writers as a source of alcohol are not suitable for this purpose, because they produce mostly the unfermentable pentose sugars. Apparently the coniferous woods will be found to be the main source of supply of cellulose for the manufacture of alcohol.

RECORD TREE ACREAGE PLANTED.

All records in the number of acres planted to trees on the national forests of the Rocky Mountain district during any single year were broken in 1922, when plantings covered 4,115 acres.

The largest single planting operation in this district was in the Minnesota National Forest, where a total of 1,635 acres was planted to red pine and 95 acres to white pine. The total number of acres in this forest that has been reforested now stands at 5,606, of which 4,808 acres has passed through one or more growing seasons. Approximately 6,000 acres remains to be reforested, and it is expected the work will be completed in 1928.

APPROVES ARIZONA HIGHWAY.

Expenditures totaling \$70,000 of national forest highway funds for the construction of drainage structures in connection with the improvement of a road through the Coconino National Forest of Arizona have just been approved by Secretary Wallace. This money was made available for roads serving the national forests and for roads within or adjacent to the forests which are of primary importance to the State, counties, and communities.

The proposed work on drainage structures is a preliminary step in the improvement of the Flagstaff-Angel road

through the Coconino Forest. The project embraces nearly 24 miles of highway, with Flagstaff as its western terminus.

STUDY ELECTRIC WOOD SEASONING.

Seasoning wood by passing mild electric currents through it is being investigated by the forest products laboratory at Madison, Wis. It is alleged that by one such process wood not only loses moisture but acquires remarkable tenacity and is not subject to rot. The practice has been used to considerable extent abroad. The work done by the laboratory indicates that the claims made for such processes are in general overdrawn.

DEPARTMENT SLIDE COMMITTEE.

A special committee to act on the question of central reference files of department pictures and make definite recommendations concerning lantern slides has been appointed by the Assistant Secretary, consisting of Dr. A. C. True, States Relations Service, chairman; Dr. John R. Mohler, Bureau of Animal Industry; E. A. Carter, Forest Service; and F. M. Russell, Press Service.

The States Relations Service maintains a loan collection of 50,000 lantern slides. The slides are assembled in 62 series of various agricultural and home economics subjects, and have been prepared in cooperation with the subject matter bureaus of the department. One of the problems to be considered by the committee will be the advisability of drawing the plans which will give the slide material the approval of the department, as is the case at the present time with motion pictures, the advisability of broadening the field to which slides may be made available, and the best methods of handling slides will be considered by the committee.

The committee will consider also the advisability of establishing a central reference file of a certain number of department pictures for ready reference use in the preparation of lantern slides, illustrations for bulletins, and publications for the use of the press and to meet individual requests.

Plans for permanent logging operations on 45,000 acres in the Owens River—Mono Lake working circle of the Inyo and Mono National Forests—have been approved by the Forest Service. The area involved contains a stand of timber estimated at 560,000,000 board feet, mostly Jeffry pine, lodgepole pine, and fir.



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OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

(Mr. Pugsley, Acting Secretary.)

Extracts from appropriation acts for 1924 (other than the Agricultural appropriation act) and other acts and resolutions passed by the Sixty-seventh Congress (third session), which relate either directly or indirectly to the Department of Agriculture, or which may be of general interest to employees.

MEMORANDUM No. 431—April 13, 1923.—The attention of officials and employees of the Department of Agriculture is invited to the following provisions of a general nature which are included in the several acts and resolutions indicated:

- Act to provide a method for the settlement of claims arising against the Government of the United States in sums not exceeding \$1,000 in any one case, approved December 28, 1922 (Public No. 375).
- Act making appropriations for the Departments of State and Justice and for the judiciary for the fiscal year ending June 30, 1924, and for other purposes, approved January 3, 1923 (Public No. 377).
International Institute of Agriculture at Rome, Italy.
- Act making appropriations for the Treasury Department for the fiscal year ending June 30, 1924, and for other purposes, approved January 3, 1923 (Public No. 378).
Transfer of office material, supplies, and equipment in the District of Columbia; restrictions on the purchase, sale, or exchange of typewriting machines; regulation of propagation and sale of biologic products.
- Act making appropriations for the Departments of Commerce and Labor for the fiscal year ending June 30, 1924, and for other purposes, approved January 5, 1923 (Public No. 380).
Testing supplies and materials for Government; development of color standards; development of standards of textiles, paper, leather, and rubber; standardization and design of sugar-testing apparatus and development of technical specifications for various grades of sugar; transfer of funds to Bureau of Standards; inquiry respecting food fishes.
- Act making appropriations to supply deficiencies in certain appropriations for the fiscal year ending June 30, 1923, and prior fiscal years, to provide supplemental appropriations for the fiscal year ending June 30, 1923, and for other purposes, approved January 22, 1923 (Public No. 385).
Appropriation for motor boat for Forest Service; extending the availability of appropriation for insect infestations; additional appropriation for eradication of pink bollworm; additional appropriation for cooperative construction of rural post roads; International Seismological Association.
- Act making appropriations for the Department of Interior for the fiscal year ending June 30, 1924, and for other purposes, approved January 24, 1923 (Public No. 395).
Protection of game in Alaska; restoration of lands in forest reserves; suppressing con-

tagious diseases among livestock of Indians; payment of accounts of Government fuel yard; transfer of funds to Bureau of Mines.

Act making appropriations for the Executive Office and sundry independent executive bureaus, boards, commissions, and offices for the fiscal year ending June 30, 1924, and for other purposes, approved February 13, 1923 (Public No. 409).

Details to Civil Service Commission; international exchanges; international catalogue of scientific literature.

Act providing for the acquisition by the United States of privately owned lands situated within certain townships in the Lincoln National Forest, in the State of New Mexico, by exchanging therefor lands on the public domain also within such State, approved February 14, 1923 (Public No. 411).

Act making appropriations for the legislative branch of the Government for the fiscal year ending June 30, 1924, and for other purposes, approved February 20, 1923 (Public No. 431).

Payment for printing; estimates for printing and binding; discontinuance of printing of annual reports.

Act to amend sections 2, 5, 11, 12, 15, 19, 29, and 30 of the United States warehouse act, approved August 11, 1916, approved February 23, 1923 (Public No. 436).

Act defining the crop failure in the production of wheat, rye, or oats by those who borrowed money from the Government of the United States in the years 1918 and 1919 for the purchase of wheat, rye, or oats for seed, and for other purposes, approved February 26, 1923 (Public No. 447).

Act extending the time for payment of charges due on reclamation projects, and for other purposes, approved February 28, 1923 (Public No. 454).

Act establishing standard grades of naval stores, preventing deception in transactions in naval stores, regulating traffic therein, and for other purposes, approved March 3, 1923 (Public No. 478).

Act for the relief of certain homestead entrymen, approved March 4, 1923 (Public, No. 496).

Act to provide additional credit facilities for the agricultural and live-stock industries of the United States; to amend the Federal farm loan act; to amend the Federal reserve act; and for other purposes, approved March 4, 1922 (Public, No. 503).

Act to prohibit the shipment of filled milk in interstate or foreign commerce, approved March 4, 1923 (Public No. 513).

Act to provide for the classification of civilian positions within the District of Columbia and in the field services, approved March 4, 1923 (Public, No. 516).

Act to define butter and to provide a standard therefor, approved March 4, 1923 (Public, No. 519).

Act to preserve the status of persons awarded compensation under the act approved September 17, 1916, approved March 4, 1923 (Public, No. 537).

Act to establish and promote the use of the official cotton standards of the United States in interstate and foreign commerce; to prevent deception therein and provide for the proper application of such standards; and for other purposes, approved March 4, 1923 (Public, No. 539).

Act making appropriations to supply deficiencies in certain appropriations for the fiscal year ending June 30, 1923, and prior fiscal years, to provide supplemental appropriations for the fiscal year ending June 30, 1924, and for other purposes, approved March 4, 1923 (Public No. 543).

Additional appropriation for white-pine blister rust; additional appropriation for fighting and preventing forest fires; additional appropriation for protection of Oregon and California railroad lands; collection of seed-grain loans; additional appropriation for Japanese beetle; control of boll weevil by airplane; investigating sources of creude rubber.

Act making appropriations to provide additional compensation for certain civilian employees of the Government of the United States and the District of Columbia during the fiscal year ending June 30, 1924, approved March 4, 1923 (Public, No. 544).

Joint resolution authorizing the acceptance of title to certain land within the Shasta National Forest, California, approved February 13, 1923 (Public Res. No. 90).

Joint resolution proposing payment to certain employees of the United States, approved March 3, 1923 (Public Res. No. 99).

Joint resolution to amend the resolution of December 29, 1920, entitled "Joint resolution to create a joint committee on the re-

organization of the administrative branch of the Government," approved March 4, 1923 (Public Res. No. 100).

Joint resolution permitting the entry free of duty of certain domestic animals which have crossed the boundary line into foreign countries, approved March 4, 1923 (Public Res. No. 101).

Joint resolution to provide an additional appropriation for the Federal Farm Loan Board for the fiscal year 1924, approved March 4, 1923 (Public Res. No. 104).

B. A. I. ARTICLES IN MANY LANGUAGES.

The information sent out by the United States Department of Agriculture of interest to farmers is often given wide publicity in many languages, both in the United States and abroad. An idea of the amount and nature of this publicity is shown by the fact that during the month of November, 1922, news articles relating to the work of the Bureau of Animal Industry were printed in at least 140 different issues of newspapers printed in foreign languages in the United States. Nearly 90 newspapers, printed in 10 different foreign languages, contained these articles.

Articles relating to the poultry and dairy industries seem to be particularly popular with these newspapers. An article about poultry was printed in 28 Italian, 1 Norwegian, 2 Danish, and 4 Russian newspapers in this country.

Forty-one clippings were received from Italian newspapers during the month of November; 25 from German newspapers; and 23 from Czecho-Slovak newspapers.

RANGE CAMPAIGN BEGUN.

A campaign to reduce range-cattle losses has been undertaken by the department. A study of the cost of producing range cattle on 75 cattle ranches in Colorado is being made to develop facts which may be applicable to the entire range industry. The program also includes a study and analysis of each phase of the business. Ranchmen are being urged to reduce their general overhead by economy in cost equipment and maintenance and supervision and operation. The raising of a sufficiently large number of offspring to minimize overhead is also important. Ranchmen are being urged to produce cattle which possess early maturing and fattening ability. Purchase of high-quality feed without waste, at the lowest available prices, is given as another factor of importance. Marketing of cattle at the smallest possible selling cost is also urged, as well as the advisability of planning herds to meet conditions of grass and market demands. Systematic reading of the best business and trade publications obtainable is also urged.

U. S. D. A. CLUB ACTIVITIES

ST. JOSEPH CLUB.

The Contact Club of St. Joseph was entertained Friday evening by Dr. and Mrs. D. R. Gillies at their residence, 214 Indiana Avenue. It was the occasion of the club's regular monthly meeting.

About 10 members and friends were present. The principal speaker was Dr. H. J. Ravold, who gave an illustrated lecture on the diagnosis and therapeutic uses of X-ray and radium. He described the possibilities of diagnosis of not only the bones but of the brain, lungs, heart, and kidneys. The uses of the X-ray and radium in the treatment of cancer were given, and Doctor Ravold told how many more cases are now being cured by these means.

Following Doctor Ravold's talk refreshments were served, after which the club held its annual election of officers. W. S. Belden, weather observer, succeeded Dr. D. R. Gillies as president; Dr. H. R. McNalley, of the Bureau of Animal Industry, succeeded Mr. Belden as vice president; I. W. Pew, of the Bureau of Agricultural Economics, was reelected secretary; Dr. H. J. Hoyman, of the Bureau of Animal Industry, treasurer; and Guy Q. McDaniel, county farm agent, was made publicity chairman.

Doctor Gillies, the retiring president, made an appropriate address to the club, reviewing for the benefit of those who had not attended previous meetings the activities of the club since its organization two years ago. All members have been greatly benefited by these monthly get-togethers, in which representatives of the various activities of the Department of Agriculture represented here have an opportunity to discuss the various phases of their respective undertakings, giving all a wider knowledge of the problems met by their coworkers.

Dr. B. F. Mann was a guest of the club.

TALK ON ENGLISH WOMEN'S INSTITUTES.

The work of the women's institutes of England was described by Miss Minnie Zimmerman, a visitor to the department, at a conference of department extension workers held in the office of cooperative extension work, States Relations Service, May 1. Miss Zimmerman, who is president of the Loughton Women's Institute in Essex, is interested in extension work among women.

The women's institutes were started in 1915 in England to aid food conservation during the war through classes teaching

the canning and preserving of foods. The institutes now maintain over 2,000 branches teaching various home industries. In the beginning the Government offered to pay half of the expenses of the work, but it is understood that this support will later be withdrawn. The institutes themselves raise the remainder of the money necessary to conduct the work. Every member is charged a fee of 2 shillings a year, out of which sixpence is kept by the local institute and threepence is passed to the national federation. An additional charge is made for instruction in the classes. The making of a number of articles from leather, cane, raffia, and rush is taught as well as millinery, upholstering, umbrella covering, and similar industries.

The regular meetings of the institute are social, the classes being held separately at different times. A permanent meeting place or hall is either owned or rented by the organization. The membership of the institutes is steadily increasing, and with very few exceptions the members remain in the work from year to year.

FOREST SERVICE HOLDS SMOKER.

A Forest Service smoker was held April 19 at the University Club. In addition to the Forest Service representatives, several officials of the Interior Department were present, as well as several members of the Department of Agriculture connected with other bureaus. It is intended to make this smoker an annual affair.

BUSINESS ASSOCIATION AT WICHITA.

Representatives of Government departments in Wichita, Kans., have recently organized an association which will meet at the call of the president to discuss local problems of Government business. The organization has been made in the interests of economy and efficiency in Government. Each department head is instructed to cooperate with other departments in procuring, transferring, and disposal of supplies and equipment. The association will meet in the offices of various department heads.

BARBERRY ERADICATION CONFERENCE.

Dr. C. R. Ball, of the Bureau of Plant Industry, returned April 30 from Urbana, Ill., with enthusiastic accounts of the barberry eradication conference held there from April 23 to 25, inclusive.

Leaders from all the interested States were present.

The presentation of the work of the forces employed on rust epidemiology and on the chemical study of barberry eradication made the program complete and brought every man connected with it into full touch with the results obtained in all other divisions of the enterprise.

Only three representatives of cooperating State agencies were present, namely, Prof. L. R. Taft, State horticulturist, East Lansing, Mich.; Hon. Frank M. Byrne, commissioner of agriculture of South Dakota; and P. A. Glenn, chief plant inspector of the Illinois State Department of Agriculture.

The conference for the prevention of grain rust was represented by Secretary Harrison Fuller and Vice President Franklin Crosby.

At the banquet on Tuesday night, April 24, addresses were made by Franklin Crosby, Harrison Fuller, and Dr. E. C. Stakman.

The department of agronomy of the University of Illinois was a splendid host for the conference, furnishing every facility for the meeting and treating the members to an automobile trip over the campus and the experiment station grounds on the afternoon of the last day.

READING COURSES ANNOUNCED.

The Bureau of Education of the Department of the Interior has recently prepared a number of reading courses on various subjects, some of which would be of interest to workers in the Department of Agriculture. A course must be completed within three years of the date of enrollment. The reader is required to notify the bureau at the time each book is begun and send a summary upon its completion. Certificates are awarded to readers who complete one or more of the courses. Enrollment blanks should be filled out at the beginning of the reading course, and a list of test questions will be forwarded to the reader when the book is completed. The range of courses is very broad, including such subjects as shipbuilding, navigation, foreign trade, Dante, historical and biological subjects, books for parents, teaching, and agriculture and country life. The course in agriculture and country life was prepared in conjunction with Prof. T. N. Carver, of Harvard University, and Prof. C. E. Ladd, of Cornell.

Further information should be requested of the Bureau of Education of the Department of the Interior.

**PEOPLE MENTIONED
IN OFFICIAL ORDERS**

Secretary Wallace attended the meeting of the Agricultural Editors' Association held at Cincinnati Monday, and addressed them Monday night.

The Assistant Secretary, Mr. Pugsley, will address the meeting of the Central States extension directors and workers May 16. This conference will be held at the Hotel Sherman, in Chicago. The States included in the conference are: North and South Dakota, Nebraska, Kansas, Minnesota, Wisconsin, Iowa, Missouri, Illinois, Michigan, Indiana, Ohio, and Kentucky.

Dr. H. C. Taylor will speak on "Objectives in extension work in agricultural economics" at the cooperative extension conference to be held at the Hotel Sherman, Chicago, May 16. Others from the same bureau who will attend are: R. H. Wilcox, H. R. Tolley, O. A. Juve, and J. W. Tapp.

C. R. Chambers, of the Bureau of Agricultural Economics, is in Iowa initiating a survey of conditions influencing land values in the Corn Belt, with particular reference to the effect of various classes of roads. The work is being done in cooperation with the Bureau of Public Roads.

Louis G. Michael, of the Bureau of Agricultural Economics, spoke on the new land policy of the Balkans and Russia at the meeting of the Land Economics Round Table, May 1.

W. S. Frisbie and Dr. Charles Thom, of the Bureau of Chemistry Microbiological Laboratory of the bureau, attended the seventh annual convention of the South Central States Food, Feed, and Drug Officials Association, in joint meeting with the Central States Association at Louisville, Ky., May 1 to 4.

Edgar W. Woolard, of the Weather Bureau, will attend a meeting of the Maryland-Virginia-District of Columbia section of the Mathematical Association of America at Baltimore May 12.

C. H. Purcell, of the Bureau of Public Roads, attended a meeting of the Chamber of Commerce of Marshfield, Oreg., May 2, and gave an address on Federal cooperation.

Dr. F. C. Blanck and P. L. Gowen, of the Bureau of Chemistry, attended the Tri-State Packers' Association convention in Baltimore May 3 and 4.

E. A. Goldman, of the Biological Survey, who has been in the field since early in March investigating winter game conditions on ranges and other matters concerning game, returned to Washington April 25. These investigations were made in cooperation with the Forest Service and National Park Service in Arizona and Oklahoma.

Smith Riley, in charge of the game and bird reservations of the Biological Survey, has just returned to Washington after a three months' trip in the West inspecting reservations and attending to matters pertaining to game on national forests. Two features of the reservation work given particular attention were protection of the game from predatory animals and plans for the disposition of animals in excess of the number which the lands inclosed will support.

A. V. Swarthout, of the Bureau of Agricultural Economics, left Washington May 6

for Toledo, Chicago, Madison, Minneapolis, and El Dorado, Kans., where he will investigate matters relative to costs of marketing studies. He gave an address before the State convention of Kansas retail butchers May 8.

W. C. Davis, of the Bureau of Agricultural Economics, left April 29 for New York City to establish the meat and meat-food products grading service for the laid-up fleet of the United States Shipping Board. Before returning to Washington Mr. Davis will also visit Norfolk, Va., for the same purpose.

O. E. Williams, of the Bureau of Animal Industry, attended a convention of the South Central States Food, Feed, and Drug Officials' Association, held May 2 in Louisville, Ky., where he read a paper on "The manufacture of ice cream."

E. W. McComas, of the Bureau of Animal Industry, is in attendance at the Southeastern Pure Food Show at Greenville, S. C., where he had charge of the installation and demonstration of the department's exhibit.

Arthur Upson, of the Forest Products Laboratory at Madison, Wis., attended the meeting of the Northern Hemlock and Hardwood Manufacturers' Association at Milwaukee May 2, where he gave an address.

C. F. Swingle, Bureau of Plant Industry, left Washington April 18 for South Haven, Mich., to conduct nursery stock investigations.

Prof. William Stuart, Bureau of Plant Industry, left Washington April 20 for Baton Rouge, La.; College Station and Troup, Tex.; Stillwater, Okla.; and Fayetteville, Ark., for the purpose of conducting Irish potato investigations.

Walter M. Peacock, Bureau of Plant Industry, left Washington April 26 for New Haven and Highwood, Conn., for the purpose of conducting Irish potato investigations and superintending the planting of experimental seed stock.

A. F. Sievers, of the Bureau of Plant Industry, attended the convention of the American Oil Chemists' Society at Hot Springs, Ark., April 20 to May 2, to consult with oil technologists.

D. L. Yarnell, of the Bureau of Public Roads, gave an address before the joint meeting of the Iowa section of the American Society of Civil Engineers and the Iowa Engineering Society May 3 at Sioux City, Iowa.

O. S. Fisher, States Relations Service, visited Kingston, R. I., May 1-2, and Storrs, Conn., May 3-5, for the purpose of conferring with State supervisors of cooperative extension work regarding methods of conducting agronomy demonstration work.

Representatives of the Biological Survey authorized to attend the Fourth Annual Sportsmen's and Tourists' Fair, at Spokane, Wash., May 22-25, are Ray C. Steele, United States game warden, of Portland, Oreg.; George Tonkin, United States game warden, of Baker, Oreg.; George E. Mushbach, United States game warden, of Billings, Mont.; Dr. Glenn R. Bach, predatory animal inspector, of Olympia, Wash.; and Leo K. Crouch, biological assistant, of Olympia, Wash.

Frederick C. Lincoln, assistant biologist of the Biological Survey, addressed a special meeting of the Linnaean Society of New York April 24. This meeting, held at the American Museum of Natural History, was called by the

society for the purpose of promoting investigations of birds in the Middle Atlantic States by means of the banding method.

VISITORS TO DEPARTMENT.

Kan Matsushima, of the South Manchuria Railway agricultural experiment station, Kungchuling, Manchuria, visited the States Relations Service April 30 to obtain information regarding Federal and State methods of conducting agricultural research in the United States. In this connection he plans to visit the State experiment stations in Ohio, Indiana, Illinois, Kansas, California, Oregon, Washington, Idaho, Montana, North Dakota, Minnesota, Wisconsin, and Michigan.

DOCTOR NELSON RETURNS FROM FLORIDA.

Dr. E. W. Nelson, Chief of the Biological Survey, returned to Washington on April 17 after several weeks spent in Florida. During his stay in that State Doctor Nelson made a cruise in the migratory-bird patrol boat *Swan* through the inland waters of eastern Florida to the Florida Keys, thence up the west coast to Charlotte Harbor and the Caloosahatchee River to Lake Okechobee, which was crossed, and thence to Okechobee City, where the trip came to an end. This and other trips in the State gave opportunity for visiting nearly all of the Federal bird reservations in Florida and to become familiar with the wild-life conditions over much territory which had not previously been visited.

On one of the Federal bird reservations, the Indian Key, near the mouth of Tampa Bay, many thousand birds of several species are nesting, making it one of the most populous breeding resorts of wild fowl under the jurisdiction of the Federal Government.

MR. ZON TO EDIT FORESTRY JOURNAL.

Raphael Zon, of the Forest Service, has been elected to succeed the late Dr. Bernard E. Fernow, of Toronto, as editor in chief of the Journal of Forestry. He has been acting as managing editor since 1914, when the Forestry Quarterly and the Proceedings of the Society of American Foresters were consolidated in the Journal of Forestry.

R. D. Kennedy, inspector of the Federal Horticultural Board in Washington, D. C., recently collected what appears to be *Aspidiotus cryptoxanthus*, Ckll., on walnut cuttings and *Lepidosaphes flava* var. *hawaiiensis* (Mask.), on chestnut cuttings from Shantung, China. Neither of these coccids are known to occur in the United States.

BRIEF REVIEWS OF NEW BULLETINS.

Feeding Habits of the Japanese Beetle which Influence its Control. By Loren B. Smith, entomologist, Deciduous Fruit Insect Investigations, Bureau of Entomology. Pp. 12, figs. 3. April 30, 1923. (Department Bulletin 1154.) Price, 5 cents.

One of the difficulties in controlling the Japanese beetle is the fact that arsenicals applied to the food plants of this insect only kill a small number of the beetles. The reason for this is that Japanese beetles attack as many as 210 species of plants, among which 20 to 25 species are severely injured, and when one species is made distasteful by sprays the beetles immediately infest other plants. This characteristic tends to concentrate the beetles on plants which for economic reasons are difficult to protect by sprays. The bulletin gives the results of a series of studies of the feeding habits of the Japanese beetle which may throw light on methods of controlling it.

Federal Legislation, Regulations, and Rulings Affecting Land-Grant Colleges and Experiment Stations. Compiled in the States Relations Service. Pp. 50. March 28, 1923. (Department Circular 251.)

Federal legislation, regulations, and rulings affecting land-grant colleges and experiment stations, compiled by the States Relations Service of the United States Department of Agriculture, have been published as Department Circular 251. This circular of 50 pages brings together the various Congressional acts and administrative rulings in form for ready reference. The circular, is of interest particularly to administrative officers.

Homemade Apple and Citrus Pectin Extracts and Their Use in Jelly Making. By Minna C. Denton, Ruth Johnstin, and Fanny Walker Yeatman, Office of Home Economics, States Relations Service. Pp. 11. March, 1923. (Department Circular 254.) Price, 5 cents.

Housekeepers should welcome this circular on how to make pectin extracts and how to use them in jelly making. As experience has shown, certain fruits almost always yield good jelly, others give less certain results, while some, due chiefly to lack of pectin, are not ordinarily used at all for jelly making. The use of home-made pectin extracts from apples and citrus peel to supply the deficiency in juices low in pectin has several advantages. More certain results are obtained and it is possible to utilize fruits which might otherwise be wasted.

Directions for making both apple-pectin extract and citrus-pectin extract from fresh and dried peel are given, together with a number of recipes for different fruit jellies not commonly obtainable unless pectin extract is used. Jellied sliced peaches, jellied canned pineapple, and jellied fresh strawberries, with added pectin, will be new to many. The circular is of interest to housekeepers and to home-economics workers and teachers.

Kill the Common Barberry with Chemicals. By Noel F. Thompson, assistant pathologist, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 4, figs. 3. March, 1923. (Department Circular 268.) Price, 5 cents.

Common salt and a solution of sodium arsenite are the two chemicals described and recommended in this circular for the eradication of the common barberry. It is urged that all escaped barberries and those growing where a slight sterilization of the soil for a few years will not be detrimental be chemically treated. Ten pounds of salt applied in a dry form to the center of the crown of the

bush at the surface of the ground at any season of the year is sufficient to kill a bush of average size. The sodium arsenite solution, which is also applied at the crown of the plant, is effective only during the growing season, which is from the first of May to about the last of September. Sodium arsenite is a violent poison, and should be carefully handled. It is sold as a commercial preparation under the name of "Weed Killer." One gallon of this commercial solution diluted with water will make 40 or 50 gallons of solution to be used on the bushes. Two gallons of this dilute solution usually are sufficient to kill the average-sized bush. Unless sodium arsenite is found to be cheaper or more convenient it will probably be best to depend on salt, says the bulletin.

Barberry Eradication Prevents Black Rust in Western Europe. By E. C. Stakman, pathologist, Bureau of Plant Industry. Pp. 15, fig. 3. April, 1923. (Department Circular 269.) Price, 5 cents.

The evidence gathered by Dr. E. C. Stakman during his recent trip to Europe should be ample to convince the skeptical that black stem rust of wheat, barley, and rye can be controlled by eradicating the common barberry. It has been done in much of western Europe. The bulletin discusses conditions in regard to barberry in England, Wales, Denmark, Sweden, Germany, and other parts of Europe. In England the necessity has resulted in the eradication of the barberry which, however, is still to be found in Wales. A Danish law requiring extermination of barberry bushes dates back to 1869, and effective barberry laws are being proposed in Sweden. There are 25 laws covering eradication in Germany and police orders require the removal of the bushes. Experience indicates that the cheapest and most effectual method of eradicating barberry bushes is to make it compulsory and carry on a large-scale campaign.

ADDITIONAL PUBLICATIONS.

Journal of Agricultural Research.—Vol. 23, No. 5, February 3, 1923. Contents: Use of Alternating Temperatures in the Germination of Seeds. (G-274.) By George T. Harrington.—Water Content of Barley Kernels during Growth and Maturation. (G-275.) By H. V. Harlan and Merritt N. Pope.—Bacterial Leafspot of Geranium in the Eastern United States. (G-276.) By Nellie A. Brown.—Hydrogen-ion Concentration and Varietal Resistance of Wheat to Stemrust and Other Diseases. (G-277.) By Annie May Hurd.—Cotton-Wilt, a Seed-Borne Disease. (Ark-2.) By John A. Elliott. Pp. 295-394, figs. 35, pls. 5. Price, 10 cents.

Journal of Agricultural Research.—Vol. 23, No. 8, February 24, 1923. Contents: Early Vigor of Maize Plants and Yield of Grain as Influenced by the Corn Root, Stalk, and Ear Rot Disease. (G-282.) By James R. Holbert, W. L. Burlison, H. Howard Biggar, Benjamin Koehler, George H. Dungan, and Marle T. Jenkins.—Effect of Burning Vegetation in Kansas Pastures. (Kans-29.) By R. L. Hensel.—Control of Lettuce Drop by the Use of Formaldehyde. (Mass-7.) By Webster S. Krout.—Distribution of Pentosans in the Corn Plant at Various Stages of Growth. (Wis-29.) By John H. Ver Hulst, W. H. Peterson, and E. B. Fred.—Stimulating the Growth of Azotobacter by Aeration. (Kans-30.) By O. W. Hunter. Pp. 583-677, figs. 31, pls. 10. Price 10 cents.

Journal of Agricultural Research.—Vol. 23, No. 9, March 3, 1923. Contents: Gray Mold of Castor Bean. (G-283.) By G. H. Godfrey.—Influence of the Specific Gravity of

Hens' Eggs on Fertility, Hatching Power, and Growth of Chicks. (Nebr-5.) By F. E. Mussehl and D. L. Halbersleben.—Time Required for Food to Pass Through the Intestinal Tract of Fowls. (N. C.-15.) By B. F. Kaupp and J. E. Ivey.—Effectiveness of Mulches in Preserving Soil Moisture. (Utah-15.) By F. S. Harris and H. H. Yao.—Origin of the Central and Osiolar Cavities in Pycnidia of Certain Fungous Parasites of Fruit. (G-284.) By B. O. Dodge.—Further Studies on the Pathogenicity of Corticium vagum on the Potato as Affected by Soil Temperature. (Utah-16.) By B. L. Richards. Pp. 679-770, figs. 13, pls. 20. Price 10 cents.

Journal of Agricultural Research.—Vol. 23, No. 10, March 10, 1923. Contents: Investigations of the Rosette Disease of Wheat and its Control. (G-285.) By Harold H. McKinney.—Accumulation of Aluminum and Iron Compounds in Corn Plants and its Probable Relation to Rootrots. (G-286.) By G. N. Hoffer and R. H. Carr.—Production of a Growth-Promoting Substance by Azotobacter. (Kans-31.) By O. W. Hunter.—Sclerotinia Carunculoides, the Cause of a Serious Disease of the Mulberry. (G-287.) By Eugene A. Siegler and Anna E. Jenkins. Pp. 771-836, figs. 5, pls. 31. Price 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the Journal was suspended December 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year, and the foreign price \$5.25 per year.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week April 23-28, 1923. These publications can be obtained only from the stations issuing them:

California State dairy cow competition, 1920-22. F. W. Woll. (California Sta. Bul. 351, pp. 185-244, figs. 15, Nov. 1922.)
Fifty years of farmers' elevators in Iowa. E. G. Nourse. (Iowa Sta. Bul. 211, pp. 233-271, figs. 10, Mar. 1923.)
The Iowa soil survey and field experiments. W. H. Stevenson and P. E. Brown. (Iowa Sta. Circ. 82, pp. 23, figs. 8, Mar. 1923.)
Second preliminary report on parasites found in ruminants at the municipal abattoir, Baton Rouge, La. G. Dijkman. (Louisiana Sta. Tech. Bul. 186, pp. 12, Jan. 1923.)
Hogging down crops—Cost of producing crops and pork. A. F. Kidder and W. H. Dalrymple. (Louisiana Sta. Bul. 187, pp. 19, Feb. 1923.)
Report from Holly Springs Branch Experiment Station for 1922. C. T. Ames. (Iowa Sta. Bul. 211, pp. 16, figs. 3, Dec. 1922.)
Cotton spacing. H. B. Brown. (Mississippi Sta. Bul. 212, pp. 16, Jan. 1923.)
Report from Raymond Branch Experiment Station for 1920 to 1922, inclusive. C. B. Anders. (Mississippi Sta. Bul. 213, pp. 6, Jan. 1923.)
Cotton experiments, 1922, Delta Branch Station. W. E. Ayres. (Mississippi Sta. Bul. 215, pp. 14, fig. 1, Jan. 1923.)
Experiments with feeding steers using cottonseed meal and varying proportions of corn and cottonseed meal. E. Barnett and C. J. Goodell. (Mississippi Sta. Bul. 214, pp. 29, Jan. 1923.)
Thirty-fifth annual report for the fiscal year ending June 30, 1922. (Mississippi Sta. Rept. 35 (1922), pp. 59.)
Grasshoppers, cutworms, and other insect pests of 1921-22. R. A. Cooley. (Montana Sta. Bul. 150, pp. 31, figs. 6, Dec. 1922.)
The purpose and work of the Montana Grain Inspection Laboratory. W. O. Whitcomb. (Montana Sta. Circ. 108, pp. 11, Oct. 1922.)
The fruit-tree leaf-roller in the Bitter Root Valley. W. S. Regan. (Montana Sta. Circ. 109, pp. 13, figs. 8, Dec. 1922.)
The onion maggot. A. L. Lovett. (Oregon Sta. Circ. 37, pp. 4, Apr. 1923.)
The peach and prune twig-miner. A. L. Lovett. (Oregon Sta. Circ. 38, pp. 4, figs. 3, Apr. 1923.)

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Die Abderhaldensche reaktion. Von Emil Abderhalden. Berlin, J. Springer, 1922.
- A antiga produção e exportação do Pará. Por Manuel Barata. Belem, Pará, Typ. da Livraria Gillet de Torres & comp., 1915.
- Bacteriology. By H. W. Conn and H. J. Conu. Baltimore, Williams & Wilkins company, 1923.
- Bank agricultural department. By R. A. Allen. New York, Bankers publishing company, 1923.
- British museum (Nat. hist.) Dept. of zoology. Catalogue of the Selous collection of big game in the British museum (Natural history). By J. G. Dollman. London, 1921.
- Business library classification. By J. E. Elliott. Chicago, Indexers press, 1923.
- Changes in the cost of living, July, 1914–November, 1922. National industrial conference board. New York, 1923.
- Common forest trees of Virginia. By Chapin Jones. Charlottesville, Va., 1922. (Virginia. State forester. Bulletin no. 26.)
- Critical revision of the genus Eucalyptus. pt. 57–58. By J. H. Maiden. Sydney, 1922–23.
- La dégradation des acides gras dans l'organisme animal. By Peter Woringer. Paris, Masson et cie, 1922. (Publications de la Société de chimie biologique, no. 1.)
- Dictionnaire méthodique. Les industries du lin, du chanvre, du jute, et de leurs succédanés. Paris, Librairie polytechnique, 1921.
- Electric range handbook. 4th ed. Society for electrical development, inc. New York, 1921.
- Electricity in agriculture. By A. H. Allen. London, Sir Isaac Pitman & sons, Ltd., 1922.
- Farm fertility. By S. B. Haskell. New York, Harper and brothers, 1923.
- Flora balearica, v. 4. By Herman Knoche. [Montpellier?] 1923.
- Flore complète illustrée en couleurs de France, Suisse et Belgique. v. 6, fasc. 59–60. Par G. E. M. Bonnier. Neuchâtel [1923?]
- Foreign commercial credits. By G. W. Edwards. New York, McGraw-Hill book company, inc., 1922.
- Gr. Brit. Select committee on transport. Irish sub-committee. Minutes of evidence. London, 1919.
- Institution quantity cooking. v. 1. By H. B. Clyart. Cincinnati, O., W. B. Carpenter co., 1923.
- International year book. Chicago, Editor & publisher, 1923.
- Introduction to the analytical chemistry of the rarer elements. By L. J. Curtman. New York, 1922.
- Die kartoffel. Von Karl Snell. Freiburg, T. Fisher, 1922.
- Lectures on the industrial revolution of the eighteenth century in England. By Arnold Toynbee. London, Longmans, Green and co., 1923.
- National milk conference, London, 1922. Report of the proceedings. London, National clean milk society [1923?]
- Onze flora. Naar de 2. uitgave van Carl Hoffman's Botanischer bilder-atlas vrij bewerkt. Door A. C. Oudemans. Zutphen, W. J. Thieme & cie., 1900.
- Physikalische chemie der zelle und der gewebe. hälfte 1. 5. auf. Von Rudolf Höber. Leipzig, W. Engelmann, 1922.
- Reorganization of the administrative branch of the national government. By W. F. Willoughby. Baltimore, Md., 1923. (Institute for government research. Studies in administration)
- Statement to the nineteen hundred twenty-three legislature. A report on state parks. Minnesota. Auditor of state. [St. Paul, 1923?]
- Traité de matière médicale. Par L. Reutter. Paris, J.-B. Baillière et fils, 1923.

CURRENT PERIODICALS.

- Hygeia [monthly] Chicago, 1923.
- Wenatchee fruit grower [monthly] Wenatchee, Wash., 1923.

CIVIL-SERVICE EXAMINATIONS.

Assistant Pomologist.—May 22. A vacancy in the Bureau of Plant Industry will be filled from this examination at a salary of from \$2,040 to \$2,740, and other vacancies requir-

ing similar qualifications. The duties of the position will be to conduct investigations with nuts, Japanese persimmons, figs, and other fruits and plants. A thesis is required. Applicants must have graduated from a university of recognized standing and have had at least two years' practical work. If interested, apply for Form 2118.

Tabulator and Computer.—June 6. Vacancies in the Bureau of Agricultural Economics will be filled from this examination. Appointees will be employed chiefly by the Division of Crop and Live Stock Estimates of the Bureau of Agricultural Economics, which issues periodical reports of acreage yield and production of crops and numbers of various classes of livestock in the United States. Applicants should send for Form 304.

Junior Biologist—Field Aid in Biology.—June 30. Vacancies in the Bureau of Biological Survey for duty in the field will be filled from these examinations. The salary range for junior biologist is \$1,800 to \$2,400 a year; that for field aid in biology is \$1,200 to \$1,740. Applicants for junior biologist must have graduated from an agricultural college of recognized standing, or have completed a four years' course of training in biology, and in addition have had at least six months' business, scientific, or professional experience, involving the expenditure of funds and the directing of the work of others. Applicants for the position of field aid in biology must have graduated from a standard high school, and have had a year's experience with State, county, or other organization for the control of harmful mammals. Applicants should send for Form 2118.

Articles in Current Publications By Department Workers

- Barnes, W. C. (Forest Service). Stockmen and Forest Ranges. *Breeders Gazette*, Mar. 22, 1923.
- Barrett, L. A. (Forest Service). New Mountain Wonderlands: Improved Roads Open Additional Playgrounds for the Motorist. *Motor Land*, Apr., 1923.
- Bishop, F. C. (Entomology). Progress Report of Investigations Relating to Repellents, Attractants, and Larvicides for the Screw-worm and Other Flies. By F. C. Bishop, F. C. Cook, D. C. Parman, and E. W. Laake. *Journal of Economic Entomology*, v. 16, no. 3, pp. 222–224. April, 1923.
- Blake, S. F. (Bur. Plant Industry). New Composites from Salvador. *Journal of Washington Academy of Science*, vol. 13, pp. 143–146. April 19, 1923.
- Boyer, E. A. (Bur. Animal Industry). A Study of the Spoilage of Hams and Other Pork Products. *Am. Food Jour.*, v. 18, no. 4, pp. 197–200. Apr., 1923.
- Cary, A. (Forest Service). New England Forestry Making Sound Progress, American Lumberman, Mar. 31, 1923.
- Clausen, C. P. (Entomology). The Citricola Scale in Japan, and its Synonymy. *Journal of Economic Entomology*, v. 16, no. 2, p. 225–226. April, 1923.
- Doolittle, S. P., and Walker, M. N. (Bur. of Plant Industry). Cross-inoculation Studies with Cucurbit Mosaic. *Science*, no. 57, p. 477, April 20, 1923.
- Flint, H. R. (Forest Service). Opportunities in Forestry. *The Forestry Kaimin*, University of Montana, 1922.
- Forbes, R. D. (Forest Service). Essential Requirements for the Practice of Forestry. Official Report, Southern Pine Association, 1922. The Passing of the Pinery Woods. *American Forestry*, Mar., 1923.
- Fortier, Samuel (Public Roads). Agriculture and the Agricultural Engineer. *Agricultural Engineering*, vol. 4, p. 55, April, 1923.
- Gibbons, W. H. (Forest Service). Kiln Drying Fir Common. *Four L Bulletin*, Mar., 1923.
- Greeley, W. B. (Forest Service). Back to the Land. *Saturday Evening Post*, Mar. 31, 1923.
- Hall, M. C. (Bur. Animal Industry). Internal Parasites of Dogs and Cats in the United States and Treatments for Removing these Parasites. *Jour. Amer. Vet. Med. Assoc.*, v. 63 (n. s. v. 16, no. 1), p. 11–51. Apr., 1923.
- Hanzlik, E. J. (Forest Service). Some Impressions of Lumbering and Forestry in Sweden. *Southern Lumberman*, Apr. 14, 1923.
- Hofmann, J. V. (Forest Service). Furred Forest Planters. *Scientific Monthly*, Mar., 1923.
- Hyslop, J. A. (Entomology). Insect Pest Survey Work in the United States. *Journal of Economic Entomology*, v. 16, no. 2, p. 215–221, April, 1923.
- Johnson, Elmer (Bur. Public Roads). Development of Dusting Machinery for Boll Weevil Control. *Agricultural Engineering*, v. 4, p. 51, April, 1923.
- Jotter, E. V. (Forest Service). Increased Utilization of California Woods. Ninth Biennial Report, Calif. State Board of Forestry, 1921–22.
- Kiethley, E. S. (Forest Service). Progress of Reforestation on the Pike Forest. *Timberman*, Mar., 1923.
- Knauss, A. C. (Forest Service). The Kiln Drying of Southern Pine. *Lumber Trade Journal*, Apr. 1, 1923.
- Loveridge, E. W. (Forest Service). The Road Over Red River Pass. *Highway Magazine*, Mar., 1923.
- MacDonald, Thomas H. (Public Roads). The Functioning of Federal Aid in the Development of Highway Transportation. *Texas Highway Bulletin*, v. 3, p. 12, April, 1923.
- Munger, T. T. (Forest Service). Lumbermen as Farmers of Timber Crops. *Four L Bulletin*, Apr. 1923.
- Munns, E. N. (Forest Service). Watershed Protection. Ninth Biennial Report, Calif. State Board of Forestry, 1921–22.
- Nelson, E. W. (Biological Survey). The Economic Importance of Wild Life. *Scientific Monthly*, v. 16, no. 4, p. 367–373, April, 1923.
- Nolan, W. J. (Entomology). A Two-year Brood Curve for a Single Colony of Bees. *Journal of Economic Entomology*, v. 16, no. 2, p. 117–124, fig. April, 1923.
- Oberholser, H. C. (Biological Survey). The Migration of the Orchard Oriole. *Bird-Lore*, v. 25, no. 2, pp. 119–120 (illustrated by Fuertes), March–April, 1923.
- Palmer, T. S. (Biological Survey). Justice Job Bernard; President of the Audubon Society of the District of Columbia, 1906–1923. *Bird-Lore*, v. 25, no. 2, p. 156, March–April, 1923.
- Peirce, Vernon M. (Bur. Public Roads). Developments in the Use of Local Materials. *Michigan Roads and Pavements*, v. 20, p. 10, April 12, 1923.
- Developments in the Use of Local Material. *Pacific Street & Road Builder*, v. 12, p. 15, April, 1923.
- Pirtle, T. R. (Agricultural Economics). Noteworthy Events in the World's Dairy Industry in 1922. *Dairy Science Journal*, March, 1923.
- Ricker, P. L. (Bur. Plant Industry). The Protection of our Native Plants. *Nature Magazine*, v. 1, No. 5, p. 35–41. May, 1923.
- Schwartz, E. W. (Bur. of Chemistry). Triple (Magnesium Ammonium) Phosphate Formation and Cystitis from Methyl Alcohol. *J. Pharmacol.*, v. 21, no. 3, April, 1923.
- Studies on some Isomeric and Homologous Fat-Soluble Di-Azo Dyes. *J. Pharmacol.*, v. 21, no. 3, April, 1923.
- Seeds, K. B. (Agricultural Economics). How Federal Inspectors Grade Hay. In *Price-Current Grain Reporter*, Apr. 18, 1923, and in *Hay Trade Journal*, April 13, 1923.
- Sherman, Caroline B. (Agricultural Economics). Radio Market Reports for Elevators. *American Cooperative Manager*, April 25, 1923.
- Shollenberger, J. H. (Agricultural Economics). Humidity in Milling. *Northwestern Miller*, April 18, 1923.
- Simpson, C. D. (Forest Service). Advancement of Forestry in Idaho. *The Gopher Peavey*, Univ. of Minn., 1923.
- Weimar, A. C. (Bur. of Animal Industry). The Alcohol Test as a Means of Detecting Abnormal Milk. *Jour. of Dairy Sci.*, v. 6, no. 2, p. 95–101. March, 1923.
- Welmer, J. L. and Hartner, L. L. (Bur. of Plant Industry). Pectinase in the Spores of Rhizopus. *American Journal of Botany*, v. 10, p. 167–169. April, 1923.
- Wheeler, H. N. (Forest Service). Watershed Protection. *Colorado Sky*, March, 1923.
- Whittier, E. O. (Bur. of Animal Industry). Determination of Formic Acid. *Amer. Chem. Soc. Jour.*, v. 45, no. 4, p. 1087. April, 1923.
- Winslow, C. P. (Forest Service). Softwood Sizes recommended by the U. S. Forest Service. *Lumber*, March 30, 1923.
- Tells of Forest Needs and Work of the Laboratory. *Lumber*, March 30, 1923.

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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., MAY 16, 1923.

No. 20.

COMMITTEE CONSIDERS EXTENSION PROBLEMS

Representatives of Land-Grant Colleges Discuss Policies and Organization.

The committee on extension organization and policy of the land-grant colleges, composed of Director G. I. Christie, Indiana, chairman; Director, T. O. Walton, Texas; Director T. B. Symons, Maryland; Director Thomas Bradlee, Vermont; and Assistant Director K. L. Hatch, Wisconsin, met in Washington May 7 to 9 to consider among themselves and with department officials matters relating to the welfare of cooperative extension work.

Meetings were held with the Assistant Secretary Monday and Tuesday afternoons and with the Secretary Wednesday. Cooperative extension, motion pictures, and exhibits were the principal subjects discussed. The type of report to be sent from State workers to the Federal Government, the best method of cooperation in the preparation and showing of motion pictures, and the preparation and distribution of bulletins designed for farmers were the special phases of the work under consideration.

Would Keep Agents Informed.

The committee indorsed the idea of the department furnishing some form of loose-leaf service which would serve to keep cooperative extension agents in the field informed as to the more recent facts developed in the department's research and studies which are ready for extension use. The committee also indorsed the idea of the department getting out a handbook containing a digest of the results of the research work of all of the experiment stations and the Department of Agriculture up to the present time, so that the extension agents in the field might more fully carry out the purposes

of the Smith-Lever Act in bringing to the farmers the practical results of the research work of these institutions.

The committee also took cognizance of the fact that a large amount of information on extension work as planned and carried out in the field is reported in Washington, and indorsed the idea of having the outstanding results secured in the States which might have significance for all of the States called to their attention through some form of a one or two page circular issued from time to time by the department.

Among other matters discussed for possible development in the department was some form of an extension journal that would function in the extension field in much the same way that the Journal of Agricultural Research and the Experiment Station Record of the department function in the research field. Final recommendation was not made on the latter matter.

The matter of the type, need, and value of department extension specialists was also considered without reaching conclusions. It is expected that several of these subjects will be the topics for discussion at the next annual meeting of the Association of Land-Grant Colleges.

1922 YEARBOOK BEING DISTRIBUTED.

Initial distribution of the 1922 Yearbook of the department was made a week ago, and at the present time the Government Printing Office is giving it preference, with the result that thousands of copies are being bound and made ready for distribution. As has been pointed out in THE OFFICIAL RECORD the publication contains comprehensive discussions on: Timber: Mine or Crop?; Hog Production and Marketing; the Dairy Industry; History and Status of Tobacco Culture; and Oats, Barley, Rye, Rice, Grain Sorghums, Seed Flax, and Buckwheat. The statistical part of the book has been expanded by the addition of about 150 pages.

RECORD PLAYS PART IN DEPARTMENT WORK

Reports from Readers Suggest Changes Which Will Be Made at Once.

In order that the opinion of department people regarding the usefulness of THE OFFICIAL RECORD might be secured—particularly from those at work in the field—and to secure suggestions to assist in making the publication of more value, a questionnaire was recently sent to all department workers on the mailing list.

1,703 Replies Received.

A complete reply from the questionnaire has not been received, but of the 1,703 replies returned a total of 1,450, or 85 per cent, approve the RECORD and say it should be continued, while 192, or 11 per cent, are of the opinion that, while they read the RECORD, it plays no particular part in their work. A total of 60 said that the continuation of the RECORD was immaterial to them. Others get all the information they need about the department from the different bureau publications.

As a result of the questionnaire it has been deemed advisable to discontinue the department devoted to "People mentioned in official orders," as it is of no interest to a large number of those replying. It is also apparent that news of U. S. D. A. Clubs is of interest to a limited number, and this department, as such, will be discontinued. Both of these departments will be eliminated in the next week's issue.

In place of the U. S. D. A. Club department a club directory, showing the location of the club, time and place of meetings, and the names and addresses of officers, will be included regularly. Officers of the clubs are asked to send in items of interest regarding their activities. Those of sufficient interest will be

carried as news items wherever the make-up of the RECORD permits.

Acting upon suggestions made by several readers of the RECORD, a new department will be started in next week's issue, to be known as a "Question and answer department." Questions of general interest bearing on the work of the department will be answered in this column; specific questions with no general application will be answered direct through existing channels. An effort will be made to include in this department questions frequently asked of extension people relative to the work of the department as well as questions bearing upon the history and personnel of the department.

Another feature which will start next week will consist of a brief review of an important accomplishment by the department. Field workers have frequently asked for such information to be used in numerous ways, particularly in talks.

The answers to the questionnaire indicate that the bulletin reviews, official announcements, principal library accessions, and articles in current publications by department workers are of importance.

A total of 48 readers, most of them home-demonstration agents, asked that more home-economics material be used, while 46 suggested that county agent work be given more space. Twenty-five people made specific request for more material about the work of the department, while 31 want a wider use made of marketing and economics subjects.

FUTURES MARKETS DESIGNATED.

Five markets have been designated as contract markets under the grain futures act since its constitutionality was upheld by the Supreme Court April 16. They are: The Chicago Board of Trade, the Minneapolis Chamber of Commerce, the Kansas City Board of Trade, the Duluth Board of Trade, and the St. Louis Merchants' Exchange. The grain futures act became a law September 21, 1922. Four exchanges made application at once and were designated in October. They are: The Open Board at Chicago, the Los Angeles Grain Exchange, the San Francisco Grain Division of the Chamber of Commerce and the Milwaukee Chamber of Commerce.

The preliminary work in perfecting the mechanical equipment necessary for the experiments with the use of airplanes in applying arsenical dust poisons to the cotton plant for boll weevil control is now proceeding. This work, which will be done in cooperation with the War Department, will be carried on with three planes.

Department Holds Conference On Agricultural Missions

Some 50 representatives of the International Association of Agricultural Missions and of a number of the American missionary boards and similar organizations prosecuting agricultural work in foreign countries, conferred with Department workers Saturday, May 5.

Some 25 organizations were represented, including several American colleges and universities engaged more or less in agricultural research and educational work abroad, such as Canton Christian College, Canton, China; Peking University, Peking, China; and Nanking, China.

The primary purpose of the conference, which was of the nature of an informal, round-table discussion, was the stimulation of suggestions as to how agriculture teaching of backward peoples could be most efficiently done and the extent to which Americans engaged in such work in foreign lands could be encouraged to undertake investigational work needed for the orientation of their teaching and in special cases to obtain information and material needed by the Department of Agriculture and the agricultural colleges in connection with their study of problems affecting American agriculture.

Among those participating in the conference, which was presided over by Dr. W. A. Taylor, Chief of the Bureau of Plant Industry, were: W. Henry Grant, of New York, representing the Presbyterian Board of Foreign Missions; Warren H. Wilson, New York, president board of home missions; Prof. L. H. Parker, Amherst, Mass., executive secretary and editor, World Agricultural Society; Dr. C. H. Baker, New York, Congregational Missionary Society; Dr. Mills J. Taylor, Philadelphia, Pa., United Presbyterian Church of North America; Rev. James M. Mullan, Philadelphia, Pa., Reformed Church in the United States; Dr. L. C. Barnes, American Baptist Home Missionary Society; Mrs. H. W. Collingwood, New York, woman's board, domestic missions, Reformed Church; Rev. A. B. Parson, New York, Protestant Episcopal Church; Burton St. John, New York, Students' Volunteer Movement for Foreign Missions; Dr. Harry Farmer, New York, Methodist Episcopal Board of Foreign Missions; Charles K. Edmonds, president Canton Christian College, Canton, China; J. L. Stuart, president Peking University; E. W. Capen, dean Kennedy School of Missions, Hartford, Conn.; and Dr. A. R. Mann, dean of College of Agriculture, Cornell University.

Members of the department staff participating in the conference were: Dr. E. D. Ball, director of scientific work; Dr. C. W. Larson, chief dairy division, Bureau of Animal Industry; Dr. H. C. Taylor, Chief Bureau of Agricultural Economics; L. H. Goddard, chief division of programs, office of extension work; F. P. Lund, division of methods, office of extension work; O. B. Martin, division of methods, office of extension work; Miss Mina C. Denton, office of home economics of the States Relations Service; J. Clyde Marquis, director of economic information, Bureau of Agricultural Economics; C. A. Reed, office of horticultural and pomological investigations; Dr. A. S. Hitchcock, Dr. David Fairchild, foreign seed and plant introduction; Dr. B. T. Galloway, plant pathologist; Wilson Popenoe, agricultural explorer; F. A. McClure, agricultural explorer; Dr. L. C. Corbett, in charge office of horticultural and pomological investigations; Dr. O. F. Cook, in charge office of crop acclimatization and adaptation investigations; C. B. Doyle; Dr. C. R. Ball, in charge of cereal investigations of the Bureau of Plant Industry; Dr. C. L. Marlatt, chairman Federal Horticultural Board; Dr. A. C. True, director States Relations Service; and D. S. Bullock, live-stock commissioner, Bureau of Agricultural Economics.

MUCH INTEREST IN COTTON STANDARDS.

Much interest has been manifested by the trade in the official cotton standards of the United States, which become compulsory in interstate and foreign trade on August 1 next, according to Lloyd S. Tenny, assistant chief of the Bureau of Agricultural Economics. Mr. Tenny, A. W. Palmer, and F. W. Knight have just returned from New York, following a trip throughout the South conducting public hearings on the tentative regulations under the cotton standards act which was passed by the last Congress. Hearings were held at Norfolk, Va., Charlotte, N. C., Columbia, S. C., Augusta, Savannah, and Atlanta, Ga., Montgomery, Ala., New Orleans, La., Houston and Dallas, Tex., Little Rock, Ark., Memphis, Tenn., and New York. The meetings were attended by practically all of the leading cotton men in the different markets. At the markets where the business is largely of an export nature the cotton men were opposed to the provision in the law that required United States cotton standards to be used for foreign trading. However, with this exception, it is reported that the cotton trade is almost solidly in favor of the new law. It was pointed out at all the hearings that observance of the legislation is purely optional with producers and the trade except with regard to the use of United States official cotton standards in interstate and foreign trade.

Final regulations under the act are now being drafted.

Encouraging Outlook for Agriculture, Says Department

The general agricultural outlook now is probably the best it has been in three years, says the Department of Agriculture in its regular monthly review issued May 5. The domestic market for farm products is reported to have improved measurably as a result of increased prosperity in urban communities, but that the prospective foreign demand for American farm products is not as good this year as it was a year ago.

"When labor is fully employed and wages high," the department says, "farm products find a readier sale and better prices. This is what has helped to sustain the price of hogs this spring; likewise lambs, cattle, dairy products, eggs, and certain vegetables."

The outlook for next fall and winter is considered to depend upon continuation of the present industrial boom in cities. Labor is being drawn from the farms to urban centers but there is as yet little evidence of serious farm labor handicap, the department says. The pinch is expected to come at harvest time, should the movement continue. Spring planting generally is reported from two to three weeks behind, but the reported trend is toward increased production of cotton, sheep, and possibly corn, and decreased production of wheat, hogs, and potatoes.

Prices of leading crops show a continued upward trend, but the general level of live-stock prices is reported as stationary or tending to move slightly downward. Prices of commodities that farmers buy also show a continued upward trend, so that the relative purchasing power of a unit of farm products remains unchanged, the department points out.

WEATHER BUREAU ASSISTS FLYERS.

The Weather Bureau took an important part in formulating the plans for the 27-hour transcontinental airplane flight made by Lieuts. O. G. Kelly and T. A. MacReady, May 3. The two flyers came to Washington and made special arrangements for weather forecasts across the country with the chief forecaster. The time of the flight was also suggested by the Weather Bureau, which advised them when conditions were most propitious. Flying conditions were unusually favorable all across the United States at the time the flight was made. The Weather Bureau was able to give special information as to upper-air currents, because of the stations throughout

the United States where daily tests of upper-air currents are made by means of hydrogen-filled balloons, sent up at a certain time each day at 25 or more observing stations.

WELFARE ASSOCIATION DRIVE BEGINS.

Pledge cards have been sent to all employees of the department in Washington and vicinity, asking for subscriptions to the Welfare Association. As requests for aid throughout the department are constantly on the increase, it is hoped that everyone will contribute something to help carry on this humanitarian work during the coming year. Competition will be keen among the various bureaus to see which ones will have 100 per cent representation.

On May 21, at 3.30 p. m. the regular monthly meeting will be held in the projection room of the motion-picture laboratory, 1363 C Street SW. All bureau representatives will be given a chance to report progress made during this drive for funds.

INSECTICIDE SYMPOSIUM HELD.

A symposium on insecticides and fungicides was held at New Haven, Conn., under the auspices of the American Chemical Society April 5 in connection with the meeting of the division of agricultural and food chemistry. This was the first gathering of its kind ever held by the society and was attended by a number of noted botanists and entomologists. Dr. F. C. Cook, of the Bureau of Chemistry, arranged the symposium.

Dr. E. D. Ball, director of scientific research, of the Department of Agriculture, presented a paper "The need for chemical investigation in field problems," in which he emphasized the importance of cooperation between the chemist and the entomologist in solving the many problems relating to insecticides and fungicides.

The following papers were read by members of the insecticide and fungicide laboratory of the Bureau of Chemistry: "Review of the chemical development of insecticides and fungicides," by Dr. C. C. McDonnell; "Emulsions of mineral oils with soap and water: the interfacial film," by Dr. E. L. Griffin; "Excretions from the leaf as a factor in arsenical injury to plants," by C. M. Smith; and "Data on the solubility of commercial white arsenic," by Dr. F. C. Cook.

A committee was appointed consisting of Dr. C. C. McDonnell, of the Bu-

reau of Chemistry, O. Butler, of Durham, N. H., and A. Kelsall, of Annapolis Royal, Nova Scotia, to arrange with the officers of the agricultural division for a similar meeting at the 1924 spring convention of the American Chemical Society.

NEGRO EXTENSION AGENT SUCCESSFUL.

Gloucester County, Va., the first county in the South Atlantic States to employ a Negro agricultural extension agent for work with Negro farmers, was recently visited by O. B. Martin, office of cooperative extension work, States Relations Service. Work in this county has been carried on continuously for 16 years, the first agent, J. B. Pierce, now field agent in Negro extension work, going into the county in December, 1906. The present agent, R. D. Lamon, has served there since 1908.

The results of this work Mr. Martin found very evident. Numbers of well-kept farmhouses, productive fields, church and school buildings in excellent condition have taken the place of tracts of undeveloped land. More than 95 per cent of all the heads of Negro families own their own farms and homes. The farms average from 10 to 30 acres in size and are devoted chiefly to growing truck crops and poultry for Atlantic coast markets. Both products have been sufficiently standardized to market them cooperatively.

The thrift, energy, and public spirit of these Negro farmers is evident. Practically all homes and public buildings are made attractive by liberal use of paint and whitewash, and well-planned plantings of shrubs and flowers. Farmers' clubs, which include all the family, have been popular for several years. At the time the county was visited the jail was empty and it was stated that frequently the session of the criminal court passes without a single case on the docket, the Negro as well as the white population taking pride in the maintenance of the county's reputation for order and industry.

FLAG SMUT EXPERIMENTS BEGUN.

Experiments are being conducted at the Arlington farm to determine the effects of different soil temperatures on the development of the two kinds of bunt of wheat, flag smut of wheat, loose and covered smuts of barley, and the stripe disease of barley. R. W. Leukel, of the Bureau of Plant Industry, has immediate charge of the experiments.



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LUNCHEON ON MAY 11.

Chiefs of bureaus and offices gave an informal luncheon May 11 to Secretary Wallace at the Cosmos Club, Washington, in celebration of his birthday. Dr. C. L. Marlatt spoke of the recent trip which the Secretary made through the West and Southwest and voiced the felicitations of those present to the Secretary celebrating the occasion.

The Secretary spoke of the splendid feeling and spirit of cooperation toward the Department of Agriculture which he found everywhere on his trip. He said that particularly in the Southwest the department, through its work with crops and live stock, national forests, and road-building activities, was performing a very important work. The inspection of field stations showed the Secretary the magnitude of the department's activities. It also emphasized the necessity for close touch between the officials in Washington and those in the field.

MEDALS AWARDED TO MESSENGERS.

Secretary Wallace addressed the messenger boys of the department May 10 at a gathering held in front of the main building, for the purpose of awarding medals to messengers who have attended the weekly gymnasium classes at the Y. M. C. A. Secretary Wallace commended physical and mental development which has resulted from the organization of the boys and the gymnasium classes. He stated that next year he would offer a medal for the best all-around messenger boy in the department. Such matters as the boy's manners, attitude toward his work, and the like will be taken into consideration in making the award.

The Assistant Secretary, Mr. Pugsley, awarded the medals.

About 20 events were scheduled, including swimming, track and gymnasium work, two or three events to be run off each evening, the scores of the teams and

of the individuals being accurately kept according to the Y. M. C. A. system of scoring.

Medals were awarded as follows: Silver cup presented to the Office of the Secretary team; first prize, gold medal, for all-around competition, presented to Charles Donahue, Bureau of Animal Industry; second prize, silver medal, all-around competition, to Benjamin Anderson, Office of the Secretary; third prize, bronze medal, all-around competition, to William Weeden, Office of the Secretary; best man at swimming, silver medal, Randal Oden, Office of the Secretary; best man at track and gymnasium, silver medal, Arthur Anholt, Bureau of Agricultural Economics.

Winning team, Office of the Secretary: Randal Oden, captain; C. E. Sullivan, B. W. Anderson, W. G. Weeden, F. P. Donaldson, W. F. Thomas.

CHANGES IN THE MAKE-UP.

In accordance with the reaction from the questionnaire, certain changes in the make-up of The Official Record will be made, starting next week. The departments devoted to "People Mentioned in Official Orders," and "U. S. D. A. Club Activities," will be discontinued as such. A new department, "Questions and Answers," will be started in the next issue. Many times during the day questions about the work of the department have come to your mind. What are they? General questions will be asked and answered in this new department; specific questions will be answered direct through existing channels. Send them to The Official Record.

TO ISSUE LONGER GRAZING PERMITS.

Beginning in 1925, 10-year permits will be granted to stockmen who desire to graze cattle and sheep on ranges within the national forests, the Forest Service has announced. This new policy, which Secretary Wallace has approved, doubles the maximum period for which grazing permits are now being issued.

The department's action was taken from the standpoint of assisting the live-stock industry to further recover from its depression of the last few years, since it is claimed by stockmen grazing permits for 10 years instead of 5 will make it less difficult to secure financial aid to carry on live-stock grazing operations.

New rates upon which grazing fees are to be based, which are to be arrived at after appraisals of the national forest ranges, will also go into effect beginning in 1925. These new grazing-fee rates were to go into effect during 1924, but

action was postponed so that the live-stock industry would have time to partially recover from the period of depression. The new system of 10-year grazing permits and the new grazing rates will go into effect at the same time.

CORN-BORER PARASITE LIBERATED.

More than 1,000,000 individuals of the *Habrobracon brevicornis* Wesmael, an important parasite of the corn borer, have been reared and liberated in the densely infested area in New England during the past year. As a result of the success which has attended the rearing and liberation of this parasite, Arthur Gibson, the Dominion entomologist, of Canada, has recently employed an assistant to attempt to introduce the parasite in infested areas of southern Ontario. A. B. Baird, who was selected as this assistant, recently visited the Arlington, Mass., laboratory and the Bureau of Entomology, and was instructed in the technique of handling this parasite. Several other promising parasites of the corn borer have been received from Dr. W. R. Thompson, who is located in France. They are being reared by Detmar W. Jones, of the Arlington laboratory. It is thought that at least one additional promising species will soon be ready for liberation.

VALUABLE VARIETY OF OATS FOUND.

An unnamed variety of oats, immune to covered smut, has been discovered by Dr. E. F. Gaines, of the Washington State Agricultural Experiment Station, Pullman, Wash. In addition to its immunity, the variety has produced a higher average yield than any other oat during the 4-year period from 1919 to 1922, inclusive. The fact that this is the first variety of yellow or yellowish white oats showing immunity to covered smut to be discovered makes the discovery of considerable interest, according to officials of the Bureau of Plant Industry, with whom Doctor Gaines is cooperating. The variety, which has been officially named "Carleton," was obtained from the Sherman County Branch Station at Moro, Oreg., in 1919.

The Carleton variety has been distributed to a number of experiment stations in the Northwestern States for inclusion in varietal experiments during the current season so that its value as breeding material for the development of smut-immune varieties in the future may be definitely determined.

U. S. D. A. CLUB ACTIVITIES

THE NYUSDA CLUB.

The next meeting of the NYUSDA Club will be an open one in the auditorium of the American Museum of Natural History, Seventy-seventh Street and Central Park west, Friday, May 18, at 8.15. After a short address, eight reels of motion pictures showing the activities of the department will be shown.

PORTLAND (OREG.) USDA CLUB.

A. H. Cousins, chief of accounts in the Forest Service in the Portland office, gave an instructive talk on the work of the Bureau of the Budget at the regular May luncheon meeting of the club. The secretary, John D. Guthrie, presided at the meeting in the absence of the president. A sufficient number of department employees in Portland have signified their interest in the proposed camp ground for department workers and their families, and it has been decided to secure some territory in the Oregon National Forest in the vicinity of the Mount Hood loop highway for this purpose.

Twelve members of the club were present at the meeting.

THE PORTO RICO CLUB.

A meeting of the Porto Rico USDA Club was held Friday, April 20, at the office of farm management, San Juan. Representatives from all bureaus of the department having offices at Porto Rico were present. Henry C. Henriksen, of the Bureau of Agricultural Economics, gave an address on the results of recent experiments to determine the optimum conditions for the shipment of fruit to the markets in the States.

TWO FILMS ON CLUB CAMPS READY.

What happens when 200 farm boys and girls' club champions from 12 States get together in annual encampment is told in two new department motion pictures, "A letter to dad," and "Bill Jones—champion."

The first film, presented as a visualization of a letter which William Jones, club champion, is writing to his father, tells all about the business end of the encampment—what he has learned from the lectures and how the club boys and girls have helped each other by swapping information in various demonstrations, the glory of being a club member, and

the honor of winning an interstate championship.

The second film, "Bill Jones—champion," presents the fun side of the encampment. When 200 club members get together there is bound to be a hot old time, and medal-laden Bill Jones, arriving home from the Interstate encampment, stops at the home of his chum and tells him all about it. Games, stunts, boating, races, night fireworks, and acrobatic performances are included.

Both films were made at the 1922 encampment, held in connection with the interstate fair at Sioux City, Iowa. They are each one reel in length.

"A letter to dad," and "Bill Jones—champion," will be circulated through the department's film distribution system. Prints may be bought by State agricultural colleges, schools, and other authorized purchasers at the laboratory cost.

FILM ON COTTON ISSUED.

The new era in cotton production is pictured in a new United States Department of Agriculture motion picture, "Cotton—Dixie's greatest crop."

The new film tells the story of modern cotton production in Dixie land where cotton is king and nearly two-thirds of the world's output is grown. Approved practices, such as plowing under stalks after picking to destroy the boll weevil's winter home, dusting with calcium arsenate, close spacing of plants, and various cultural methods from preplanting preparations to picking and delivery at the gin, are included. Close-ups show the fruiting of the plant, the square, blossom, boll, and how the fibers form in the boll.

The picture is designed to instruct the cotton planter in up-to-date cultural practices, as well as for popular distribution.

The film will be circulated through the department's distribution system. Prints may be bought by agricultural colleges, schools, and other authorized purchasers at the laboratory cost.

BOYS' CLUBS TO MARKET PRODUCTS.

Recognition of the ability of boys' club members to market their products cooperatively is shown in the provision made in the Louisville (Ky.) Fat-Cattle Show and Sale, to be held November 22 and 23, 1923, for carload entries of beef calves by club members, with the understanding that club members of one or more communities will pool their stock to make up the carload entries.

Entry in the Fat-Hog Show and Sale for juniors agricultural club members, to be held in Louisville, (Ky. September 7, is also on the carload basis.

CLUB WORK DEVELOPING.

"Extension work with boys and girls has shown a number of important developments within the past months," Miss Gertrude L. Warren, office of extension work, States Relations Service, reported after a conference regarding junior extension work with members of the Connecticut staff at Storrs. "There is a notably tendency to increase the size of the individual projects carried on by club members and to improve the quality of work done, especially in the poultry, clothing, and food work. This may account in part for the considerable increase in the number of older club boys and girls, which includes many of 20 to 21 years, as compared with an average age limit of 18 in previous years; an effort to group the members more nearly according to age may have contributed to this also.

"Judging contests, developing through the stimulus of competition a keen sense of the essential points of a good product and at the same time affording opportunity for social development in acquaintance with people and conditions in neighboring communities, counties, and frequently States, greatly increased in number last year. The health of the club member is given attention on a growing number of programs. Another striking trend is the place which is being made for club boys and girls in community programs, their interest and help being enlisted in important enterprises in many extension plans.

JUNIORS HOLD POULTRY SHOW.

Boys' and girls' club members of New England held a record junior poultry show in connection with the recent Boston Poultry Show. These young poultrymen exhibited 645 birds, 30 dozen eggs, and 45 pieces of poultry equipment. Four years ago when the junior poultry show was inaugurated, 200 birds were entered.

Demonstration contests were added to the program this year and included demonstrations in killing and picking poultry, use of lights in poultry keeping, housing a backyard poultry flock, selection of birds for exhibit and utility, poultry management, and poultry house construction. There were also two judging contests, one for club members over 15 years of age and one for those under 15 years.

PEOPLE MENTIONED IN OFFICIAL ORDERS

Dr. E. D. Ball, director of scientific work, gave an address on "Research and human progress" at the meeting of the National Federation of Women's Clubs, held May 9, at Atlanta, Ga.

The department will be represented at the fourteenth annual convention of the Special Libraries Association to be held in Atlantic City May 22 to 24 by several bureau librarians. Miss C. R. Barnett, librarian, and Miss L. K. Wilkins, also of the department library, will attend, as well as Miss Mary G. Lacy, of the Bureau of Agricultural Economics, Miss Mable Colcord, of the Bureau of Entomology, and Miss Martha L. Gericke, of the States Relations Service.

Dr. W. J. Spillman, of the Bureau of Agricultural Economics, has returned from a month's trip through the West and Pacific Northwest. He stopped at Minneapolis, Grand Forks, Fargo, and Bozeman. At Seattle, April 4, he addressed the twenty-fifth annual meeting of the Inland Empire Teachers' Association, of which he was the first president. His topic was "The development of agriculture science and its relation to the teaching of agriculture."

W. A. Schoenfeld and R. C. Potts, of the Bureau of Agricultural Economics, spent May 4 in Baltimore conferring with officers of the Maryland State Farm Bureau, the Maryland State University, the Atlantic Coast Poultry Producers' Association, and the Maryland State Poultry Association. Plans for a poultry and egg marketing service in Maryland in cooperation with the above agencies were considered. A second meeting will be held in Baltimore May, 18, at which final plans will be made.

E. Graywood Smyth, who is investigating the Mexican bean beetle for the Bureau of Entomology, sailed early in April for Guatemala. He will proceed into the interior in an endeavor to obtain parasites of the Mexican bean beetle suitable for introduction into the Southeastern United States.

Dr. C. L. Shear, Bureau of Plant Industry, left Washington May 4 to confer with pathologists and mycologists in Europe with reference to the enlargement of the plant-disease survey of this Bureau. He will attend the international phytopathological conference in Wageningen, Holland, and the international congress of agriculture at Paris.

T. R. Stanton, Bureau of Plant Industry, left May 8 to inspect and study experiments with oats at the State agricultural experiment stations of North Carolina, South Carolina, Georgia, Alabama, Mississippi, Texas, Tennessee, Kentucky, and Virginia. He also will arrange for the growing and testing of new strains produced by the department.

Dr. W. H. Tisdale, Bureau of Plant Industry, left May 15 to consult cooperators in the cereal smut investigations that are being conducted in cooperation with the Missouri Botanical Garden, the Illinois State Department of Agriculture, and the Illinois and Kansas Agricultural Experiment Stations. He will return about June 11.

J. A. Evans, States Relations Service, left Washington May 5 to confer with agricultural-extension workers and officials of cotton-marketing associations regarding cotton-production methods and boll-weevil control. Mr. Evans will visit points in North and South Carolina, Georgia, Florida, Mississippi, and

Alabama, returning to Washington about June 20.

Dr. F. C. Blanck, Bureau of Chemistry, and P. L. Gowen attended the convention of the Tri-State Packers' Association held in Baltimore May 3 and 4.

W. S. Frisbie, Bureau of Chemistry, attended the meeting of the North Central States Food and Drug Officials' Association held in Omaha, Nebr., May 10 and 11.

E. P. Ivory, of the forest products laboratory at Madison, Wis., will attend the annual convention of the Southern Sash and Door Association at Memphis, Tenn., May 18. He will present a paper on standardization and other laboratory subjects.

C. F. Korstian, of the Appalachian Forest Experiment Station, attended the annual meeting of the North Carolina Academy of Sciences at Greensboro, N. C., May 4 and 5. He presented papers on "The density of cell sap of plants in relation to environmental conditions," and "Research program of the Appalachian Forest Experiment Station."

C. A. Plaskett, of the forest products laboratory, Madison, Wis., attended the meeting of the National Machine Tool Builders' Association, at White Sulphur Springs, W. Va., May 9. He gave a talk on the work the laboratory is doing on the improvement of shipping containers.

R. G. Hill and W. S. Graham, Bureau of Plant Industry, left Washington May 5 for New York City, and San Juan and Mayaguez, P. R., for the purpose of continuing investigations on the handling, packing, and shipping of citrus fruit from Porto Rico to New York City to obtain information as to the best methods for refrigerated transportation of fruits.

M. L. Hancock, Bureau of Plant Industry, left Washington May 7 for Norfolk, Va., to conduct nursery-stock investigations.

Dr. David Griffiths, Bureau of Plant Industry, left Washington May 7 for Bridge-ton, N. J., to inspect bulb plantings.

Smith Riley, Bureau of Biological Survey, has gone to Niobrara Reservation, Nebr., to give direct supervision to the construction of the game fence on the northern division of that preserve. Before returning to Washington, Mr. Riley will visit also the refuges in North Dakota.

E. A. Goldman, Biological Survey, attended the third national conference on state parks, at Turkey Run State Park, Ind., May 7 to 9, in order to take part in a discussion of plans of the bureau for fostering the conservation of wild animal life, for which National and State reservations are well adapted.

H. L. Westover, Bureau of Plant Industry, left Washington May 14 on a two-weeks' trip through Virginia, New Jersey, and Pennsylvania, in connection with field experiments with alfalfa under way in those States.

Miss Gertrude L. Warren, office of cooperative extension work, States Relations Service, will confer with extension workers in Tallahassee and other points in Florida, May 21 to 26, regarding the training of local leaders, and will attend a junior extension short course in Auburn, Ala., May 28 to 30.

Miss Grace E. Frysinger, States Relations Service, went to New Brunswick, N. J., May 8 to 11 to attend a conference of extension workers on home-management work and a meeting of county-project leaders from all parts of the State.

Carlyle Carr, of the Biological Survey, is cooperating with County Agricultural Agent P. H. Doddridge and County Agent Cravens in organizing and conducting antirat campaigns in Indiana, and also with the county agent of Freeport, Ill., and Director of Ex-

ension R. J. Baldwin in like campaigns in Michigan. Mr. Carr left Washington April 23 and expects to return about June 1.

George A. Lawyer, chief United States game warden, of the Biological Survey, visited Locustville and other points on the eastern shore of Virginia, during the first week of May, for the purpose of investigating migratory bird conditions and conferring with T. T. Blossom, United States game warden, in regard thereto.

Frank G. Ashbrook, assistant biologist, of the Biological Survey, attended the first international fur exposition held in New York City, May 7 to 9, and addressed the convention on "The work of the Biological Survey relating to fur-bearing animals."

STUDYING FOREIGN COMPETITION.

The competition American farmers will have to meet in the foreign field and the probable demand for our farm products in the future are among the points the Bureau of Agricultural Economics is trying to bring out in an agricultural survey of Europe. E. C. Squire is conducting the study in Germany. About July 1, Miss Lila Thompson, who has been the editor of Foreign Crops and Markets, will leave for Berlin to assist Mr. Squire. Later, she will go to Rome to continue the statistical work on the survey of Italy and other countries. It is expected her foreign assignment will be for one year.

Asher Hobson will probably make some studies in France and E. A. Foley and O. J. Worth will complete the work begun in England.

L. G. Michael is expecting to go abroad in August to correlate the work which has been done in southwestern Europe with the work of other men in the field and to make a survey of Poland.

The survey of Rumania, Bulgaria, Jugoslavia, Hungary, Austria, and Czechoslovakia has been completed, and mimeographed preliminary reports have been issued. A bulletin covering the study is in process of publication.

Fines ranging from \$25 to \$250 were imposed under the food and drugs act on shippers who had sent into interstate commerce adulterated or misbranded foods and feeds, according to Service and Regulatory Announcements No. 152 issued recently by the Bureau of Chemistry. The list includes olive oil, butter, salmon, candy, eggs, oysters, catsup, flour, and cottonseed meal. Eight other shipments of foods were destroyed under decrees of condemnation and forfeiture and nineteen shipments were released on bond on condition that the products would be relabeled to comply with the requirements of the law.

BRIEF REVIEWS OF NEW BULLETINS.

Raspberry Culture. By George M. Darrow, pomologist, office of horticultural and pomological investigations, Bureau of Plant Industry. Pp. 43, figs. 33. Revised January, 1923. (Farmers' Bulletin 887.)

This publication contains information as to the best method of raising raspberries, listing the varieties considered most satisfactory both for table use and for canning and preserving.

Lumber Cut of the United States 1870-1920. Declining Production and High Prices as Related to Forest Exhaustion. By R. V. Reynolds, forest examiner, and Albert H. Pierson, statistician in forest products, Forest Service. (Professional Paper.) Pp. 63, figs. 16, pls. 2. April 25, 1923. (Department Bulletin 1119.) Price, 15 cents.

Lumber production in the United States has been steadily decreasing for 13 years. According to this bulletin, 36 out of 37 eastern and southern lumber-producing States showed a decreased cut and only one a slight increase in 1920, while Pacific slope States all report substantial increases, showing that the center of production is shifting to the Western States, the last of our softwood reserves.

Thirty years ago, after the depletion of New York and Pennsylvania white-pine sections, the American lumber market was drawing its supply from the Great Lakes States. When the source in those sections became exhausted and the forests no longer able to supply the demand or furnish enough to keep the mills in operation, the industry moved to the southern yellow-pine region, and is rapidly duplicating the same procedure there. The inevitable result follows that within the near future we shall be wholly dependent upon this reserve of all-purpose softwoods, the Pacific slope. Not only is this the only remaining domestic source of softwoods, but a recent survey of the world's supply of this commodity discloses the fact that there are no foreign forests of this character that we may draw upon when our own are exhausted. The average rate of decrease over the last 13 years has been about 2 per cent per year. The figures for 1920 are about 27 per cent lower than the high-production peak that was reached in 1907, when we produced about 46,000,000,000 feet.

The bulletin discusses this problem and sets forth figures based on facts. The material presented is of importance in considering the attitude that shall be taken toward our remaining timber resources.

Self-Fertilization and Cross-Fertilization in Pima Cotton. By Thomas H. Kearney, physiologist in charge of alkali and drought resistant plant investigations, Bureau of Plant Industry. Pp. 68, figs. 4, pls. 7. (Professional Paper.) April 26, 1923. (Department Bulletin 1134.) Price, 10 cents.

The results of studies to determine the percentage of cross-fertilization and self-fertilization in Pima cotton and find an explanation of the predominance of self-fertilization are presented in this bulletin, which is of interest to plant breeders, geneticists, and persons engaged in supplying good planting seed of this crop. The studies reported cover an eight-year period from 1914 to 1921. Evidence is presented that, though the cotton flower is adapted to cross pollination, most of the ovules are usually self-fertilized. From the point of view of maintaining varietal purity, a small proportion of hybrids result from cross pollination.

This paper, besides giving the results of original investigations, summarizes the previous literature and brings together in an accessible form all the hitherto scattered information on the subject which is not generally available to American workers. The importance of honeybees and other insects in bringing about thorough pollination of the cotton flowers and thus increasing the yield is shown. An intelligent understanding of these matters will aid in determining what degree of isolation should be given to breeding plants and seed-increase fields.

Turpentine and Rosin. Distribution of the World's Production, Trade and Consumption. By V. E. Grotlich, assistant chemist, naval stores investigations, Bureau of Chemistry. Pp. 13. April, 1923. (Department Circular 258.) Price, 5 cents.

This circular shows the trend of the world's trade in turpentine and rosin, giving statistics by countries on the production and consumption of these commodities for 1910-1913, 1915-1918, and 1919-20. By these figures it is shown that the United States not only furnishes from 60 to 65 per cent of the world's supply of turpentine and from 70 to 75 per cent of the world's supply of rosin, but that it uses more than any other country, with England at present the second largest consumer of naval stores. Statistics show that the industry has increased in recent years in France, Portugal, China, India, and Finland. The source of the supplies of these commodities imported by various foreign countries during the two periods 1910-1913 and 1919-20, indicate the possibilities of developing markets for surplus American supplies.

ADDITIONAL PUBLICATIONS.

Experiment Station Record, vol. 48, No. 4, March, 1923. Pp. 301-400. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in two volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Index to Weather, Crops, and Markets, vol. 2, July-December, 1922. Price, 5 cents.

Monthly Weather Review, vol. 51, No. 2, February, 1923 (May, 1923). Pp. 55-109, figs. 51, pls. 2, charts 13. Price, 15 cents a copy, \$1.50 a year, payable to the Superintendent of Documents. Special articles: A statistical study of surface and upper-air conditions in cyclones and anti-cyclones passing over Davenport, Iowa, by A. D. Udden; Brazilian meteorological service (1921-1923), by J. de S. Ferraz; Pretechnical meteorological studies, by H. E. Simpson, with discussion by C. F. Marvin; Values of the solar constant 1920-1922, by C. G. Abbot; Dense fog in the triticities on November 3, 1922, by E. E. Unger; Wind-storm at Independence, Calif., February 12, 1923, by C. D. Asher; Predicting minimum temperatures, by W. J. Bennett.

Same. Index to volume 50. 1922. Pp. i-xvi. Price, 5 cents.

Service and Regulatory Announcements. Bureau of Biological Survey. No. 54. Regulations for the importation of eggs of game birds for propagation. Pp. 1. May, 1923. Price, 5 cents.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 191. March, 1923. Pp. 27-36. April 24, 1923. Price 5 cents.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week, April 30-May 5, 1923. These publications can be obtained only from the stations issuing them.

Observations on some rice weeds in California. P. B. Kennedy. (California Sta. Bul. 356, pp. 465-494, figs. 26, Apr. 1923.)

Thirty-fifth annual report, 1921-22. (Illinois Sta. Rpt. 35 (1922), pp. 24.)

The marketing of Kentucky strawberries. O. B. Jesness and D. B. Card. (Kentucky Sta. Bul. 246, pp. 30, figs. 4, Jan. 1923.)

Discussions and demonstrations on breeding problems. (Kentucky Sta. Circ. 30, pp. 39-93, Dec. 1922.)

The utilization of feed by range steers of different ages.—III. Alfalfa hay and cottonseed meal.—IV. Alfalfa hay, milo maize meal, and cottonseed meal. J. D. Hungerford and L. Foster. (New Mexico Sta. Bul. 128, pp. 92, figs. 15, Sept. 1921.)

An outlet drain for every farm. E. R. Jones and O. R. Zeaman. (Wisconsin Sta. Bul. 351, pp. 55, figs. 22, Dec. 1922.)

The modified leader tree. R. H. Roberts. (Wisconsin Sta. Bul. 354, pp. 32, figs. 33, Feb. 1923.)

CIVIL SERVICE EXAMINATIONS.

Silviculturist, \$3,000 to \$3,840 a year. **Associate Silviculturist**, \$2,400 to \$2,880 a year. **Assistant Silviculturist**, \$1,800 to \$2,280.—June 5. Vacancies in the Forest Service for duty in the field will be filled from these examinations. The duties of silviculturists and associate silviculturists will be to plan, carry out, and prepare for publication the results of investigations and experiments in the silvics and silviculture of trees and forests and their ecological relations. The duties of assistant silviculturists will be to assist in such work. Applicants must have graduated in forestry from a college or university of recognized standing with a degree equivalent to that of bachelor of forestry.

For silviculturist applicants must have had at least eight years of experience in research or professional work. For associate silviculturist applicants must have had two years of experience required for silviculturist, of which not less than one year must have been in a position of responsible charge or research work. For assistant silviculturist applicants must have had two years' post-graduate experience or training in research or professional work in forestry. Some graduate work must be substituted for experience. Applicants should send for Form 2118.

Transitman.—June 6. A vacancy in the Forest Service at Warren, Pa., and vacancies in the Forest Service occurring throughout the United States will be filled at salaries of \$100 a month. Applicants must have had at least one year's practical experience in land surveying, of which not less than six months must have been spent in the position of transitman. Applicants should send for Form 1312.

Eight reasons why careful and uniform grading are important in the successful marketing of farm crops are given in a circular prepared by Charles W. Hauck, of the Bureau of Agricultural Economics. The circulars were printed on the letterheads of the bureau and distributed at the South Florida Fair, held at Tampa.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

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- Handbuch der bienenkunde. v. 1, ed. 2; v. 5. Von E. D. H. Zander. Stuttgart, E. Ulmer, 1919-20.
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- Hauptprüfung der kleindrillmaschinen. Deutsche landwirtschaftsgesellschaft. Berlin, 1922. (Arbeiten der Deutschen landwirtschaftsgesellschaft, hft. 320.)
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- Jahreszahlen der erdgeschichte. Von R. Lotze. Stuttgart, Kosmos, gesellschaft der naturredene, 1922.
- Keys to woody plants. By W. C. L. Muenscher. Ithaca, Cornell publications printing co., 1922.
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- Factors determining the quality of white sauce in large quantity cooking. By M. L. Meuser. [Wichita? 1922]
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- Carrier, Lyman (Bur Plant Industry). Vegetative planting. Bulletin Green Section U. S. Golf Association. Vol. 3, No. 4, pp. 102-113. April 21, 1923.
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Color as a factor in standardization was considered at a recent conference held in the Bureau of Agricultural Economics. The importance of color in honey, grain, hay, meats, cotton, and butter was discussed.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 21.

HIGHWAY CONFERENCE DISCUSSES UTAH ROAD

Secretary Wallace Now Considering Questions Presented By Western Officials.

Representatives of the Lincoln Highway Association and officials and citizens of the States of Utah, Nevada, and California were in Washington May 14 for an all-day hearing before Secretary Wallace on the question of the approval of the so-called Wendover road in Utah as a Federal aid project. The question involves the choice of routes westward from Salt Lake City to connect with the cross State roads in Nevada and California. Officials of the Lincoln Highway Association insist that the section of the Lincoln Highway which runs southwestwardly from Salt Lake City to Ibapah on the Utah-Nevada line and connects at that point with the section in Nevada which crosses the State by way of Ely and Wadsworth should be built first.

State Submits Wendover Project.

The Utah system as submitted by the State includes only one road running westerly from Salt Lake City. It is this road, known as the Wendover road, crossing the Great Salt Lake Desert, which the State Highway Department has submitted as a Federal aid project. This project is now before the Secretary for approval or disapproval.

The Wendover road connects in Nevada with a cross State road which runs down the valley of the Humboldt River and which joins the Lincoln Highway at Wadsworth, Nev. A large part of the Lincoln Highway and all of the Humboldt River route are included in the Federal aid highway system of Nevada which has been approved by the Secretary.

Among those present and presenting arguments for one or the other of the two routes were Gov. C. R. Mabey and Senator William H. King, P. G. Peterson, chairman, and H. C. Means, chief engineer, of the State Roads Commission of Utah; ex-Gov. William Spry and ex-Attorney General Dan B. Shields, also of Utah, and A. F. Doremus, representing early settlers along the line of the Lincoln Highway in Utah. The Lincoln Highway Association was represented by J. Newton Gunn, president; F. A. Seiberling and Henry B. Joy, vice presidents; A. F. Bement, vice president and secretary; and Gael S. Hoag, field secretary. Representing Nevada were Senators Tasker L. Oddie and Key Pittman, George W. Borden, highway engineer, and Mr. Quayle, a resident of Ely, Nev. C. C. Cottrell represented the California State highway department.

PACKER MERGER HEARINGS.

Chester Morrill, in charge Packers and Stockyards Administration, has returned to Washington after holding a series of hearings on the Armour-Morris merger. The first of these was held in Kansas City, March 30 to May 4; the second in East St. Louis, May 7 and 8; the third in Omaha, May 10 and 11. A fourth hearing will be held in Chicago, probably next week, and the final hearing somewhat later in Washington.

PLANT QUARANTINE CONFERENCE.

The fifth annual conference of the Western Plant Quarantine Board has been called for May 21 to 23 at Phoenix, Ariz. The purpose of this board is to work toward uniform enforcement of quarantine regulations and to assist in the protection of the West from injurious insects and plant diseases not known to occur in those regions. The Federal Horticultural Board will be represented at this conference by W. D. Hunter, L. R. Dorland, and O. A. Pratt.

DEPARTMENT'S OUTSIDE CONTACTS EXTENSIVE

Various Types of Work Carried on With Other Branches of the Government.

In one way or another the Department of Agriculture is cooperating with all of the other Government departments and with many of the Government boards and offices as well. The scientific, regulatory, and extension work is so broad that some of its phases must inevitably touch other departments. In some cases the cooperation takes the form of service rendered, such as the various kinds of inspection different bureaus perform for the War and Navy Departments, and the special flying forecasts of the Weather Bureau.

Work on Same Problems.

In many instances work is being carried on cooperatively, the workers from the different departments working together on a problem, each studying the special phase of his immediate interest. Many contacts of this type are maintained between this department and the Department of the Interior. In fact, this department has more contacts with the Interior Department than any other. Many phases of the work of the Forest Service are intimately connected with the Interior. The Bureau of Public Roads cooperates in the study of irrigation projects under the Reclamation Service, various kinds of weather observations are made by the Interior Department in some of the Western States, and other bureaus also maintain contracts.

Several Government departments render valuable service to this department. The Customs Service of the Treasury Department cooperates constantly with the Federal Horticultural Board in connection with imports in the enforcement of Federal plant quarantines, which were

designed to keep out insect pests and diseases and in the enforcement of other sanitary regulations. The customs inspectors in Detroit and near-by towns have assisted the department materially in enforcing the quarantine against European corn borers in connection with the importation of Canadian products. Close cooperation is maintained between the Department of Justice and various offices of the Treasury, in the regulatory work of the department.

In addition to the cooperative work with other departments, this department is constantly cooperating with agricultural interests in every State in the Union, and all of the bureaus maintain interbureau contacts.

Weather Reports Much Used.

The fact that weather is ubiquitous and inescapable makes the services of the Weather Bureau, perhaps, the most generally known and widely used of any of the department's services. All Government departments receive regular daily forecasts, and many special forecasts and warnings are also issued for them. The flying weather forecasts are an example of this. They are issued for the 14 zones into which the United States is divided, and also for "model air ways." These forecasts are furnished to the War, Navy, and Post Office Departments for the benefit of their aviation services. The War Department, the Navy Department, and the ice patrol of the Coast Guard Service, Treasury Department, all conduct weather observations which are used by the Weather Bureau. The Geological Survey and the Reclamation Service cooperate in making river and flood surveys, and evaporation reports are made by various bureaus in the Interior and in the Navy Departments. In cooperation with the Chemical Warfare Service, the Weather Bureau has been studying the effectiveness of a smoke cloud in protecting vegetation from frost by a blanket of smoke rather than by attempting to increase the temperature.

Many Inspections Made.

Many kinds of inspections are made by this department for others. The Bureau of Animal Industry inspects meat and meat products for wholesomeness and to determine whether certain specifications have been complied with, for the Navy Department, the Marine Corps, the War Department, the Interior Department, the Panama Railroad, the Public Health Service, and the U. S. Coast Guard. During the fiscal year 1922 more than 77,000,000 pounds were inspected in this way, and of this amount more than 3,500,000 pounds were rejected.

The Bureau of Agricultural Economics makes inspections for grade, condition, and weight of food products. The Bureau of Entomology inspects quartermaster's supplies that become infested by insects, and gives advice concerning control and methods of prevention. The Forest Service inspects wooden parts for airplanes, the seasoning of wood, and the purchase of supplies through the Army stores. The inspection work of the Bureau of Chemistry under the food and drugs act extends all over the United States and covers every department.

The interdepartmental cooperation of the Bureau of Animal Industry includes certifying the pure breeding of animals imported for breeding purposes. The field inspection division of that bureau aids the Treasury Department in controlling the sanitary handling and control of hides, skins, and wool offered for entry into the United States. It also cooperates with the Remount Service of the War Department in horse-breeding work for the Army. This bureau also tests thousands of cattle annually on Indian reservations for bovine tuberculosis for the Interior Department.

Forest Service Contacts.

The Forest Service has many contacts with the Interior Department in reclamation work, land allotment for the Indians, examination for purchase areas, and fire protection for Indian reservations. It cooperates with the Department of Commerce in the standardization of lumber grades and names, and with the Bureau of Fisheries of that department in stocking streams. Mail carriers in the far West have been asked to keep an eye out for forest fires and report them immediately. The Forest Service also has contacts with the Federal Power Commission and with the Department of Justice.

Certain responsibilities with regard to the land-grant colleges are shared between the Department of Agriculture and the Bureau of Education of the Department of the Interior. The War Department also cooperates with the land-grant colleges in carrying on military training. These contacts are maintained through the States Relation Service.

The Navy Department is in charge of the island of Guam, and the States Relations Service has many contacts with this department in the administration of the Federal agricultural experiment station located there.

These instances are only indicative of the cooperation which exists between the Department of Agriculture and other Government departments. Some of the other contacts will be discussed in a later number of *THE OFFICIAL RECORD*.

Mr. Brand Returns From Study of Agriculture in Europe

Charles J. Brand, consulting marketing specialist for the department, has returned from a three months' trip abroad, in the course of which he studied agricultural conditions in Europe, the distribution of meat and other foodstuffs, discussed the application of the new cotton standards act in relation to foreign trade in American cotton, and made arrangements to have the motion pictures "Behind the Breakfast Plate" and "She's Wild" shown in many of the countries of Europe. Mr. Brand also attended the second congress of the International Chamber of Commerce in Rome, March 18-26, as an official delegate.

While in England Mr. Brand made a special study of the methods of the retail distribution of meat and gave testimony before the British Tribunal of Investigation into Agricultural Conditions. He also testified before a similar tribunal sitting in Dublin. The subject in which these bodies were most interested was rural credits. Before leaving for the Continent, Mr. Brand discussed with spinners in Manchester and Liverpool the effect of the new United States cotton standards act on the European trade in cotton. Mr. Brand found Danish bacon the most popular type in England and expressed the opinion that this type could be produced in certain sections of the United States.

In Rome he attended the meetings of the second congress of the International Chamber of Commerce and interviewed meat, provision and grain interests, and Italian cotton spinners in Milan and Genoa. As a result of Mr. Brand's presentation of the cotton standards act, the International Institute of Agriculture passed a resolution recommending the adoption of universal standards for American cotton.

DOCTOR HITCHCOCK GOES TO PERU.

Dr. A. S. Hitchcock, botanist in charge of Systematic Agrostology, will leave May 25 for Ecuador, Peru, and Bolivia for the purpose of studying the distribution and uses of the grasses with especial reference to the economic species. He will spend about three months in Ecuador and about the same time in Peru and Bolivia, probably returning to Washington in January.

A crop reporter since 1876 is the record of James A. Fowler, of Keosauqua, Iowa, who writes the Bureau of Agricultural Economics he is still willing to serve.

Agents by Decade's Work Point Way to Better Farms

Bank deposits in Anson County, N. C., have increased in the last 10 years from \$645,000 to \$2,100,000. This increase was due almost entirely to better farming, for there are only about 800 persons in the entire county employed in manufacturing plants. Of the 2,800 counties in the United States where the principal interest is agriculture Anson is the first to complete 10 years of farm and home demonstration work with the same two agents for the entire period. The improvements brought about as a result of this decade of work for better farms and better homes indicate the value of continuous well-planned effort.

Ten years ago the farm income came almost entirely from cotton, and about 50 per cent of the improved land was devoted to that crop. Most of the remainder was planted to corn which was used on the farms. The little live-stock to be found in the county was poorly bred and unprofitable. Clover and other soil improving crops were almost unknown. Now, as a result of the introduction of better varieties, the use of better seed, and the adoption of improved methods of culture, the yields of these two crops have been greatly increased. Ten years ago the soy bean was a curiosity in the county. In 1921, nearly 750 acres were grown for grain and 993 acres for hay. Similar results have been reported for a number of other crops. When the county agent began his work the pure-bred animals in the county could have been numbered on the fingers of two hands. At the present time there are more than 200 pure-bred beef bulls, 3 dairy bulls, 14 rams (all of one breed), and so many pure-bred hogs that a census would be required to determine the number. There are now 19 silos where a few years ago there was none, and farmers are taking a great deal of interest in feeding problems.

Many kinds of agricultural improvement work are going on, but the county agent considers the cotton marketing association the most important development in the entire 10 years. Last year 400 farmers of the county signed contracts when the State-wide cotton marketing campaign was carried on.

Much of the home demonstration work, which was begun a little later than the farm demonstration work, has been centered on boys' and girls' clubs and canning work in which the farm women have taken an increasing interest. The home demonstration agent has increased the interest of women in gardening, food

preservation, household management, clothing, millinery, nutrition, home dairying, and poultry production. The whole county has been benefited because of the wider interests that have been created and the desire to go ahead and make even more improvement in the next decade.

WILL INSPECT CHICAGO HAY.

Federal inspection of all hay arriving in Chicago for members of the Chicago Hay Exchange is provided for in a recent agreement. The Chicago Exchange was one of the first organizations in the country to have Federal inspection. The original arrangement provided only for inspection when requested by dealers but the service has proved so satisfactory that the Exchange considered it advisable to have all hay inspected hereafter.

It is estimated that the work will involve inspection of 9,000 to 10,000 cars of hay annually. Some reduction in the fee charged for inspection will also be possible on account of the large volume of business handled, it is announced.

H. H. Whiteside, the present Federal hay inspector, will continue as chief inspector, and arrangements are being made for an additional inspector. The inspectors will be licensed by the Department of Agriculture and will be located at the offices of the Bureau of Agricultural Economics, 139 North Clark Street.

CLUB GIRLS WIN TRIP TO FRANCE.

Three club girls from Iowa, Esther Bolibaugs, Kathryn Bolibaugh, and Beulah Rogers, with two from Colorado, Bertha Boger and Elaine Hendricks, accompanied by Josephine Arnquist, assistant State club leader for Iowa, and Maude E. Sheridan, State club leader for Colorado, spent May 18 and 19 in Washington on their way to New York, from which point they sailed for France May 23 on the steamship *La France*. They are to have a three months' trip, given by the American Committee for Devastated France, as a prize for leading all club members in the national canning and judging contests at the International Livestock Show at Chicago last December.

This trip will be partly to give demonstrations in canning fruits, bottling fruit juices and pectin extract, making paper dress forms, and other home conveniences; it will also include two weeks of home-economics study at the Ecole Ménagère Agricole at Troyes, and two weeks at the Dairy school at Surgères. While in Washington the party was received by President Harding, Secretary Wallace, and Assistant Secretary Pugsley.

To Make Tentative Allocations Under Reclassification by June 1

The first step in the classification of the department employees, in accordance with the provisions of the classification act passed at the last session of Congress, will be completed by June 1. Tentative allocation as of May 15, covering all of the positions to which the classification applies, will be made at once. This will establish a basis for compiling estimates of expenditures and appropriations for personal services in the District of Columbia.

The information in the job classification sheet of the Bureau of Efficiency, which is now on file, will be brought up to date and used as a basis for this allocation, which will be made by indicating on the new position sheets the present grade of the position in the Bureau of Efficiency's schedule.

Dr. W. W. Stockberger, of the Bureau of Plant Industry, has been appointed to have charge of this work as department personnel classification officer. He will work out the general coordination and equalization of the personnel classifications. This will require a review of the descriptions and allocations made in the bureaus and such revisions as will be necessary to secure uniform and equivalent allocation throughout the department. Dr. H. A. Edson, also of the Bureau of Plant Industry, has been detailed to the personnel classification board to assist in the classification of the department personnel.

DEPARTMENT MEMORIAL SERVICE.

The annual memorial service for the 70 or more employees of the department who lost their lives in the World War will be held Sunday, May 27, at 8 p. m., in Epiphany Chapel, Twelfth and C Streets SW., under the auspices of Federal Post No. 824, Veterans of Foreign Wars, the original Department of Agriculture Post. Chaplain A. J. Torrey, of the post, rector of Epiphany Chapel, will conduct the memorial services. Gen. Anton Stephan, commander of the District of Columbia Department of the Veterans of Foreign Wars, will make an introductory address, presenting the principal speaker of the evening, Dr. John Wesley Hill, chancellor of Lincoln University, and the Secretary of Agriculture will respond. All chiefs of bureaus will be invited to attend in a body and all employees of the department and their friends are invited to be present. The impressive rites at the shrine, with the ceremony of dropping live poppies at the roll call of the departed, will be repeated this year.



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OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

MEMORANDUM No. 433.—Designation of department classification officer:

1. In order to handle properly within the department the activities necessary in connection with the carrying into effect of the provisions of the salary classification act of 1923, the position of departmental personnel classification officer is established. Dr. W. W. Stockberger is hereby detailed from the Bureau of Plant Industry to the office of the Secretary and designated to act in this capacity. Temporarily, the classification officer and his staff will occupy quarters on the third floor, center, of the main building. (Telephone Br. 94.)

2. The classification officer will be the representative of this department in the transaction of business with the personnel classification board. He will have supervision of all of the work in the department incident to the working out of the new act. He is authorized to call upon chiefs of bureaus for the assignment of the necessary personnel to make up such service staff as may be required, to consist of representatives of the various types of employment represented in the department, who during the period so detailed will work under the immediate direction of the classification officer.

3. The classification officer will advise and consult freely with the general officers of the department, chiefs of bureaus and offices, and other members of the department staff, all of whom are requested to cooperate in this important work.

4. Chiefs of bureaus are requested to designate a bureau classification officer and necessary assistants to coordinate and standardize the classification and allocation of positions within the bureau and to maintain contacts on the part of the bureau with the department classification officer. In designating bureau classification officers it is requested that bureau chiefs confer with the department classification officer in order that the most advantageous selections may be made to conduct this fundamental work.

5. In addition to acting as general coordinator and supervisor of all of the classification work done in the separate bureaus of the department the classification officer will act as chairman of a departmental classification committee, which is hereby established, to be composed of the classification officers of all of the various bureaus and offices.

6. From time to time, as necessary, instructions will be issued by the department classification officer outlining the steps to be taken in connection with the reclassification work, and suggestions from members of the department as to ways in which the work undertaken can be made more effective will at all times be welcomed.

7. Dr. H. A. Edson, of the Bureau of Plant Industry, has been detailed to the personnel classification board to assist in the classification of Federal employees in the District of Columbia, with special reference to the personnel of the Department of Agriculture. After the completion of the tentative allocation, now being expedited, he will be occupied with the development of the detailed class specifications, under which the final allocation will be made.

HENRY C. WALLACE, *Secretary.*

The Secretary of Agriculture,
Washington, D. C.,
May 17, 1923.

Dear Miss Stockbridge: It is a pleasure to indorse the work being done by the Welfare Association of this department. There is a real need for such an organization through which systematic relief may be extended to our fellow-workers when emergencies arise, for it is very desirable to keep this large working family as free as possible from worry and anxiety when illness, accident, death, or any other misfortune may befall its members.

I am told that during past years many cases of distress have been relieved, and probably for a long time to come there will be need for voluntary donations by the charitably inclined members of the department in order to carry on this humanitarian work. I feel that we should all work whole heartedly to increase the capacity of the association to carry on this work.

Sincerely yours,

Miss Margaret M. Stockbridge,
President Welfare Association
of the Department of Agriculture.

WHAT THE QUESTIONNAIRE SHOWS.

The reception being given the OFFICIAL RECORD, as shown in the recent questionnaire, is most gratifying. Replies received since the compilation was prepared for last week's issue further indicate that the RECORD is serving a useful purpose in the work of the department. We do not take the reaction of the questionnaire as a blanket indorsement of the RECORD as it is being issued, but rather the need for such an organ between the Washington office and the individual workers.

"The OFFICIAL RECORD leaves its readers with a wider knowledge of departmental affairs and policies, which can not help but be of assistance to them in their work," is the way a Federal meat inspector reacted to the questionnaire. A county agent leader of the Middle West said "that as a cross section of the work of the department the RECORD

serves a very good purpose." Still another meat inspector said that the RECORD "helps employees to be better informed on the work being done by the various branches of the department and enables those in the field to more intelligently represent the department."

A worker in the dry-land regions of New Mexico wrote that "it would be well worth while to continue this publication if it served no other purpose than that of bringing the field man each week in closer touch with his fellow workers in the field and in the Washington office, reminding him that he is a cog in this nation-wide machine." "It's a long way from a county agent to the Washington office," said a southern agent, "and reading of the RECORD makes a fellow feel that he is on speaking terms with the boys in the big city and is a part of the United States Department of Agriculture."

"I have several friends to whom I give the RECORD when I am through with it, and they also find great interest from the different items, and I know that they too would miss it if it should be dropped," was the way a game warden put it. An agricultural statistician summed up his opinion of the RECORD when he said, "It has been valuable not only in the way of explanations of new regulations, official policies, and current legislation, but possibly even more so because of the inspiration and expansion of vision resulting from the comments on various departmental activities."

These comments were picked at random and show the spirit in which the RECORD is being received. There is no intention of discontinuing the publication at this time. As long as it plays a part in the life of the department it will be continued. Our only concern is to make it of greater value to every reader. To this end we place a standing request for criticisms and suggestions. Particularly do we ask for assistance in putting the new departments on a sound foundation and for further suggestions.

The first effort to grade, certify and ship strawberries on a commercial scale under the recommended Federal grades was begun last week at Cleveland and Spring City, Tenn. Shipping point inspection service was inaugurated at these points by the Bureau of Agricultural Economics at the request of growers and organizations.

When do farm tenants move? is a question discussed by Dr. C. L. Stewart in a mimeographed statement issued by the Bureau of Agricultural Economics.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

How Many Farmers' Bulletins Does the Department Issue a Year?

During the last fiscal year the department had printed 58 new Farmers' Bulletins, or a total of 1,738,379 copies, of which four-fifths were available for distribution by Congressmen in accordance with the law. A total of 533 Farmers' Bulletins was reprinted, totaling 21,188,792 copies. This gave a grand total of 22,927,171 copies. Secretary J. M. Rusk, 1889-1892, was the first Secretary of Agriculture to recommend the publication of Farmers' Bulletins.

Has the Department Made a Study of Motor-Truck Use on Farms?

Farmers' Bulletin 1314, "Motor Trucks on Corn Belt Farms," from the division of agricultural engineering, Bureau of Public Roads, is just off the press and gives data based on the experience of over 500 grain and live-stock farmers located in the Corn Belt who have owned motor trucks for more than two years. The bulletin is intended primarily for use in the territory where the data were collected, but will be of interest to those in other sections. Copies may be secured upon application to the department.

When Was the Department Established and Who Was the First Secretary?

The law setting up an independent department was passed May 15, 1862, though an Agricultural Division had been in existence in the Patent Office since 1836. The first Commissioner of Agriculture was Isaac Newton, a native of New Jersey, but who early in life settled in Pennsylvania, where he devoted himself to scientific farming. On February 9, 1889, the department became one of the executive departments of the Government and Commissioner N. J. Colman was appointed as the first Secretary. He served a little less than one month. The first Secretary to serve a full term was J. M. Rusk, of Ohio.

How Many County Agricultural Agents, Home Demonstration Agents, and Boys' and Girls' Club Agents Are There at Work in the United States?

According to a statement for the period beginning May 1, not including the District of Columbia, there were 2,323 county agents, assistants, and negro

agents, and a total of 2,488 people engaged in county agent work; 918 county home demonstration agents, assistants, and negro agents, and a total number of all home demonstration workers of 1,034; and 150 county boys' and girls' leaders, with a total of 251 people engaged in club work.

Is All Meat Sold for Consumption Inspected by the Federal Government?

No. Under the Federal law as administered by the Bureau of Animal Industry only meat and meat products from establishments that go into interstate or foreign commerce are inspected. There are about 900 establishments in 260 cities and towns now under Federal supervision and in the neighborhood of 65,000,000 animals and the meat products from these animals are thoroughly inspected each year. Some cities and States have regulations whereby meat slaughtered and consumed locally is inspected, but this practice is not general.

Where Can Information About Durum Wheats Be Secured?

The 12 varieties of durum wheat commercially grown in the United States differ in their adaptation and yielding ability, resistance to drought and rust, and in the quality of their grain, as well as in their appearance. They are all described in Farmers' Bulletin 1304, "The Durum Wheats," just published by the Department. The distinguishing characteristics and the adaptation of the 12 varieties are thoroughly discussed in this bulletin. A copy can be secured by writing the department.

U. S. D. A. CLUB IN LOS ANGELES.

In accordance with the expressed wish of the Secretary during his recent visit to Los Angeles local representatives of the United States Department of Agriculture met in the Federal Building May 4 and organized a U. S. D. A. Club, to be known as the Angelusda Club of Los Angeles, Calif.

Col. H. B. Hersey, local representative in charge of the Weather Bureau and dean of the department's staff in southern California, was responsible for action in calling the representatives of the department together for the purpose of forming a U. S. D. A. Club, of which he was elected president. C. H. Beauchamp, supervisor, representing the Packers and Stockyards Administration, was elected secretary of the club.

Representatives of the various branches present at the initial meeting were: H. B. Hersey, Weather Bureau; R. H. Charlton, Forest Service; E. C. Rittue, Plant Industry; Geo. T. Irons, Bureau

Animal Industry; Homer A. Harris, Bureau Agricultural Economics; E. M. Chase and P. F. Nichols, Bureau of Chemistry; B. C. Winston, and W. M. Bowman, Food and Drug Inspection; A. O. Larson, and W. Earle Fisher, Bureau Entomology; C. H. Beauchamp, Packers and Stockyards Administration.

There were no rules or by-laws adopted to govern the actions of the club. It was unanimously agreed that the club meet at noon on the second Tuesday of each month hereafter, at which time a representative of a division of the department would outline the particular work in which he is engaged for the purpose of creating a better understanding and establishing a spirit of friendliness among the various branches of the department.

The secretary of the club was requested to make a complete roster of department workers in Los Angeles and vicinity and see that an invitation be extended those who were not present at this meeting to become members of the club.

Following the election of officers and a discussion of the aims and purposes of the club the meeting adjourned until June 12, when the initial club luncheon will be held.

CLUB MEETINGS.

The following statement as to the regular meetings of the U. S. D. A. clubs is given for the benefit of the local department representatives, and also for the information of interested visitors from Washington and elsewhere temporarily in the city who would like to get in touch with the clubs:

Birmingham Club (Federal Agricultural Technical Association), second Saturday, 8 p. m.; Post Office Building; Edgar C. Horton, Weather Bureau, secretary.

Chicago Club, third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.

Denver Club, second Monday; lunch 12.15, Denver Civic and Commercial Association; W. J. Ise, office of the solicitor, secretary.

Houston Club, lunch, first Wednesday, L. H. Daingerfield, Stewart Building.

Indianapolis Club (Unity Club), second Monday; lunch, Chamber of Commerce Building; J. A. Armington, Weather Bureau, secretary.

Kansas City Club, Sidney A. Johnson, 923 Live Stock Exchange Building, secretary.

Los Angeles Club, second Tuesday, C. H. Beauchamp, 207 Live Stock Exchange Building, secretary.

New York Club (NYUSDA), second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. H. Stanton, 204 Franklin Street, secretary.

Oklahoma City Club, second Monday; lunch, Chamber of Commerce; Mattie A. Craig, 202 Grand Street, secretary.

Philadelphia Club, third Wednesday; lunch, Snellenberg's Restaurant; C. S. Brinton, 134 Second Street, secretary.

Portland (Oreg.) Club, first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, Post Office Building, secretary.

San Francisco Club, first Wednesday, 12.15; Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.

St. Joseph Club, second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary.

St. Louis Club, second Friday; B. S. Jones, 413 Old Customs House, secretary.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

As a result of the use of fertilizers and the development of better varieties the yield of tobacco per acre has been increased during the past 25 years from a little more than 700 pounds to over 800 pounds. Prior to 1895 the production per acre remained about steady. In this work the department has taken a prominent part.

The department has made extensive studies of the soils required for the various types of tobacco, has developed improved cultural methods, better varieties, means of controlling diseases and insects, and has devised new curing and handling practices.

One of the important results of the department's work has been the development of the shade-grown tobacco industry in New England and Florida. It has also developed varieties of burley and other types which are resistant to root rot diseases. Steam sterilization of tobacco seed beds, which destroys fungous diseases and weed seeds, now generally practiced by growers, was originated by the department. The introduction of the bulk method of sweating tobacco in the northern cigar tobacco district is credited to department workers. Much work has been done also on the determination of the kind and quantities of fertilizer desirable for each type.

It was during the study of the Maryland Mammoth variety of tobacco that the effect of the length of day on the flowering and fruiting of plants was discovered, a discovery that proved of wide interest among plant breeders. It was found that Maryland Mammoth tobacco grew abundantly in northern regions but it would not seed. By artificially shortening the day by means of a "dark house," it was found that the length of day determined when the plant seeded. By planting Maryland Mammoth tobacco in Florida where the days were shorter the plants seeded. This theory is thought to have great possibilities in the production of many crops.

In recent years there has been a growing shortage of the cedar from which cigar boxes are made, and the increasing price has forced many manufacturers to resort to the use of cheaper woods which lack the quality of fragrance which makes the cedar desirable. The department has been at work on specially treated paper which would give

boxes made of more or less odorless wood the fragrance of cedar. Specially treated paper inserts have been used by manufacturers with encouraging results.

INVESTIGATING MUSKRAT FARMING.

F. G. Ashbrook and Talbott Dennead, of the Bureau of Biological Survey, made a short study of muskrat farming early in March in the marshes of Dorchester County, on the Eastern Shore of Maryland, where the muskrat industry has reached its highest development in the United States. In no other part of the country are there more extensive marsh lands than in the Maryland counties of Dorchester, Wicomico, Somerset, and Worcester, and more muskrats per acre are produced there than in any other known area.

These marsh lands, being subject to tidal overflows, are useless so far as raising crops is concerned, but owing to the increasing value of the fur produced on them, many areas, rated by actual income per acre, are worth considerably more than cultivated lands in the same vicinity. The muskrat industry has been carried on in Dorchester County for more than a hundred years. More than a quarter of a million skins are taken annually, a crop that at present prices brings into the county over \$300,000 every year.

Muskrat meat is an additional source of income to the marsh owners and trappers. Some of the meat is sold locally, but the greater portion is shipped to Baltimore, Wilmington, and Philadelphia, the Baltimore market, however, absorbing the bulk of the shipments. On the market it is sold as "marsh rabbit," but no attempt is made to conceal the fact that it is really muskrat meat. Carcasses average in weight from 1 to 1½ pounds, although a number weigh 2 pounds dressed. They retail for from 20 to 25 cents each.

BLUEBERRIES ON COMMERCIAL BASIS.

The culture of the blueberry has been established as a commercial industry through the efforts of the Bureau of Plant Industry and as the result of experimental work extending over a period of 16 years. Varieties with berries more than four-fifths of an inch in diameter have been bred under the direction of Dr. F. V. Coville in the greenhouses in Washington and at the testing plantation for hybrids at Whitesbog, near Browns Mills, N. J. About 20,000 different hybrids have been fruited up to date. The most outstanding cultural characteristic of the

blueberry is its requirement of an acid sandy soil.

Propagation material of about half a dozen of the best hybrids has been placed in the hands of several nurserymen for propagation and commercial dissemination and at least one variety, Pioneer, is now commercially available. The department recently has been compelled to issue a warning against the sale of ordinary wild blueberry plants under advertisements that lead the purchaser to believe that he is getting improved blueberry varieties.

TO SURVEY GREAT PLAINS.

To determine the progress made by farmers since settling upon land in the Great Plains Area, with a view to assisting them in planning their operations for the future, the Divisions of Land Economics and Farm Management of the Bureau of Agricultural Economics are planning to make a survey similar to the one carried on last summer in northeastern Montana. The work will be carried on cooperatively with the State colleges in Montana, North and South Dakota, Colorado, and Kansas.

The personnel of the party, which will leave Washington the latter part of May, is: E. O. Wooton, of Land Economics, and E. R. Johnson and L. A. Reynoldson, of Farm Management.

In addition to the survey, it is planned to visit outstanding farmers in each area and from them learn about practices which have made them successful. Historical records of prices, freight rates, interest rates, taxes and labor and threshing costs will be obtained for each area visited.

VISITORS TO DEPARTMENT.

Dr. R. C. Knight, plant physiologist of the research station, East Malling, Kent, England, visited the Bureau of Plant Industry May 10 and 11 to obtain information in connection with the physiological problems of growing hardy fruits. In this connection he plans to visit the Experiment Stations of the North and of the Pacific coast.

Ikuo Yahiro, of the Department of Agriculture of the Government General of Chosen, Japan, visited the Bureau of Plant Industry May 10 to obtain information relative to irrigation agriculture and the water requirement of plants.

H. G. Knight, director of the West Virginia agricultural experiment station, Morgantown, W. Va., visited the States Relations Service and Bureau of Animal Industry, May 11, to discuss some studies to be made cooperatively by the West Virginia station and the dairy division of the Bureau of Animal Industry.

Dr. Edgar M. Ledyard, director of the Agricultural Department of the United States Smelting, Refining & Mining Co., visited the department May 16.

BRIEF REVIEWS OF NEW BULLETINS.

Migration Records from Wild Ducks and Other Birds Banded in the Salt Lake Valley, Utah. By Alexander Wetmore, assistant biologist, Division of Biological Investigations, Bureau of Biological Survey. Pp. 16, fig. 1, pls. 2. May 10, 1923. (Department Bulletin 1145.) Price, 5 cents.

While engaged in a study of alkali poisoning prevalent among waterfowl in the Salt Lake marshes, the author banded and released over 1,200 birds of 23 different species, the majority being ducks. From these birds 185 returns were received. These are tabulated and described in detail for the benefit of sportsmen, ornithologists, and others interested in bird migration and the protection of game birds.

A study of the results shows that many mallards remain in ponds and channels kept open by the inflow of spring water after the more extensive bodies of water are closed by ice. Such birds pass north in suitable localities as far as the Snake River in Idaho. The majority of green-winged teals, cinnamon teals, and spoonbills seem to leave Utah to winter in California. Part of the pintails after leaving Utah go to California to winter in the interior valleys, while others cross to the Great Plains and go southward to the Gulf coast in Texas. The spring migration carries the latter birds northward through the plains again, and eastward as far as western Missouri and north at least into southern Canada.

Kiln Drying Handbook. By Rolf Thelen, in charge, section of timber physics, Forest Products Laboratory, Forest Service. Pp. 64, figs. 12, pls. 11. May 12, 1923. (Department Bulletin 1136.) Price, 25 cents.

Information concerning different types of kilns and the principles underlying their operation is given, and a discussion of the instruments and apparatus employed in kiln drying. It also includes detailed instructions for the operation of dry kilns, and drying schedules for most of the important commercial woods of this country. Special instructions concerning the methods of conditioning the lumber in the kiln in order to relieve casehardening are given, and a chapter is devoted to the care and calibration of kiln apparatus. Recommendations are made concerning the proper moisture to which stock should be dried for various purposes.

The 24 illustrations include photographs of a number of different types of kiln-control apparatus, shown in section so that their operation is evident, and a series of drawings to illustrate the principles of various types of kilns. A list of the special apparatus used in kiln operation is presented for the guidance of the operator.

The information presented in this handbook is based upon experiments conducted by the staff of the Forest Products Laboratory, of the Forest Service, and represents the best drying practice at the present time. Preventable losses in seasoning are conservatively estimated at \$50,000,000 annually in the United States.

How to Get Rid of Rats. By James Silver, biological assistant, Division of Economic Investigations, Bureau of Biological Survey. Pp. 14, figs. 8. April, 1923. (Farmers Bulletin 1302.)

The all-important measures to be taken in ridding a farm or community of rats are the removal of food and shelter, poisoning, trapping, and fumigating their burrows. The bulletin points out that these measures

should be taken not only by individuals but by entire communities. The most effective means known to the department for destroying rats is by poisoning wherever it can be employed with safety. Barium carbonate has been found the most satisfactory poison, and directions for applying it successfully are given. Trapping is equally effective, but requires more skill and labor. In fields, along ditch banks and levees, around farm buildings, and in dirt cellars, rat burrows dug in solid earth may sometimes be fumigated with carbon bisulphide, or with the exhaust from a gasoline engine. In seed warehouses and similar structures a liberal supply of flake naphthalene will keep rats away. Rat-proofing a building is the cheapest rat insurance in the long run. Dogs are often a help, but cats are rarely useful. The Biological Survey will assist in planning, organizing and prosecuting antirrat campaigns, and will furnish plans, instructions, publicity material, and sample posters with which communities can carry on their campaign against rats.

In the Land of the Ancient Cliff Dweller: Bandelier National Monument, Santa Fe National Forest, New Mexico. Prepared by the Forest Service. Pp. 18, il. March, 1923. (Miscellaneous Circular No. 5.) Price, 5 cents. For sale only.

Few regions, if any, offer the tourist a better combination of scenic beauty and antiquarian interest than the Bandelier National Monument, located within the Santa Fe National Forest, according to this booklet. The Bandelier National Monument was established in 1916 to preserve the relics of the vanished race of cliff dwellers which once inhabited this region.

From Santa Fe, the capital of New Mexico, the Bandelier National Monument may be reached by motor, a distance of 38 miles. From Buckman, a station on the Denver & Rio Grande Railway, the distance is 17 miles, but as no automobiles are available at this point arrangements for transportation must be made in advance. The booklet describes the country in detail and gives considerable data concerning such ruins as remain.

Decays and Discolorations in Airplane Woods. By J. S. Boyce, Pathologist, Office of Investigations in Forest Pathology, Bureau of Plant Industry. Pp. 52, figs. 9, 7 plates in color. February 20, 1923. (Department Bulletin 1128.) Price, 20 cents.

A general discussion is given of airplane woods, the criteria used in judging the strength of wood, and various mechanical defects. Steaming and bending injures some wood; however, the discoloration common in steamed hardwoods does not indicate weakening. There are also a number of color changes due to drying, oxidation, or exposure to light or weather, which do not indicate weakening. Sap stain, which may develop rapidly in cut timber, is due to fungi which do not weaken the wood. The slower wood-rotting fungi, both those which attack the heartwood during the life of the tree and those which enter the wood after cutting, are a more serious menace. Incipient decay may run lengthwise in the wood as much as 15 feet beyond the end of the typical decay. The discoloration produced by this incipient decay is very faint in the case of some fungi, and especially hard to detect after the timber is dry. With the exception of a couple of specific cases such discolored wood contains the decay fungus, is already weakened,

and likely to be further weakened by continued fungal activity. Safety demands that all wood be discarded for at least 2 feet longitudinally and 2 inches across the grain beyond the extreme edge of the visible discoloration. The decays produced by a number of the more important fungi are described, and five of them, as well as the less harmful sap stain, are illustrated in color. The most important preventive measure is to dry the lumber and keep it dry. Decaying wood should be removed from storage places, as it may infect sound wood.

Soil Survey of Multnomah County, Oreg. By C. V. Ruzek, of the Oregon Agricultural Experiment Station, and E. J. Carpenter, of the U. S. Department of Agriculture. Pp. 98, fig. 1, pls. 2, map. (From F. O. Soils, 1919.)

The agricultural development and settlement of Multnomah County, Oreg., has been determined almost entirely by the growth of the city of Portland, which occupies over one-eighth of the area of the county. The county is the smallest in the State, the total area being 209,920 acres. It is the most densely populated county, as it contains the city of Portland. Portland serves as the principal outlet for foreign and domestic trade for the inland territory of over 250,000 square miles, known as the Columbia River Basin, and the Willamette Valley. It provides exceptional markets for every variety of farm produce, and is the center of the live-stock and beef-packing industry of the entire Pacific Northwest. About one-eighth of the county is in highly improved farms, and there are yet 140,000 acres outside the city of Portland susceptible to ultimate cultivation. Most of the uncultivated land is timberland, logged-over land, and overflow land along the Columbia River, now being diked to prevent further flooding. About one-tenth of the area in the extreme eastern part of the county is in national forest.

At the present time the agriculture consists of dairying, market gardening, the growing of small fruits, and the raising of poultry. This development has taken place to meet the demands of the foreign market. The soils of the county, which are varied, are shown on a large colored map attached to the report.

ADDITIONAL PUBLICATIONS.

Experiment Station Record. Vol. 48, No. 6. Abstract number. May 12, 1923. Pp. 501-600. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Farm Slaughtering and Use of Lamb and Mutton. By C. G. Potts, animal husbandman. Animal Husbandry Division, Bureau of Animal Industry. Pp. 32, figs. 30. Revised April, 1923. (Farmers' Bulletin 1172.)

The Muskrat as a Fur Bearer, with Notes on Its Use as Food. By David E. Lantz, late assistant biologist, Division of Economic Investigations, Bureau of Biological Survey. Pp. 20, figs. 4. Revised April, 1923. (Farmers' Bulletin 869.)

Service and Regulatory Announcements. Insecticide and Fungicide Board. No. 44. Notices of Judgments 826-850. Pp. 1033-1056. May, 1923. Price, 5 cents.

Natural Production of Western Yellow Pine in the Southwest. By G. A. Pearson, silviculturist, Fort Valley Forest Experiment Station, Forest Service. Pp. 144, figs. 16, pls. 22. April 27, 1923. (Department Bulletin 1105.) Price, 30 cents.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Address delivered by Sir John Higgins in Melbourne, on the 29th August, 1922, at a conference of representatives of the wool industry. [Melbourne?] Sands & McDougall pty. ltd. [1922?].
- Aetiology and pathology of rickets from an experimental point of view. By Korenchevsky. London, 1922. (Medical research council. Special report ser. no. 71.)
- Analyse und konstitutionsermittlung organischer verbindungen, von dr. Hans Meyer. 4. auf. Berlin, J. Springer, 1922.
- Art and practice of innkeeping, by A. F. Part. London, W. Heinemann, 1922.
- Auskunftsbuch für die chemische industrie, hrsg. von H. Blücher. 11. auf. Berlin, 1921.
- Biology of the British Hymenoptera-Heteroptera, by E. A. Butler. London, H. F. & G. Witherby, 1923.
- La Bulgarie économique 1879-1911. Par K. G. Popoff. Académie bulgare des sciences. Sofia, 1920.
- Consolidation of railroads in the United States. National industrial conference board. New York, 1923. (Research report no. 56)
- Cotton year book, 1921/22. [New Orleans, La., 1922?].
- Entomologie économique, by C. Ferrière. Berne, E. Bircher, 1922.
- Evolution of man, ed. by G. A. Baitsell. New Haven, Yale university press, 1922.
- Food production in war, by T. H. Middleton. Oxford, Clarendon press, 1923. (Carnegie endowment for international peace. Division of economics and history. Publications)
- Gt. Brit. Agricultural tribunal of investigation. Interim report. London, 1923.
- Gt. Brit. Committee on rubber situation in British colonies and protectorates. Report. London, 1922.
- Gt. Brit. Interdepartmental committee on the laws, regulations and procedure governing the sale of milk in Scotland. Report. Edinburgh, 1922.
- Great Britain's economic policy. By H. Tenenbaum. London, Williams, Lea & co., ltd., 1923.
- Handling the farmers grain from the farmers' wagon to the local elevator, from local elevator to terminal, by F. R. Durant. Minneapolis, Grain bulletin, 1922.
- Ireland. Dept. of agriculture and technical instruction. Departmental committee on the fixing of charges for scutching flax and tow. Report. Dublin, 1918.
- League of nations. Report on economic conditions in Russia. [Nancy, Printed by Berger-Levrault, 1922?]
- Noticia sumaria del comercio exterior Argentino en el decenio 1910-1919. Argentine Republic. Dirección general de estadística. Buenos Aires, 1920.
- Rickets. By H. C. Mann. London, 1922. (Medical research council. Special report ser. no. 68)
- Sweet potato industry of Georgia. Georgia State bureau of markets. Atlanta [1922?]
- Saskatchewan. Royal commission of inquiry into farming conditions. Report. Regina, 1921.
- Le socialisme et l'agriculture française, par M. Lar. Paris, Plon-Nourrit et cie, 1922.
- Die staatliche organisation der sortenprüfung, von K. H. T. Rümber. Berlin, P. Parey, 1918.
- Stale bread loss as a problem of the baking industry, by J. S. Davis and W. El-dred. Stanford university, 1923. (Food research institute, Stanford university, California. Publications no. 1, February, 1923)
- State control in war & peace. By Sir A. Goldfinch. Waterloo, Printed by W. H. Smith & son, 1922.
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- Pear by-products. J. H. Irish. (California Sta. Circ. 259, pp. 4, Apr. 1923.)
- Report of the Creamery License Section, 1918-1922. P. E. Bacon. (Kentucky Sta. Reg. Ser. 3, pp. 15, fig. 1, Dec. 1922.)
- Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and G. E. Lindskog. (Massachusetts Sta. Met. Bul. 412, pp. 4, Apr. 1923.)
- Lime for St. Joseph County soils. M. M. McCool and L. C. Whetting. (Michigan Sta. Circ. Bul. 55, pp. 4, fig. 1, Apr. 1923.)

- Lime for Cass County soils. M. M. McCool and J. O. Veatch. (Michigan Sta. Circ. Bul. 56, pp. 4, fig. 1, Apr. 1923.)
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- Productive seed corn. T. A. Kieselbach. (Nebraska Sta. Bul. 188, pp. 35, figs. 7, Apr. 1923.)
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- The biology of the Chrysopidae. R. C. Smith. (New York Cornell Sta. Memoir 58, 1287-1372, pls. 4, figs. 20, June, 1922.)
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CRANBERRY ROT VILLAIN IN FILM.

"Cranberries, and why they are sometimes bitter" is the title of a one-reel motion picture just released. This film, made under the direction of specialists of the Bureau of Plant Industry, is designed to appeal to the grower, in pointing out cultural methods to minimize the bitterness of the cranberry, and to the consumer, in telling how to choose and prepare berries for the table with a view to making them most palatable.

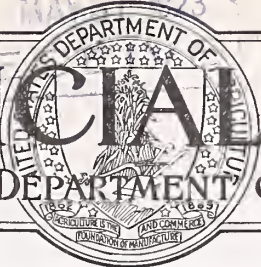
Various scenes, photographed in the Cape Cod region, on the New Jersey bogs and in the laboratories of the Department of Agriculture, show that the bitterness of the cranberry is caused by the cranberry rot. The way to avoid rot is to handle the crop so as to prevent infection from certain fungi that attack the berry. Methods of control, including spraying, flooding, handling of fruit, and packing, are shown in considerable detail.

For the consumer the lesson taught is that soft cranberries are rotten, and hence bitter; that in buying, firm berries are to be desired; and that in preparing for cooking all soft berries should be culled out.

An interesting feature of the picture is a series of scenes staged to show how the Pilgrims of Plymouth were taught the use of the cranberry by the Indians.

The new film will be circulated, through the department's distribution system. Prints may be obtained by authorized purchasers at the laboratory cost.

According to a recent report compiled by the Forest Products Laboratory, more than 2,000,000 dozen new chairs are required annually by the people of the United States.



THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., MAY 30, 1923.

No. 22.

BETTER FARM HOMES OF FIRST IMPORTANCE

Corn Belt States Conference Urges Emphasis on Home and Farm Management.

A farm home in which is found a prosperous, happy, contented, and intelligent family was declared to be the ultimate object of all agricultural endeavor by the farm home and farm management conference of State extension workers of the Corn Belt States held May 16 to 18 in Chicago. The conference brought out in connection with discussion of methods of improving the farm home the need for considering the size of the farm family, the organization of the kitchen as an efficient workshop, and the planning of the living room as a place conducive to restfulness and to social intercourse between the farm family and its friends.

The importance of the spiritual and recreational phases of rural life and the need of increasing emphasis on them in extension work was stressed. It was agreed that workers in horticulture, rural engineering, dairying, poultry, landscape gardening, as well as home economics are all concerned in the development of the better farm home, and that their active cooperation is necessary to secure the most satisfactory results. It was the consensus of opinion that in order to carry out an efficient farm and home program a home demonstration agent should be placed in each county as rapidly as interest and funds would permit.

Many States Represented.

The conference was attended by representatives from North Dakota, South Dakota, Nebraska, Kansas, Missouri, Iowa, Minnesota, Wisconsin, Illinois, Indiana, Michigan, and Ohio and by representatives of the States Relations Service. The Assistant Secretary, C. W. Pugsley, was the principal speaker at the banquet, which was held at the Hotel Sherman. He gave an address on the reorganization of

the department. Others from the department who attended the conference were A. C. True, C. B. Smith, L. H. Goddard, G. E. Farrell, H. W. Gilbertson, Grace E. Frysinger, Gertrude L. Warren, I. L. Hobson, H. M. Dixon, and I. O. Schaub.

In order that the extension service may be of the greatest possible aid in promoting an improved type of farm home, it was declared there must be a definite organization reaching into the community with instruction based on definitely recommended practices and sound methods of extension teaching.

The conference urged that a definite study of extension methods should be made by each State, with the object of standardizing and improving the work, and that an organized study of existing conditions in the home be made as a basis for sound programs of extension work. The appointment of a farm home committee in each State composed of representatives of the departments and organizations concerned with home betterment was also recommended.

(Continued on page 3.)

ENGLISH OFFICIALS WILL CONFER.

A delegation of officials from the Liverpool Cotton Association and the Manchester Royal Exchange and Board of Trade will come to Washington June 11 to confer with Secretary Wallace in regard to the provisions of the cotton standards act, which will go into effect August 1. The meeting will be held for the purpose of deciding what business adjustments will have to be made by foreign merchants handling American cotton as the result of the act. The act provides that all sales and shipments of American cotton in interstate and foreign commerce, according to any standard, must be in accordance with the United States official cotton standards.

Edward Porriett will head the delegation, which will arrive in New York about June 1. Other members of the delegation are A. C. Nickson, H. L. Roxburgh, Cecil Taylor, and Mr. Clayton.

FEDERAL ROAD PLAN MAKES RAPID PROGRESS

Secretary Wallace Says System Will Provide Local and National Service.

"Before we realize it we shall find that we have a Federal road system which will serve local needs and one upon which the tourist may drive from one end of the country to another and from one part of any one State to another in the assurance of finding good roads everywhere," said Secretary Wallace in an address before the meeting of the American Automobile Association held May 23 in New York City.

Highway System Progressing.

In discussing the work of the Bureau of Public Roads and the progress under the Federal highway act, the Secretary said:

"The designation and approval of the Federal aid highway system under the act of 1921 is progressing rapidly. By the end of the summer approximately 179,000 miles will have been designated as a part of this system. Up to May 5 all but three States had submitted tentative systems for approval. The systems of 33 States had been formally approved, including a total of 105,406 miles."

Considering the approved systems in the 33 States we find that of the 1,015 cities of 5,000 or more population in these States, 959 of them lie directly on the approved system, and there is not one but will be connected with the system by an improved State or county road. When the system is completed, therefore, one will be able to travel from any town of 5,000 population or greater to any other town of the same population without leaving an improved road.

The detailed study of the availability of the improved roads to the total population has not been completed, but if we take typical States in the East, Middle West, and West, we find that the roads

on the Federal aid system will give a maximum of service. In Maryland not more than 2½ per cent of the population lives farther than 10 miles from a Federal aid road; in Indiana less than 1 per cent; in Arizona, where the total population is but 334,000, perhaps one-third will live outside of the 10-mile zone.

A Federal aid road will cross the western mountains at practically every one of the important passes. The Rockies will be crossed at Berthoud, Lookout, Gibson, Targhee, Pleasant Valley, and Reynolds Passes in Montana and Idaho; La Veta, Wolf Creek, and Red Mountain Passes in Colorado; and Raton Pass on the Colorado-New Mexico line. The Cascade Range will be crossed at Stephens and Snoqualmie Passes in Washington and Grants Pass in Oregon, and the Sierra Nevadas will be crossed at Truckee and Walker Passes in California.

Maximum Service Desired.

In designating the routes to be included in the Federal aid system, the chief aim of the States and the Federal agency has been to select routes which will give the maximum of local service and at the same time connect with one another to form a great national highway system. The States were first asked to certify the total mileage of road in existence at the time the act was passed. Seven per cent of this was the maximum allowable mileage that could be included in the system. The total was 194,262 miles. The States were then asked to prepare maps of State systems proposed by them, locating the roads by controlling points. These State systems were carefully reviewed and studied by the department and some changes were suggested as being desirable from the national point of view. Conferences were held between representatives of the department and of States and groups of States, and out of these conferences came agreement as to the systems finally decided upon.

Federal aid for road building was inaugurated by the Federal aid road act, approved July 11, 1916.

Since the above date \$540,000,000 has been appropriated or authorized for the fiscal years 1917 to 1925; inclusive. Of the above amount, \$75,000,000 is authorized for the fiscal year 1925 and will not be available for expenditure until July 1, 1924. Sixty-five million dollars is authorized for the fiscal year beginning July 1 of this year, leaving \$400,000,000 authorized or appropriated for expenditure up to the current fiscal year.

Of the \$400,000,000 authorized or appropriated up to the current fiscal year

\$226,274,214 had been paid to the States for work completed up to March 31, of which \$160,938,223 was paid on projects completed and accepted, and \$65,335,991 had been paid in progress payments for work completed on projects which were still under construction on March 31.

On March 31, 21,638 miles had been completed at a total cost of \$378,087,845, and the Federal share of the cost, amounting to \$160,938,223, had been paid to the States.

On the same date 3,413 miles additional had been completed but they had not been inspected for final acceptance. The total cost of these roads was approximately \$51,500,000.

On the same date there were 14,010 miles under construction, and these roads were reported at the time as 56 per cent complete in the aggregate.

The total mileage completed or under construction on March 31 was 39,062 miles.

CANTALOUPE STANDARDS PROPOSED.

An exhaustive study of the composition of California salmon-tint muskmelons made by the laboratory of fruit and vegetable chemistry of the Bureau of Chemistry, located in Los Angeles, has resulted in the enactment of an amendment to the California fruit and vegetable standardization act embodying a standard for this fruit. The bill is now before the governor for his consideration.

As this amendment would have no effect in standardizing a large part of the melons coming from the Imperial Valley during this season, the growers and shippers took advantage of a section of the act which permits them to set their own standard. At a meeting in El Centro, May 11, growers and shippers representing some 15,000 of the 25,000 acres planted to cantaloupes in Imperial County this year adopted a resolution which makes the standard enforceable by the county authorities immediately, and it is believed that a great improvement in the quality of the melons shipped from California will result. The melons which are shipped from central California later in the season will come within the scope of the amendment to the standardization act.

OFFICIAL WOOL STANDARDS.

Official standards of the United States for grades of wool have been established by the Secretary of Agriculture, effective July 1, 1923. On and after that date the grading of wool in warehouses licensed under the warehouse act must

be in accordance with the official grades. Otherwise the adoption of the grades by the trade will be permissive except where State laws or local ordinances make their use compulsory.

The grades established are fine, one-half blood, three-eighths blood, one-fourth blood, low-quarter blood, common, and braid.

In the order of promulgation, it is stated that the principal value-determining properties of wool are diameter of fiber, length of fiber, spinning quality of fiber, and shrinkage of wool. Since there is a more or less consistent relation between fineness of wool and the variations in the other factors, diameter of fiber has been regarded as basic, and in the investigations conducted by the bureau has been given primary consideration.

Further steps in the standardization work are to be taken, it is announced. This work will include a correlation of the standard grades with British classifications; the development of a standard terminology for length, on which some progress has been made; development of standards for spinning qualities of the fiber; and development of standards for describing or indicating the shrinkage, degree of foreign matter, etc., in wool.

REPORTS ON NEW WAVE LENGTH.

Market and crop reports can now be heard with the use of all classes of radio receiving sets within a 300-mile radius of Washington as a result of broadcasting reports from NAA, the Government radio broadcasting station at Washington, D. C., on 435 meters wave length. The reports were formerly broadcast on 710 meters wave length, which was beyond the range of most of the receiving equipment in general use. More than 90 public and private broadcasting stations now dispatch official agricultural reports furnished by the Department of Agriculture, and farmers everywhere are said to be making daily use of the service in marketing their products.

J. W. O'Brien, a plant quarantine inspector of the Federal Horticultural Board, located in New York City, recently intercepted in cooperation with the customs officials living larvae of the European corn borer in stalks of broom-corn contained in passenger's baggage. This material was taken from the baggage of a third-class passenger arriving from Italy who proposed to take it to Missouri. Subsequent to this interception Mr. O'Brien discovered a similar collection in the baggage of a passenger arriving from Germany.

Slight Danger of Importation of Foot-and-Mouth Disease

That there is little danger of the foot-and-mouth disease being transmitted to the United States through shipments of merchandise from Guatemala, is shown by investigations made by Drs. L. Enos Day and Howard L. Darby, of the Bureau of Animal Industry, who have just returned from that country. This is because of the fact that little or no livestock is imported from Guatemala, and bananas and coffee, which are the principal articles of export, do not come in direct contact with cattle in any way. Coffee is sometimes hauled in ox-carts from the field to the hulling machine, but the hulls and berries are thoroughly dried in the sun and the hulls removed from the berries before shipping.

Doctor Day and Doctor Darby went to Guatemala in March to study an outbreak of the disease and make arrangement to prevent its reaching the United States. The report of their investigations shows that, although a mild form of foot-and-mouth disease is reported to have appeared in great numbers of the cattle in Guatemala during the months of November and December, 1922, and the early part of January, 1923, it apparently disappeared about the middle of January. They were unable to find any disease in cattle in Guatemala which simulated foot-and-mouth disease. Guatemalan veterinarians appear to believe that climatic conditions in their country are not favorable to the perpetuation of this disease, but that it is likely to reappear after an indefinite period.

Guatemalan officials have assured the department of their desire to cooperate with the department in case of future outbreaks to prevent the spread of the disease to the United States.

MOVE TO PREVENT CATTLE LOSSES.

A committee representing the Traders' Live Stock Exchange of Chicago and the Chicago Live Stock Exchange visited the department May 18 and conferred with Secretary Wallace and Dr. J. R. Mohler in regard to losses from hemorrhagic septicemia, which have been occurring in feeder and stocker cattle in practically all sections of the Corn Belt. The committee consisted of Messrs. Everett Brown, president Chicago Live Stock Exchange; E. Clinton Adams, president Traders' Live Stock Exchange; C. E. Day, of the firm of J. J. Lawler; and E. G. Fulkerson, president National Live Stock Commission Co.

The importance of putting additional control measures into effect to prevent such losses was urged. After an extended discussion it was decided that in addition to continuing the control measures now in effect arrangements will be made by the department with the railroads to supervise the disinfection of cars, which will be furnished to shippers on request. The department will also procure and furnish vaccine for shippers wishing to have their animals vaccinated before shipment from any of the large central markets. It was agreed that this treatment should be optional with the owner, but that every effort should be made to encourage shippers to have their animals vaccinated before loading them for movement to country points.

INSPECTORS TO CONFER IN CHICAGO.

A conference of inspectors in charge of the Federal meat inspection service from all parts of the country, traveling inspectors, and inspection officials from the Washington office will be held in Chicago June 18 to 20. Problems of common interest will be discussed. Plans have been made for a meeting of 127 men, mostly inspectors in charge, who will represent the 2,400 employees who carry on the work in 257 plants in 45 States.

The principal feature of the meeting will be the reading and discussion of papers specially prepared by inspectors and dealing chiefly with questions of how to promote uniformity and efficiency in the service. The conference will be in charge of Dr. J. R. Mohler, Chief of the Bureau of Animal Industry.

GREAT PLAINS AGENTS MEET.

A meeting of department representatives and State agents cooperating in the collection of ranch cost of production and ranch management data in the Great Plains area was held at Fort Collins, Colo., May 14, 15, and 16. The purpose of this meeting, which was called by R. H. Wilcox, of the Bureau of Agricultural Economics, was to discuss the objectives in this work and to take up ways and means of improving and coordinating the field work which has been in progress now for approximately 12 months. In addition to State representatives, the conference was attended by G. S. Klemmedson, in field charge of the work, and R. H. Wilcox of the Bureau of Agricultural Economics, V. V. Parr and W. H. Black, of the Bureau of Animal Industry.

Definite plans were made for the publication of data covering the cost of run-

ning 34,000 head of cattle on the forest range in 1922. In addition to the forest-range figures, summarization of ranch cost and management data on approximately 60 ranches carrying over 50,000 cows in 1922 is nearing completion. These data will be published in a preliminary report.

AT THE FLAG SMUT CONFERENCE.

Dr. K. F. Kellerman, of the Bureau of Plant Industry, Dr. W. H. Tisdale, Dr. C. E. Leighty, and Dr. H. B. Humphreys left May 23 to attend the flag smut conference at Springfield, Ill. The conference was also attended by representatives of the experiment stations in Kansas, Missouri, and Illinois, and the State Department of Agriculture of Illinois.

BETTER FARM HOMES OF FIRST IMPORTANCE

(Continued from page 1.)

The conference commended the fine contribution made by local leaders and indorsed the use of local leadership in extension work. That it is desirable to develop county unity among the people of the various communities, and that this may be best developed through the medium of a county-wide project in which all communities participate, was also brought out in the discussions.

It was recommended to the directors of extension and the Federal office of extension that a farm-home conference of State leaders engaged in adult and junior extension work be held annually.

Farm Management Objectives.

The farm management section of the conference was attended by leaders of farm-management extension work from every State having such a leader in the central western district. The farm-management report of the conference urges that more aid be given in securing a better understanding of the value of farm products contributed by the farm to family living and that more attention be given to keeping and analyzing farm-household accounts as well as farm-management accounts. The objective suggested for farm-management extension work was (1) to teach farm people how to analyze the internal organization of their business so as to increase the net income over a period of years; (2) to acquaint them with facts bearing on economic changes at home and abroad so that production may be more intelligently adjusted; and (3) to assist in correlating the work of extension forces in developing economically sound extension programs.



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REVISE PINK BOLLWORM QUARANTINE.

A revision of the pink bollworm quarantine to make the federally quarantined areas conform with those established by the infested States, Louisiana, Texas, and New Mexico, has been announced by the Federal Horticultural Board, effective June 1. The changes in the quarantined zones were made by the States with the approval of the board.

The revision makes some minor changes in the regulations now in force to conform with the progress in work of controlling the pest. Removal of the item of hay from the restricted list will greatly reduce the permit work. Several changes are made in regulation 6, covering the control of interstate movement of the regulated articles. Regulation 9 is eliminated, except as to the part relating to transportation companies, which is replaced by regulation 10.

FOSTERING A DEPARTMENT SPIRIT.

In a letter to the Assistant Secretary a food-products inspector located in the Middle West makes the following suggestion:

"I feel that the various branch offices of the Department of Agriculture located in the different cities should not only take care of their specific duties but that they should also be 'information bureaus.' In other words, I believe each branch office in this city should know the location and phone number of every other branch office of the department in the city and the general nature of the services performed by such other offices.

"In case a department field employee is sent into any one city for a few weeks to perform special service in some line of work, I believe that every department office in that city should at once be advised as to his name, address, and the type of work he will perform. Each office should again be notified when he leaves the city and his work is discontinued there.

"I feel sure that if this plan is developed in every city we can render a more prompt and satisfactory service to the public and at the same time it will tend to further cooperate the various men and branches of the department."

Here is a capital idea. It comes unsolicited from a department worker who has the interests of the department as well as his bureau at heart. Fortunately some pioneer work in this direction has been done by the department clubs located in several of the cities. It is a suggestion that only local organization can put into effect. If some club or local organization of department people have considered this matter and have taken steps to meet it, we would like to pass the details on to others through the RECORD. Let us have them.

SAVING UNCLE SAM'S DOLLARS.

Not long ago a coordinating officer in a district in the Middle West sent a report to the Director of the Bureau of the Budget saying among other things: "On page 14 of the pamphlet reporting your speech on January 29 you speak of the Secretary of Agriculture sending to his representatives outside of Washington an appeal for the conservation of public funds, etc. We can see the result of that appeal whenever we visit any activity of that department. The Department of Agriculture representatives are live men and are doing good work."

A voluntary report of this nature is concrete evidence that department people all the way along the line, from the lowest paid positions to the highest, are conscious of their individual responsibility and sympathetic with the efforts of the Government to promote a program of economy.

The effort to save the Government's dollars is being clearly evidenced again this year. In a memorandum to the chiefs of bureaus on May 19 the Secretary said: "So far this fiscal year we have made a good record in wise economy in the expenditure of Government funds. The personal interest which so many of our people have taken in the effort to economize has been most gratifying. During the remaining six weeks of this fiscal year I am anxious that we should keep up the pace we have set.

"You understand, of course, that I am not urging economies at the expense of efficiency or the impairment of important work. That would not be real economy. What I am urging is that we avoid spending money which it is not really necessary to spend. In addition to the saving of money which has resulted from our efforts during the past year, I feel very strongly that the attention which

has been directed to the need for economy has been a wholesome thing for all of our people."

The effort of the individual worker in promoting economy is appreciated. For, after all, if anything is to be accomplished along this line it must come from the initiative of the individual and the teamwork of all.

IS TIMBER A CROP?

Whether timber is to be mined from our forests, without thought of replacement, like coal from our hills, or whether it is to be considered as a crop to be harvested and grown like other farm crops is the main theme of an article in the 1922 Yearbook, entitled "Timber: Mine or Crop?"

The article traces the shifting of the timber industry from the East to the Middle West and South, and then to the West. The necessity for vigorous reforestation and for the conservation of our remaining forests is emphasized since, according to the article, the available timber supply of the United States is being consumed about four times as fast as it is being replaced.

FOREIGN DEMAND FOR RYE.

Rye production in the United States has been on the increase since 1912 and last year was more than double what it was 10 years before, due in great part to the enlarged foreign demand, according to the 1922 Yearbook. European importing countries, shut off from their usual sources of supply in central and eastern Europe, have furnished a market for our increased surplus. In the discussion of the situation and outlook for rye production in the United States it is stated, however, that with the resumption of normal agricultural practices and the stabilizing of trade in Europe it is probable that much of our foreign market for rye will disappear. This will result in lower prices in this country, thereby making the crop less attractive to the farmer.

Among the grain crops discussed in the 1922 Yearbook seed flax is ranked as seventh in acreage in the United States and eighth in value of the product. It is exceeded by corn, wheat, oats, barley, rye, and grain sorghums in acreage and by these crops and rice in value.

Secretary Wallace addressed a meeting of the American Wholesale Grocers' Association May 24, at the Willard Hotel in Washington.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

How Many People in the Department Are Working in Washington?

About 4,000, although the number varies somewhat. The offices and laboratories of the department are located in over 40 buildings in the city.

Was the Founder of Arbor Day Ever in the Department?

Yes. J. Sterling Morton was Secretary from 1893 to 1897. Arbor Day legislation providing that one day each year be made a public holiday and be devoted to tree planting has since been adopted by 42 States.

When Was the Morrill Act Passed?

June 19, 1862. It provided for the establishment of agricultural colleges.

When Was the Packers and Stockyards Act Passed?

It was passed August 15, 1921, and its constitutionality sustained by the Supreme Court of the United States on May 1, 1922. Under the act live-stock market supervisors are stationed at 19 stockyards. From these stations the other 60 stockyards under the jurisdiction of the Secretary of Agriculture are visited frequently.

How Long Has the Bureau of Agricultural Economics Been in Existence?

Since July 1, 1922. It is a consolidation of the Bureau of Markets, Bureau of Crop Estimates, and the Office of Farm Management and Farm Economics.

How Does the Department Distribute Its Radio Information?

The department has no broadcasting station of its own, but depends upon the cooperation of the Navy and Post Office Departments, and commercial stations. There are 80 stations broadcasting market reports, 140 radio telephone, and 30 radio telegraph stations sending out weather forecasts and information, and a large number sending out general agricultural news and special talks from the department.

What Is the Plant Quarantine Act?

This act gives the department authority to inspect all importations of plants

from other countries and to take such measures as are necessary to prevent the entry of foreign plant pests that might be carried in. The act was approved in 1912 and is enforced directly by the Federal Horticultural Board. A number of destructive plant pests and diseases have been intercepted since that time. Inspectors keep a strict watch at all ports and along the Mexican border to see that the act is not violated.

To What Extent Have Soil Surveys Been Made?

The total area covered by detailed surveys from the inception of the work to and including June 30, 1922, amounted to 602,743 square miles, or 385,755,520 acres, and by reconnaissance surveys 534,600 square miles, or 342,144,000 acres. This is a total of 1,137,343 square miles, or slightly more than one-third of the continental United States. During the last fiscal year surveys were completed or begun in 69 different counties or areas located in 29 States.

SHIPPING POINT INSPECTION POPULAR.

More than 45,000 Federal-State cooperative shipping-point inspections were made during the last six months of 1922 at hundreds of loading points in 19 States. The organization consisted of approximately 250 local inspectors and 35 supervisory inspectors. Plans are now being made to extend the scope of the service to other States, beginning with the next fiscal year. In some States all fruits and vegetables grown within the States were subject to inspection upon the request of shippers, while in other localities only a limited number of commodities were included. Colorado reported 17,240 inspections; California, 12,204 inspections; Idaho, 7,412; Washington, 4,150; and New Jersey, 1,512. Other States that now have shipping-point inspection under the cooperative arrangement are Maine, Massachusetts, Missouri, Montana, New York, North Dakota, Ohio, Oregon, Pennsylvania, South Dakota, Utah, Virginia, West Virginia, and Wisconsin.

The leather and paper laboratory of the bureau of chemistry is making an investigation of fruit-wrapping papers for the purpose of determining what are the qualifications for satisfactory papers and to suggest to fruit growers and paper mills specifications for such papers.

VISITORS TO THE DEPARTMENT.

Dean Thomas A. Cooper, of the College of Agriculture of the University of Kentucky, called at the office of the Secretary May 23.

Ricardo Videla, of New York City, representing the Buenos Aires & Pacific Railway, was a visitor at the Bureau of Chemistry May 22. Mr. Vidella was particularly interested in the manufacture and utilization of corn products with the idea of educating Argentina in the manufacture of these products, thus reducing the importation of them.

HOUSTON CLUB.

A U. S. D. A. Club was organized at Houston, Tex., May 11. Technical employees of the department are eligible for membership. Luncheon meetings will be held the first Wednesday of each month. The following officers were elected: President, Dr. W. D. Hunter, Bureau of Entomology and Federal Horticultural Board; vice president, Dr. C. F. Palmer, Bureau of Animal Industry; secretary, L. H. Daingerfield, Weather Bureau.

KANSAS CITY CLUB.

A U. S. D. A. Club was organized at Kansas City within the last month. It was agreed that a luncheon would be held once a month. By-laws will be formulated and submitted to the club at the next meeting. Officers were elected as follows: President, Dr. F. W. Miller, Packers and Stockyards Administration; vice president, P. Connor, of the Weather Bureau; secretary and treasurer, Sidney A. Johnson, Packers and Stockyards Administration.

U. S. D. A. CLUB DIRECTORY.

Birmingham Club (Federal Agricultural Technical Association), second Saturday, 8 p. m.; Post Office Building; Edgar C. Horton, Weather Bureau, secretary.

Chicago Club, third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.

Denver Club, second Monday; lunch 12.15, Denver Civic and Commercial Association; W. J. Ise, office of the solicitor, secretary.

Houston Club, lunch, first Wednesday, L. H. Daingerfield, Stewart Building.

Indianapolis Club (Unity Club), second Monday; lunch, Chamber of Commerce Building; J. A. Armington, Weather Bureau, secretary.

Kansas City Club, Sidney A. Johnson, 923 Live Stock Exchange Building, secretary.

Los Angeles Club, second Tuesday, C. H. Beauchamp, 207 Live Stock Exchange Building, secretary.

New York Club (NYUSDA), second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. H. Stanton, 204 Franklin Street, secretary.

Oklahoma City Club, second Monday; lunch, Chamber of Commerce; Mattie A. Craig, 202 Grand Street, secretary.

Philadelphia Club, third Wednesday; lunch Snellenberg's Restaurant; C. S. Brinton, 134 Second Street, secretary.

Portland (Oreg.) Club, first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, Post Office Building, secretary.

San Francisco Club, first Wednesday, 12.15; Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.

St. Joseph Club, second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary.

St. Louis Club, second Friday; B. S. Jones, 419 Old Customs House, secretary.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

LENGTH OF DAY DETERMINES FLOWERING.

One of the most characteristic features of plant growth is the marked tendency shown by various species to flower and fruit only at certain periods of the year. In midwinter we are accustomed to seeing the brilliant color of the poinsettia and the fruits and berries of other plants. In spring we expect to see the wild violet, crocus, dogwood, and others. As summer approaches the iris, poppy, and columbine begin flowering, and in the fall we have the dahlia, aster, and many others. We have come to associate these and other plants with certain seasons of the year.

The thought has been held that flowering and fruiting of plants was due to certain temperature limits and moisture, coupled with inherent characteristics of the different plants. We have thought of temperature as the outstanding external factor causing one season to differ from another in the growth of plants.

It is true that temperature and moisture do play an important part in the growth of plants, but workers of the department have discovered that for many plants the time of flowering and fruiting is not determined by these factors but by the length of day.

Here is one of the experiments carried on to prove the point. A variety of soy beans, which germinated May 16, was allowed to receive 12 hours of light daily, beginning May 11. This was done by means of a "dark house," so constructed as to admit air freely without the admission of daylight. The containers in which the plants were grown were placed on steel tracks, so that they could be pushed in and out of the house. These plants were in blossom in 28 days, whereas a similar lot of plants exposed to light throughout the entire day took 110 days to flower. This variety of soy beans, which ordinarily flowers in September, even though planted in May, was forced into bloom in June simply by shortening the day.

This discovery has opened a wide field for experimentation and study. It has practical possibilities. There are many crops that produce abundantly, but the problem of seed production has been a puzzling one. Already this discovery has opened the way to the production of

seed in the case of Maryland Mammoth tobacco.

It often happens that it is impossible to cross two species of plants because of different flowering periods. Controlling the length of day will bring them in flower at the same time. Moreover, in special cases it is thought possible to introduce successfully new plants through control of light conditions or by taking advantage of seasonal differences in length of day.

FREEZE FLOUR MOTHS.

When flour mills become infested with the Mediterranean moth, the larvæ of which gets into flour, the usual procedure is to close the mill tightly and "gas" the insects for several days. A mill at Williston, N. Dak., however, preferred to freeze the moth. The local Weather Bureau office was requested to notify the milling company whenever a temperature of -20° or lower for at least several hours could be expected. On being informed that a sufficiently cold period was forecast, the company draw all fires and opened doors and windows. That night the temperature reached -30° and did not go above -17° the next day. According to the company, all moths and most of the eggs were frozen, and the process will not have to be repeated for two years. An additional advantage was the saving of many dollars worth of chemical insecticides.

ALASKA STATION SHEEP SUCCEED.

The Federal experiment stations in Alaska, in their effort to develop agriculture in that Territory, have carried on work with sheep at the Kodlak station for a number of years. It was found that the fine-wooled sheep are not adapted to the region, as their fleeces hold moisture to such an extent that the animals are severely affected by the cold winter rains. On the other hand, the long-wooled breeds of sheep appear well adapted to Alaskan conditions, as their fleeces shed the rain. The station experimented with several breeds of large-bodied, long-wooled sheep, and has developed a flock of grade sheep, by the use of Lincoln and Cotswold rams, that withstand the winters and seem to be perfectly hardy.

Some of these sheep were transferred to the Matanuska station in 1920, where they have succeeded very well. The Matanuska station is situated on the line of the Government railroad between Anchor and Fairbanks, at a place where

the climatic conditions are somewhat intermediate between those of the comparatively dry interior and the rainy coast region. On account of the limited pasturage and the uncertainty of increasing the area through clearing and seeding new tracts, it has become necessary to reduce the flock. Recently a number of grade ewes were sold to farmers in the vicinity of the station with the understanding that they would be kept for breeding purposes. The station will keep a pure-bred Cotswold ram for the use of farmers. It is hoped that this effort will result in adding to the income of the local homesteader and demonstrate whether sheep raising can be made a success in this region.

TERMITES DAMAGE FURNITURE.

During the fiscal year 1922, the forests insects investigations branch of the Bureau of Entomology has given advice in 118 cases in which termites had damaged the woodwork of buildings or their contents in the United States. During the present fiscal year 74 cases of such damage have already been reported. Forty species of termites occur in this country. A destructive species of West Indian termite, which breeds in dry solid wood, seriously damaged the woodwork and furniture in a large hotel at Miami. Termites infesting the furniture were killed by placing the furniture in the attic directly under the roof. The temperature in the attic was from 17 to 24 degrees higher than the maximum temperature recorded by the Weather Bureau at Miami.

Miss Minnie Zimmerman, of the Loughton Women's Institute, near London, England, will introduce the making of gummed paper dress forms as an aid to home sewing to the Women's Institute of England as a result of her recent visit to the department. As there are over 2,000 local women's institutes in England and as it is required that the members "give as well as get" instruction in practical new ways of doing things, the paper dress form seems likely to be taken up widely in England as it has been in the United States.

Forest Service officers of the Medicine Bow Forest met with a gratifying response in promoting forest protection week. In addition to many displays in store windows, 18 or 20 merchants of Laramie, Wyo., added legends to their advertisements showing that the firm was backing the forest protection movement.

BRIEF REVIEWS OF NEW BULLETINS.

Spinning Tests of Cotton Compressed to Different Densities. By William R. Meadows, cotton technologist, and William G. Blair, specialist in cotton testing, Bureau of Agricultural Economics. Pp. 19, figs. 4, pls. 5. (Professional Paper.) May 19, 1923. (Department Bulletin 1135.) Price, 10 cents.

Compressing wet cotton to high density increases the percentage of waste and reduces the breaking strength of the yarn, according to a series of spinning tests recently made by the department. The strength of yarn is also reduced about 7 per cent when cotton is compressed into a round bale with a hard core. The tests also showed that compressing cotton to standard or high density when in a dry or normal condition is not injurious to its spinning value. The varieties of cotton tested were pure strains of Cleveland Big Boll, Rowden, Delta, and Webber 49.

Various types of bales were used, namely, a flat bale with a density varying from 12 to 15 pounds per cubic foot; a standard or railroad compressed bale with a density varying from 22 to 28 pounds per cubic foot; a high density bale with 28 to 40 pounds per cubic foot; a high density bale compressed wet, and a round bale of a density of 35 pounds per cubic foot.

Frost Resistance in Flax. By Robert L. Davis, assistant plant breeder, Office of Fiber-Plant Investigations, Bureau of Plant Industry. Pp. 8, figs. 5. May, 1923. (Department Circular 264.) Price, 5 cents.

Flax seeded early has many advantages over later seedings, and on this account it is desirable to plant varieties that are strongly resistant to frost. Results of investigations to determine the extent of frost resistance in different varieties of flax are contained in this circular.

The White Blossom Dutch flax is severely injured by frost. Out of 300 plants of this variety that emerged on the frost test none survived. Of the Blue Blossom Dutch, Saginaw and two other classes 12.5 per cent of the plants survived. A diagram in the circular showing the improvement secured by selecting for increased frost resistance shows Saginaw, a tall fiber-flax selection, to be several times as resistant as White Blossom Dutch. A selection from Fiber Investigations No. 21003 is three times as resistant as Blue Blossom Dutch and fifteen times as resistant as White Blossom Dutch. The temperatures proving destructive to flax range from 21° to 24° F.

Soil Survey of Guilford County, N. C. By R. C. Journey and S. O. Perkins, of the U. S. Department of Agriculture, and W. A. Davis and W. D. Lee, of the North Carolina Department of Agriculture. Pp. 32, fig. 1, map. (From F. O. Soils, 1920.)

Guilford County is in the north-central part of the State. Its agriculture began before the Revolutionary War, and it was confined at first largely to the rich lowlands along the streams, and consisted of the production of wheat, corn, buckwheat, flax, and cotton, with fruit and livestock of minor importance. Fayetteville was the chief market in the earlier days, but just prior to the Civil War a railroad was built across the country, which opened up markets both north and south.

The agriculture of the county at present consists of the production of corn and wheat as important subsistence crops, and tobacco

as a strictly cash crop. Cotton is produced in the extreme southeastern part of the county as a cash crop.

The soil survey gives in detail a description of the various soil types in the county, and their location is shown by a large colored map. A discussion of the agricultural history of the county, climatic conditions, and methods of cropping serve to make this report of interest and value.

Dusting For the Cotton Boll Weevil. By B. R. Coad and T. P. Cassidy, Bureau of Entomology. Pp. 3. May, 1923. (Department Circular 274.) Price, 5 cents.

This is a revision of and supersedes Department Circular 162, Some Rules for Poisoning the Cotton Boll Weevil. It emphasizes the necessity of proper conditions and methods for dusting and describes briefly the conditions under which dusting will pay, the various types of dusting machines, the kind of calcium arsenate to use, and the proper methods of using it. It is intended for wide distribution.

ADDITIONAL PUBLICATIONS.

Adulteration of Insect Powder With Powdered Daisy Flowers. (Chrysanthemum Leucanthemum L.) By R. C. Roark, assistant chemist, Insecticide and Fungicide Board, and G. L. Keenan, microanalyst, Microchemical Laboratory, Bureau of Chemistry. Pp. 10, fig. 1, pls. 2. Revised May 15, 1923. (Department Bulletin 795.) Price, 5 cents.

Index to The Official Record. Volume 1, January 4, 1922, to December 27, 1922. Pp. 1-31.

Journal of Agricultural Research. Vol. 23, No. 11, March 17, 1923. Contents: Influence of Soil Temperature and Moisture on the Development of the Seedling-Blight of Wheat and Corn Caused by Gibberella saubinetii. (G-288.) By James G. Dickson.—Further Studies in Photoperiodism, the Response of the Plant to Relative Length of Day and Night. (G-289.) By W. W. Garner and H. A. Allard.—Agameremis decaudata—Cobb, Steiner, and Christie; a Nema Parasite of Grasshoppers and Other Insects. (G-290.) By N. A. Cobb, G. Steiner, and J. R. Christie. Pp. 837-926, figs. 15, pls. 25. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semi-monthly. The publication of the Journal was suspended December 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as made suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week May 14-19, 1923. These publications can be obtained only from the stations issuing them:

Organization and Management of Local Live-Stock Shipping Associations in Minnesota. E. W. Gaumnitz and J. D. Black. (Minnesota Sta. Bul. 201, pp. 77, figs. 12, Dec. 1922.)

Farmers' Cooperation in Minnesota, 1917-22. H. B. Price. (Minnesota Sta. Bul. 202, pp. 78, figs. 9, Jan. 1923.)

Finishing Pigs for Market. A. W. Oliver and E. L. Potter. (Oregon Sta. Bul. 196, pp. 20, Jan. 1923.)

Tree Borers and Their Control. A. L. Lovett. (Oregon Sta. Circ. 39, pp. 7, figs. 4, Apr. 1923.)

Recirculation Driers. E. H. Wiegand. (Oregon Sta. Circ. 40, pp. 11, figs. 6, Apr. 1923.) Annual report of the director, 1922. (South Dakota Sta. An. Rpt. 1922, pp. 32.)

The Fixation of Phosphoric Acid by the Soil. G. S. Fraps. (Texas Sta. Bul. 304, pp. 22, Dec. 1922.)

Bimonthly bulletin of the Western Washington Experiment Station, Puyallup, Wash. (Western Washington Sta. Bimo. Bul. XI, No. 1, pp. 24, figs. 9, May, 1923.)

HENS TALK IN POULTRY POSTER.

A new poultry poster in which hens do most of the talking has just been issued by the Bureau of Animal Industry. The poster, entitled "Standard-bred poultry pays best," points out the merits of standard-bred fowls over mongrels. A typical standard-bred hen lays annually approximately 175 eggs of uniform size and color. Eggs of good standard-bred fowls are worth several dollars a setting, and baby chicks from such stock also have a good sale. All told, a standard-bred hen earns in a year about three times her cost for feed, shelter, and care. Mongrel poultry, on the other hand, is relatively unprofitable. The poster shows the two types of birds followed by the query, "Which hen is yours?" The poster measures 10 by 15 inches, is printed in two colors, and is available for free distribution.

LESSONS ON SOUTHERN CROPS.

Suggestive lesson units for the teaching of vocational classes in the main truck and fruit crops adapted to southern climate and farming conditions have been prepared by F. A. Merrill, division of agricultural instruction, States Relations Service, in cooperation with the Federal Board for Vocational Education; and are to be issued in bulletin form by that board for the use of vocational teachers in schools of the South. As in similar outlines of courses prepared by this division, the lessons follow the job analysis plan—that is, cover the complete process or "job" involved from the conception of the individual enterprise to its completion in the disposal of the product—and are arranged in seasonal sequence, following closely established agricultural practices. Guides for studying the assigned subject sources of information, such as Government bulletins and similar publications, and suggested aids to presentation and correlations adapted to the subject under discussion are included. Provision is made for work with part-time and evening classes as well as regular day classes of Smith-Hughes schools.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- L'Afrique du nord, son avenir agricole et économique. Par H. C. Cosnier. Paris, E. Larose, 1922.
- Anatomy of the horse, a dissection guide. 3d ed. By Sir John M'Fadyen. Edinburgh, W. & A. K. Johnston, limited, 1922.
- Applied chemistry for girls. By H. F. Ehler. Cincinnati, Lakewood printing co., 1923.
- Applied pharmacology. By A. J. Clark. London, J. & A. Churchill, 1923.
- Audit working papers. B. J. H. Jackson. New York, American institute of accountants, 1923.
- Bref och skrivelser af oeb till Carl von Linné, v. 1. Upsala, Universitet, 1922.
- Congrès de la production coloniale, Marseille, 1922. Compte-rendus, rapports et études, Congrès des bois coloniaux, Congrès des cereales. Marseille, 1922.
- Consumers' cooperative societies in New York state. Consumers' league, New York City, 1922.
- Contribucion al estudio de la tristezza. Por Francisco Rosenbusch y R. Gonzalez. Buenos Aires, Talleres graficos "La lectura", 1922.
- Die curcubitaceen. hft. 1-2. Von Albrecht Zimmerman. Jena, G. Fischer, 1922.
- Cuidado de los animales agricolas. 7. ed. Por Ludwig Steuert. Barcelona, G. Gill, 1921.
- Dictionary of applied physics. v. 4. By Sir R. T. Glazebrook. Loudon, Macmillan and co., ltd, 1922.
- Economic position of agriculture in the north-western grain raising areas. 2d ed. By J. H. Rich. Minneapolis, Federal reserve bank, 1922.
- English wayfaring life in the middle ages (14th century) By J. J. Jusserand. New ed. London, T. F. Unwin, 1921.
- Enumeratio systematica fungorum. v. 4. [By] C. A. J. A. Oudemans. Hagae Comitum, M. Nijhoff, 1923.
- Die europäischen Friesen (Apidae) lfg. 3-4. Von Heinrich Friese. Berlin, W. de Gruyter & co.
- Evolution of the country community. 2d ed. By W. H. Wilson. Boston, Pilgrim press, 1923.
- Family and its members. By A. G. Spencer. Philadelphia, J. B. Lippincott company, 1923.
- Food. By Sir Charles Fielding. London, Hurst and Blackett, ltd., 1923.
- Hamburg; her political, economic, and cultural aspects. Deutsche auslands-arbeits-gemeinschaft, Hamburg, 1922.
- History of agriculture in Wisconsin. By Joseph Schafer. Madison, State historical society of Wisconsin, 1922. (Wisconsin Domesday book. General studies, v. 1)
- Indian tea. 4th ed. By Claud Bald. Calcutta, Thacker, Spink & co., 1922.
- Legal medicine and toxicology. 2d ed. Ed. by Frederick Peterson, W. S. Haines and R. W. Webster. Philadelphia, W. B. Saunders company, 1923.
- Madagascar: les bois de la forêt d'Analama-zotra. Par Henri Lecomte. Paris, A. Challamel, 1922.
- Modern economic history, with special reference to Australia. 2d ed. By H. Heaton. Adelaide, Workers' educational association of South Australia, 1922.
- Money. By W. T. Foster and Waddill Catchings. Boston, Houghton, Mifflin company, 1922.
- Morphologie und organographie der pflanzen. Von Max Nordhauseu. Leipzig, G. J. Göschen, 1911.
- North England; an economic geography. By L. R. Jones. London, G. Routledge & sons, ltd., 1921.
- Nova Guinea. Résultats de l'expédition scientifique néerlandaise à la Nouvelle Guinée, v. 7. livr. 4. Leide, E. J. Brill, 1923.
- Our vanishing forests. By A. N. Pack. New York, Macmillan company, 1923.
- Pioneer hunters of the Kankakee. By J. L. Werich. [n. p.] 1920.
- Starch and starch products. By H. A. Auden. London, Sir I. Pitman & sons, ltd., 1922.
- Stream pollution studies. By Russell Suter and Emmeline Moore. New York (State) Conservation commission, Albany, 1922.
- Textbook of agricultural bacteriology. By Felix Löhnis and E. B. Fred. New York, McGraw-Hill book company, inc., 1923.
- Die tierischen parasiten der haus- und nutztiere. 2. aud. Von Josef Fiebiger. Wien, W. Braumüller, 1923.

- Trade of India. Gt. Brit. Trade commissioner in India and Ceylon. London, 1919.
- La vie pastorale dans les Alpes françaises. Par Philippe Arbos. Paris, A. Colin, [1922]
- Die volkernährung. 1.hft. Das brot. Von R. O. Neumann, Germany. Reichministerium für ernahrung und landwirtschaft. Berlin, 1922.
- Weighing and measuring of chemical products. By H. L. Malan and A. I. Robinson. Loudon, Benn brothers, limited, 1922.

THESES.

- Beiträge zur anatomie von Struthiopteris germanica (Willd.) Von H. H. Lühje. Hamburg, 1914.
- Beiträge zur kenntnis der bestandteile von Taxus baccata (eibe) insbesondere über das taxin. Von Demosthenes Jatrides. Zurich, 1921.
- Contribution à l'étude analytique des laits des brebis Aveyronnaises. Par J. Audouard-Toulouse, 1922.
- Forstbotanische monographie des Oberhasli von Interlaken bis zur Grimsel. Von Emil Hess. Bern, 1921.
- Over de waarde van sulfoliquid als autiparasitium en antipriginosum bij kleine huisdiere (hond en kat) Von J. F. C. Raabe. Utrecht, 1922.
- Über die spezifische wärme c des äthylens in der ühe seiner kritischen temperatur. Von Walther Lüttman. Kiel, 1914.
- Über piniensamen und piniensamenöl sowie walnuss und holunderbeerenöl. Von Wilhelm Rossie. Weida i. Thur., 1918.
- Vergleichende untersuchungen an rotierenden papierstoff-pumpen. Von Max Scherrer. Solothuru, 1922.
- Versuche über die einsäuerung von grünfut-ter und von diffusionsrückstanden. Von Albert Hagen. Weida i. Th., 1914.

CURRENT PERIODICALS.

- El amigo del campo: revista popular de agricultura [monthly?] Lima, 1923.
- Motor truck [monthly?] Pawtucket, R. I., 1923.
- Ontario milk producers' magazine [monthly] Guelph, Ont., 1923.

Articles in Current Publications By Department Workers

- Aldrich, J. M. (Bur. Entomology). A New Genus and Species of Fly Reared from the Hoof of the Carabao. Philippine Journ. of Sci., vol. 22, No. 2, pp. 141-142. Feb., 1923.
- Demaree, J. B. (Bur. Plant Industry). Latest Developments in Control of Pecan Scab. Proceedings National Pecan Growers' Association, vol. 21, p. 16-23, 1922.
- Grotlisch, V. E. (Bur. Chemistry). Turpentine and Rosin: Distribution of the World's Production, Trade, and Consumption. Published as Dept. Cir. 258, Apr. 24, 1923.
- Harter, L. L., and Weimer, J. L. (Bur. Plant Industry). The Relation of the Enzym Pectinase to Infection of Sweet Potatoes by Rhizopus. American Journal of Botany, vol. 10, pp. 245-258. May, 1923.
- Kempton, J. H. (Bur. Plant Industry). Erythroextrin in Maize. Science, N. S., vol. 57, pp. 556-557. May 11, 1923.
- Lord, E. C. E. (Bur. Public Roads). Tar Impregnation for Concrete Drain Tile. Résumé of address.) Engineering News-Record, vol. 90, p. 828. May 10, 1923.
- MacDonald, Thos. H. (Bur. Public Roads). The General Road Situation in United States. Engineering & Contracting (Roads and Streets), vol. 59, p. 977. May 2, 1923.
- Meigs, Edward B. (Bur. Animal Industry). Practical Experiments in Feeding Rations with Different Calcium Contents to Dairy Cows. Record of Proceedings of Annual Meeting of the American Society of Animal Production, pp. 47-49. Dec., 1922.
- Moznette, G. F. (Bur. Entomology). The Control of Insect Pests on the Avocado. Florida St. Hort. Soc., Proceedings for 1921. Vol. 34, pp. 64-68.
- Pricc, D. J. (Bur. Chemistry). Dust Explosions (with special reference to relation of safety men to prevention). Fire Prevention Bulletin, Insurance Dept. of the Chamber of Commerce, No. 6, April 16, 1923.
- Rohwer, S. A. (Bur. Entomology). National Collection of Cynipidae. Proc. Ent. Soc. Wash., vol. 25, No. 4, Notes and News Items. Apr., 1923.
- Sherman, Caroline B. (Bur. Agr. Economics). Market Gains National Fame as Laboratory.

Washington Herald, Sunday edition. May 20, 1923.

- Some Facts Not Shown in Shipping Tables. American Food Journal, May, 1923.
- Sheets, E. W. (Bur. Animal Industry). The Effect of Winter Rations on Subsequent Pasture Gains of 2-year-old Steers. Record of Proceedings of Annual Meeting of the American Society of Animal Production. Pp. 64-67. Dec., 1922.
- Shillinger, J. E., and Cram, E. B. (Bur. Animal Industry). Parasitic Infestation of Dogs Before Birth. Journ. of Amer. Vet. Med. Assoc., vol. 63, No. 2, pp. 200-203. May, 1923.
- Stevens, F. L., and Dowell, R. I. (Bur. Plant Industry). Ameliola Diseases of Cacao. Phytopathology, vol. 13, pp. 247-250. May, 1923.
- White, G. F. (Bur. Entomology). Entopathology. Proc. Ent. Soc. Wash., vol. 25, No. 4. Editorial, Apr., 1923.
- Yothers, W. W., and Winston, J. R. (Bur. Entomology). Bordeaux-oil Emulsion Spray. Florida State Hort. Soc., Proceedings for 1921, vol. 34, pp. 145-149.
- Spraying for Rust Mites and Scale Insects Following Spraying for Melanose. Florida Grower, vol. 27, No. 20, p. 10, illus. May 19, 1923.

FILM DISCUSSES TRACTOR BUYING.

The sometimes puzzling question, "Should I buy a tractor?" is discussed pro and con in a new film just released for distribution. This picture weighs the relative advantages of the various forms of farm power, summarizing briefly the conditions under which each is likely to be most desirable.

It is pointed out that size of farm and lay of land are fundamental considerations. The man with a small farm, or rough land, would certainly do better to stick to horse or mule power, while the man with a large area of level or rolling land may find it desirable to use the tractor for much of his work. Other things to be taken into consideration are the farmer's handiness with machinery, his love for horses, and the cropping system best adapted to his conditions.

Scenes photographed in various parts of the country are used to illustrate the different points discussed. Of especial interest are scenes showing the use of a source of power so old as to be a novelty now in many sections, namely, the ox, which is shown in everyday and economical use in certain parts of the South.

The new film will be circulated through the department's distribution system. Prints may be obtained by authorized purchasers at the laboratory cost.

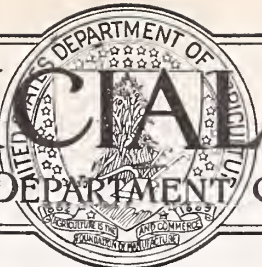
CIVIL SERVICE ANNOUNCEMENT.

Highway Bridge Engineer.—June 26, \$2,400-\$3,600. Vacancies in the Bureau of Public Roads for duty in the field will be filled from this examination. The duties of the position involve superintending the construction of bridges and cooperating with State highway departments in connection with the provisions of the Federal highway act. The work will also include making surveys of bridge sites, design, and preparation of plans for bridges. Graduation from a university in the regular engineering course is one of the prerequisites. Applicants should send for Form 1312.

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UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., JUNE 6, 1923.

No. 23.

PLAN OF COOPERATION WITH STATES DEFINED

Secretary Wallace Sends Letter to Governors Explaining Various Contacts.

Many replies have been received from State governors in response to the letter sent out by Secretary Wallace in which cooperation between this department and State agencies in regulatory, research, and extension work was defined. The replies received indorse the plan as outlined and pledge assistance in its development.

The text of the Secretary's letter follows:

"In view of the cooperative relations which this department is forming from time to time with various agencies, I am venturing to bring to your attention the policy which we observe in our cooperative relations with the State public agencies.

Cooperation in Enforcement.

"In all regulatory work and matters of law enforcement we cooperate with the State departments of agriculture or such other law-enforcement agencies as the State may have created.

"Our research work, if done in cooperation with the States, is carried on with the experiment stations of the agricultural land-grant colleges.

"Our extension work in agriculture and home economics is carried on with extension divisions of the agricultural colleges. This cooperation is made mandatory in the Federal Smith-Lever law itself, the provisions of which have been accepted by the State legislatures. We also have an agreement with the State agricultural colleges to the effect that any Federal funds which may come to this department direct from Congress for extension work within the various States will be expended for work carried on in cooperation with the extension divisions of the State agricultural colleges.

"I am informed that the National Association of Commissioners, Secretaries,

and Departments of Agriculture and the Association of Land Grant Colleges have indorsed and recommended this general plan of administration and that it is spreading rapidly. General development along this line it appears will enable the Federal Government to cooperate effectively with the different State agencies without confusion of functions.

"The above in brief states the principles which guide us in our cooperative relations with the States, and which I trust may be in general accord with your views."

CHICAGO PACKER HEARING JUNE 18.

Hearings on the acquisition of the Morris meat-packing business by Armour & Co. will be resumed at Chicago June 18. This is a continuation of the hearings already held at Kansas City from April 30 to May 4, inclusive; East St. Louis, May 7 and 8; and at Omaha, May 10 and 11. The date of the hearing to be held in Washington will be announced later.

Secretary Wallace also announces that Walter L. Fisher, of Chicago, has been employed to give special services for the Government. Mr. Fisher is a former Secretary of the Interior and former counsel for the American National Livestock Association. He has taken part in hearings before Congress on the meat and live-stock industry and, according to the announcement, by his experience is in a position to render able assistance in arriving at the effect of the elimination of Morris & Co. upon the live-stock and meat-packing industry.

Terminal conditions at the port of New York as they affect the cost of marketing fruits and vegetables are reported upon in a preliminary way by Walter P. Hedden, cooperative employee of the Bureau of Agricultural Economics and the Port of New York Authority. This preliminary report has been mimeographed and is now available for distribution.

EXTENSIVE COOPERATION IN DEPARTMENT'S WORK

War Department Assisting in Control Investigations of Various Pests.

Numerous contacts between this department and the Department of the Interior are more or less to be expected, as much of the work is closely related. The work of the Reclamation service, the administration of the national parks, and much of the Indian Service suggest points of converging interest, but that there should be much cooperative work between the Departments of War and Agriculture is not so immediately apparent. The development of experimental work with airplanes and poison gas has greatly increased this cooperation. At the present time these studies include the possibilities of controlling insect pests with airplanes, the investigation of rust-spore distribution, and studies in the effect of poison gas in the control of rodents.

Airplane Attacks Continued.

Last spring experiments attacking the boll weevil by spraying with calcium arsenate from airplanes was commenced. The results obtained showed possibilities and justified further experimentation in this line. Similar studies are being made with the Japanese beetle in the North. The Bureau of Plant Industry is using airplanes in making studies to determine the distribution in the upper air of stem-rust spores of grains and grasses in the Middle West and the East.

The feasibility of using poison gases for rodent and harmful-bird control is being studied by the Biological Survey and the Chemical Warfare Service together.

The work of some of the other bureaus for or with the War Department was discussed in a recent issue of THE OFFICIAL RECORD. The Fixed Nitrogen Research Laboratory, which became a part of the

Department of Agriculture July 1, 1921, was originally a unit of the War Department. It is still cooperating actively with the Ordnance office of that department in the investigation of certain military aspects of nitrogen fixation. In addition to the work for the War Department this laboratory is cooperating with the Bureau of Mines in the production of helium gas for the Navy. In cooperation with the Bureau of Standards of the Department of Commerce the laboratory is making studies of alloy steels. The laboratory is also cooperating in the raw-material survey being conducted by the Bureau of Foreign and Domestic Commerce of the Department of Commerce.

Bureau of Public Roads.

At the close of the war surplus war materials were turned over to the Bureau of Public Roads for use in road building. At the present time this bureau has a representative in Germany preparing material declared surplus by the War Department for shipment to this country. Quantities of picric acid and T. N. T. belonging to the War Department were disposed of by this bureau for peace-time purposes.

Like many other bureaus, the Bureau of Public Roads is working cooperatively with the Department of the Interior in making experimental investigations. Through the Bureau of Education highway engineering education is being encouraged. The Commissioner of Education is the chairman of the highway education board and Thomas H. MacDonald, chief of the bureau, is one of the members.

Interchange of apparatus, equipment, and work is carried on between the Bureau of Standards and the division of tests of the Bureau of Public Roads.

The relations of this bureau with the 48 State highway departments in connection with the construction and maintenance of Federal-aid roads are its most intimate contacts with other agencies of the Government. These contacts are maintained through 12 district offices and State representatives as well as through the Washington office and the regional office in charge of the deputy chief engineer at San Francisco.

Entomology.

During the summer of 1922 the Lighthouse Service of the Department of Commerce afforded investigators connected with the corn-borer activities special facilities for observing the flight of moths at night in order to establish the possibility of the flight of corn-borer moths from Canada, and this will probably be

continued during this summer. The Bureau of Entomology has extensive cooperation with the National Museum and has assisted in the arrangement and care of collections, and, like other bureaus, has many contacts with the Department of the Interior. Such things as insect depredations in national parks, Indian reservations, and the public domain are being studied. The control work with the western pine beetle is being carried on in cooperation with the Interior Department. Seven control camps are in operation on this project.

In cooperation with the Department of Commerce this bureau is making investigations which will enable manufacturers in the United States to compete with foreign manufacturers in the production of white-ant proof products for use in the Tropics. Samples of chemically treated wood and wood-pulp products have been placed in the Tropics to study their effectiveness against these white ants. Other interdepartmental contacts include those with the Post Office and the Treasury Departments.

The Bureau of Agricultural Economics comes into more intimate contact with the other departments through inspection work than in any other way. A total of about 3,000,000 pounds of produce is inspected every month for the Marine Corps, the Emergency Fleet Corporation, and the Public Health Service. Produce for liners of the United States lines is inspected, as well as for the "skeleton" crews of the laid-up fleet at New York and Norfolk. A similar inspection service is conducted for six Public Health Service hospitals and one Veterans' Bureau hospital in New York City. This bureau also makes inspections of grain upon which loans are made by the War Finance Corporation.

Several of the reports issued by this bureau are prepared in cooperation with the Department of Commerce. The Quarterly Wool Stock Report is one of these. The reports of trade commissioners of that department are made available to this bureau, as are the consular reports on agricultural production and market conditions of the State Department.

A most important line of work carried on by the Bureau of Chemistry is in the application of the law relating to the fraudulent use of the mails to so-called remedies for a great variety of diseases and disorders. This is typical of the work this bureau does for other departments. The specialists of the bureau act as consulting chemists to other departments and aid in the solution of problems based on chemical methods. Samples of drugs are analyzed for the War and Navy Departments to make sure that

they come up to standards in Washington and at branch stations.

Biological Survey.

The Biological Survey maintains relations with these departments: State, War, Navy, Interior, Post Office, Justice, and Commerce. This bureau also cooperates with the Smithsonian Institution in the acquisition and care of specimens of wild animals and birds and in their identification and assists in studies of the food habits of vertebrates. Foreign bird treaties are negotiated by the Biological Survey in cooperation with the State Department. The work with the Treasury Department includes the importation of foreign live wild mammals and birds and the destruction of rats and other rodents in cooperation with the Public Health Service. The Post Office Department cooperates in the protection of wild animals and birds by furnishing information regarding illegal interstate shipments by mail of birds and also regarding the numbers and kinds of furs mailed from Alaska.

Contacts with the Interior Department include the improvement of the reindeer. Studies of game birds and animals, and work with rodents. Blue-fox farming work is done in cooperation with the Bureau of Fisheries of the Department of Commerce, and the Coast Guard and Lighthouse Services cooperate in the protection of birds on reservations.

The Bureau of Plant Industry administers the import seed law jointly with the Treasury Department and cooperates with the Interior Department in researches in irrigation, in agricultural development on reclamation problems, and demonstrations. It also cooperates in the maintenance of experiments in crop improvement on Indian reservations. Much of this work is concerned with cotton.

The Bureau of Soils cooperates with the Reclamation Service of the Interior Department in examining soils on proposed or existing reclamation projects. This bureau also assists the Post Office Department and the Department of Justice in the prosecution of land-fraud cases or to give evidence in cases involving the appraisal of lands purchased by the Government.

The Federal Horticultural Board is assisted in the enforcement of plant quarantines by the Customs Service, the State Department, the Post Office Department, the War and Navy Departments, and the Department of Justice.

The Louisiana U. S. D. A. Club held an annual banquet May 5 at Kolbs Tavern, New Orleans.

Cotton Exporters Urge Use of U. S. Standards for World Trade

A group of the leading cotton exporters of the United States conferred with department representatives at the invitation of the Secretary May 28 and 29, as to the effect of the new cotton standards act upon the export cotton trade. With the approval of Secretary Wallace the following statement was issued at the close of the conference:

"The United States cotton standards act will become effective August 1, 1923. It requires in interstate and foreign commerce the observance of the official cotton standards of the United States in all transactions based on standards, and prohibits the use of any other standards of classification.

"The group unanimously approved the desirability of world-wide agreement upon uniform cotton standards and endorsed the present official cotton standards of the United States as satisfactory to the American cotton trade.

"Because of the fact that a large part of the export business in this country in cotton has been based on Liverpool and other foreign standards of classification, which are somewhat different in terminology and meaning from the official cotton standards of the United States, many foreign buyers of our cotton are not thoroughly familiar with the American standards and must be informed as to their meaning and application. It was the view of the exporters that it may be necessary, during the coming crop season, for American exporters to define our standards in terms of their equivalents in Liverpool and other recognized foreign standards and to guarantee that shipments on American standards shall equal the specified foreign equivalents.

"Therefore, assuming that the Liverpool and other foreign associations will promptly agree upon universal standards, the department sees no objection to this practice for a reasonable period of transition, certainly not beyond the coming crop year, in order to facilitate compliance with the new law."

The following representatives of the American cotton trade took part in the conference: C. W. Butler, C. W. Butler & Co., Memphis Cotton Exchange; W. L. Clayton, Anderson, Clayton & Co., Houston Cotton Exchange, Texas Cotton Association; J. W. Evans, J. W. Evans & Co., Houston Cotton Exchange, Texas Cotton Association; Richard T. Harriss, Harriss, Irby & Vose, New York Cotton Exchange; C. B. Howard, sales manager, American Cotton Growers' Exchange, Atlanta; Maj. Samuel Hubbard,

Jr., Hubbard Bros. & Co., New York Cotton Exchange; J. L. Jones, Godwin, Jones Co., Houston Cotton Exchange, Texas Cotton Association; E. B. Norman, E. B. Norman & Co., New Orleans Cotton Exchange; E. W. Porter, Porter, Weaver & Co., Memphis Cotton Exchange; H. M. Rankin, Newberger, Rankin & Co., New Orleans Cotton Exchange; M. P. Rivers, George H. McFadden & Bros., Savannah Cotton Exchange; Walter S. Thomson, Philadelphia; George Willman, W. M. Hannay & Co., Dallas Cotton Exchange, Texas Cotton Association.

A DIGEST OF THE NEWS

OREGON RECEIVES ROAD FUND AID.

Expenditures totaling \$367,250 of national forest highway funds to apply on the construction of over 110 miles of highway in Oregon have been approved by the Secretary. This money was made available for roads serving national forests and for roads within or adjacent to forests which are of primary importance to States, counties, and communities.

NUMBER OF MILK COWS INCREASES.

The number of milk cows on farms January 1, 1923, is placed at 24,429,000, as compared with 24,082,000 on January 1, 1922. To the average of these two figures is added 1,250,000 cows in towns, making a total of 25,505,000 milk cows producing approximately 103,000,000,000 pounds of whole milk, or an average of 4,020 pounds per cow. Average production per cow in 1921 was 3,945.

FOREST CLUBS BECOMING POPULAR.

Forestry clubs, formed by boys and girls, are becoming popular, according to records of the Forest Service. Beginning with the forestry club organized last year in Crestone, Colo., the movement has spread through many other localities in that State. These clubs are formed under the direction of local men and women interested in both forestry and agriculture in cooperation with county extension agents and the Forest Service.

MARKETING PLAN DEVISED.

According to the plan worked out through the cooperation of the local stockyards company, the commission men, and C. H. Beauchamp, of the Packers and Stockyards Administration, packers of Los Angeles and in that lo-

cality, place orders one week in advance with a committee of the Los Angeles Live Stock Exchange for the number of hogs they will need the following week. The commission firms then get in touch with their patrons and arrangements are made to obtain the required number of hogs. If the full supply needed can not be obtained, the packers are notified so that they may be able to get enough from eastern markets to make up the deficit. The \$1.60 premium is for top hogs of 160 to 190 pounds. Heavier hogs and packing sows are subject, as usual, to discounts.

WISCONSIN CLUBS HELP COMMUNITY.

Some 64 women's clubs have been organized in Wisconsin under extension direction since 1919, according to a report to the department. In one county there are 30 clubs which have formed a county federation meeting twice a year to take up county-wide problems. During the past year each of these clubs has been working on the addition of labor-saving devices in the home. A number of homes has put in water systems, others have installed lighting systems and the like. These clubs have also accomplished much commendable community work.

NEED FOR INCREASE IN RYE SEEN.

From an agricultural point of view there is need for a considerable permanent increase in the production of rye in this country, according to a statement from the department. In many localities rye will give better yields and more food per acre than wheat. In other localities not now growing any bread grain, rye will give good yields where wheat would not succeed. There is much sandy land in the southern part of the Cotton Belt that would produce rye successfully but where climatic and soil conditions make wheat growing unprofitable.

GERMAN AND FRENCH CROPS GOOD.

Crop conditions in Germany and France are more favorable this year than last, says a cablegram received by the department from the International Institute of Agriculture at Rome. Total wheat acreage of France for 1923 is reported to be 13,659,000 acres compared with 12,681,000 in 1922. Condition of the crop is placed at 72, as compared with 58 on the corresponding date last year. The condition of winter wheat in Germany May 1 was above average compared with a condition below average May 1, 1922.



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SECRETARY INDORSES U. S. D. A. CLUBS.

Secretary Wallace further indorsed the idea of forming U. S. D. A. clubs in the following letter to Col. H. B. Hersey, president of the club at Los Angeles:

"I am very glad, indeed, to note that the local bureau representatives at Los Angeles have organized a Department of Agriculture Club. We should have such a club at every point like Los Angeles in order to bring the department people together and familiarize them with each other's work and problems. Such organizations can do a great deal toward making us all feel that we are members of the same working family. I remember quite well the meeting I had with all of you at Los Angeles, and I am certain that with the splendid people the department has there the club will have a most successful future. I will appreciate it if you will convey my good wishes and congratulations to all the members of the club, and if at any time the Washington offices of the department can be of assistance to you and your associates in connection with club matters I trust you will not fail to communicate with us."

DECISION ON UTAH ROAD.

Secretary Wallace announced his decision in regard to the controversy between the Lincoln Highway Association and the State of Utah over the location of a transcontinental road in western Utah May 25. The Secretary approved the proposed road from Salt Lake City to Wendover, on the Utah and Nevada line, on the ground that by doing so, a through road could be built through western Utah at an early date. The Secretary also approved the entire Federal aid road program of the State.

TO EXPAND NEWS SERVICE.

Reports covering marketing conditions in the live-stock area of the Rocky Mountain States will be issued from offices to be opened at Denver and Salt Lake City, and probably Ogden, Utah, about

July 1. A live-stock market reporter will be stationed at Jersey City, and the live-stock service formerly conducted at Atlanta, Ga., will be resumed. The wool market at Boston will be reported beginning about July 1. The expansion of the market news service on fruits and vegetables to become effective with the beginning of the fiscal year will necessitate the opening of additional permanent branch offices. These additional offices will open at Atlanta, Denver, San Francisco, Portland, Oreg., and possibly Sacramento, Calif. A joint Federal-State market news service covering fruits and vegetables will be established at Salt Lake City at about the same time.

CONFERENCE PROGRAM PLANNED.

A comprehensive program has been prepared for the three days' conference to discuss the Federal meat inspection that will be held in Chicago June 18, 19, and 20. Dr. J. R. Mohler, chief of the Bureau of Animal Industry, will make the opening address. The meetings will all be held on the eighth floor of the Morris & Co. office building at the Union Stockyards in Chicago.

1924 POULTRY CONGRESS IN SPAIN.

Announcement of the Second World's Poultry Congress and Exhibition to be held at Barcelona, Spain, May 10 to 18, 1924, has been received by the Bureau of Animal Industry. The congress is held under the auspices of the International Association of Poultry Instructors and Investigators, and was held for the first time at The Hague in September, 1921. Complete information regarding the congress may be obtained from Dr. D. F. Heuser, secretary of the American Association of Instructors and Investigators in Poultry Husbandry, New York State College of Agriculture, Ithaca, N. Y.

MIDWEST COUNCIL FORMED.

The Midwest Agricultural Economics Research Council was created as a result of the conference held at Chicago, May 18. The purpose of the council will be to stimulate and coordinate studies on agricultural economic problems in the Middle West States. Like the New England council, it will be advisory only, and will be composed of representatives of government bodies, educational institutions, research agencies, trade associations, farm organizations, and business concerns engaged in or actively inter-

ested in economic studies. Dr. H. C. Taylor and Dr. W. A. Schoenfeld attended the conference and took part in the formation of the council. The Bureau of Agricultural Economics will be represented by an executive secretary who will maintain a central office and keep the records.

JOHN GRAF TO HEAD DIVISION.

John Graf, of Birmingham, Ala., has been made acting head of the truck crop insect investigations of the Bureau of Entomology, with headquarters in Washington; Dr. F. H. Chittenden, who has been in charge of this division, will devote his time in the future to special studies of truck crop insects and to taxonomic work.

HEAD FOR FOREST INSECTS DIVISION.

Dr. F. C. Craighead, who for several years was in the Division of Forest Insects of the Bureau of Entomology, will return to take charge of that division about September 1. Doctor Craighead resigned from the Department of Agriculture several years ago to join the entomological service of Canada, where he has been specializing in forest-insect work.

DISCUSS RANGE PROBLEMS.

Extension directors from several Western States met with the Department Range Council in the Office of the Assistant Secretary May 30. Range needs and problems of the Western States were discussed. The directors who were present were: Dr. L. W. Fluhardy, Idaho; Dr. A. E. Bowman, Wyoming; Dr. R. J. Evans, Utah; Dr. C. W. Creel, Nevada; and Dr. S. B. Neison, of Washington.

Tentative specifications for the various grades of fresh and frozen beef have been formulated by the Bureau of Agricultural Economics for the use of Federal and State institutions. Mimeographed copies of the specifications are now available to public institutions and to individuals who have use for them. Over 700 have already been mailed to public institutions throughout the country.

The St. Joseph Contact Club has adjourned for the summer. It will not meet again until the second Friday in September.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Is it true that our forests are rapidly dwindling?

Answer. The original forest of 822,000,000 acres has been reduced to 138,000,000 acres of virgin forest, 250,000,000 acres additional of comparatively inferior culled and second growth, and 81,000,000 acres of unproductive land, a total of slightly less than 470,000,000 acres. These figures show that our timber has been mined from the forest much as coal has been mined from the ground.

Question. What is the extent of the damage done by hog cholera?

Answer. Hog cholera losses since 1884 have varied from 144 deaths per 1,000 hogs in 1897 to 37.2 deaths per 1,000 in 1919. Since 1913, when the use of protective serum and virus began, the losses have been greatly reduced. Of the 58,500,000 hogs in the United States in 1922, over 2,700,000 were lost due to cholera, for a total value of \$28,000,000.

Question. How is cattle-tick eradication work carried on?

Answer. It is done by cooperation between the department and the various States. The States and counties have appropriated approximately three times as much as the Federal Government. In 1906 there were 728,565 square miles infested with cattle ticks. This has since been reduced to 210,393 square miles, a release from quarantine of 518,172 square miles.

Question. What is the "area plan" in the cattle tuberculosis work?

Answer. It means the complete tuberculin testing of all cattle within a definite area or section of the country; usually a county is taken as a unit. The area project is becoming very popular and the complete eradication of bovine tuberculosis is hopeful.

Question. Have any positions been definitely assigned as yet under the reclassification now being made?

Answer. No final decisions regarding these assignments will be made until the reclassification sheets have been reviewed by the Personnel Classification

Board. The law requires that estimates for the ensuing year be prepared on the basis of the schedules set forth in the act. Job description sheets carrying the department's recommendation will supply the Personnel Classification Board with data for the preparation of class descriptions and budget estimates. Final allocations of personnel can be made only after that class specification is compiled. This will require several months.

Question. Can the department furnish information on the identifying, collecting, curing, and marketing of crude drugs?

Answer. Two bulletins are available on this subject. They are Farmers' Bulletin 663, "Drug Plants under Cultivation," and Farmers' Bulletin 1231, "Drying Crude Drugs." These bulletins contain much general information relative to drug plants. No publications have been issued dealing solely with the identification or marketing of drug plants. Additional publications dealing specifically with ginseng, goldenseal, peppermint, and spearmint may be obtained by writing to the department.

CONCERNING SECRETARY RUSK.

EDITOR'S NOTE.—Several readers of the RECORD took us to task for saying in the May 23 issue that Secretary Jeremiah M. Rusk was from Ohio. Should have been Wisconsin, they say. Secretary Rusk was born in Morgan County, Ohio, in 1830, and moved to Wisconsin in 1853. When he was appointed to office in 1889 he was a resident of Wisconsin. We are glad to make the explanation. Some readers at least are reading this column. By the way, we would be glad to receive your questions.

VISITORS TO THE DEPARTMENT.

The counselor of the Royal Danish Legation, S. Longkjær, called at the Bureau of Agricultural Economics last week to obtain information on the standardization of containers.

The marked individuality in lines of work of the different State agricultural experiment stations of the United States, resulting from their efforts to meet the widely differing needs of the regions in which they are located, was found striking by G. W. Robinson, head of the department of agricultural chemistry, University College of Bangor, North Wales, who visited the States Relations Service

May 28, after a tour of the experiment stations of the Central and Western States. The centralization of research work in one main station for each State was also commented upon as affording not only more economical administration and inspirational atmosphere but also opportunity for studying a problem from different angles through the cooperative efforts of experimentalists in related lines of work. Particularly striking, Mr. Robinson found, is the dependence of our farmers upon their experiment stations, since farming is in the greater part of this country practically a pioneer industry as compared with that of England, where the farmers have the benefit of the experience of many preceding generations who have cultivated the same soil. Especially is this true of the irrigation sections, where there are no farming traditions, and the average farmer's previous experience furnishes little help in such problems as a rising water table, alkali soil, and the changing composition of the soil from the irrigation waters.

U. S. D. A. CLUB DIRECTORY.

Birmingham Club (Federal Agricultural Technical Association), second Saturday, 8 p. m.; Post Office Building; Edgar C. Horton, Weather Bureau, secretary.

Chicago Club, third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.

Denver Club, second Monday; lunch 12.15, Denver Civic and Commercial Association; W. J. Ise, office of the solicitor, secretary.

Houston Club, lunch, first Wednesday, L. H. Daingerfield, Stewart Building.

Indianapolis Club (Unity Club), second Monday; lunch, Chamber of Commerce Building; J. A. Armington, Weather Bureau, secretary.

Kansas City Club, Sidney A. Johnson, 923 Live Stock Exchange Building, secretary.

Los Angeles Club, second Tuesday, C. H. Beauchamp, 207 Live Stock Exchange Building, secretary.

New York Club (NYUSDA), second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. H. Stanton, 204 Franklin Street, secretary.

Oklahoma City Club, second Monday; lunch, Chamber of Commerce; Mattie A. Craig, 202 Grand Street, secretary.

Philadelphia Club, third Wednesday; lunch Snellenberg's Restaurant; C. S. Brinton, 134 Second Street, secretary.

Portland (Oreg.) Club, first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, Post Office Building, secretary.

San Francisco Club, first Wednesday, 12.15; Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.

St. Joseph Club, second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary. (Meetings adjourned until September.)

St. Louis Club, second Friday; B. S. Jones, 413 Old Customs House, secretary.

At this season of the year the U. S. D. A. clubs are holding many picnic meetings and other outdoor events. The Chicago Club recently held a "ladies' day," which included a study of the weather observatory at the University of Chicago. It is proposed to make ladies' day an annual institution in the club.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

B. A. I. DISCOVERED TEXAS FEVER GERM.

The discovery of the nature of Texas fever, a destructive disease of cattle, and how it is carried from infected to susceptible bovines by an intermediate host, forms one of the outstanding pieces of work performed by the Bureau of Animal Industry since its organization in 1884. Some years before the work of isolation and investigation of animal diseases was undertaken it was known that Texas fever was destructive to cattle in the Southern States while those in the colder climates were comparatively free from the disease, although subject to infection. State quarantines to keep southern cattle out of the North at certain seasons of the year were passed as early as 1795, although the so-called "shotgun quarantines" maintained by the cattlemen themselves were probably the most effective measures.

In the fall of 1879, before the organization of the Bureau of Animal Industry, Dr. D. E. Salmon was appointed to investigate animal diseases in the Southern States, with particular reference to Texas fever. Doctor Salmon personally traced out the border of infestation through Virginia and established preliminary quarantines. It was left, however, for a trio of men in the new bureau to really solve the problem of Texas fever and to work out control measures. These workers were Dr. Theobald Smith, Dr. F. L. Kilborne, and Dr. Cooper Curtice, who carried on experimental work which showed that the cause of the disease was a minute parasite living within the blood cells, the intermediate stage of the development of which occurred in the cattle tick, thus making the tick the indirect but absolutely essential factor in the natural production of the disease.

Doctor Curtice is best known for his study of the life cycle of the tick and for his pioneer work in eradication while to Doctors Smith and Kilborne go the credit for solving the Texas fever problem proper and proving that all similar infectious diseases may depend on an intermediate host for transmission from subject to subject. This discovery led to an understanding of the causes of such dreaded diseases as yellow fever, malaria, typhus, African sleeping sickness, and others, and made possible the con-

struction of the Panama Canal—an impossible task without such knowledge. The discovery is acclaimed the greatest piece of pioneer medical research performed in America.

With the establishment of the relation of cattle ticks to Texas fever, the next step was the eradication of the ticks. In 1906, the first Federal appropriation for the work was passed by Congress. Today, 72 per cent of the original 729,852 square miles of territory placed under quarantine 17 years ago has been released from Federal quarantine. It has saved untold millions of dollars to the Southern States by making possible the development of beef and dairy cattle industries.

FREEZING THE JAPANESE BEETLE.

There has been in operation at the Japanese beetle laboratory at Riverton, N. J., during the winter, an experimental refrigerating plant, which has an experimental range of from -5° F. to -32° F. This outfit has been specially designed for use in connection with experiments to determine the effect of low temperatures upon the grubs of the Japanese beetle and also upon plants, the soil-balls of which, surrounding the roots, are infested with grubs. Very satisfactory results have been obtained in so far as killing effect upon the grubs is concerned, and to date at least no apparent serious injury to plants subjected to comparatively low temperatures has been observed. It is planned to publish a description of the refrigerating outfit later on after additional work has been done and the limits of usefulness of the apparatus determined.

WEST INDIAN HURRICANES CHARTED.

Several points bearing on the origin and course of West Indian hurricanes have been brought out through a series of studies carried on by C. L. Mitchell, meteorologist of the Weather Bureau.

The tracks of all tropical storms originating over the Atlantic Ocean, the Caribbean Sea, and the Gulf of Mexico from 1887 to 1922 were plotted. Other data bearing on tropical disturbances were obtained from the daily North Atlantic charts of the Weather Bureau. Separate charts were made of the storms for each of the months when hurricanes are prevalent, from June to November, together with a few earlier and later storms. Classification of storm, according to their intensity, was included.

The most important results developed by the study are: (1) The great majority of tropical cyclones developed either over

the western third of the Caribbean Sea or far to the eastward of the Lesser Antilles, especially in the vicinity of the Cape Verde Islands. None developed over the eastern two-thirds of the Caribbean Sea. (2) The influence of anti-cyclones over the direction of progress of tropical cyclones is very marked. (3) Tropical cyclones recurve to the northward and northeastward at the first favorable opportunity, irrespective of longitude or time of year. (4) When the paths of tropical cyclones describe a loop it is always to the left.

ALASKA ICE RECEDES.

Travelers and others in Alaska have frequently commented on the frozen earth that lies just under the blanket of moss so common throughout much of the Territory, and this has led many to believe that crop production could not be made successful in much of that country. The experience at the experiment stations in the interior of Alaska is quite to the contrary. In many parts the ice is not permanent except under the layer of moss. When this is removed the stratum of permanent ice recedes and agriculture becomes possible.

At the Rampart station, which is situated within about 50 miles of the Arctic Circle, grain growing has been carried on successfully for more than 20 years. The first clearing was made in 1900 and a layer of moss removed from the land. At that time the soil was frozen to within 8 inches of the surface. After one summer's exposure the ice had melted to a sufficient depth to permit the first crop to be planted. The ice layer has now receded to a depth of 6 or 7 feet and it is still gradually being lowered.

The presence of this frozen subsoil is not without advantage in the interior of Alaska, where the rainfall is light and dry seasons sometimes prevail. At such times the moisture from below is brought to the roots of plants by capillarity and crop production is assured.

The receding of the permanent ice is shown in other ways. At the Holy Cross Mission, on the lower Yukon River, a well was dug in the summer of 1899 to a depth of 25 feet and no permanent ice encountered. The place where the well was dug had been under cultivation for about 10 years.

At the Fairbanks station in the spring of 1909 a well 40 feet deep was dug and no frost met with except in the first 2 feet on land cleared in 1907.

These instances show that if the moss is removed the ice will thaw to a greater depth in summer than it freezes in winter.

BRIEF REVIEWS OF NEW BULLETINS.

Status and Results of Boys' and Girls' Club Work, Northern and Western States, 1921. By G. E. Farrell, in charge of boys' and girls' club work, and G. L. Warren, assistant, office of extension work in the North and West, States Relations Service. Pp. 29, figs. 12. April, 1923. (Department Circular 255.)

A brief review of the development of boys' and girls' club work in the Northern and Western States during the first 10 years of its existence, 1912-1921, is given, together with a summary of work accomplished and outstanding features of club activities in 1921. The percentage of club members completing the work, which may be considered perhaps the truest indication of the quality of the work done and the interest maintained, has increased steadily from approximately 30 per cent in 1912 to 66 per cent in 1921. In the 10 years' work it has been found that the use of better farm and home practices can be effectively extended through these clubs; that local leadership can be trained to lead the groups; and that present practices on the farm and in the home are not only improved by club work but it also builds for the future by helping train farm boys and girls for the time when they may conduct farms and make homes for themselves and share in community responsibility and leadership.

Soil Survey of Mills County, Iowa. By Grove B. Jones, of the U. S. Department of Agriculture, and N. J. Russell, of the Iowa Agricultural Experiment Station. Pp. 32, fig. 1, map. (From *F. O. Soils*, 1920.)

Mills County lies in the southwestern part of Iowa, adjoining the Missouri River. It comprises a land area of 430 square miles, or 275,200 acres. Agriculture is the principal industry. The prevailing type consists of general farming, with no highly specialized crop or industry, the income being derived from various sources, such as dairy products, the sale of livestock, corn, oats, alfalfa, and the surplus of other crops. In 1920, 52 per cent of the farms were operated by owners, 46.4 per cent by tenants, and 1.6 per cent by managers. During the last 30 years the percentage of tenant farms has gradually increased. Land values are relatively high, and farms located on the Marshall silt loam sell at \$150 to \$300 or more an acre. The Marshall silt loam makes up 160,832 acres, or more than half of the total area of the county. The detailed discussion of the soils of the county and their adaptability and the history of the development of the different branches of agriculture are given in this survey, as well as a map showing the location of the various soils.

ADDITIONAL PUBLICATIONS.

Experiment Station Record. Vol. 48, No. 5. April, 1923. Pp. 401-500. Price, 10 cents.
Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction during the period from June 1 to September 30, 1920. Pp. 99, pls. 8. Issued by the Bureau of Plant Industry. May 14, 1923. (Inventory No. 64. Nos. 50648 to 51357.)

Service and Regulatory Announcements. Bureau of Animal Industry, No. 192. April, 1923. Pp. 37-44. May 22, 1923. Price, 5 cents.

Same. Bureau of Chemistry. Supplement 155. Notices of Judgments 11201-11250. Pp. 113-130. May 8, 1923. Price, 5 cents.
Same. Bureau of Chemistry. Supplement 156. Notices of Judgments 11251-11300. Pp. 131-149. May, 1923. Price, 5 cents.

Yearbook of the U. S. Department of Agriculture, 1922. Pp. 1137, il. Price, \$1.25 a copy.

The Yearbook for 1922 continues the plan adopted for the Yearbook for 1921 of presenting in a somewhat detailed manner the economic situation regarding five of our leading agricultural products—hogs, dairy, tobacco, small grains other than wheat, and forestry. The object is to give the history of each subject, the present situation, and the future outlook.

The number of Yearbooks allotted to the department will not permit us to furnish a copy to anyone except our own investigators, field workers, and official cooperators. Applicants other than persons in these groups are advised that each Member of Congress receives an allotment to be distributed as he may direct, and that the Superintendent of Documents, Government Printing Office, Washington, D. C., has copies for sale at \$1.25 each.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week May 21-26, 1923. The publications can be obtained only from the stations issuing them:

Flag smut of wheat, with special reference to varietal resistance. W. H. Tisdale, G. H. Dungan, and C. E. Leighty. (Illinois Sta. Bul. 242, pp. 509-538, figs. 3, Apr., 1923.)

Corn varieties for chinch-bug infested areas. W. P. Flint and J. C. Hackleman. (Illinois Sta. Bul. 243, pp. 539-550, figs. 6, Apr., 1923.)

Directions for spraying fruits in Illinois. (Illinois Sta. Circ. 266, pp. 16, figs. 2, Apr., 1923.)

Thirty-fifth annual report, 1922. (Kentucky Sta. Rpt. 35 (1922), pp. 61.)

Cotton experiments, 1922. E. B. Ferris. (Mississippi Sta. Circ. 46, pp. 6, Jan., 1923.)

The pepper maggot, a new pest of peppers and eggplants, *Spilographa electa* Say. A. Peterson. (New Jersey Sta. Bul. 373, pp. 23, figs. 3, Jan., 1923.)

Analyses of commercial fertilizers and ground bone; analyses of agricultural lime, 1922. (New Jersey Sta. Bul. 376, pp. 54, fig. 1, Dec., 1922.)

The blackberry psyllid, *Trioxa tripunctata* Fitch. A. Peterson. (New Jersey Sta. Bul. 378, pp. 32, figs. 35, Feb., 1923.)

Fertilizer registrations for 1923. C. S. Cathcart. (New Jersey Sta. Bul. 382, pp. 22, Jan., 1923.)

Plans and specifications for New Jersey poultry buildings. W. C. Thompson, W. P. Thorp, and G. H. Pound. (New Jersey Sta. Circ. 152, pp. 16, figs. 13, Apr., 1923.)

Thirty-third annual report, 1921-22. (New Mexico Sta. Rpt. 33 (1922), pp. 52, figs. 4.)

Effect of climatic conditions on the blooming and ripening dates of fruit trees. H. A. Phillips. (New York Cornell Sta. Memoir 56, pp. 1379-1416, figs. 9, June, 1922.)

Monthly bulletin of the Ohio Agricultural Experiment Station. (Ohio Sta. Mo. Bul. 8, Nos. 3-4, pp. 34, figs. 6, March-April, 1923.)

FOREST SERVICE FEATURED.

The Forest Service is featured in the May issue of the West Coast Lumberman, which contains nearly 26 pages of reading matter devoted to activities of the service in Alaska and the Western States, principally Oregon and Washington.

Comprehensive articles on the timber resources of the national forests in the Northwest were contributed by members of the Forest Service stationed in that part of the country. The West Coast Lumberman made a reprint of that part

of its May issue containing this information under the general title of "Standing timber resources of the great West."

LIST FARMERS BUSINESS GROUPS.

Farmers' business organizations are being listed as a result of a survey being made by the Bureau of Agricultural Economics under the immediate direction of R. H. Elsworth. Partial lists prepared from reports thus far received have been mimeographed. There is a separate list for the more important groups of commodities and each list is classified according to States. Organizations reported upon include those handling cotton and cotton products, dairy products, forage crops, fruits, vegetables and truck crops, grain and dry beans, livestock, nuts, poultry and poultry products, tobacco, and wool and mohair.

LAND STUDY IN SOUTH.

R. P. Teele, of the Bureau of Agricultural Economics, returned Friday, May 25, from a trip through the South Atlantic States, where he made a study of land settlement and colonization methods. Mr. Teele reports that there has been little activity in bringing in settlers during the last few years, but that some old projects are being revived and new ones are being inaugurated. In the States visited there is a general belief that the plantation system is passing and that these States must look to the independent white farmer to cultivate both the land previously cultivated and any land that may be reclaimed. North Carolina and South Carolina have appointed commissions to study methods of colonizing lands, with a view to securing legislation to aid or promote the settlement of their lands. In Georgia, Alabama, and north Florida public sentiment seemed to favor organized local effort rather than State aid. Mr. Teele reports some interesting experiments in cooperative farming in Georgia. There the stockholder owns a home in the village and works on the cooperative farm for wages.

"Agricultural cooperation" is the title of a mimeographed circular issued every second week by the division of agricultural cooperation of the Bureau of Agricultural Economics. The circular is made up largely of legal, economic, and statistical information regarding farmers' business organizations in this and foreign countries. The activities of many of the more important of the farmers' organizations in the United States are covered in considerable detail.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Australia. Royal commission on the sugar industry. Report. Melbourne, 1920.
- Bibliographical survey of contemporary sources for the economic and social history of the war. By M. E. Bulkeley. Oxford, Clarendon press, 1922.
- Business cycles and unemployment; an investigation under the auspices of the National bureau of economic research, made for a committee of the President's conference on unemployment. New York, McGraw-Hill book company, inc., 1923.
- Business cycles and unemployment. Report and recommendations of a committee of the President's conference on unemployment, Washington, 1921. New York, McGraw-Hill book company, inc., 1923.
- Chemical technology and analysis of oils, fats and waxes. 6th ed. v. 3. By Dr. J. Lewkowitsch. Loudon, Macmillan and co., ltd., 1923.
- Cooperative banking. By R. F. Bergengren. New York, Macmillan company, 1923.
- Cotton, the universal fiber. By W. D. Darby. New York, Dry goods economist, 1922.
- Cow-keeping in India. 4th ed. By Isa Tweed. Calcutta, Thacker, Spink & co., 1920.
- Esquisse systématique et écologique de la flore dendrologique d'une portion de la rive sud du Saint-Laurent. Par Frère Marie-Victorin. Montreal, 1922. (Montreal, Université. Laboratoire de botanique. Contributions no. 1.)
- Fairmount park art association; an account of its origin and activities from its foundation in 1871. Philadelphia, The association, 1922.
- Farm meats. By M. D. Helser. New York, Macmillan company, 1923.
- Das fermentproblem. Von Andor Fodor. Dresden, T. Steinkopf, 1922.
- Gantt chart, a working tool of management. By W. G. Clark. New York, Ronald press company, 1922.
- Garden construction. By T. G. W. Henslow. London, Odbams press ltd., 1923.
- Guide to dairying in South Africa. By R. B. Cook. Cape Town, T. M. Miller, 1922.
- Handbuch der pflanzenkrankheiten. bd. 3. 4. aufl. Von P. K. M. Sorauer. Berlin, P. Parey, 1923.
- Heredity in poultry. By R. C. Punnett. London, Macmillan and co., ltd., 1923.
- Improvement of sugar cane through bud selection. By A. D. Shamel. Experiment station of the Hawaiian sugar planters' association. Honolulu, 1922.
- Kulturgeographie von Brasilien. Von Bernhard Brandt. Stuttgart, J. Engelhorn's nachf., 1922.
- Malay poisons and charm cures. 2d ed. By J. D. Gimlette. London, J. & A. Churchill, 1923.
- Manual of normal histology and organography. 4th ed. By Charles Hill. Philadelphia, W. B. Saunders company, 1920.
- Methods of milk production & distribution in the United States and Canada, the report of an inquiry made on behalf of the National farmers' union. By E. W. Langford. London, 1922.
- Le monde social des fourmis du globe comparé à celui de l'homme. v. 3. Par A. H. Forel. Genève, Kundig, 1922.
- Neoplastic diseases. 2d ed. By James Ewing. Philadelphia, W. B. Saunders company, 1922.
- Nutrition and specific therapy. By D. E. Lane. New York, Macmillan company, 1922.
- Oeuvres de Pasteur. v. 1-2. Paris, Masson et cie, 1922.
- Petroleum and allied industries. By James Kewley. London, Baillière, Tindall and Cox, 1922.
- Popular dictionary of botanical names and terms. 2d ed. By G. F. Zimmer. London, G. Routledge & sons, ltd., 1912.
- Practical handbook of British birds. pt. 16. By H. F. Witherby. London, Witherby & co., 1923.
- Practical plant biochemistry. 2d ed. By M. W. Onslow. Cambridge, University press, 1923.
- Preparation of plantation rubber. By Sidney Morgan. London, Constable & co., ltd., 1922.
- Prüfung der chemischen reagenzien auf reinheit. 3. aufl. Von E. Merck. Darmstadt, Druck von L. C. Wittich, 1922.
- Second international exhibition of eugenics, New York, 1921. By H. H. Laughlin. Baltimore, Williams & Wilkins company, 1923.

- Sheep farming in New Zealand. By William Perry and other experts. Auckland, Whitcombe & Tombs limited [1923?]
- Sisal economics. By L. A. Notcutt. London, "Tropical life" publishing department, 1923.
- Some aspects of the inequality of incomes in modern communities. By Hugh Dalton. London, G. Routledge & sons, ltd., 1920.
- Torfstreu und torfmüll. Von Felix Rahm. Berlin, P. Parey, 1922.
- Trans-Mississippi West (1803-1852), a history of its acquisition and settlement. By Gardinal Goodwin. New York, D. Appleton and company, 1922.
- Vegetable oils. By H. J. Pooley, R. A. Bellwood and B. P. Flockton. London, Griffith & company (printers) ltd., 1922.
- Wisconsin garden book. Wisconsin state horticultural society. Madison, 1922.

THESES.

- Beiträge zur anatomie von Struthiopteris germanica. Von Hans Lühje. Hamburg, 1914.
- Beitrag zur kenntnis der elektrochemischen reaktion von kondensationsprodukten aromatischer aldehyde und ketone mit aminen. Von Werner Hoffman. Giessen, 1914.
- Beiträge zur kenntnis der hydrohalogenide der natürlichen kautschukarten. Von O. H. A. Lichtenberg. Kiel, 1914.
- Die geographische verbreitung der ölpalme (Elaeis guineensis) Von Hermann Schäd. Berlin, 1914.
- Enteritis chronica hypertrophica felis. Von Svetomir Stanimirovitch. Bern, 1921.
- Experimental study of hunger in its relation to activity. By Tomi Wada. New York, 1922.
- Les filicinées du Québec. Par Fr. Marie-Victorin. Montreal, 1923. (Montreal. Université. Laboratoire de botanique. Contributions no. 2)
- Stammbaumforschungen in der oberhessischen zucht der saanenziegen. Von Paul Berg. Darmstadt, 1917.
- Über die fehler der keimprüfungen. Von Ernst Bevenssee. Kiel, 1914.
- Über die hauptsächlichsten ursachen der auffallend geringen erträge des Banater und des Baeskaer winterweizens in ihrer heimat (Südungarn). Langensalza, 1912.
- Untersuchungen über die wasserkapazität feinpulveriger substanzen. Von Franz Hardt. Benrath a. Rh., 1913.
- Vergleichende untersuchungen der blumenkelch- und laubblätter der ranunculaceen. Von Arnold Busse. Melle i. Hann., 1914.
- Versuche über die ensäuerung von grünfutter und von diffusionsrückständen Von Albert Hagemann. Weida i. Th., 1914.
- Zur anatomie der erstlingsblätter einiger arten von Sarracenia. Von Friedrich Sidentopp. Braunschweig, 1913.

CURRENT PERIODICALS.

- Formosa. Government research institute. Dept. of agriculture. Bulletin. Taihoku, 1922.
- Mississippi soil improvement journal. [Agricultural College? Miss., 1923]
- Rivista degli allevatori d'Italia [monthly]. Genova, 1923.

Articles in Current Publications By Department Workers

- Barnes, W. C. (Forest Service). Trailing a Firebug. American Forestry, May, 1923.
- Carbath, A. H. (Forest Service). Pack Trails into Back Country. American Forestry, May, 1923.
- What Do Tourists Want? American Forestry, April, 1923.
- Clapp, E. H. (Forest Service). The Long Haul from the Woods. American Forestry, May, 1923.
- Forbes, R. D. (Forest Service). The Mother Tongue. California Countryman, February, 1923.
- Gerry, Eloise (Forest Service). Recent Observations of the Effects of Turpentine on the Structure of Second-Growth Slash and Long-leaf Pines. Journal of Forestry, March, 1923.
- Goldman, E. A. (Biological Survey). Forest Fires and Wild Life. Bulletin Amer. Game Protective Association, Vol. 12, No. 2, pp. 8-9, April, 1923.
- Graves, R. R. (Bur. Animal Industry). Is Fat Production Inherited? The Field, Vol. 33, No. 5, p. 18, May, 1923.
- Koehler, A. (Forest Service). What Makes Lumber Sell? Southern Lumberman, May 5, 1923.

- Krauch, H. (Forest Service). A Method of Determining the Technical Rotation for Yellow Pine Stands of Arizona and New Mexico. Journal of Forestry, March, 1923.
- Krauch, H. (Forest Service). Nursery and Planting Methods Developed at the Gallinas Nursery. Santa Fe National Forest. National Nurseryman, May, 1923.
- Harrison, A. P. (Bur. Plant Industry). A Laboratory Dispensing Device for Heavy and Corrosive Liquids. Industrial and Engineering Chemistry, Vol. 15, p. 497, May, 1923.
- Jenkins, M. T. (Bur. Plant Industry). A New Method of Self-Pollinating corn. Journal of Heredity, Vol. 14, pp. 41-44, April, 1923.
- Losh, A. R. (Bur. Pub. Roads). Highway maintenance. Texas Highway Bulletin, Vol. 3, p. 13, May, 1923.
- MacDonald, Tbos. H. (Bur. Public Roads). Uncle Sam's Interest in State Highways. Highway News Digest, Vol. 3, p. 1, May 12, 1923.
- Mattoon, W. R. (Forest Service). Growth of Shortleaf Pine (Pinus echinata mill) Planted in District of Columbia and New Jersey. Journal of Forestry, March, 1923.
- McKee, E. R. (Forest Service). Naval Stores Production on the Florida National Forest. Naval Stores Review, May 12-19, 1923.
- Riley, Smith (Biological Survey). Preservation of the Antelope. Bulletin American Game Protective Association, Vol. 12, No. 2, pp. 5-7, April, 1923.
- Rogers, L. A. (Bur. Animal Industry). Utilizing By-Products. Dairy Record, Vol. 23, No. 43, p. 5, March 28, 1923.
- Sherman, Caroline B. (Agric. Economics). Country Bank Gives Farm Service. Journal American Bankers Association, May, 1923.
- Shoemaker, T. (Forest Service). Trail's End and Beyond. American Forestry, April, 1923.
- Forest Protection Problems. Safeguarding America Against Fire. April, 1923.
- Smith, C. B. (States Relations Service). How Cooperative Extension Work is Financed. Banker-Farmer, Vol. 10, No. 6, p. 7, May, 1923.
- Sudworth, G. B. (Forest Service). The Age of Monterey Cypress. American Forestry, May, 1923.
- Tiemann, H. D. (Forest Service). Australian Hardwoods: The Native Forests and Their Uses. Hardwood Record, May 10, 1923.
- Tillotson, C. R. (Forest Service). State Forest Fire Protection. Safeguarding America Against Fire. April, 1923.
- Tolley, H. R., and Reynolds, L. A. (Bur. Public Roads). Shall I Buy a Tractor? Tractor World, Vol. 6, p. 3, May, 1923.

JUNIOR POTATO GROWERS ORGANIZE.

Boys' and girls' club members of Garland County, Ark., who are specializing in potato growing, have organized a junior potato growers' association for the purpose of carrying on practical club work in the standardization and marketing of their product, according to reports to the States Relations Service. Officers of the association have been elected and buying and marketing committees named. A formal agreement has been drawn up for each member's signature, covering the relationship of the member with the association and the methods of cultivation and preparation for market to be used. Arrangements have also been made by these young farmers with business men of the county for advancing money to finance the crop in case it is desired by any member.

During the fiscal year ending June, 1922, nearly 2,300 containers of various kinds were submitted to the Bureau of Agricultural Economics for official test as to capacity. This was an increase of 1,800 over the preceding year.



THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

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EUROPEAN IMPORTERS DISCUSS COTTON ACT

Conference in Secretary's Office on Foreign Adaptation to U. S. Standards.

Representatives of the cotton trade of the United States met with representatives of the cotton importers from England and France Monday and Tuesday of this week in the office of Secretary Wallace to discuss requirements of the United States cotton standards act. Standards, descriptions, and arbitrations were discussed in detail. The cotton standards act, which goes into effect August 1, requires that American cotton in interstate and foreign commerce be merchandized under the official Federal cotton standards and prohibits the use of any other standard of classification. Foreign buyers of cotton have been much interested in the provisions of the bill and have come to this country to determine in what way their present systems of buying must be altered to make possible uninterrupted trading in conformity with the cotton standards. Any changes in the sales of American cotton are of interest throughout the world because of the fact that this country produces 60 per cent of the world's supply.

Cotton Exporters Discuss Standards.

During the latter part of May several cotton exporters of the United States were invited to Washington by the Secretary to discuss the standards. The desirability of uniform cotton standards and the indorsement of the present standards were unanimously agreed upon at that time.

The representatives from England at the conference this week included Hugh L. Roxburgh, A. L. Nickson, Cecil Taylor, and J. C. Clayton, of the Liverpool Cotton Association; Joseph Wild and Cecil Hilton, of the Master Spinners' Federation, Manchester; H. Robinson and Mr. Heape, of the Manchester Cot-

ton Association; and a representative of the Manchester Ship Canal. From France Pierre du Pasquier represented the Association du Commerce des Cotons, Havre. The Liverpool representatives held proxies for Rotterdam, Barcelona, and Bremen.

The Americans in attendance were Eustace Taylor, of the Galveston Cotton Exchange and Board of Trade, Galveston, Tex.; M. P. Rivers, of Savannah, Ga., president of the Savannah Cotton Exchange; W. H. Sprunt, Wilmington, N. C.; S. W. Harris, of the Norfolk and Portsmouth Cotton Exchange; S. T. Hubbard, jr., representing the New York Exchange; W. L. Harriss, also of the New York Exchange; W. J. Neale, Waco, Tex., former president of the Texas Cotton Association; C. W. Butler, of the Memphis Cotton Exchange; D. R. Coker, Hartsville, S. C.; George S. William, of the Dallas Cotton Exchange; George M. Shutt, president of the New York Cotton Exchange; W. S. Thomson, of Philadelphia; E. B. Norman, of the New Orleans Cotton Exchange; L. L. Bache, former president of the New York Cotton Exchange; Theo. Marcus, of the Dallas Cotton Exchange; I. Weil, of the Montgomery Cotton Exchange; C. B. Howard, American Cotton Growers' Exchange, Atlanta; J. M. Hill, vice consul of United States, Manchester, England; W. J. Schmitz, Houston, Tex.; H. M. Carrere, Augusta, Ga.; L. H. Charbonnier, Augusta, Ga.; J. C. Bearden, Houston, Tex.; Meacham Stewart, Memphis, Tenn.; Matt Gill, Dallas, Tex.; K. E. Womack, Houston, Tex.; H. M. Rankin, New Orleans; W. C. Neal, the Mississippi Farm Bureau.

The department representatives who took part in the conference were: The Secretary, Chester Morrill, Charles J. Brand, Dr. H. C. Taylor, L. S. Tenny, W. R. Meadows, F. W. Knight, A. W. Palmer, A. M. Agelasto, A. C. Poulton, W. P. Barbot, G. S. Meloy, H. C. Slade, and Dr. A. B. Cox.

QUARANTINE EXTENDED IN NEW ENGLAND.

Extension of the Federal quarantine in New England on account of the gipsy moth and the brown-tail moth, effective July 1, is announced by the Federal Horticultural Board.

DEPARTMENT EXHIBITS COVER MANY SUBJECTS

Arrangements for Summer and Fall State Fair Circuits Nearing Completion.

Plans for the summer and fall circuits for department exhibits are now being completed by the office of exhibits. Dairy, live stock, poultry, woodland, and good roads and other exhibits will be sent out on the circuits, which include State fairs all over the country. Some of them are now ready. Each conveys in concise and graphic form some important agricultural information. Some of the exhibits consist of several booths, each treating a specific subject. Others consist of models of such things as unimproved and improved woodlots, settings which bring out the influence of good roads upon communities, colored bromides, graphs, and actual specimens so displayed as to convey the story desired.

In addition to these circuit exhibitions, special exhibits are being prepared for the Home City Beautiful Exposition to be held June 15 to September 8 at Atlantic City; the World's Dairy Show at Syracuse, N. Y., October 3-10; and the International Live Stock Show at Chicago in December.

Exhibits are also to be presented at a number of special expositions and loaned to State colleges, State extension directors, county fairs, and other organizations.

Route of Live-Stock Exhibits.

One of the exhibits discusses live-stock problems under the following subjects: Power of meat, sheep on the farm, live-stock welfare, animal health safeguards, story of farm power, better sires-better stock, pure-bred live stock, and swine sanitation. This exhibit will be shown at the Interstate Fair, Fargo, N. Dak., July 9-14; the State Fair at Grand Forks, S. Dak., July 16-21; the State

Fair at Des Moines, Iowa, August 22-31; Kansas Free Fair at Topeka, September 10-15; the Oklahoma Free State Fair at Muskogee, Okla., October 1-6; and the Tri-State Fair at Savannah, Ga., October 15-20.

Another live-stock exhibit discusses the problems under these headings: Beef production, pork production, horse production, wool and warmth, meat production, meat and its uses, efficiency of pure bred, better feeding, animal health safeguards, live-stock welfare, poultry, equipping a live-stock farm, live-stock statistics, hides and leather, crops for live stock, utilization of feeds, reduction of production costs, market information, market grades and standards, farm flock improvement by the use of pure-bred rams, and the story of the stomach worm. This exhibit will be shown at the Central State Fair and Exposition, Aurora, Ill., August 17-25; the State Fair at Lincoln, Nebr., September 2-7; the Arkansas State Fair at Little Rock October 8-13; and possibly at the Illinois State Fair, Springfield, September 15-22; and the Cotton Palace at Waco, Tex., October 20 to November 4.

Dairy Exhibits.

The department exhibit on dairying includes: Dairy-herd improvement, distribution of dairy cattle, feeding dairy cattle, breeding dairy cattle, silage flavors in milk, cleaning milking machines, mold in butter, dairy statistics, milk pasteurization, dairy cattle management, the use of dairy products on farms, the Little Theater (in which six-minute films are shown), feeding dairy calves, what cow testing revealed, Holstein, Guernsey, Ayrshire, Brown Swiss, and Jersey cattle, the value of pure-bred sires, cooperative dairy marketing quality in dairy products, essentials for successful marketing, dairy marketing statistics, international trade in dairy products, market reports on dairy products, and the cost of milk marketing. This exhibit will be shown at the Colorado State Fair at Pueblo, September 24-30; Mississippi-Alabama Fair, at Meridian, Miss., October 8-18; Columbia, S. C., State Fair, October 23-28; and the fair at Macon, Ga., October 17-27. Part of this exhibit will also be sent to Columbus, Ohio, State Fair, August 27 to September 1, and the Detroit, Mich., Fair, August 31 to September 9.

Eighteen booths make up the second of these dairy exhibits. They include cow testing, feeding dairy cows, diseases of dairy cattle, bull associations, dairy statistics, cost of milk production, clean milk, milk campaign, live-stock improvement, marketing organizations, market news service, foreign markets, butter in-

spection, cost of marketing, standardization, better dairy cattle, which is made up of four scenic booths. These exhibits will be shown at the Central States Fair and Exposition at Aurora, Ill., August 17-25; the Minnesota State Fair at St. Paul, Minn., September 1-8; the Tennessee State Fair, September 29 to October 6; Chattanoogaogga Interstate Fair, September 29 to October 6; the State Fair at Shreveport, La., October 18-28; and the National Farmers' Exposition, at Toledo, December 7-15.

The exhibit called "Make woodlands pay," will be shown with one called "Three windows on the road" at the Delaware State Fair, at Wilmington; the Kingston, R. I., Agricultural Fair, the State Fair at Lewiston, Me.; and the Rochester Fair, at Rochester, N. H. The woodland exhibit includes the booth, "Make waste land pay;" typical models of unmanaged farm woodland; after second improvement cutting; and a well managed farm woodland; and illustrated discussions of woodland improvement, hickory for handles, and woods for turned products and wooden novelties. "Three windows on the road" illustrates the benefits made possible to communities by improved roads. The spectator is placed in imagination in a room with three awning-shaded windows, out of which he looks upon scenes depicting three phases of service which good roads perform.

Western Exhibit Circuits.

The department exhibits to be shown in the far West will apply principally to problems handled by the local branches in that section of the Forest Service, Biological Survey, and Bureau of Public Roads. Committees to handle the exhibits at various places in the West are composed of representatives from these three bureaus. The section has been divided into districts corresponding with the districts of the Forest Service. District No. 1 includes the Interstate Fair at Spokane, Wash.; the Lewiston-Clarkston Tri-State Fair, Lewiston, Idaho, September 3-8; the Midland Empire Fair, at Billings, Mont., September 18-21; and the Northwestern Exposition at Portland, Oreg., November 3-10. District 2 will include Wyoming and Colorado. Exhibits will probably be made at the State Fair at Douglas, Wyo.; the Colorado State Fair at Pueblo, September 24-29; and the National Western Stock Show, at Denver, January 19-26, 1924. District 3 includes New Mexico and Arizona. Negotiations are under way for exhibits at the Northern New Mexico Fair, Raton, N. Mex., September 11-14, and the State Fair at Phoenix, Ariz., November 12-17. District 4 comprises

Nevada, southern Idaho, and Utah. Exhibits are planned for at the State Fair at Boise, Idaho, September 11-17; the Elko Fair, Elko, Nev., September 15-17; and the State Fair at Salt Lake City, October 2-7. District 5 is the State of California. The State Fair at Sacramento, September 9-14; the District Fair, at Fresno, September 24-29; and the Southern California Fair, at Riverside, October 20-25, are being considered for exhibits. District 6 includes Washington and Oregon. An exhibit circuit of the following is being considered: The Southwestern Washington Fair, at Chehalis, August 22-25; the Interstate Fair at Spokane, September 2-6; the State Fair at Yakima, Wash., September 17-22; and the State Fair at Salem, Oreg., September 24-29.

New England Conference on Live Stock Diseases in Session

The fifth annual New England Conference on Live Stock Diseases is now in session at Concord, N. H. The Conference is being held under the auspices of the Bureau of Animal Industry, the New Hampshire Veterinary Medical Association, the New Hampshire State Department of Agriculture, the New England Live Stock Sanitary Officials, with the New England Department of Agriculture and Veterinary Associations co-operating. Dr. J. R. Mohler, chief Bureau of Animal Industry; Dr. E. C. Schroeder; Dr. J. A. Kiernan; and Dr. A. E. Wight will give addresses. A general discussion on the progress of the work in New England will take place and plans for the continuation of the work will be considered.

In addition to those who are to be on the program, the following from the Bureau of Animal Industry will attend: Dr. P. E. Quinn, Harrisburg, Pa.; Dr. W. G. Middleton, Trenton, N. J.; Dr. R. L. Smith, Dr. J. A. Rathbone, Dr. F. E. Blake, and Dr. T. J. Ahern, of Hartford, Conn.; Dr. Leo E. Davis, Columbus, Ohio; Dr. H. B. Leonard, Albany, N. Y.; and Dr. J. E. Gibson, Indianapolis, Ind.

For every dollar invested in the Arizona campaign for prairie-dog eradication in 1922 there was a \$15 return in the value of farm products saved from destruction by these pests, according to reports to the department. The State and Federal appropriation for the campaign was \$30,000. Farmers estimated the value of crops, fruit trees, range grasses, or other products saved as a result at \$475,000, over fifteen times the amount put into the work.

A DIGEST OF THE NEWS

TWO LARGE FORESTS CONSOLIDATED.

By proclamation of May 14, the President formally consolidated the Bridger National Forest with the Wyoming National Forest and the area will hereafter be known as the Wyoming National Forest. The two forests have been under joint administration for the last three years.

USE BALLOONS IN FIGHT ON PESTS.

As a result of experiments carried on during the past two years in spraying trees with poison distributed by an airplane in the campaign to control insect pests, the department has considered it advisable to make a number of tests this summer to determine whether the lighter-than-air machine can be used satisfactorily. Arrangements have been made between the department and the Air Service of the War Department to use a motorized balloon for this purpose. The work will be conducted in the gipsy moth area in New England, where an attempt will be made to devise equipment that can be attached to the balloon so that a poison spray can be effectively applied in forest areas.

EUROPEAN CROPS IN GOOD CONDITION.

All European crops are in generally good condition, according to a radiogram received by the department from the international Institute of Agriculture at Rome. In Bulgaria spring sowings are completed and all crops are reported as in excellent condition. In Hungary wheat and rye are reported as above average condition, with oats well germinated and corn planting almost completed. Larger areas of sugar beets and potatoes than in 1922 are reported in France and Czechoslovakia. In Austria winter wheat is backward with areas of winter cereals smaller than average.

CITY PEOPLE DRINKING MORE MILK.

Nearly 103,000,000 pounds of whole milk was used in 1922 in the production of butter, cheese, ice cream, milk chocolate, and various other products, including 47,000,000,000 pounds consumed as milk, according to a recent statement by the department. The quantity of whole milk used in 1921 was approximately 99,000,000,000 pounds, which includes 45,000,000,000 pounds consumed as milk. Consumption of milk for household purposes increased from 49 gallons

per capita in 1921 to 50 gallons in 1922. Consumption by city people increased 2 gallons per capita, but lack of any increased consumption in rural communities pulled down the average increase of the country as a whole to 1 gallon.

FLAXSEED PRODUCTION ON DECREASE.

There is an increasing spread between the production of flaxseed in the United States and the demand for home consumption, according to the department. Until 1908 this country produced, on the average, more than it consumed, and therefore was able to export a surplus nearly every year. Beginning with 1909, however, our production began to decline while our requirements began to increase with population. Net imports consequently have increased. The reduction in consumption in 1917 and 1918 was due to war restrictions and that in 1920 and 1921 to business depression. It is fairly certain that the figures for 1922 will show an increase in consumption.

TIMBER SALES AT TOP-NOTCH PRICES.

About 70,000,000 board feet of timber within the Coeur d'Alene National Forest in northern Idaho has been sold at top-notch prices, according to a report of the Forest Service. The Ohio Match Co. was the successful bidder. The timber sold consists mostly of white pine, for which \$11.40 per thousand board feet was bid. In addition to the money payments, however, the purchaser is to build a railroad 10 miles in length, which is to become the property of the Federal Government at the end of five years. This railroad will open up great tracts of timber which now lack transportation facilities.

MISSISSIPPI FIELDS CLEARED.

A total of more than 180 Mississippi farms, aggregating more than 175 acres of potato fields, has been thoroughly cleared of rubbish since the first of the year. The Mississippi State Plant Board furnished for the joint use of the State and Federal Governments men who acted as the foremen of crews, and this board also paid for the day labor. Regular day laborers were hired to do most of the plowing and raking. The Bureau of Entomology was in charge of the different territories.

In most instances the fields were plowed with an ordinary turning plow, all vines and waste material being turned over near the top of the soil. The labor crew followed these plows and raked out all parts of potatoes, vines, and crowns, and heaped them in piles

across the fields. Then the refuse was piled in one large heap, saturated with kerosene, and where necessary, augmented by fat pines from near-by cut-over lands, to insure complete burning of the pile.

This work not only destroys overwintering weevils in several stages, but also largely eliminates the volunteer-plant menace which must be combated from May on through the summer months. It is planned next year to clean every field thoroughly before harvest if funds can be obtained.

CLUBS DO GOOD WORK IN MARYLAND.

Home demonstration work in Maryland reaches the women of the State as far as possible through the medium of the local home demonstration club, as more people can be reached in a given time in this way. Most of the clubs meet twice a month, either at homes or in club rooms, which are often used as community rest rooms also. There are 110 rural women's clubs working with the home demonstration agents, with a total enrollment of 3,504. Seven counties in the last 18 months have organized county federations of rural women's clubs.

TIMBER SALE ANNOUNCED.

The largest body of fir timber ever put on the market by the Government is now being offered for sale, according to the Forest Service. The timber, totaling 685,000,000 board feet, over 90 per cent of which is Douglas fir, is located on the north fork of the Willamette River in the Cascade National Forest, Oreg.

This timber is only the first unit to be offered for sale in the Willamette watershed, containing a total of four and one-half billion feet of merchantable timber. It is the plan of the Forest Service to offer this timber at such a rate and under such conditions that a mill may be maintained there for all time.

June 22 has been fixed by forestry officials as the final date for the receipt of bids by the district forester at Portland, Oreg.

CONSIDER NEW RATES AT HEARING.

A hearing to be held at Pittsburgh, beginning June 18, upon the reasonableness and lawfulness of an increase in the rates and charges as filed by the Union Stockyards Co. of that city, has been announced by the Secretary. A new schedule of rates and charges recently announced by the company provides a charge of \$1.40 a bushel for corn, an increase of 15 cents a bushel over the former schedule. It was deemed advisable to hold a hearing to determine whether the proposed increase is justified.



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THE OFFICIAL RECORD is published as a means of communicating to workers and co-operators of the Department of Agriculture official statements and other information necessary to the performance of their duties and is issued free to them by law. Others can obtain it from the Superintendent of Documents, Government Printing Office, Washington, D. C., by subscription at the rate of 50 cents a year domestic, and \$1.10 foreign. Stamps can not be accepted in payment.

GENERAL PERSHING ON LETTER WRITING.

WAR DEPARTMENT, Washington.

Composition in correspondence and publications.—A review of communications and orders issued from various War Department agencies, as well as correspondence received from the service at large and literature distributed by the general and special service schools, shows that a high standard of excellence in composition is rarely attained.

Correspondence is as definitely an index to character as either verbal expression or conduct, and correct usage requires constant effort in the choice of words, the construction of sentences, and the arrangement of paragraphs.

Words used to express an idea should be carefully selected and so employed as to convey clearly and forcefully the exact meaning intended and no other. Sentences should be logically arranged in such sequence that the development of thought may be easily followed and the salient points readily recognized.

Brevity and conciseness, while desirable, should not be sought at the expense of a clear, accurate, and agreeable style, nor of the personal touch so often lacking in correspondence with the public.

These instructions are intended as a caution to individual officers to the end that each may discover his own deficiencies in composition and, by taking corrective measures where necessary, help to raise the standard of the entire Army in this important respect.

By order of the Secretary of War:

JOHN J. PERSHING,

General of the Armies, Chief of Staff.

PLAN FOR REPORTING SHIPMENTS.

Twenty-seven daily telegrams from general superintendents of railroads will give shipment information on fruits and vegetables to the Bureau of Agricultural Economics in the future instead of the 207 telegrams formerly sent by the division superintendents.

According to the previous arrangement, division superintendents wired to the bureau each day the number of cars of fruits and vegetables originating at and forwarded from their divisions. However, in line with the new arrangement, one telegram will cover all the information from each railroad.

When arrangements with all lines are completed, it is estimated that the reduction in the number of wires received at Government expense will result in a saving of at least \$10,000 a year.

MEDICAL ATTENTION FOR EMPLOYEES.

A circular of information as to official supervisors' responsibility in securing medical attention for civil employees of the Government injured in line of duty has recently been issued by the United States Employees' Compensation Commission. The circular says in part:

"Employees should be advised of the provisions arranged by the commission for their proper care and protection under the compensation act. Wherever practicable, injured employees in Washington should be referred to the United States Public Health Service Relief Station, Post Office Building, Twelfth and Pennsylvania Avenue (P. O. Dept.

NEWS FROM EXTENSION AGENTS.

In the questionnaire recently sent out, we asked for suggestions. A large number of extension agents asked that we include each week the details of some successful project which might have a general application. The suggestion in turn was referred to the directors of extension and they have indicated their approval of the idea. Starting in an early issue we will give the details of some good piece of work carried on in the field. We hope the idea will prove a beneficial one to extension workers.

Branch 168), for examination and such treatment as can be furnished at the dispensary. A request for treatment (OA-16 or 17) addressed to the medical officer in charge, Dr. G. L. Collins, should be presented by the patient when he reports to the dispensary. If the case is one requiring hospitalization, the patient will be sent by Doctor Collins to Providence Hospital, where a ward has been reserved for such cases. Where the nature of the injury demands it, the patient may be brought to the dispensary in an ambulance or taxicab. If the injury is established under the act, the patient will be reimbursed for the charge of such service. The dispensary is open from 9 a. m. to 4.30 p. m."

WHEN YOU ARE INTERVIEWED.

"My paper would like to publish more stories on agriculture, but we have great difficulty in getting good material from the local department offices. The men are unfamiliar with what constitutes a

good interview." This remark, made to a Department of Agriculture representative by a newspaper reporter in Texas, suggests a few hints that may be useful in getting agricultural activities before metropolitan populations. Here they are:

Treat a newspaper man respectfully even though he shows lack of familiarity with your favorite specialty. The mere fact that he asked for an interview is a courtesy and recognition of your ability. As a representative of the press he is entitled to your recognition of his ability to write.

Help him make his story accurate and interesting by giving direct answers to his questions. He is probably a better judge of news values—at least for his paper—than you are.

Remember that a good news article involves events of public interest, together with names, places, dates, and similar facts. Restrict your statements to matters within your personal knowledge.

In cases where matters of policy are involved and where all the facts can not be given, give as many as can be given with propriety and decline, in a man-to-man way to give others. Don't act mysteriously or evasively. When in doubt about policy matters, consult department regulations or defer statements pending opinions from the Washington office.

New devices, methods, and apparatus, progress of various projects, programs of meetings and synopses of addresses, appointments, resignations, and transfers—all these are events suitable for interviews.

Educational propaganda is seldom news in itself, but when combined with news material, or when commented on by an official of authority, it frequently makes a readable news story.

Make it a point to keep a memorandum or convenient file of news material so that the reporter will not go away entirely empty handed. If you give him one or more good stories—or a good tip as to where he can get good stories—he will come back; otherwise he will spend his time where he is more certain to find news.

The press is an excellent friend of agriculture and should become even more so by frequent association, courtesy, and mutual understanding.

Approximately 400,000 acres have been transferred from the Sequoia National Forest of California to the Inyo National Forest by proclamation of President Harding issued May 7, according to an announcement by the Forest Service.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Are the United States game wardens employees of the department?

Answer. The migratory-bird treaty and Lacey Acts are enforced by the Bureau of Biological Survey of the department, through 26 United States game wardens, each assigned to a particular district, and in addition by 411 deputy game wardens, who render cooperative service and receive only nominal salaries. Violations of these acts are investigated, the necessary evidence collected, and the first steps taken in preparing each case for legal action.

Question. How large is the department library?

Answer. On July 1, 1922, the department library contained 163,391 accessioned books and pamphlets. Of these, there were added by purchase during the year 1,384 volumes, 81 pamphlets, 464 serials and continuations, and 9 maps. The additions by gift and exchange were 934 volumes, 751 pamphlets, 5,683 continuations, and 59 maps. In addition, 1,305 volumes were added through the binding of periodicals and serials. The total accessions numbered 10,670. The periodicals numbered 3,114, of which 2,169 were received by gift and exchange. The report ending June 30, 1923, when available, will give the more recent status of the work of the library.

Question. What department employees have been assigned to the work of personnel classification?

Answer. Dr. W. W. Stockberger, Bureau of Plant Industry, is the department personnel classification officer. The others engaged in the work are: Miss M. C. Parker, from Bureau of Agricultural Economics; Mrs. Belle B. Cain, from Bureau of Agricultural Economics; Dr. John A. Kiernan, from Bureau of Animal Industry; Samuel I. Grosh, from Bureau of Soils; Dr. Howard A. Edson, from Bureau of Plant Industry.

Question. How many national forests are owned by the Government and where are they located?

Answer. There are 148 national forests, comprising 156,000,000 acres. One national forest is in New England, 1 in Michigan, 10 in the Southern States, 1 in Porto Rico, 2 in Alaska, and the rest in the States west of the Mississippi

River, principally in Arkansas, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Wyoming, Montana, Washington, Oregon, and California. All of the national forests are under the supervision and control of the United States Forest Service.

Question. Is the Federal-State plan of bovine-tuberculosis eradication from the United States likely to lead to final suppression of the disease?

Answer. The present progress of the work indicates that the complete eradication of bovine tuberculosis is feasible. In a large area the disease exists among less than 1 per cent of the cattle, and several counties, even in more heavily infested areas, have eradicated bovine tuberculosis entirely. Altogether more than 4,000,000 cattle have been tested for the disease since the systematic work began in 1918, and recently more than 300,000 tuberculin tests have been made monthly.

Question. Can enough timber be imported into the United States to meet this country's requirements when our own forests are no longer able to supply the demand?

Answer. No. The Forest Service states that any hope of augmenting our own supply of timber by importations must be abandoned in so far as softwoods are concerned. The timber needs of the United States are so enormous, amounting as they do to nearly half of the world's consumption, that it is inconceivable they can be met by imports except in a very limited way at excessive prices. The situation is also serious in the case of hardwoods, as the hardwood forests are situated in tropical countries where transportation is exceedingly difficult and where the forests will probably remain undeveloped on any large scale for a number of decades.

FOREST SERVICE EXHIBIT IN DENVER.

An unusual opportunity for exhibits is presented by the Colorado Pageant of Progress, which will be staged at Denver during the first two weeks in July. The Forest Service, D-2, has been offered unlimited space immediately to the right of the entrance. The value of this space is considerably enhanced by the presence of two small cottonwood groves and some rough ground which will lend themselves well to an outdoor scene.

The present plan, which is only tentative, calls for a young forest covering an acre or two to be in charge of a ranger, who will camp on the ground. The exhibit will show some representative phases of grazing activities, a small burn surrounded by a fire line, and a

plantation. In a rustic cabin will be housed some miniature exhibits showing some phases of forest management which can not be shown out of doors owing to the size of the trees necessary.

VISITORS TO THE DEPARTMENT.

Dr. R. A. Gortner, head of the division of agricultural biochemistry of the University of Minnesota, visited the department July 4 to 6.

The associate editor of Commerce and Finance, M'Cready Sykes, was a recent visitor to the department. He conferred with Secretary Wallace and Dr. H. C. Taylor, and studied the crop-reporting system of the Bureau of Agricultural Economics. On June 1 he sat in with the Crop Reporting Board and watched its method of procedure in preparing and releasing the cotton report.

U. S. D. A. CLUB DIRECTORY.

Albuquerque Club, Lee J. Reynolds, States Relations Service, secretary, Albuquerque, N. Mex.

Atusda Club, J. H. Cain, 1712 Citizens & Southern Bank Building, Atlanta, Ga.

Baltimore Club, D. M. Walsh, 300 Park Avenue, secretary.

Birmingham Club (Federal Agricultural Technical Association), meets second Saturday, 8 p. m., post-office building; Edgar C. Horton, Weather Bureau, secretary.

Boston U. S. D. A. Club, R. S. Clifton, Abbott Building, Howard Square, Cambridge, Mass., secretary.

Buffalo Club, Mrs. C. M. Britt, 80 West Huron Street, secretary.

Chicago Club, meets third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.

Cincinnati Contact Club, W. C. Devereaux, Weather Bureau, secretary.

Denver Club, meets second Monday; lunch, 12.15, Denver Civic and Commercial Association; W. J. Ise, Federal Building, secretary.

Gulf Coast, U. S. D. A. Club, H. D. Money, Bureau Plant Industry, Biloxi, Miss., secretary.

Houston Club, meets first Wednesday; lunch, L. H. Daingerfield, Stewart Building, secretary.

Indianapolis Club (Unity Club), meets second Monday; lunch, Chamber of Commerce Building; F. H. Ackelov, Weather Bureau, secretary.

Kansas City Club, Sidney A. Johnson, 923 Live Stock Exchange Building, secretary.

Los Angeles Club, meets second Tuesday; C. H. Beauchamp, 207 Live Stock Exchange Building, secretary.

Louisiana Club, M. C. Virgin, box 95, New Orleans, secretary.

Montgomery Club, L. P. Huguen, box J, Bureau of Public Roads, secretary.

New Haven Club Sumner A. Dole, post-office building, secretary.

New York Club (N. Y. U. S. D. A.), meets second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. H. Stanton, 204 Franklin Street, secretary.

Oklahoma City Club, meets second Monday; lunch, Chamber of Commerce; Matie A. Craig, 202 Grand Street, secretary.

Philadelphia Club, meets third Wednesday; lunch, Snellenberg's Restaurant; C. S. Brinton, 134 Second Street, secretary.

Portland (Oreg.) Club, meets first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, post-office building, secretary.

Porto Rico (U. S. D. A. Club), E. Murray Brunner, Forest Service, San Juan, P. R., secretary.

San Francisco, Calif., meets first Wednesday, 12.15, Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.

St. Joseph Club, meets second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary. (Meetings adjourned until September.)

St. Louis Club, meets second Friday; B. S. Jones, 413 Old Customhouse, secretary.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

SOILS ARE COMPARED AND STUDIED.

A few years ago a group of men in the United States were predicting dire things about the soil of this country—that before long it would lose its power to produce crops and that the then fertile fields would be barren. As an example, they pointed to the many idle farms in the older sections of the country. But the scientists of the Bureau of Soils of the department refused to subscribe to this dark-colored view of our agricultural future and put forth the doctrine that "The soil is the one indestructible, immutable asset that the nation possesses. It is the one resource that can not be exhausted; that can not be used up. It may be impaired by abuse, but never destroyed." To prove the theory, one of the bureau workers was sent abroad to get samples of the soils in the Old World and to obtain data for comparing them with our American soils. This trip has brought out many interesting facts about soils and soil treatment.

On the desk of Prof. Milton Whitney, chief of the bureau, may be seen samples of soil from Rumania, Hungary, Greece, and Italy. The lands from which the samples were taken were producing forage and wheat almost as early as the beginning of history. They show no evidences of deterioration, and are to-day producing plentifully. The farmers of those nations have been nursed on lands that have passed from father to son for generations; they have been trained to recognize every peculiarity and to meet every whim. For soils, like individuals, have temperament, declare the scientists.

Many other samples were brought back by Dr. C. F. Marbut, who collected the data for comparing continental soils with recognized types found in this country. Compared in a broad way, soils were found abroad that are similar to almost every type that is found in our own newer lands. They are producing plentifully under methods of treatment that have been followed for centuries. All of this goes to prove that our soils are not exhausted by production but by individual neglect, according to bureau workers, and will continue to produce plentifully as long as they are properly cared for.

"It takes as much skill, as great care, and as much ability and judgment to

run a farm successfully as to command a victorious army," declares Professor Whitney. "Soils are like individuals or horses—they have temperament. It requires special understanding for each type and every farmer must give his best thought to his work if he is to keep his soil working at top efficiency. It is true that the East is full of farms that are to-day abandoned, but this is due to the lure of the cheaper lands of the West, where there is a chance for 'unearned increment.' When the lands of the West and of Canada are all taken, then there will be a reaction, and our so-called abandoned lands will be restored to productivity."

WHAT IT COSTS TO MARKET HOGS.

A detailed report of the study made by specialists of the Bureau of Agricultural Economics of the costs of marketing hogs in the Corn Belt States is contained in a mimeographed pamphlet entitled "Cost of Marketing Live Stock in the Corn Belt—1921" just issued. From the investigation it was learned that about one-third of the total cost of marketing hogs by cooperative shipping associations consists of terminal charges, such as commission, yardage, and feed. Losses from crippling were found to be heavier from November to March, inclusive, than during other months of the year. The loss on account of killed hogs was found to be greater in the spring months, particularly May and June. Both crippled and dead hogs were more numerous in mixed shipments than in straight shipments. A seasonal variation in shrinkage was also found, the highest percentage occurring in August.

The study consisted of data collected from 237 live-stock shipping associations in the 10 Middle Western States which shipped more than 600,000 hogs in 1921. The carload or shipment was the unit used.

Copies of the report may be obtained upon request from the Bureau of Agricultural Economics.

FIND NEW GERANIUM DISEASE.

The discovery of bacterial leaf spot of the cultivated geranium has recently been made through the efforts of the Bureau of Plant Industry. A statement in regard to the discovery recently appeared in the *Journal of Agricultural Research*.

Bacterial leaf spot of geranium, a disease of the cultivated geranium, occurs mostly on indoor plants, although it is also found on plants grown in the open. The leaves become spotted with irregular and occasionally circular brown

spots which may be on any part of the blade. Both old and young leaves become affected. First the diseased places are watery looking, then reddish brown, later dark brown.

The disease occurs when plants are crowded too closely together, kept too warm and moist, and do not get the proper ventilation. Florists who have forced cuttings for garden planting and kept them too warm and moist without circulating air have lost whole houses with this disease.

The germs are in the soil and when the plants become weakened they make their way inside and cause the spotting.

The disease is controlled by regulating the temperature, air, moisture, and giving plenty of space to the plants, and by picking off and destroying the spotted leaves.

PURE BREDS INCREASE RAPIDLY.

When farmers adopt pure-bred sires to head their herds and flocks it is not long before the percentage of pure-bred females increases noticeably. This encouraging tendency toward more rapid improvement of live stock has been brought out by the department in the Better Sires-Better Stock campaign. Of a total of more than 300,000 female animals listed by farmers who have agreed to keep nothing but pure-bred sires, more than 35 per cent are of pure breeding. On these farms scrubs have practically disappeared. For the larger animals the reports show that only 2.4 per cent of the females are scrubs and, of course, the males are of pure blood, as that is the basis on which the farms are listed.

The poultry flocks owned by these farmers are particularly well bred, only 1.3 per cent of the female birds being listed as scrubs. More than 68 per cent of a total of 610,000 birds are entered on the list as standard bred. Among the herds of swine there are very few scrub sows—only 1.1 per cent. Nearly two-thirds of them are purebred.

This Federal-State effort to improve the live stock and poultry of the country has now brought in a membership campaign that represents nearly a million head of animals and poultry. Farmers who have become members have sent in interesting accounts of their experiences in improving their animals and their bank accounts. Other farmers who are taking part in the work are invited by the department to send in their individual experiences as well as those of community organizations engaged in the improvement of live stock. Definite facts and figures should be included whenever possible.

BRIEF REVIEWS OF NEW BULLETINS.

The Striped Cucumber Beetle and How to Control It. By F. H. Chittenden, entomologist in charge, truck-crop insect investigations, Bureau of Entomology. Pp. 16, figs. 16. April, 1923. (Farmers' Bulletin 1322.)

The striped cucumber beetle attacks and injures seedling cucumbers, melons, and related crops. The beetles even burrow down to meet these crops before they come above the ground. They devour the tender stems and leaflets before the plant is fairly started, gnaw the older stems and ripe fruits, and act as carriers of cucurbit diseases. The control measures which have given the greatest promise of success are preventives, repellents, farm practices, and the use of insecticides, particularly nicotine dust and arsenate of lead. In suggesting control measures the department commends protecting young and choice plants in small gardens with tight coverings. Nicotine dust should be applied directly, and arsenate of lead used as a spray, either alone or in combination with Bordeaux mixture. Care should be taken to cover every portion of infested plants, both surfaces of leaves, vines, and stems. Clean culture with trap plants is an aid. Community effort in observing these methods will undoubtedly lessen the danger of losses.

Studies on Contact Insecticides. By Charles H. Richardson, insect physiologist, fruit insect investigations, Bureau of Entomology, and C. R. Smith, chemist, Bureau of Chemistry. Pp. 16, May 29, 1923. (Department Bulletin 1160.) Price, 5 cents.

In addition to a study of the toxicity of the more readily available organic compounds used as contact insecticides, a number of compounds offering possible value as insecticides are reported in this bulletin. This investigation will probably form a basis for a future study and may lead to the discovery of compounds of commercial importance. The bulletin is intended to furnish entomologists, chemists, and others working on insecticide problems information as to the relative value of a number of organic compounds not at present used on a commercial scale.

The Effect of Borax on the Growth and Yield of Crops. By J. J. Skinner and B. E. Brown, biochemists, and F. R. Reid, assistant biochemist, office of soil fertility investigations, Bureau of Plant Industry. Pp. 31, pls. 11. April 23, 1923. (Department Bulletin 1126.) Price, 15 cents.

Exhaustive experimental work has proved that borax is detrimental to plant growth when applied in quantities varying from 4 to 20 pounds an acre, and that larger quantities produce progressively greater injury. Investigations were made in 1919 as a result of appeals from farmers and fertilizer dealers in many sections of the Eastern States. Important crops to which a certain fertilizer had been applied were seriously affected. The trouble was traced to the use of a potash salt containing borax, which came from Searles Lake, Calif.

The results published in this bulletin show, further, that borax in fertilizers is injurious to a number of different crops, but the extent of the injury varied with the different types of soil and climatic conditions. The potato can tolerate a greater quantity of borax than such plants as corn and beans. The degree of injury was also modified according to the rainfall. Apparently the depth and distribution of rainfall is the most prominent factor concerned. It would appear from the symptoms described for the various crops that were treated experimentally that the main characteristics of borax-affected plants are: Retarded germination; general dwarfing of the plant, including both roots and tops; absence of normal color, which may be characterized by bleached and yellowed foliage, especially leaf tips and margins; and reduced growth and yield.

ADDITIONAL PUBLICATIONS.

Journal of Agricultural Research. Vol. 23, No. 12. March 24, 1923. Contents: Summer Irrigation of Pima Cotton. (G-291.) By R. D. Martin and H. F. Loomis.—Permanence of Variety in the Potato. (Minn.-44.) By Fred A. Krantz.—Anatomical Studies on Potato Wart. (G-292.) By Ernst F. Artswager.—Influence of Temperature and Evaporation upon the Development of Aphis pomi DeGeer. (Oreg.-8.) By Frank H. Lathrop.—Downy Mildew on Lettuce in California. (G-293.) By D. G. Milbrath.—Determination of Starch Content in the Presence of Interfering Polysaccharids. (E-20.) By Geo. P. Walton and Mayne R. Coe.—Biological Notes on the Hen Flea, *Echidnophaga gallinacea*. (K-105.) By D. C. Parman. Pp. 927-1009, Figs. 12, pls. 9. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the *Journal of Agricultural Research* were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the *Journal* was suspended December 1, 1921, and no parts were issued for 1922. The *Journal* is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The *Journal* is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week May 28-June 2, 1923. The publications can be obtained only from the stations issuing them.

The removal of sodium carbonate from soils. W. P. Kelley and E. E. Thomas. (Calif. Sta. Tech. Paper 1, pp. 24, Jan., 1923.)
The formation of sodium carbonate in soils. A. B. Cummins and W. P. Kelley. (Calif. Sta. Tech. Paper 3, pp. 35, Mar., 1923.)
The diseases of pepper. B. B. Higgins. (Georgia Sta. Bul. 141, pp. 48-75, figs. 11, Feb., 1923.)
Thirty-fifth annual report. (Georgia Sta. Rpt. 35, pp. 30, figs. 6.)
Fight the chinch bug with crops. W. L. Burdison and W. P. Flint. (Illinois Sta. Circ. 268, pp. 16, figs. 7, May, 1923.)
Chinch bug barriers. W. P. Flint. (Illinois Sta. Circ. 270, pp. 8, figs. 4, May, 1923.)
Studies on ropiness in cultures of *Streptococcus lactis*. B. W. Hammer. (Iowa Sta. Res. Bul. 74, pp. 259-270, Jan., 1923.)

The color of soils in relation to organic matter content. (Iowa Sta. Res. Bul. 75, pp. 275-300, figs. 14, Mar., 1923.)
Forage crops save protein supplements. J. M. Evvard. (Iowa Sta. Circ. 83, pp. 8, figs. 2, Mar., 1923.)
The Mississippi agricultural experiment stations—An historical sketch. J. W. Bailey. (Mississippi Sta. Bul. 216, pp. 56, Mar., 1923.)
The maple case-bearer. G. W. Herrick. (New York Cornell Sta. Bul. 417, pp. 15, figs. 13, Apr., 1923.)
The pear in New York. H. B. Tukey. (New York State Sta. Bul. 495, pp. 19, fig. 1, Dec., 1922.)
Twenty-two years of tuberculin testing in the same herd. A. C. Dahlberg. (New York State Sta. Bul. 496, pp. 8, Jan., 1923.)
New or noteworthy fruits. VI. U. P. Hedrick. (New York State Sta. Bul. 497, pp. 19, pls. 8, Jan., 1923.)
Stocks for plums. U. P. Hedrick. (New York State Sta. Bul. 498, pp. 19, pls. 6, Jan., 1923.)
Plum stocks. U. P. Hedrick, summarized by J. D. Luckett. (New York State Sta. Bul. 298, pp. 4, pl. 1, Mar., 1923.)
Composition and prices of commercial fertilizers in New York in 1922. L. L. Van Slyke. (New York State Sta. Bul. 499, pp. 12, Mar., 1923.)
Growth and yield of apple trees pruned in various ways. G. H. Howe. (New York State Sta. Bul. 500, pp. 22, pls. 6, Mar., 1923.)
Studies with corn pollen.—I, Analysis and composition of corn pollen.—II, Concerning certain lipoids, a hydrocarbon, and phytosterol occurring in the pollen of white flint corn. R. J. Anderson and W. L. Kulp. (New York State Sta. Tech. Bul. 92, pp. 37, Feb., 1923.)
Running-out of raspberries. W. H. Rankin. (New York State Sta. Circ. 67, pp. 12, Apr., 1923.)
Diseases of grain and forage crops in North Dakota. W. Weniger. (North Dakota Sta. Bul. 166, pp. 92, figs. 32, May, 1923.)
Inspection of feeds. P. S. Burgess and J. B. Smith. (Rhode Island Sta. An. Feed Circ. (1923), pp. 12, Apr., 1923.)
Rocky Mountain head lettuce. A. F. Vass. (Wyoming Sta. Circ. 19, pp. 11, figs. 3, Feb., 1923.)

G. H. COLLINGWOOD IN EXTENSION WORK.

G. H. Collingwood has been employed by the department, effective May 16, to represent the joint interests of the Forest Service and the States Relations Service in forestry extension work conducted in cooperation with the agricultural extension services in the States. Mr. Collingwood, who is a graduate of Michigan Agricultural College, has been for several years past extension assistant professor of forestry on the staff of New York State College of Agriculture, Cornell University.

Agricultural products grown originally only in North or South America, and especially in the temperate climate of the United States, were given to the Old World in exchange for what was received by the younger nations from the earlier civilizations. This is the idea of a masque written in verse by Helen W. Atwater and Dr. C. F. Langworthy, of the Office of Home Economics. The pupils of the O Street Vocational School presented this masque at the Shaw Junior High School, of Washington, May 30. Permission to reproduce it or use it as a pageant may be obtained from the American Home Economics Association, which has published the text for the use of schools.

PRINCIPAL LIBRARY ACCESSIONS

- L'Algérie économique. Par Victor Demontès. Gouvernement général de l'Algérie, Direction de l'agriculture, du commerce et de la colonisation. Alger, 1922.
- L'Anatolia meridionale. Per Carlo Manetti. Firenze, Istituto agricolo coloniale italiano, 1921.
- Applied calculus, an introductory textbook. By F. F. P. Bisacre. London, Blackie and son limited, 1921.
- Bee-keeping for all. By Tickner Edwardes. London, Methuen & co., ltd., 1923.
- Birds of Australia. By G. M. Mathews. v. 10, pt. 3-4. London, H. F. & G. Witherby, 1923.
- California garden-flowers, shrubs, trees, and vines. By E. J. Wickson. 2d ed. San Francisco, Pacific rural press, 1923.
- Catalogue de la bibliothèque. Saignon, Cochinchina. Institut scientifique. Hanoi, Imprimerie d'extrême-orient, 1922.
- Country newspaper. By M. V. M. Atwood. Chicago, A. C. McClurg & co., 1923.
- Economics for commercial students. By Albert Crew. 5th ed. London, Jordan & sons, limited, 1923.
- Feeding and care of the domestic and long-haired cat. By E. V. Cely and Anna Ray. Cleveland, F. B. Harrison ptg. co., 1922.
- Grammar of color. By T. M. Cleland. Mittingeage, Mass., Strathmore paper company, 1921.
- Lezioni di biologia applicata alla sericoltura. Per Suciato Pigorini. v. 2. Padova, Tipografica del seminario, 1923.
- Lists of plant types for landscape planting. By S. F. Hamblin. Cambridge, Harvard university press, 1923.
- Phase rule and its applications. By Alexander Findlay. 5th ed. London, Longmans, Green and co., 1923.
- Readings in economics for China. By C. F. Remer. Shanghai, Commercial press, limited, 1922.
- Recipes for use in the dining service department of the Pacific telephone and telegraph company. [San Francisco?] 1922.
- Sudan in evolution. By P. F. Martin. London, Constable and company, ltd., 1921.
- Synthetic dyestuffs. By J. C. Cain. 6th ed. London, C. Griffin & company, ltd., 1923.
- Thermodynamics and the free energy of chemical substances. By G. N. Lewis and Merle Randall. New York, McGraw-Hill book company, inc., 1923.
- Die tierischen schädlinge des gemüseobst- und blumengartens und ihre bekämpfung. Von K. H. C. Jordan. Leipzig, O. Leiner, 1922.

LOST BOOK.

The following book belonging to the library can not be found. It will be appreciated if anyone having information in regard to it will report the fact at the loan desk of the main library:

Jones. Nucleic acids. 2d ed. 1920.

Articles in Current Publications By Department Workers

- Arner, George L. (Bureau of Agricultural Economics). Relation of sugar to Pacific economics. *Mid-Pacific Magazine*, June, 1923.
- Bray, M. W., and Andrews, T. M. (Forest Service). Chemistry of pulps: A comparison of the chemical changes of jack pine and aspen woods cooked by the soda process. *Paper industry*, May 10, 1923.
- Buck, S. (Forest Service). Portable pumps for fighting forest fires in forests of Pacific Northwest. *West Coast Lumberman*, May 1, 1923.
- Cecil, G. H., and others (Forest Service). The standing timber on the national forests (in dist. 6). *West Coast Lumberman*, May 1, 1923.
- Deering, R. L. (Forest Service). California timber. *West Coast Lumberman*, May 1, 1923.
- Ewing, H. E. (Bureau of Entomology). New genera and species of sucking lice. *Journal of the Washington Academy of Sciences*, vol. 13, No. 8, pp. 147-150, April, 1923.
- Ezekiel, Mordecai (Bureau of Agricultural Economics). Cityward Ho! *Hoard's Dairyman*, May 4, 1923.

- Gabrielson, Ira N. (Biological Survey). A few notes on some Oregon species of shore birds. *The Condor*, vol. 25, No. 3, pp. 109-110, May-June, 1923.
- Gibbons, W. H. (Forest Service). On studying one's business. *West Coast Lumberman*, May 1, 1923.
- Gasborne, H. T. (Forest Service). A million dollars a year for smoke. *Timberman*, May, 1923.
- Guthrie, J. D. (Forest Service). Oregon forest camps popular with tourists. *Oregon Journal of Commerce*, May 10, 1923.
- Heintzleman, B. F. (Forest Service). The standing timber resources of Alaska. *West Coast Lumberman*, May 1, 1923.
- Hofmann, J. V. (Forest Service). The Wind River Forest Experiment Station. *West Coast Lumberman*, May 1, 1923.
- Holmes, George K. (Bureau of Agricultural Economics). Review of the rice crop of the world. *Mid-Pacific Magazine*, June, 1923.
- Hurt, L. C. (Forest Service). Beef insurance. *Producer*, May, 1923.
- Jackson, Dr. H. H. T. (Biological Survey). Review of Thompson's outlines of zoology. *Journal of Mammalogy*, vol. 2, No. 2, p. 131, May, 1923.
- Jamieson, G. S., and Baughman, W. F. (Bureau Chemistry). Composition of free fatty acids of cottonseed oil. *Cotton Oil Press*, vol. 7, No. 2, June, 1923.
- Jones, D. B., and Gersdorff, C. E. F. (Bureau Chemistry). Proteins of the cantaloupe seed, Cucumis melo. Isolation of a crystalline globulin and a comparative study of this globulin with the crystalline globulin of the squash seed, cucurbita maxima. *Jour. Biol. Chem.*, vol. 56, No. 1, May, 1923.
- Lacy, Mary G. (Bureau of Agricultural Economics). Food control during forty-six centuries. *The Scientific Monthly*, June, 1923.
- McCarthy, B. F. (Bureau of Agricultural Economics). Standardization and market reports of live stock, Meats and Wool Division. *Three Seventeen*, May 15, 1923.
- McIndoo, N. E. (Bureau of Entomology). Effect on honeybees of treating cotton plants with calcium arsenate. *American Bee Journal*, vol. 63, No. 6, p. 285, June, 1923.
- Morse, C. B. (Forest Service). Timber in the intermountain district. *West Coast Lumberman*, May 1, 1923.
- Murphy, L. S. (Forest Service). Forest taxation. *Bulletin of the National Tax Association*, April, 1923.
- Rogers, L. A. (Bureau of Animal Industry). What constitutes efficiency in research? *Journal of Bacteriology*, vol. 8, No. 3, pp. 197-213, May, 1923.
- Rohwer, S. A. (Bureau of Entomology). New hymenoptera from the Malayan region. *The Philippine Journal of Science*, vol. 22, No. 4, pp. 345-355, April, 1923.
- Sherman, Caroline B. (Bureau of Agricultural Economics). Banks make use of radio market reports. *Banker-Farmer*, May, 1923.
- Skinner, W. W. (Bureau of Chemistry). Report of meeting of division of water, sewage, and sanitation of the American Chemical Society. *Jour. Ind. Eng. Chem.*, vol. 15, No. 5, May, 1923.
- Snapp, O. I. (Bureau of Entomology). Controlling the curculio, brown rot, and scab of peaches in Mississippi. *Mississippi State Plant Board Quarterly Bulletin*, vol. 3, No. 1, pp. 1-13, 10 figs., April, 1923.
- Thompson, M. W., and others (Forest Service). The resources in district No. 2. *West Coast Lumberman*, May 1, 1923.
- Tilley, F. W. (Bureau of Animal Industry). The relation between chemical composition of peptones and hydrogen sulphide production by bacteria. *Journal of Bacteriology*, vol. 8, No. 3, pp. 287-295, May, 1923.
- Waterman, H. C. (Bureau of Chemistry). The preparation of tryptophane from the products of hydrolysis of lactalbumin with baryta. *Journal of Dairy Science*, vol. 56, No. 1, May, 1923.
- (Biological Survey). A winter record of the spotted sandpiper (*Actitis macularia*) for the Olympic Peninsula. *The Condor*, vol. 25, No. 3, p. 106, May-June, 1923.
- Winslow, C. P. (Forest Service). Timber conservation through efficient utilization. *Southern Lumber Journal*, May 1, 1923.

CIVIL SERVICE ANNOUNCEMENTS.

Extension Forester, \$3,000-\$4,000; July 3. Vacancies in the office of the cooperative extension work will be filled from this examination. The duties will be to aid State extension agents in methods of organizing and de-

veloping extension work in forestry, and to act as a liaison officer between the Department of Agriculture and the State extension forces in matters relating to extension work in forestry. Applicants will be required to submit a thesis, must have graduated from a university of recognized standing, and have had two years of responsible experience either in forestry or extension work. Apply for Form 2118.

Stenographer - secretary, Salary, \$1,400 to \$1,800; July 10. Vacancies in the departmental service at Washington, D. C., will be filled from this examination. Competitors will be rated on dictation and transcription, rough draft, letter writing, training, and experience. Applicants must show that they have had two years' experience in stenographic work of a secretarial nature, or acting as a supervising stenographer over a group of stenographers. Send for Form 1312.

FILM SERVICE DEMONSTRATED.

At the invitation of the Motion Picture Theater Owners of America, the Department of Agriculture was represented at the recent convention of the association in the Coliseum in Chicago. Panels calling attention to the department's film service were exhibited in the "motion picture palace of progress," held in connection with the convention, and Fred W. Perkins, in charge of the department's motion picture work, addressed the convention on the cooperation possible between the theater owners and the department.

The theater owners showed a gratifying desire to cooperate with the department and its extension and field workers by using films on their regular programs as well as on special occasions. It is probable that this use of the department's motion pictures will be largely extended as the result of the contacts established at the convention.

Cooperating with one of the large film news weeklies, the department's office of motion pictures placed the big Shriners' parade of June 5 on the theatrical screens of Washington within three hours after the procession had wound along Pennsylvania Avenue. The courtesy of using the motion-picture laboratory was extended to the film weekly as a part of the Government's cooperation in Shrine week activities.

Ice cream flavored with cassina, a brand new flavor, was sold during Shrine week at the booth of the Welfare Association in the Agricultural grounds near Fourteenth Street. The cream was prepared by a local firm using a flavor developed by J. W. Sale, chemist in charge of the water laboratory, Bureau of Chemistry, from the leaves of the cassina plant, a species of holly.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

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WASHINGTON, D. C., JUNE 20, 1923.

No. 25.

ASSISTANT SECRETARY C. W. PUGSLEY RESIGNS

To Become President of South
Dakota State College of Agri-
culture and Mechanic Arts.

Charles W. Pugsley, Assistant Secretary of Agriculture, has tendered his resignation, effective October 1, to accept the presidency of the South Dakota State College of Agriculture and Mechanic Arts, at Brookings. Mr. Pugsley will have filled the office of Assistant Secretary two years at the time his resignation takes effect.

Motives for Resignation.

In his letter to Secretary Wallace asking him to transmit his resignation to President Harding, Mr. Pugsley said, in part: "There are two motives which prompt my resignation at this time: First, I feel that I have made my contribution to the special tasks assigned to me and it is therefore an opportune time for me to leave; second, I have at this time an invitation to undertake the administration of one of our important State colleges of agriculture and mechanic arts, that of South Dakota. I feel that there are real opportunities for worth-while work in that position. I also find it difficult to refuse a call to return to the agricultural Mississippi Valley, which has been my lifetime home."

In reply to Mr. Pugsley's resignation, Secretary Wallace said: "I can well understand that the presidency of the South Dakota College of Agriculture and Mechanic Arts appeals to you, and I quite agree that there are great opportunities for service in that position. You are especially qualified to render this service. Your life has mostly been spent in that general region. You understand the agriculture there. You have had favorable contacts with many of the people with whom you will work. Your education, and experience peculiarly qualify you to fill that position with credit to yourself and to the State.

"I can not adequately express the obligation I feel for the service you have rendered here, not only in your capacity

as Assistant Secretary of the Department, but in the especial work which I asked you to take over, namely, the reorganization of our extension work and of our publications. The value of the work you have done in these specific fields is recognized, not only here in the department, but throughout the Nation.

"In addition to the loss suffered by the Government through your retirement from Federal work, I am conscious of a keen personal loss. Your devotion to the work of the department, your personal loyalty, your unflinching kindness and courtesy, your help in strengthening the general morale of the department, all have meant very much to me, and I know that your many associates in the department will share my regret that you are no longer to be with us."

SECRETARY WALLACE ON ALASKA TRIP.

Secretary Wallace left Washington June 17 to hold conferences at Chicago with regard to the administration of the packers and stockyards and future trading acts. From Chicago he will go West, meeting the President's party either at Kansas City or Denver, and from there will travel with them to Alaska and return.

PLANS FOR NEW BUREAU DISCUSSED.

A committee of home economics workers met June 12 and 13 in the office of Dr. E. D. Ball, director of scientific research, to discuss plans and a program of work for the Bureau of Home Economics which is to be established July 1. Those in attendance were: Dr. Louise Stanley, head of the department of home economics of the University of Missouri; Miss Ruth Wardell, head of the home economics department of Illinois; Dr. Helen Thompson, head of the home economics department of Kansas; Dr. Ruby Green Smith, of the home economics demonstration department of Cornell University; Miss Edna White, director of the Merrill-Palmer Home Economics School at Detroit, Mich.; Miss Mary Sweeney, secretary of the American Home Economics Association; and Mrs. Mary Hinman Abel, writer and lecturer on statistical and sociological subjects.

SECRETARY REVIEWS EXPORT SITUATION

Past Three Years Shows Average for
Agricultural Products Greater
Than War Period.

Secretary of Agriculture Wallace said in a statement issued recently: "A great many people seem to have had the notion that the low prices for farm products during the past three years have been due to a reduction in our exports. Under this misconception they have urged the adoption of various political and economic devices which they thought might increase agricultural exports. The fact of the matter is that our exports of farm products during the past three years have been far greater than before the war and greater even than during the war years.

Recent Exports of Chief Food Crops.

"Take our eight principal food crops—corn, wheat, oats, barley, rye, buckwheat, rice, and potatoes. The average annual exports of these eight crops for the years 1920 to 1922, inclusive, were 142 per cent greater than the average annual exports of these same crops for the years 1905 to 1914, inclusive. During the past three years our corn exports were 82 per cent greater than in the pre-war years named; our wheat exports 140 per cent greater; our oats exports 37 per cent greater; barley 116 per cent greater; rye 2,600 per cent greater; buckwheat 114 per cent greater; rice 2,212 per cent greater; potatoes 125 per cent greater.

"The total volume of exports of these crops, measured in bushels, was even greater by 18 per cent during the post-war years 1920 to 1922, inclusive, than during what we may call the war years, 1915 to 1919, inclusive.

"In the case of animal food products our average annual exports during the pre-war years 1905 to 1914, inclusive, amounted to 921,000 tons. During the

war years 1915 to 1919, inclusive, our exports more than doubled, being an average of 2,023,000 tons. During the post-war years 1920 to 1922, inclusive, our exports amounted to 1,401,000 tons, an increase of 52 per cent over the pre-war period.

"From these statistics it ought to be perfectly clear that low prices for farm products were not caused by lack of export demand.

"We have been producing more than in the pre-war years. In the case of the eight crops named the average annual production in bushels was 16 per cent greater during the post-war years 1920 to 1922, inclusive, than during the pre-war years. The production of corn was 14 per cent greater, of wheat 17 per cent, oats 19 per cent, rye 98 per cent, rice 104 per cent, potatoes 18 per cent; there was a decreased production of barley of 4 per cent and of buckwheat of 15 per cent.

"Not only was the production of these crops greater during the post-war years than during the pre-war years, but it was more than 2 per cent greater during the post-war years than during the war years of 1915 to 1919.

"Unless production is fairly well adjusted to demand, prices will be disappointing. We are far more dependent upon Europe for markets for our cotton than for our food products, and the price for cotton is not depressed. The average annual production of cotton for the three years 1920 to 1922, inclusive, was 10,385,000 bales, whereas the annual production from 1905 to 1914, inclusive, was 12,950,000 bales.

"In considering the matter of future exports of our agricultural products it must be remembered that the probable tendency will be downward. European agriculture is becoming more productive and no doubt economic conditions are becoming more stable. As normal conditions in Europe are reestablished their purchases of our surplus will become more normal."

The service the department could render to the public if the public realized the vast amount of information available in the department and knew how and where such information could be secured was discussed by ex-Gov. J. C. Gunter, of Colorado, at the May meeting and luncheon of the Denver Club of the department.

The regular monthly luncheon meeting of the San Francisco Department Club was held at the Merchants Exchange Building June 6. W. S. Fields, of the Federal Horticultural Board, and F. D. Young, of the Weather Bureau, were the speakers.

Boll Weevil Work with Airplane Now Under Way at Tallulah

The experimental work to be conducted at the boll weevil laboratory at Tallulah, La., relative to the use of airplanes for distributing poison dust for the control of the boll weevil is now under way. In April three De Havalind 4B planes were detailed by the Air Service for use in this work, in cooperation with the War Department. These planes are under the command of First Lieut. Guy L. McNeil, who served on this same project last season. Allen L. Morse, an aeronautical engineer from McCook Field, Dayton, Ohio, was also detailed for duty on this project and arrived at Tallulah shortly after the arrival of the planes. It has been found that owing to the different behavior of the De Havalind planes, as compared with the small Curtis plane used in the experiments conducted last year, the dusting problem becomes quite different, and the mechanical problem of providing suitable distributing mechanism is very complicated. Several types of dust hoppers have been constructed for use in these planes. This phase of the work is still in an experimental stage, and it will require considerable time and experimentation before a final design for a hopper can be decided upon. Mr. Coad, who is in charge of the boll weevil laboratory, hopes to have a fairly satisfactory permanent hopper installed in at least one of the planes in time to use it in actual control work during the summer months. Several plantations near the landing field have been mapped and all arrangements made for poisoning the cotton on these in an effort to accomplish boll-weevil control through the season.

LIVE-STOCK TEAM GOES ABROAD.

The Maryland live-stock judging team, which won the dairy cattle judging contest between boys' and girls' club members at the National Dairy Show, St. Paul, Minn., last October, sailed on the *Carmania* from New York, June 13, to compete in the live-stock judging contest to be held as a feature of the English Royal Live Stock Show at New Castle-upon-Tyne, England, during the first week in July.

The team is composed of three farm boys from Harford County, Md.—Hubert Snodgrass, Richard Wills, and Charles F. Cushing. They will be accompanied by P. W. Chichester, assistant State boys' club agent for Maryland, and B. B. Derrick, county agent of Harford County.

under whose supervision the boys received their training. The expenses of the trip will be met by a fund provided by subscriptions from individuals and business concerns in Maryland who are interested in promoting this phase of agricultural club work.

This is the second Maryland boys' club team to represent the United States in competing with a similar team in England for the international trophy, the first Maryland champions winning the cup from the English team at the 1922 Royal Show. Extensive plans are being made in England, according to reports, to enable the visitors to see the herds of many noted breeders in England, Scotland, and the Guernsey and Jersey Islands.

Prospect for Road Building in 1923 Season Promising

The 1923 road-construction season opens with the prospect that there will be about the same amount of road construction as last year, which was a satisfactory one, according to the Bureau of Public Roads.

Returns from 21 scattered States show that in these States there will be available \$288,000,000 for road work as compared with \$273,000,000 spent in the same States last year. On Federal-aid work, which constitutes something like half of the total construction, there was under construction March 31 work estimated to cost \$258,000,000 as compared with \$233,000,000 12 months previous.

Wages of labor are generally slightly higher than a year ago, with the exception of the Pacific coast, where the same rate prevails. The greatest increase is in New England, where the present level is approximately 30 per cent higher than the level of a year ago.

The general outlook is considerably better than one year ago, when the railroad and coal strike loomed as disturbing factors. Added to this is the fact that the designation of the system of Federal-aid highways is now completed in 33 States and practically complete in most of the others. With a definite program for accomplishment laid out road work can proceed much more smoothly.

From latest reports it appears that 30 States now tax gasoline as compared with 4 States at the beginning of 1921. Most of the revenue derived goes for road purposes, and bureau officials regard this as a step in the right direction. With road users paying a more equitable share of the cost, highway finance is placed upon a firmer foundation.

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

MANY JOIN BETTER-SIRES DRIVE.

During May 553 persons filed with the department written agreements to use pure bred sires exclusively in their live-stock breeding operations for all kinds of animals kept, including poultry. This number is more than twice that for the preceding month and much above the average for the entire "Better Sires—Better Stock" campaign. The total number of live-stock owners now cooperating in this work is 10,964.

COMMISSION RATES CONSIDERED.

Tentative decisions on live-stock commission rates at certain Middle West markets have been reached by G. N. Dagger and H. W. Gore, of the Packers and Stockyards' Administration, in whose hands the matter was placed some months ago. The arbitrators will go to Kansas City and probably to several other markets to present their tentative decisions for criticism and discussion before those who took part in the hearings.

LABELED FRUITS USED FOR SALAD.

Mixed canned fruits, intended for use in making salads, when shipped within the jurisdiction of the food and drugs act, may be labeled as "fruits for salad," but not correctly labeled as "fruit salad," according to a department statement. The use of mixed canned fruits put up in a sugar sirup for use in making salads is increasing rapidly. No objection will be made to the use of "fruit salad" labels printed prior to June 7, 1923, if they are otherwise unobjectionable, but in preparing new labels as existing stocks become exhausted the designation of the article should be correctly given.

SOFT DRINKS SOLD BY MILLIONS.

Each year thirsty Americans consume 4,000,000,000 bottles of soft drinks, and this total does not include beverages such as near beer made from cereals, says the department. These drinks come from 10,000 bottling establishments and over 110,000 soda counters. The skilled chemist has provided a host of flavors which the consumer can not distinguish from the original. The aroma as well as the

color and flavor of fruits is being imitated. These modern beverages contain nothing dangerous to health, but the food and drugs act demands that such products be labeled for what they are.

INCREASE IN BROOMCORN ACREAGE.

Commercial plantings of broomcorn this year will be about 416,000 acres, according to advance reports of the department, showing acres planted and to be planted in the seven States of commercial production. This compares with 257,000 acres last year, 222,000 acres in 1921, and 276,000 acres in 1920. Oklahoma, which had 71 per cent of the total acreage last year, shows about 243,000 acres this year, compared with 180,000 acres last year.

MANY FARMERS KEEP COST ACCOUNTS.

Farmers in some 1,200 counties kept accounts of the expense, labor, and profit connected with their farming enterprises in 1922, according to a report of the department. By means of these accounts farmers made analyses of their business, with the assistance of their county agricultural extension agents, to determine how to increase their net incomes over a period of years.

BOLL WEEVIL LABORATORY OPENED.

A cotton boll weevil laboratory and field station has been opened at Florence, S. C., under a cooperative project between the Bureau of Entomology and the South Carolina Experiment Station, with Dr. N. E. Winters in charge. Early in May B. R. Coad spent a few days at Florence, conferring with Professor Barre, Professor Conrad, and Doctor Winters relative to the plans for this season's experiments. H. C. Young and V. V. Williams of the main boll weevil laboratory at Tallulah, La., have been detailed to the Florence station. In addition, a number of entomologists will be employed. Plans were made to study primarily the particular points of weevil biology and behavior which have local significance in connection with control measures.

Extensive tests are planned to include the field use of all of the principal suggested measures of control, such as the dusting method, the Florida method, and the use of sweetened poisons. In addition to the work at Florence, certain of these experiments will be repeated at Clemson College and several other points in the State, representing the principal topographical districts.

New York Farmers to Receive Special Harvest Weather Forecasts

Special harvest weather forecasts are to be furnished this summer to farmers in 20 New York counties, according to reports to the department, through the co-operation of the New York agricultural extension service and the Weather Bureau.

This work was begun two years ago in 10 counties as an experiment. Last year 29 counties asked for the service, but funds were available to supply only 12. For the current year the Weather Bureau is unable, from lack of funds, to extend the service, but the college of agriculture, recognizing its importance to the farmers, has arranged to increase the number to 20.

The forecasts are prepared from observations taken throughout the country at 8 a. m., and are telegraphed from the Weather Bureau office at Syracuse, reaching the county extension offices by 11 a. m., from which they are relayed by telephone to the farmers during the noon hour.

In the two seasons during which the plan has been in operation it has been possible, in most counties, to arrange so that practically every farmer having a telephone could receive the forecasts.

Prof. M. C. Burritt, vice dean of extension, New York State College of Agriculture, says that reports received last year show that the service was of great value to the farmers, the saving effected through general use of the forecasts in one county alone being estimated at \$25,000.

DOCTOR KELLERMAN RECEIVES DEGREE.

The degree of doctor of science was conferred upon Dr. Karl F. Kellerman, associate chief of the Bureau of Plant Industry, at the commencement of the Kansas State Agricultural College, Manhattan, Kans., May 31.

E. B. KRANTZ GOES TO WYOMING.

E. B. Krantz, Animal Husbandry Division, Bureau of Animal Industry, has been placed in charge of the United States Wyoming horse-breeding station, Laramie, Wyo. Mr. Krantz, who has been associated with the bureau's investigations in the breeding, feeding, and management of horses for several years, has already taken up his duties at the Wyoming station.



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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary.

Procedure to be Followed by Department Representatives on Coordinating Boards, etc.

MEMORANDUM No. 434—June 4, 1923.—Representatives of the Department of Agriculture on the various coordinating boards or other interdepartmental agencies will not indicate finally the favorable or unfavorable attitude of this department with respect to the merits of any contemplated order or other instruction governing governmental procedure until such proposed order has been submitted, with the recommendation of the department representative, to the office of the Secretary and the department's attitude ascertained. This is not intended to restrict the free expression of the personal opinion of department representatives on the various boards, but merely to insure that the opinion finally advanced as the attitude of this department is in harmony with the general policy of the department.

Instructions issued to the department concerning policies or changes of procedure, requiring some memorandum in addition to the communication from the Budget Bureau or Chief Coordinator or other agency, as the case may be, should issue from the office of the Secretary.

Such matters may be taken up with the Budget officer of the department.

Bureau Classification of Expenditures from Departmental Appropriations.

MEMORANDUM No. 435—June 4, 1923.—During the fiscal year 1924 maintenance in the bureaus of independent ledger records of the General Accounting Office expenditure classifications paralleling the records accumulated in the disbursing office will be optional.

Memorandum No. 387 of July 1, 1922, is modified accordingly.

Changes in Departmental Organization, Effective July 1, 1923.

MEMORANDUM No. 436—June 8, 1923.—Pursuant to the provisions contained in the Agricultural appropriation act for the fiscal year 1924 the following changes in departmental organization are hereby ordered to become effective July 1, 1923:

(1) There is established in the office of the Secretary the office of the director of extension work. The director of extension work

shall have general direction and supervision of all extension activities of the department.

(2) The editorial, press service, illustrations, distribution, and addressing, duplicating, and mailing sections are transferred to the office of the Secretary under the direction of an assistant in charge.

(3) The office of exhibits and the office of motion pictures are transferred to the office of the director of extension work.

(4) The office of cooperative extension work is transferred to the office of the director of extension work.

(5) The office of experiment stations is transferred to the office of the director of scientific work.

(6) The present office of home economics will become the Bureau of Home Economics.

(7) The States Relations Service and the Division of Publications as such will be abolished at the termination of June 30, 1923, the units comprising these organizations being covered by the changes above indicated.

CHANGES IN FEDERAL GAME LAWS.

Amendments to the migratory bird treaty act regulations adopted by the Secretary of Agriculture and approved by the President June 11 include a change in the season for hunting migratory waterfowl in Pennsylvania from September 16–December 31 to October 1–January 15 and in Oklahoma and that part of Texas lying north and west of the International & Great Northern and Texas & Pacific Railroads from October 16–January 31 to October 1–January 15, while the season in southeastern Texas was changed from October 16–January 31 to November 1–January 31.

The open season for hunting doves in southeastern Texas was changed from September 1–December 15 to November 1–December 31 and in South Carolina from September 1–December 15 to November 1–January 31.

These changes were adopted at the solicitation of State game officials and interested sportsmen in the sections affected and are believed to be in the interest of conservation.

Other amendments authorize the issuance of permits for propagating waterfowl and for scientific collecting purposes to be valid until revoked by the Secretary of Agriculture, thus obviating the necessity of renewing such permits from year to year to cover continuing operations. The latter amendments are designed to facilitate the administration of the law and regulations. Annual reports from permit holders will be required as heretofore.

NEWS FROM EXTENSION WORKERS.

In fulfillment of our request to directors of extension asking for short articles dealing with some outstanding piece of work accomplished by extension

agents, we have received a liberal response. Elsewhere in this issue we are printing a brief account of the alfalfa project in Herkimer County, N. Y. It was one of the first received. Others will follow from time to time.

Some of the articles are not exactly what we want. We are anxious to give a news account of different projects, following them through from beginning to end and giving the important details. But more important we want to give an account of the little problems met with and how they were solved. Some pieces of work may owe much of their success to the solving of a few perplexing little problems. If we can include this material such articles should be of some constructive benefit. At the same time we want to give proper recognition to extension work from the standpoint of news.

RESEARCH FELLOWSHIPS ANNOUNCED.

According to a recent announcement by the National Research Council, that body has been entrusted with the sum of \$350,000 by the Rockefeller Foundation for the purpose of promoting research in the biological sciences, including zoology, botany, anthropology, and psychology. The sum will be used to endow post doctorate fellowships in suitable institutions, preferably those in the United States. The basic stipend for these fellowships will be \$1,800. Applicants must supply evidence of their research capacity and intentions. Further information can be obtained from the National Research Council, 1701 Massachusetts Avenue, Washington, D. C. Dr. F. R. Lillie, of the University of Chicago, is chairman of the board of national research fellowships in the biological sciences.

DOCTOR HOWARD RECEIVES HONOR.

Dr. L. O. Howard, representative of the United States Department of Agriculture to the International Congress of Agriculture, was elected one of the vice presidents at the conference which concluded its sessions May 28 in Paris. About 200 delegates attended the conference, most of whom were from European countries. Doctor Howard responded to the toast to the United States at the banquet and also addressed the section on tropical agriculture on cotton insects. After the meeting in Paris Doctor Howard went to Hyeres Var to visit the European parasite laboratory of the Bureau of Entomology.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Is a county agricultural extension agent, paid from Federal funds, under obligations to serve all farmers of the county whether they belong to the farm bureau or not?

Answer. Yes. The work of cooperative extension employees, whether county agents, home demonstration agents, boys' and girls' club agents, or other cooperative extension workers, is educational. Since these agents are part of a public service as defined in the Smith-Lever Act and receive some or all of their salary from public funds, they are to perform service for the benefit of all the farming people of the county, whether members of any farmers' organization or not, and are to confine their efforts to such activities as are appropriate for public officials to perform under the terms of the Smith-Lever Act.

Question. Does the department allow the public to use the national forests for camping, hunting, and fishing?

Answer. Yes; the use of the national forests by the public is encouraged by the Government. Certain regulations of the Forest Service, however, must be observed. These regulations deal almost entirely with precautions against fire. Full information about the use of the national forests can be easily secured from any forest officer or by writing to the Forest Service, United States Department of Agriculture, Washington, D. C.

Question. What are the duties of the chief personnel officer?

Answer. He prepares all papers connected with appointments, transfers, promotions, reductions, details, furloughs, and removals, and has charge of correspondence with the Civil Service Commission. He is custodian of personnel records.

Question. Did the department originate forest-protection week which was recently observed? What connection, if any, does it have with Arbor Day?

Answer. The idea of a forest-protection week originated in the heavily timbered States of the Pacific Northwest in 1920. It proved to be so popular and such a widespread demand for its continued observance sprung up in all sec-

tions of the country that President Harding made it a national affair in 1921 by issuing a proclamation. It has been observed nationally each year since then. It has no official connection with Arbor Day, though in many States Arbor Day happens to fall within forest-protection week; also the same people and organizations interested in Arbor Day are usually interested in forest protection.

Question. Does the plant quarantine act provide only for control of imports of plants and plant products to prevent entry of pests?

Answer. No. It gives authority also for the control of interstate movement of plants and plant products or of any other article capable of carrying plant pests, for the purpose of preventing the spread of any plant pest which may have more or less limited foothold within the United States. Under the act there are now being enforced 15 domestic quarantines relating to such important subjects as the pink bollworm, the corn borer, the gipsy moth, the Japanese beetle, the pine-blisters rust, the black-stem rust of wheat, etc. There are also some 22 quarantines having for object the prevention of entry of specific plant pests from foreign countries.

Question. How does the United States Department of Agriculture cooperate with State departments of education?

Answer. The department, through its division of agricultural instruction, cooperates with State departments of education and State agricultural colleges in the preparation of outline courses of study in elementary agriculture for the use of rural-school teachers. The outlines are based upon the agricultural practices of the particular State for which they are prepared and the lessons are arranged in seasonal sequence. Outlines have been prepared for Ohio, Maryland, Virginia, North Carolina, and Arkansas.

B. P. I. CATALOGUE NOW IN MAIN LIBRARY.

The card catalogues belonging to the Bureau of Plant Industry have just been placed in the department library. They comprise upwards of 425,000 entries, and deal with nearly all the topics of major interest in the work of that bureau.

The fact that the bureau is scattered in so many different buildings, with the utter impossibility of keeping in the Plant Industry library even a small proportion of the books constantly used in the scientific work of the bureau, has rendered it advisable to remove these catalogues from the west wing to a loca-

tion which is more central and more convenient to the bulk of the literature concerned.

The group comprises: (1) An author catalogue of over 115,000 entries, covering practically all books relating to botany and plant pathology in the libraries of Washington, D. C., and titles of a great number of articles on these subjects indexed from periodicals both old and recent. For a number of years the current indexing has covered the greater proportion of all publications within the scope of the catalogue. Corresponding to this comprehensive author catalogue are (2) a general subject index to botanical topics in the broadest sense, and (3) a highly organized subject index to publications on plant pathology. There is also (4) a list of the principal periodicals and society transactions containing material on these topics, with their location in different libraries of the city; also (5) an index to illustrations of flowering plants, now comprising about 100,000 cards.

The compilation of this material has been going on for about 20 years. In 1903 a survey of botanical literature available in the libraries of Washington was begun under the direction of Dr. Frederick V. Coville, of the office of botanical investigations, with the object of assisting the department library to build up its own collections in this subject by the purchase of essential books, and of securing the purchase of others through the cooperation of the Library of Congress. A short time thereafter indexing of pathological literature was begun in the office of vegetable physiological and pathological investigations by Miss Eunice R. Oberly. These two catalogues were brought together on the formation of the Plant Industry library in the west wing, and for a short time carried on independently, but soon developed an effective method of cooperation, and were finally woven together in a very efficient manner. The pathological indexing was carried on by Miss Oberly until her death in November, 1921, since which time it has been continued by Miss Alice C. Atwood, of Doctor Coville's office. Miss Atwood has been responsible for the botanical catalogueing practically from the beginning, and will continue in charge of the work at the department library, assisted by Miss Esther M. Colvin, of the Plant Industry library.

The catalogues are located near the main catalogue of the department library in the reading room on the first floor of the Bieber Building, and Miss Atwood and Miss Colvin are situated near at hand to explain them and assist in their use. Telephone inquiries may be made on department phone 473.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

DEPARTMENT DEVELOPS NEW COTTON.

Development of the Egyptian cotton industry of the Southwest to a point where the average return for the crop during the last 10 years has been nearly \$6,000,000 annually is one of the notable pieces of work of the Bureaus of Plant Industry and Agricultural Economics. Egyptian cotton, so called because it originated in Egypt, is a distinct type, both botanically and commercially, comprising several varieties and having staples of unusual strength and fineness and ranging in length from 1½ to 1¾ inches. It is especially suited for automobile-tire fabrics, hosiery, sewing thread, fine and fancy dress goods, and airplane and balloon cloth.

Because of the uncertainty of obtaining an adequate supply from Egypt, about 20 years ago the department was led to investigate the possibility of growing this type of cotton on a commercial basis in the United States. Several introductions were made, the most important by Dr. David Fairchild, who visited Egypt in 1899 and obtained seed of the principal varieties then grown in that country. The seed was tested at a number of stations in the Southern and Southwestern States. For various reasons it was concluded that commercial production in the main Cotton Belt would be impracticable, but on the irrigated lands of the Southwest the results were so promising as to warrant further experimentation. Egyptian cotton is grown now in this country only in Arizona and southern California.

Plant-breeding experiments were begun in 1903 by T. H. Kearney at Yuma, Ariz., with Mit Affi, the variety which at that time was most extensively grown in Egypt. Improvement in uniformity, earliness, and productiveness was brought about in the first years of experimental work through selection. Until 1908 no marked change of type was observed to have taken place. In that year, however, two progeny rows were found to differ strikingly from the parent stock and from one another. These rows gave rise to two varieties, of which only one, the Yuma variety, was preserved and became the basis of the Egyptian cotton industry in Arizona. This variety differed from the parent Mit Affi in numerous characteristics, of which the most conspicuous were the longer and more

pointed bolls and the longer and lighter colored fiber. In 1910 a single plant was selected from a field of Yuma cotton at Sacaton, Ariz., from which another new and distinct type was originated. The new variety, named "Pima," greatly surpassed the parent variety, and has now completely replaced it in commercial production.

After thorough tests had shown the new varieties to be satisfactory in yield and in quality of the fiber it was decided to distribute seed to farmers in Arizona and California. Commercial production began in 1912, and through the cooperative efforts of a number of experts in the Bureaus of Plant Industry and Markets (now Agricultural Economics) there has been developed an industry of no little importance to the irrigated sections of the Southwest. The total value of seed and lint produced in the 11-year period from 1912 to 1922, inclusive, amounted to \$63,500,000. In the year 1919 alone, when competitive buying by manufacturers of tire fabrics and other consumers of long-staple cottons resulted in exceedingly high prices, the value of the crop was nearly \$20,000,000, or much more than enough to pay the entire cost of construction of the Salt River Valley reclamation project, including the Roosevelt Dam.

MONTANA COMMENDS B. A. I.

In the report of its live stock sanitary board and State veterinary surgeon for 1921-22, the State of Montana speaks highly of the work being done by the United States Bureau of Animal Industry in cooperation with officials of that State. The report commends especially the work being done by the bureau in cooperative bovine tuberculosis eradication, and says in this connection, "The federal organization in Montana is a splendid cooperating body and we express our appreciation to them for their splendid cooperation and the excellent work they have performed."

During the past 11 years Montana has made rapid strides in tuberculosis-eradication work. The State started its active campaign in 1911. In that year 10.63 per cent of the cattle tested were found tuberculous.

In 1921, a total of 73,612 cattle were tested, and 0.938 of 1 per cent were found tuberculous.

In 1922, a total of 122,421 cattle were tested for tuberculosis, and 0.908 of 1 per cent were found tuberculous.

Figures show that Montana was the seventh State in the number of cattle tested during the fiscal year 1922.

WITH EXTENSION FORCES

ALFALFA IN HERKIMER COUNTY, N. Y.

Eleven years ago Herkimer County, N. Y., located in the foothills of the southern Adirondacks, decided that the dairy interests of that county would best be served by a definite campaign to increase the tonnage of legume fodder grown on dairy farms, chief among which, on the better soils, should be alfalfa. This decision was made in spite of the fact that only 13 acres of successful alfalfa was growing in the county at that time. After 11 years of continuous organized effort on the part of the county agricultural agent and the Farm Bureau approximately 1,500 acres of good alfalfa is now standing and the acreage is being increased rapidly.

A definite project was established to put this piece of work across. The steps in carrying on the program were:

1. Field tests and soil tests to determine the facts affecting the growing of alfalfa in Herkimer County.
2. Field demonstrations covering all parts of the county adapted to alfalfa growing.
3. Wide publicity, using all ordinary means.

4. A definite, prolonged, and continuous campaign to induce farmers to grow alfalfa in accordance with the principles determined by the investigations and experiments within the county.

More than 50 field tests and demonstrations were conducted to get the campaign started on a sound basis. Lime tests and tests of seed were made in all townships suited to alfalfa growing. The tests proved that practically all land in the county would require from one to three tons of lime. With considerable effort details of securing lime from several sources were worked out and large quantities are being purchased and applied.

These tests brought out the fact that Grimm alfalfa was the most likely variety and steps were taken early to insure a supply of good seed from Western States. Wide publicity was given through tours, field meetings, stereopticon pictures, special issues of newspapers and successful fields were kept labeled to attract the attention of passers-by. During the past five years less time has been devoted to trials and tests and more time devoted to securing actual practices in the growing of alfalfa on a field scale.

The June meeting of the Oklahoma Club will be a picnic.

BRIEF REVIEWS OF NEW BULLETINS.

Chemical, Physical, and Insecticidal Properties of Arsenicals. By F. C. Cook, physiological chemist, insecticide and fungicide laboratory, Bureau of Chemistry, and N. E. McIndoo, insect physiologist, fruit insect investigation, Bureau of Entomology. Pp. 57, June 9, 1923. (Department Bulletin 1147.) Price, 10 cents.

This bulletin covers a detailed study of the chemical, physical, and insecticidal properties of arsenicals undertaken to gain a better understanding of them, to improve them if possible, and to produce new arsenicals for insecticidal purposes.

The conclusions that may be drawn from this investigation are that a chemical analysis of an arsenical does not give sufficient data to judge satisfactorily its insecticidal properties, and a toxicity study alone does not show that an arsenical is suitable for general insecticidal purposes, but both a chemical analysis and a thorough toxicity study are required in order to judge whether or not an arsenical is a satisfactory insecticide.

Soy and Related Fermentations. By Margaret B. Church, microanalyst, microbiological laboratory, Bureau of Chemistry. Pp. 27, figs. 5. May 12, 1923. (Department Bulletin 1152.) Price, 15 cents.

Since American manufacturers of condiments have become interested in soy sauce, made from soy beans, the Bureau of Chemistry has undertaken investigations in the preparation of the sauce and in related fermentation processes.

Soy is a brown, liquid sauce, made by the fermentation of soy beans and, generally, some starchy component. It is commonly used in many countries of the Orient as a seasoning. Americans are familiar with soy as used in the Chinese-American restaurant and as an ingredient of the Worcestershire type of sauce. Soy sauce can be made in this country, but it seems impracticable to undertake here at present a process of manufacture so intimately related to biological and enzymic activities, except in conjunction with some already established and related industry. The same mold ferments used to ripen soy are used to some extent in the United States for the manufacture of enzymic preparations of some value to the textile industry and the jelly and jam trade.

Educational Milk-for-Health Campaigns. By Jessie M. Hoover, milk utilization specialist, Dairy Division, Bureau of Animal Industry. Pp. 36, figs. 22. June, 1923. (Department Circular 250.) Price, 10 cents.

In 60 or more milk-for-health campaigns conducted in various city and country communities in which the department has co-operated, the use of milk has been materially increased, a 20 per cent increase being common. The best results have been obtained where work was done in the schools, supplemented with educational work among the parents.

Many communities have found a relatively high percentage of undernourishment among children, and this condition frequently accompanies a low average per capita milk consumption. Experience has shown that this failure to use enough milk is due chiefly to lack of appreciation of the importance of milk in the development of children.

The department participates in these campaigns when requested by the extension service of the State agricultural colleges. Local organizations, such as chambers of commerce, men's clubs, women's clubs, parent-teacher

associations, etc., take an active part in the project. This circular gives information on the organization of these campaigns and on the follow-up work necessary to continue the good results.

Influence of Spacing on Productivity in Single-Ear and Prolific Types of Corn. By E. B. Brown, agronomist, and H. S. Garrison, assistant agronomist, office of cereal investigations, Bureau of Plant Industry. Pp. 11, figs. 6. May 21, 1923. (Department Bulletin 1157.) Price, 5 cents.

Results of experiments on the influence of space between hills of corn on the yield per plant and per acre have been published in this bulletin, which is of particular interest to the southern portion of the United States where both the single-ear and prolific types of corn are more or less commonly grown. As both types are grown extensively, it is of interest to know which yields more efficiently. The purpose of the investigation was to study the reaction of these types under conditions that provided a wide range in the environment, obtained in this case by altering the spacing of plants.

In these experiments the prolific type was more productive than the single-ear type. The experiments indicate that in sections to which both types are adapted in general the prolific will be more productive under conditions of general field culture because of its better adjustment to varying conditions.

Grounding Cotton Gins to Prevent Fires. By H. E. Roethe, associate development engineer, Bureau of Chemistry. Pp. 4, fig. 1. May, 1923. (Department Circular 271.) Price, 5 cents.

A grounding system that will greatly reduce the number of fires occurring in cotton gins in the South is described in detail in this circular. In some seasons the losses from these fires amount to over one and a fourth million dollars. Static electricity is the principal cause of these fires and danger from this source may be prevented to a large extent by the installation and proper maintenance of a good grounding system. The efficacy of such a system is recognized by insurance companies in most of the Southern States. Some companies in Texas give a 15-cent credit on each \$100 for gins properly grounded while in some of the other Southern States the rating schedule for gins not effectively grounded carries an added charge of 25 cents per \$100.

Insect Pests of Cotton in St. Croix and Means of Combating Them. By Charles E. Wilson, entomologist, Virgin Islands Agricultural Experiment Station. Pp. 20, figs. 21. May 19, 1923. (Virgin Islands Agricultural Experiment Station Bulletin 3.)

Cotton production in St. Croix, Virgin Islands, has been stimulated by conditions brought about by the World War, making the control of the insect pests of this crop a problem of economic importance. This bulletin describes the life history of some of the insects thus far known to attack cotton in St. Croix and suggests methods of combating the more harmful species. The insects are considered under two main headings, those attacking the leaf and stem of the cotton plant and those attacking the boll and the flower, and are discussed in the order of their destructive importance. The cotton worm, *Alabama argillacea*, hister mite, *Eriophyes gossypii*, fall army worm, *Lophygma frugiperda*, cotton cutworm, *Prodenia ornithogalli* and *P. latifascia*, and the West Indian sugar-cane root horer, *Diaprepes abbreviatus*, are among the insects attacking the leaf and stem which are dis-

cussed, together with control measures. Of those attacking the boll and flower, the pink bollworm, *Pectinophora gossypiella*, is considered first, followed by the southern green stinkbug, *Nezara viridula*, the cotton stainer, *Dysdercus andreae*, the bollworm, *Heliothis obsoleta*, and a number of, as yet, less abundant pests.

ADDITIONAL PUBLICATIONS.

Experiment Station Record. Vol. 47. Index Number. July-December, 1922. Pp. 901-1001. May 19, 1923. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Journal of Agricultural Research. Vol. 24, No. 1. April 7, 1923. Contents: Temperature Relations of Eleven Species of *Rhizopus*. (G-294.) By J. L. Weimer and L. L. Harter.—Nutrition of Plants Considered as an Electrical Phenomenon. (G-295.) By James F. Breazeale.—Influence of Soil Temperature and Soil Moisture upon the Fusarium Disease in Cabbage Seedlings. (Wis.-20.) By William B. Tisdale.—Action of Soap upon Lead Arsenates. (Mont.-9.) By R. M. Pickney. Pp. 1-95, figs. 38, pls. 2. Price, 10 cents.

Journal of Agricultural Research. Vol. 24, No. 2. April 14, 1923. Contents: Physiological Requirements of Rocky Mountain Trees. (F-8.) By Carlos G. Bates.—A Study of the Internal Browning of the Yellow Newton Apple. (Calif.-32.) By A. J. Winkler.—On the Use of Calcium Carbonate in Nitrogen Fixation Experiments. (Kans.-32.) By P. L. Gainey. Pp. 97-190, figs. 7, pls. 8. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the Journal was suspended December 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Monthly Weather Review. Vol. 51, No. 3. March, 1923. Pp. 111-173, figs. 9, pls. 2, charts 11. Price, 15 cents a copy, \$1.50 a year, payable to the Superintendent of Documents.

Special articles: The wind factor in flight: An analysis of one year's record of the air mail. By W. R. Gregg and J. P. Van Zandt.—Wind directions and the orientation of schoolhouses. By R. Nunn.—Radio reports give timely notice of rains in California. By G. H. Wilson.—Some temperature and humidity relations of the air. By W. J. Humphreys.—Atmospheric pressure and the codling moth. By C. C. Garrett.—Three Wisconsin snowstorms. By W. P. Stewart.—Snowstorms of March 11-18, 1923, at Duquque, Iowa, and vicinity. By H. M. Wills.—The storms of March 11-12, 1923, in Illinois. By C. J. Root.—Tornado in Tennessee on March 11, 1923. By R. M. Williamson.—Climatological data for Central America. By W. W. Reed.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government.

Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- A B C and X Y Z of bee culture. By A. I. and E. R. Root. Medina, Ohio, A. I. Root company, 1923.
- L'agriculture commercialisée; pour bien produire, il faut bien vendre. Par armand Bouat. Paris, P. Boll, 1922.
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- Rose in America. By J. H. McFarland. New York, Macmillan company, 1923.
- Scientific feeding of the domestic animals. 3d ed. By Martin Klimmer. Chicago, A. Eger, 1923.
- Scotland. Board of health. Report of the circumstances attending the deaths of eight persons from botulism at Loch Maree (Ross-Shire). Edinburgh, 1923.
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- Agronomische studien im niederbergischen lande. Von Paul Köttgen. Berlin, 1917.
- Rapid and accurate quantitative method for the determination of aracidic and lignoceric acids with special reference to peanut oil analysis. By Chai-lan Yu. New York, 1922.

CURRENT PERIODICALS.

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- Fruitman [monthly]. Fresno, 1923.
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- Tisdale, W. H., Dungan, G. H., and Leighty, C. E. (Plant Industry). Flag smut of wheat, with special reference to varietal resistance. Illinois Agr. Exp. Station Bulletin 242, pp. 509-533. April, 1923.
- Veitch, F. P., and Sterling, W. F. (Chemistry). Changes in powdered resin stored in closed containers. J. Ind. Eng. Chem., vol. 15, no. 6, June, 1923.
- Yothers, W. W. (Entomology). Spraying for the control of the Florida red scale. Florida State Hort. Soc. Proc. of 35th meeting, 1922, pp. 63-67.

CIVIL SERVICE ANNOUNCEMENTS.

Field agent in cooperative extension work in agriculture and home economics, July 17. Vacancies in the office of Cooperative Extension Work will be filled from this examination at salaries of from \$3,600 to \$4,500 a year. The duties of the appointee will be to assist State supervisory officers in methods of organizing and developing cooperative extension work in agriculture and home eco-

nomics by means of county extension agents and otherwise.

Applicants must have graduated from a four years' course at a college or university of recognized standing and have had one year's experience as a county extension agent in agriculture and home economics and two years' experience as a State supervisor of such work. A thesis is required. Applicants should apply for Form 2118.

Junior chemist, September 19. Vacancies in the departmental service in Washington will be filled from this examination at salaries of \$1,200 to \$1,800 a year. Separate registers will be established for advanced inorganic chemistry, analytical chemistry, organic chemistry, and physical chemistry.

Applicants must have graduated with a bachelor's degree from a college or university of recognized standing, such degree requiring the completion of at least 118 credit hours, 30 of which must have been in chemistry. If interested send for Form 1312.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week June 4-9, 1923. The publications can be obtained only from the stations issuing them.

- The citrus nematode, *Tylenchulus semipene-trans*. E. E. Thomas. (California Sta. Tech. Paper 2, pp. 34, pls. 8. Feb. 1923.)
- Meteorological observations at the Massachusetts station. J. E. Ostrander and G. E. Lindskog. (Massachusetts Sta. Met. Bul. 413, pp. 4, May 1923.)
- The quarterly bulletin. (Michigan Sta. Quart. Bul. 5, No. 4, pp. 157-200, figs. 9, May 1923.)
- Some new hybrid strawberries. R. F. Howard and C. C. Wiggans. (Nebraska Sta. Bul. 189, pp. 15, figs. 2, Apr. 1923.)
- Crop rotation under irrigation. J. A. Holden. (Nebraska Sta. Bul. 190, pp. 11, Apr. 1923.)
- Tomato leaf spot and experiments with its control. J. H. Muncie. (Pennsylvania Sta. Bul. 177, pp. 23, figs. 3, Dec. 1922.)
- Insect pests of cotton in St. Croix and means of combating them. C. E. Wilson. (Virgin Islands Sta. Bul. 3, pp. 20, figs. 21, May 1923.)

WELFARE ASSOCIATION BOOTH.

The profits on the refreshment booth maintained by the Department Welfare Association during Shrine week will amount to about \$400. In addition to the above proceeds, paid-up pledges for 1924 amounted to \$667.37 and quarterly pledges amounting to \$20.60 have been received from 13 bureaus. The largest contribution from any one bureau received up to date was from the Bureau of Animal Industry.

In southern Oregon and northern California the Federal Government and private timber owners, under the direction of the Bureau of Entomology, are cooperating to control an epidemic of the western pine beetle. This epidemic extends over an area a little larger than the State of Delaware, in which, in the last 10 years, the beetle has killed over a billion board feet of merchantable yellow-pine timber, valued at over \$3,600,000, or fifty times as much as has been killed by fire on the area during the same period.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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WASHINGTON, D. C., JUNE 27, 1923.

No. 26.

ALASKAN INTERESTS OF DEPARTMENT VARIED

Secretary Wallace Reviews Agricultural Problems of Territory and Progress of Work.

"The work of the department in Alaska is almost exactly the same as in the States, except that our department people located in Alaska have greater authority to make decisions on the ground than the department people in the States, and with the further exception that in the case of the agricultural experiment-station work the Federal Government bears the entire cost, instead of only partial cost," said Secretary Wallace in a recent statement to the press.

Fifty-one Department Workers in Alaska.

"There are 51 employees of the Department of Agriculture in Alaska. Of these, 27 are in the Forest Service and have general supervision over 20,000,000 acres of Government forest; 8 are in the Biological Survey; 6 are in the Bureau of Public Roads; 8 are in our Experiment Station Service; and 2 are in the Weather Bureau.

"So far as the administration of the forests is concerned, there is absolutely no difference between our administration in Alaska and our administration in the various States. National Forests in Alaska were first created by President Harrison in 1892. In 1905 all the National Forests were transferred to the Department of Agriculture. Our forests in Alaska are located mainly in the southeastern panhandle, extending up to within 10 miles of Seward, from which place the Government railroad starts. The total stand of timber approximates 80,000,000,000 feet. Sixty-five per cent is western hemlock and 20 per cent Sitka spruce. In 1906, the year immediately following the transfer of the forests to the Department of Agriculture, 86 per cent of the lumber requirements of Alaska was imported and 14 per cent cut from the National For-

ests. By 1919 these percentages were reversed and 86 per cent of the local requirements was cut from the National Forests and but 14 per cent imported. The normal cut now is about 45,000,000 board feet. The receipts from forest sales between 1906 and 1922 amount to more than three-fourths of a million dollars. We estimate that in addition to supplying all lumber for local needs, the Alaskan forests can be made to produce continually 2,000,000 cords of pulp wood per annum. The United States market now consumes about 6,000,000 cords of pulp wood annually. One pulp and paper sale has been made for approximately 100,000,000 feet of timber. Other projects have been laid out and are now being advertised. Of the amount received from timber sales, which aggregated about \$824,000, including the fiscal year 1922, over \$205,000 was paid into the Territorial road and school fund, which fund gets 25 per cent of all the Government timber sold. There is no locking up of the timber resources of Alaska, but quite the contrary.

"The Biological Survey is trying to help Alaskans establish the reindeer industry on a sound basis. It administers the laws protecting land and fur-bearing animals, the Federal bird and game

(Continued on page 6.)

TO STUDY PRODUCTION OF RUBBER.

Dr. Carl D. La Rue, Dr. James R. Weir, E. L. Prizer, and M. K. Jessup, of the Bureau of Plant Industry, are expecting to sail shortly after the 1st of July for Brazil, where they will undertake a biological study of rubber plants in different regions in the Amazon Valley. This trip is a result of the interest shown in rubber production near the close of the last Congress which resulted in a special appropriation for rubber investigations, providing funds for investigations by the Departments of Commerce and Agriculture. Dr. C. F. Marbut, of the Bureau of Soils, will also accompany the party to make a study of the soils of this region in reference to rubber production.

PRESIDENT COMMENDS YEAR'S ACHIEVEMENTS

Defines Status of Appropriations— Says Loyalty to Estimates Is Expected.

"The appropriations made by Congress are the measure of the maximum amount of business which may be planned for the fiscal year to which the appropriations relate," said President Harding in an address to the Business Organization of the Government held June 18 in Memorial Continental Hall.

"They are not the measure of the minimum amount of business which may be performed. Therefore, in planning your expenditure program for the coming fiscal year and apportioning your funds under such program, you should not only carefully guard against any of your activities being carried on at a rate which would require additional appropriations for the fiscal year but should arrange to conduct your business with a minimum of expense consistent with efficient administration."

The President's speech follows:

Reserves and Savings.

"Two years ago this month there was held the first meeting of the business organization of the Government. You were called together at that time to afford me opportunity to lay before you the problem of diminishing the cost of government and to enlist your help and cooperation in its reduction. We came out of the World War with a vastly increased public debt and a greatly expanded public service. It was imperative that we should curb the rising cost of government in its peace-time activities, and so we met together in that first meeting to discuss and formulate definite policies of retrenchment and methods for carrying them into effect. As I look back over the past two years I feel that that first meeting of the business organization was an epoch in the administration of government business.

Since then we have held three similar meetings, all of which had as their keynote greater economy and greater efficiency of the conduct of the routine business of the Government. We are now at the close of the current fiscal year, and this is an opportune time to take stock of what has been accomplished this year.

Balance of \$200,000,000.

"On January 29, 1923, the date of our last meeting, we faced an apparent deficit of \$92,000,000 in expenditures over receipts for the current fiscal year 1923. The forecast to-day is that we will end the fiscal year with a balance of ordinary receipts over expenditures of approximately \$200,000,000. This is a signal achievement, and while we have been greatly aided by unforeseen increases in ordinary receipts and reduced operations in capital funds, we could not have reached this successful balancing of the Budget with a substantial balance on the right side of the ledger without the material assistance which you have rendered.

Employees' Efforts Appreciated.

"You can all point with pride to the showing made this fiscal year as it is due in part to your untiring and unselfish devotion to the campaign for economy in the administration of the routine business of the Government. You can take further pride in the fact that while we will close this fiscal year with a surplus of receipts over expenditures of \$200,000,000 there has been an actual reduction of approximately \$256,000,000 in the expenditures of the departments and establishments engaged with the ordinary business of the Government from the corresponding expenditures for the last fiscal year. We have thus to our credit two signal achievements in our financial transactions for the current fiscal year.

"The coordination of the routine business of the Government and the development of teamwork both between and within the departments and establishments have been most important factors in reducing the operating expenses of the Government. I can not overemphasize the importance of promoting this rapidly developing and highly beneficial teamwork. It is of prime necessity if we are to reap the full benefit of the intelligent effort we have already made in the coordination of the Government's business.

Business Associations Formed.

"And it should not be confined alone to the departments and establishments in Washington, but should be extended to the field activities. An admirable start in this direction has already been made

by the establishment of Federal business associations. Sixty-nine of these associations have already been formed in the larger cities, embracing the officials and employees of all the Government activities located in these cities. Certainly no business concern should have several activities located in one place without bringing them together in contact, one with the other, so as to develop community of interest and action. These Federal associations meet regularly, just as we are meeting here to-day, and through their discussion of their respective problems and requirements find ways and means for more efficiently and economically carrying on the business of the Government. They should be encouraged and aided.

"In a few days we commence another fiscal year and I feel confident that at its close we will be able to point to even greater achievements in our campaign for retrenchment, economy, and efficiency than have been accomplished this current year. The appropriations for the coming fiscal year amount in round figures to \$3,706,000,000, which is \$234,000,000 less than the appropriations for the current fiscal year. As compared with the estimate presented to Congress, the appropriations for 1924 are but \$7,825,000 less than the amount asked for in the Budget, and the estimates supplemental thereto. Action by Congress on the estimates for 1924 therefore amounted to practical ratification of the Budget and the supplemental estimates. This in itself shows how carefully, how painstakingly were the estimates prepared, and is a source of much gratification to the Chief Executive. It is the first time in many years that Executive requests for appropriations and legislative grant have been in practical accord.

"A revised estimate just completed indicates that the ordinary receipts for 1924 will amount in round figures to \$3,638,000,000 and that the expenditures, including \$507,000,000 for public debt reduction, will total \$3,668,000,000. This indicates a deficit of \$30,000,000. This deficit must not only be wiped out but we must close the coming year with a substantial balance to our credit. It is my earnest desire that the expenditures for the coming year, excluding \$500,000,000 for debt reduction, be kept within \$3,000,000,000. Your assistance is needed to accomplish this, and I know that I can count on your loyal and unwavering support.

"I expect you all to effect some savings from your appropriations for the coming fiscal year. To accomplish this and also to enable you to have funds on hand with which to meet unanticipated

requirements you should not fail to set aside a reasonable reserve from your appropriations.

"The coming fiscal year will afford us a real opportunity to demonstrate our ability to carry on the policy of economy in the conduct of business and retrenchment in expenditures. Congress has granted for that year funds approximately in the amounts requested by the Chief Executive as being necessary to carry on the Government's business. To accomplish what is necessary to be done with a limited amount of funds, as will be the case this coming fiscal year, and at the same time effect savings, affords an opportunity for really distinguished service. I am sure that you all welcome this opportunity and that you will enter upon the coming year with the firm resolve to make a new record in efficiency and economy in the transaction of the business of government. I realize that this will call for further and greater demands upon your ability, a closer scrutiny of your activities, and the installation generally of more efficient methods. Let us here resolve that we will establish in Federal operation, not only for the coming but for succeeding years, an earnest, friendly competition between the Nation's multitudinous operating agencies—competition for the honor of achieving the maximum result with the minimum of expenditure.

Subscribe to Recommendations.

"I have noticed from the hearings before the appropriations committees of Congress that some of the officials of the Government have not yet realized that under the budget and accounting act the estimates which are before Congress are those submitted by the Chief Executive. The officials to whom I refer were apparently of the impression that the estimates which their respective departments or establishments submitted to the Bureau of the Budget were the official estimates which they were authorized to advocate before the congressional committees. I trust that this erroneous impression will not prevail hereafter. If Congress desires estimates other than those submitted by the Chief Executive, it has reserved unto itself in the budget and accounting act the authority to request such estimates and defined the methods of obtaining them. But the administration officials, who are operating under the Executive, are expected to subscribe cordially and loyally to the Budget estimate.

Estimates for 1925.

"Another task which will shortly confront us is the preparation of the Budget
(Continued on page 5.)

A DIGEST OF THE NEWS

AGRICULTURE IN CHINA PROGRESSES.

A remarkable development of intensive agriculture in China is shown by a special study just completed by the department. China now has more than 59,000,000 farmers, who with their families comprise 80 to 90 per cent of the total population. Of a total area of over 2,000,000,000 acres of land approximately 212,000,000 acres are reported as under cultivation. This cultivated acreage is divided into 43,000,000 acres of wet lands used chiefly for rice production 153,000,000 acres of dry lands, and 16,000,000 acres of garden and fruit orchards.

NEW PLAN FOR FOREST APPROVED.

Fifty million feet of saw logs can be removed annually for all time from the Coeur d'Alene National Forest, Idaho, according to prescriptions of the management plan just approved by the department. The net area of forest is about 660,000 acres, of which about 550,000 acres are considered as productive forest land. The main problem of management is that of making the mature timber last for a sufficient period to enable the youngest and intermediate classes to reach maturity. This average period is estimated at 80 years, during which time an average of 50,000,000 feet per year were being removed.

GIVING FURTHER ATTENTION TO RATES.

Tentative decisions on live-stock commission rates at certain Middle West markets have been reached by G. N. Dagger and H. W. Gore, of the Packers and Stockyards' Administration, who have been acting as arbitrators in the case between the producers and market agencies. The arbitrators will go to Kansas City and probably several other markets to present their tentative decisions for criticism and discussion by those who took part in the hearings which were the basis for the decisions.

ACQUIRE MORE LAND FOR FORESTS.

The National Forest Reservation Commission has authorized the purchase of 11,457 acres in eight Eastern States for National Forest purposes at an average price of \$3.95 an acre, according to the department. The largest purchase consists of 10 parcels, with a total area of 5,309 acres, in McKean Forest and Warren Counties, Pa., within the Alleghany National Forest. The area now acquired by the Government on the headwaters of the Alleghany River is nearly 110,000 acres.

LOUISIANA CANE AREA INCREASED.

Reports to the department indicate that 331,700 acres of sugar cane are being grown this year in Louisiana, compared with 319,600 acres in 1922 and an average of 292,100 acres during the five years 1918-1922. Nearly 54,000 acres or about 17 per cent of the sugar cane acreage in the Louisiana sugar belt will probably be required for "seed" cane for planting, leaving about 262,000 acres for making sugar and sirup.

NEGRO FARM GIRLS ENTER CLUBS.

Over 62,000 negro farm girls in the 15 Southern States enrolled in agricultural extension clubs in 1922, according to reports to the department. More than 70 per cent of these club members completed the entire year of work as planned by agricultural extension agents.

OVER 270,000 COWS TESTED IN 1922.

For the past four years farmers have entered each year an average of 200,000 cows in cow-testing associations organized with the assistance of county agricultural agents to determine whether or not the cows with proper feeding and care could produce sufficient butter fat to pay for the expense of keeping them, according to the department. The number of cows entered in 1922 was over 270,000.

Permanent Prosperity Program Proves Practical in Georgia

The striking financial success of the permanent prosperity program of Turner County, Ga., is attracting such attention that other counties in Georgia have adopted part or all of the program.

This formerly single-crop county, practically insolvent through the advent of the boll weevil and the economic reaction following the recent war, has, within a little more than two years, restored its credit and built up agricultural industries, bringing in monthly cash returns and at the same time establishing permanent resources in the form of live stock and increased soil fertility. This has been accomplished by the cooperation of practically every interest in the county, the county agricultural extension agents, the instructor in vocational agriculture, the county board of trade, the farm bureau, a cooperative sales agency, a creamery and cold-storage company, dairy, swine, and poultry associations, the woman's club of the county, the newspaper, bank, and merchants' associations.

The program substitutes cows, hogs, and poultry, together with sufficient home-grown feeds for their maintenance, for the former cash crop—cotton. Provision is made, however, for the growing of 5 acres of cotton per plow on each farm. The program is based on the horsepower on the farm. A one-horse farm unit consists of three to six good producing milk cows; two to three good sows; 20 to 40 brood hens; 10 acres in corn, velvet beans, and North Carolina peanuts; 5 acres in oats, followed with peas or other hay crop; 4 acres in wheat, followed with Spanish peanuts; 5 acres in Spanish peanuts or watermelons or divided with tobacco; 3 acres in sweet potatoes and cane; 5 acres in cotton, to be followed early with grain; and 12 acres in permanent pasture, carpet grass, Dallas grass, and lespedeza.

The success of the substitution is indicated by the returns. Turner County contains, according to the 1920 census, 1,687 farms, averaging 69.6 acres each; up to two years ago its farming consisted of growing cotton. From the date of the opening of the creamery at the county seat, October 1, 1921, to May 1, 1923, \$262,000 has been paid for cream and \$11,000 for poultry and poultry products. Twenty-four carloads of hogs were shipped cooperatively from the county last year, averaging \$1,000 per car, and, in addition, a cold-storage and meat-curing department opened in connection with the creamery has handled 200,000 pounds of meat for farmers' home use. Sales of other products, such as sweet potatoes, peanuts, melons, molasses, and beans, have combined to bring the total amount realized by the farmers of Turner County through their new farming program up to \$1,000,000 for 1922. In addition, the farmers have had a comfortable living produced on their own farms.

A member of the South Carolina extension service recently visited the county, and a report of observations made on the trip, together with a copy of the program, has been sent to the county agent of every South Carolina county having conditions to which it is felt the program is applicable. Other States are sending their extension workers into the county to study the methods used.

The hay standardization laboratory of the Bureau of Agricultural Economics, formerly located at Alexandria, Va., has been moved to the Globe Building, 339 Pennsylvania Avenue NW., Washington. This building was formerly used for the seed-distribution project of the department. The new location of this laboratory will provide additional space necessary for the further development of the hay standardization work.



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OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

Appointment of Director of Purchases and Sales.

MEMORANDUM No. 437.—*June 14, 1923.*—Effective July 1, 1923, Paul D. Kelleter, now a member of the Forest Service, is appointed director of purchases and sales for the department. In this capacity, pursuant to Executive order of July 27, 1921 (Bureau of the Budget Circular No. 15), Mr. Kelleter will be responsible for the general direction and coordination of the purchase and sales activities of the department in Washington and in the field. Mr. Kelleter will also act as the representative of this department on the Federal Purchasing Board.

James M. Locknane will act as assistant to Mr. Kelleter.

MARKET AGENCIES MUST BE BONDED.

An amendment to the regulations under the packers and stockyards act which makes detailed provisions for bonding of individuals and firms engaged in the live-stock commission business, effective September 1, 1923, has been signed by Secretary Wallace. A large number of live-stock exchanges on the principal markets already had made provision for the bonding of members (commission men), and in a few States bonding of these market agencies has been required by law. This amendment assures that all of those handling live stock on markets doing an interstate business will provide safeguards against loss to those consigning animals to them. The amount of the bond can not be less than the nearest multiple of \$2,500 above the average amount of the gross proceeds of sale of live stock handled by the agency during two business days, based upon the total number of business days and the gross proceeds of sale for the preceding 12 months. In any case the bond can not be less than \$5,000 and it need not exceed \$50,000. Conditions not specifically provided for by the amendment may be included in a bond, providing they are not inconsistent with the regulations.

In addition to the bond requirement, the revised regulations make obligatory an immediate written accounting of each sale, showing the number, weight, and price of each kind of animals sold, the name of the purchaser, the date of sale, and such other facts as may complete the account.

A further important provision has to do with the use of funds resulting from the sale of live stock. These funds must not be intermingled with other accounts or funds of the market agency kept or used for other purposes.

MAY EXTEND RICE QUARANTINE.

The advisability of prohibiting or restricting the entry of seed or paddy rice from all foreign countries and localities not already covered by quarantine was considered at a public hearing held by the Federal Horticultural Board, United States Department of Agriculture, June 11. No restrictions are contemplated by the department against the entry of rice in the forms commonly used for food purposes, namely, either as polished or brown rice. A quarantine promulgated by the department in 1919 on account of diseases of rice and other small grains prohibits the entry of paddy rice from India, Japan, Italy, France, Germany, Belgium, Great Britain, Ireland, Brazil, and Australia.

WOOD DUCK HUNTING PROHIBITED.

Wood ducks may not be hunted anywhere at any season, according to the Biological Survey, which administers the migratory bird treaty act. This is a Federal law under which the hunting, killing, or possessing of wood ducks is prohibited at all times throughout the United States and by treaty throughout Canada also. This game law has been upheld by the United States Supreme Court and therefore makes inoperative the amendment to the game laws of Minnesota passed at the last session of the State legislature, providing an open season on wood ducks. Thus, hunters will not be allowed to exercise the privilege accorded them by the State law, and persons found hunting, killing, or possessing wood ducks at any time will be subject to prosecution in the Federal courts.

A directory of teachers giving courses in rural sociology and rural life, as of May 1, 1923, has recently been prepared in the Bureau of Agricultural Economics. This list includes 594 colleges, normal schools, theological seminaries, and universities reporting a course. A former directory issued January 1, 1922, gave a total of 452 institutions.

Cotton Conference Proposes Recommendations for Trade

The English delegates to the International Cotton Conference held June 11 and 12 in the department have returned to report to the members of their own exchanges. Definite action on recommendations for business adjustment will be decided within the next two weeks. The Havre Cotton Exchange has fully accepted the action of the conference.

The representatives of the American cotton industry and of the department proposed to the delegates representing the European cotton industry that the European cotton associations adopt the official cotton standards of the United States for grade and color. In event of final adoption the American delegation, subject to the approval of the Secretary of Agriculture under the United States cotton standards act, agreed that such action should be taken under section 4 of the act as would be necessary to vest in the present and next succeeding annually elected members of the boards of appeals of the Liverpool Cotton Association, the Association du Commerce des Cotons of Havre, and the Bremen Cotton Exchange the authority to determine finally the true classification as to grade and color in accordance with the official cotton standards of cotton of American growth exported from the United States.

In view of the difficulties of the European delegation in accepting the official standards for length of staple consideration of their adoption was withdrawn. The European interests state that adoption of length standards would require serious and difficult adjustments in their business operations.

A. C. Nickson, secretary of the Liverpool association, will remain in the United States in order to act in response to advices from abroad.

The sessions which began June 11 were opened by Secretary Wallace in room 411, Bieber Building, and most of them were presided over by Dr. H. C. Taylor. Secretary Wallace entertained the foreign and American delegates and the department representatives at a dinner at the Cosmos Club on the evening of June 11.

Vacation pamphlets of from 6 to 10 pages each, which describe the possibilities offered by the forests in California, have been issued by district 5 of the Forest Service. The location, topography, and climate of the various forests are described, as well as the best rail and automobile routes leading to them.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. How many persons are cooperating in the bird-banding work of the Bureau of Biological Survey?

Answer. Federal permits for 1923 have been issued to 770 persons who are cooperating in bird banding. In 1920 (when this became a regular activity of the Biological Survey) 89 persons had volunteered to assist and were supplied with the necessary permits. In 1921 the number was increased to 189, and in 1922 to 552. Bird-banding cooperators serve without pay, their motive being a desire to assist in increasing our knowledge of birds.

Question. Does any official relationship exist between the United States Department of Agriculture and the Federal Board for Vocational Education?

Answer. The work of the department and of the Federal Board for Vocational Education is carried on independently, but, when the board deems it advisable, it may have made studies, investigations, and reports concerning agriculture for the purposes of agricultural education in cooperation with or through the Department of Agriculture, and in this connection the department, through its division of agricultural instruction, has cooperated with the board in the preparation of suggestive lesson units and outlines for the teaching of a number of agricultural enterprises in vocational schools. The Secretary of Agriculture is an ex officio member of the Federal Board for Vocational Education.

Question. How many acres are contained in the National Forests?

Answer. Approximately 156,000,000 acres, located mostly in the States west of the Mississippi River.

Question. How many forest fires occur each year?

Answer. Thirty-eight thousand four hundred forest fires were reported last year, and the average number of forest fires for the past six years stands at about 33,500. The area burned over each year totals about 7,000,000 acres.

Question. When was the first official weather service organized?

Answer. A weather service was established under the Signal Corps of the Army by joint resolution of Congress approved February 9, 1870. This service

was transferred to the Department of Agriculture in 1891, about two years after the creation of the latter as an executive department.

PRESIDENT COMMENDS YEAR'S ACHIEVEMENTS

(Continued from page 2.)

for the fiscal year ending June 30, 1925. I contemplate a substantial reduction in the estimates of appropriations for 1925 as compared with the appropriations for 1924. In fact, I have expressed to the Director of the Bureau of the Budget my desire that the 1925 estimates, exclusive of the amount required to meet the reduction in and the interest on the public debt and the amount required for the Post Office Department, will not be in excess of \$1,700,000,000. To reach this amount, the estimates for 1925 must be \$126,000,000 less than the appropriations for 1924. This will tax your best efforts, but I have confidence in your ability to find ways and means for lessening the amounts of your requests for funds.

"I realize that in your efforts to comply with this constant and insistent call for economy and retrenchment in expenditures you may sometimes become discouraged. And so as a heartening thought I ask you to keep in mind that as the trustees of the taxpayers of this Nation the people are looking to you for the utmost care and supervision over the things which you administer. It is a sacred trust involving not only dollars and cents but the care and proper utilization of public supplies and materials. It extends also to your application to your respective tasks, so that Government time, as well as its funds and property, may be considered the measure of your responsibilities to the people. Certainly it is an honor to be intrusted with these responsibilities.

"I understand how the constant call for reductions somewhat tries your patience. But a day will come when we must deal with increases, because there must be expanding activities and attending growth of cost in the Government of a growing Nation. Our big problem is to find the irreducible minimum upon which we may consistently enlarge.

"I know, too, the unpopularity of insistent reductions and enforced economies. The spender is freely, though often thoughtlessly, applauded. But in the sober reflections of the people whom we serve the honest and zealous endeavor to reduce the cost of government, which has an intimate relationship with the cost of living, is sure to win abiding favor. We are doing more than serve ourselves, more than helping our own

people; we are proving to the world that the way to recover from war excesses is to halt the outflow and build anew, with exacting watchfulness in all public outlay * * *."

ROBERT B. HANDY.

Robert B. Handy, an assistant editor of the Division of Publications, died June 19 after a lingering illness. Mr. Handy was born in Delaware August 27, 1858, and in his earlier years he was a farmer, county school superintendent, also editor and publisher of a country newspaper in Virginia.

He entered the department March 19, 1894, as a compiler and prepared O. E. S. Bulletin No. 33, "The Cotton Plant: Its History, Botany, Chemistry, Culture, Enemies, and Uses." He also prepared pamphlets on peanut culture, asparagus growing, and American Horses in Foreign Markets. With Minna A. Cannon he compiled Bulletin No. 6 of the Division of Publications, "A List by Titles of the Publications of the United States Department of Agriculture from 1840 to June, 1901, Inclusive," a bulletin of 216 pages.

On June 30, 1906, Mr. Handy was appointed assistant in charge of the document section, and on June 29, 1910, he was made an assistant editor.

DR. FRANK C. COOK.

Dr. Frank C. Cook, of the insecticide and fungicide laboratory, Bureau of Chemistry, died in Dallas, Tex., June 19, following an operation for appendicitis. At the time of his death Doctor Cook was engaged in special research work in connection with the control of insects infesting live stock.

Doctor Cook entered the Bureau of Chemistry in 1904 and during his 19 years of service completed many investigations on special lines of work, such as meat juices and extracts; the preparation, properties, and action of Bordeaux mixture; the effect of cold storage on eggs, quail, and chickens; the destruction of fly larvæ, etc. He received the degrees of B. A. in 1900, M. A. in 1902, and M. S. in 1904 from Yale and the Ph. D. degree from George Washington University in 1908. He was the author of numerous papers and bulletins on food metabolism, enzymes, insecticides, fungicides, and related subjects.

Doctor Cook was a member of the American Chemical Society, the Association of Agricultural Chemists, the Society of Biological Chemists, the Washington Academy of Sciences, and was a delegate to the International Congress of Applied Chemistry at Rome, 1906, and London, 1909.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

DATE INDUSTRY ESTABLISHED HERE.

The date industry, which had its beginning in the United States in an experimental way about 1900, has developed into one of the most promising fruit industries of the hot interior valleys of California and Arizona. The production last year was approximately 300,000 pounds, valued at about \$150,000. Production is expected to increase from year to year for some time in the future.

Trial plantings of date palms were made in southeastern California as early as 1876, but without much success. The first large importation of standard, high-class named varieties was made from Algeria in 1900, the offshoots being planted at Tempe, Ariz., on a 25-acre tract set aside for an experimental date garden to be conducted in cooperation between the Department of Agriculture and the Arizona Experiment Station. A second station was established at Mecca, Calif., in 1904 in cooperation with the University of California, while the Government Date Garden, largest of the stations at present devoted to testing date varieties, was started at Indio, Calif., in 1907 on land deeded to the department in fee simple. Smaller stations are conducted at Laredo, Tex., Sacaton, Ariz., and Palm Springs and Martinez, Calif.

For several years date culture offered little commercial promise, chiefly because of the difficulty in ripening the fruits properly, and also as a result of the failure of many attempts to start new trees from offshoots of the desired varieties.

In 1910 investigators of the University of Arizona worked out a method of ripening the fruits by incubation and by chemical treatment. In the same year Walter T. Swingle, who has had charge of the department's investigations on date culture since their inception, noticed that fruits which he had carried in his grip from California to Washington, D. C., ripened and improved in eating quality en route, owing to the heat in the warm sleeping cars in which he traveled. This observation led to the development of a method of artificial ripening in warm, moist rooms, which has given excellent results.

In 1919 a very satisfactory method of aiding the ripening of the fruit on the trees was worked out by modifying the so-called bag-ripening process used in

North Africa. The entire fruit bunch is inclosed in tough paper bags, which serve to equalize the temperature, prevent the dates from dying out in mid-day, and protect them from injury by dew or rain, as well as from the occasional ravages of "coyotes." This method has practically doubled the percentage of fancy dates, and the fruits, being protected from dust and insects, are most attractive in appearance and develop the highest flavor. It is believed, also, that these new methods for artificially ripening the fruits may aid in extending the limits of commercial date culture, now largely confined to the Coachella Valley around Indio, to other hot, dry, irrigated valleys in the State and in Arizona and possibly to a few protected situations in Texas, Nevada, and Utah.

The two most promising varieties for culture in the United States are the Deglet Noor and Saily. The former is generally considered the finest of the Old World varieties, and was included in the earliest importations from North Africa. The Saily date of Egypt was long known to be a very superior variety, but sufficient offshoots to meet the needs here were impossible to secure because they were considered to exist only in the very inaccessible oases of the Libyan Desert. Considerable investigation by Prof. Silas C. Mason, of the Bureau of Plant Industry, disclosed the fact that the dates growing in more accessible regions of the lower Nile were of this variety, although called by a different name, and having slightly different characteristics, due to climatic differences. This discovery afforded a much better source for offshoots of this variety, and its adaptation to conditions in the Southwestern United States and commercial possibilities marked a new era in date production in this country. Eight importations of Saily offshoots have been made from Egypt, the first in 1901, the latest in 1922, and altogether about 10,000 offshoots of this variety have been brought to the Southwestern States. Although they came from five different localities in Egypt, they are now growing side by side in the Government stations of the Southwest and their identity and the identity of the Saily from all these localities has been established beyond question.

The St. Louis Club will hold a picnic July 4, which will include all employees of the department and their friends. This was decided at the meeting held June 8 in the Y. W. C. A. cafeteria of the Pierce Building. The club has discontinued regular meetings for the summer and will meet again at the call of the president.

ALASKAN INTERESTS OF DEPARTMENT VARIED

(Continued from page 1.)

refuges, enforces the migratory bird act, aids in the administration of the Alaskan game laws, which are mainly under the jurisdiction of the governor of the Territory. Its work in Alaska is very similar to its work in the States.

"The agricultural work proper in Alaska is carried on at five experiment stations located at Sitka, Fairbanks, Matanuska, Kodiak, and Rampart. These stations are conducted without cost to Alaska, although in the States the State governments bear most of the expense. The purpose at these stations is to study grains, other crops, and live stock best adapted to Alaskan conditions, with a view to helping Alaska to become self-supporting agriculturally.

"The department maintains an office of public roads at Juneau. The road and trail work in the national forests is under this office. Our work with public roads in Alaska is exactly the same as it is in the national forests in the States. Outside the national forests, the road work of Alaska is carried on by the Alaskan Road Commission or the Territorial Road Commission, and with this the Department of Agriculture has nothing to do.

"The department maintains a Weather Bureau office at Juneau, with a meteorologist and an assistant in charge. In addition, we have 10 special meteorological volunteer reporters, who collaborate with the bureau by transmitting daily telegraphic weather reports.

MISS BENTON APPOINTED IN B. A. I.

Miss Anne G. Benton has been appointed associate bacteriologist in the Dairy Division, Bureau of Animal Industry. Her work will be to study bacteriological problems connected with the manufacture of condensed and evaporated milk, taking the place of Dr. C. S. Mudge, who has resigned to take a position in California. Miss Benton is a graduate of Wellesley College, and has taken a later degree from the University of Minnesota, where she has been instructor in bacteriology for the past nine years.

The Denver Club decided to continue meetings throughout the summer at the regular meeting held June 11 at the Civic and Commercial Association rooms. Harry Casaday, budget commissioner and efficiency expert of the State of Colorado, and D. D. Green, State assistant in rodent control, were the guests at the meeting.

BRIEF REVIEWS OF NEW BULLETINS.

Marketing the Early-Potato Crop. By George B. Fiske, investigator in marketing fruits and vegetables, and Paul Froeblich, assistant in market surveys, Bureau of Agricultural Economics. Pp. 33, figs. 18. May, 1923. (Farmers' Bulletin 1316.)

Prompt, quick, careful handling of the early-potato crop is the keynote of the marketing problem. The market season for any early-potato districts lasts only a few weeks and the net results of the season's work and planning must be condensed into that short time. This bulletin tells how the crop is sold in the leading early-potato sections. The location, shipping points, and relative importance of the heavy early shipping districts are shown. The kind and source of the information which the grower should use are described and the grower is told how to make the most of them in marketing his crop. The price of early potatoes seems to vary according to the size of the main crop the year before and the quantity of old stock available for shipment after January 1, as well as according to shipments of the new early crop. The average price of new potatoes in 1917 was nearly the double of that in 1916, yet about the same number of carloads of new early stock was shipped each year. The 1917 new crop followed a short old crop of which the shipments were light after January, while the 1916 new crop followed the main crop. Success in marketing depends much on having the right stock at the right time.

Greenhouse Construction and Heating. By James H. Beattie, horticulturist, Office of Horticultural and Pomological Investigations, Bureau of Plant Industry. Pp. 38, figs. 20. May, 1923. (Farmers' Bulletin 1318.)

Glass farming, or the growing of flowers and vegetables in greenhouses, has become an important industry in the United States, and according to the United States Department of Agriculture the industry is constantly increasing because of the demand for vegetable and floral products of the quality that can be produced in the modern greenhouse. There are now more than 17,000 establishments employing some type of forcing structure for the production of plants, flowers, or vegetables, the glass area covering nearly 3,800 acres.

High-quality greenhouse products are finding an increasing demand, and the industry offers special inducements to those having a knowledge of and a liking for the work. Success in this industry will depend much on the suitability and adequacy of the equipment. The fact that the quantity of coal used to maintain an acre of space inclosed in greenhouses at the required temperatures varies from 250 to 500 tons a season indicates the need for the practice of every possible economy. Fuel losses in greenhouse heating are sustained because of poorly constructed houses, a faulty heating system, or the lack of repair of the house or the heating plant.

Silver-Fox Farming. By Frank G. Ashbrook, assistant biologist, Division of Economic Investigations, Bureau of Biological Survey. Pp. 60, figs. 60, pls. 4. June 20, 1923. (Department Bulletin 1151.) Price, 15 cents. Supersedes Farmers' Bulletin 795, "The Domesticated Silver Fox."

Correct information is provided on the management, feeding, and breeding of silver foxes in captivity. The real facts concerning this

profitable but somewhat erroneously regarded business are stated. Silver foxes are being raised successfully by at least 500 ranchers in the United States, who have about \$8,000,000 invested in the industry.

How to choose a location and lay out a fox ranch; how to select stock, feed it properly, and breed for the best strains are the major points discussed. Emphasis is placed on quality production and on the need for the rancher to have his heart in his work. Sanitation, both in regard to the surroundings of the foxes and the prevention of diseases and parasites, is extremely important. The bulletin contains many diagrams, pictures, feeding tables, and formulas for special feeds.

Boll-Weevil Cotton in Texas. By O. F. Cook, bionomist in charge, Office of Crops Acclimatization and Adaptation Investigations, Bureau of Plant Industry. Pp. 20, pls. 4. May 12, 1923. (Department Bulletin 1153.) Price, 5 cents.

Cotton plants under heavy weevil infestation behave in a rather abnormal way, growing much more luxuriant and branching out and attaining a greater size. As a result of this more vigorous growth of holl-weevil cotton, the fields soon become covered with a dense mass of foliage, the lanes are closed between the rows, and the ground is shaded continuously. Under such conditions the weevils breed in large numbers and there is no prospect of producing a crop. Weevil larvae in fallen buds are protected by the shade of the overgrown plants instead of being killed by exposure to heat and dryness.

Wider separation of rows, combined with closer spacing of the plants in the row, is a way of restricting the size of the individual plants, keeping the lanes open between the rows, and affording less protection to the weevils, according to this bulletin, which is based on the results of experimental work in Texas in the season of 1921.

Though further tests and experiments are needed to determine the best arrangements of rows under different local conditions, the indications are that the rows should be not less than 4 feet apart and the plants should be not more than 6 inches apart in the rows. As an emergency measure, in the absence of other precautions in spacing, cutting out alternate rows might be advisable as means of avoiding the condition of holl-weevil cotton, as shown by the higher yields of the open rows and exposed plants that continued to set bolls late in the season in the San Antonio experiments of 1921.

Milk Plant Operation. By Clarence E. Clement, market milk specialist, Dairy Division, Bureau of Animal Industry. P. 46, figs. 26. June 5, 1923. (Department Bulletin 973.) Price, 10 cents.

Previous bulletins in this series have told about construction, arrangement, and equipment of milk plants, and this one gives a summary of the best-known practice in carrying on the business. The operation of a milk plant requires, besides general ability, considerable technical skill and training. New milk plants are constantly being established, often by associations of farmers who produce the milk or by associations of producers and small dealers; and the success of such plants depends to a large degree on the manager and his methods. In the bulletin the various operations are followed through in somewhat the same order as in an actual

plant, beginning with prompt removal from the railroad station and suitable care on arrival at the plant. Bottling and capping methods are described. Both these operations are generally done by machinery, and a comparison is made of the various methods and machines as to speed and cost. Bottles are a serious consideration, not only from the necessity of careful washing, but also from their high cost and necessity of frequent replacement. How to avoid frequent breaking and losing of bottles, and how to enlist the interest of milk purchasers in the return of bottles are among the subjects taken up. The bulletin tells how careful milk distributors prevent leaks of milk and how they can properly utilize what comes back on the wagons; also how to keep track of the receipts and sales; how to pay the drivers so they will take an interest in the business; how to pay the producers; and how to deal with the problem of surplus milk.

Soil Survey of Boone County, Iowa. By A. M. O'Neal, Jr., of the U. S. Department of Agriculture, and A. M. Deyoe, of the Iowa Agricultural Experiment Station. Pp. 32, fig. 1, map. (From F. O. Soils, 1920.)

Approximately 95 per cent of the land in Boone County is in cultivation. The 1920 census shows that there are in that county 2,541 farms, averaging in size 134.1 acres and valued at from \$250 to \$400 per acre. More than half of the farms are operated by owners.

Boone County lies in the central prairie region, where the topography and moderately high moisture supply favor a grass vegetation. The entire area was prairie until within comparatively recent times. At the present time the agriculture of the county consists of the growing of grain and hay and the raising and feeding of cattle and hogs. Corn, oats, and timothy and clover are the principal crops. Wheat, barley, rye, buckwheat, sweet corn, and all kinds of garden truck are grown to some extent.

Soil Survey of Leavenworth County, Kans. By E. H. Smies, of the U. S. Department of Agriculture, and G. Y. Blair, of the Kansas Agricultural Experiment Station. Pp. 65, fig. 1, map. (From F. O. Soils, 1919.)

Some interesting changes in the agriculture of the county have taken place since the time of its organization in 1854. The first attempt at producing crops was made on the United States military reserve soon after its establishment in 1827. The crops were grown for home use and for sale to the military post. Cattle raising was an important industry because of the large open range available. At the present time the agriculture of the county consists mainly of grain and dairy farming. Wheat is the only field crop largely used as a cash crop. It has been the crop of second importance since the beginning of agriculture in the county, but in 1919 the acreage was more than two and one-half times as large as that in corn. The report of the soil survey contains a detailed discussion of the agriculture of the county, the various soil types, and a large colored map showing the distribution of the soil areas, as well as much information.

ADDITIONAL PUBLICATIONS.

Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction during the Period from October 1 to December 31, 1920. Pp. 96, pls. 6. Issued by the Bureau of Plant Industry. May, 1923. (Inventory No. 65; Nos. 51358 to 52305.)

List of Workers in Subjects Pertaining to Agriculture. Part 2. State Agricultural Colleges and Experiment Stations, 1922-1923. Prepared by the States Relations Service. Pp. 108. May, 1923. (Miscellaneous Circular No. 4.) Price, 15 cents.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Agricultural loans, summary of legislation providing for farm loans and rural credits in the provinces of Canada. Canada. Dept. of the interior. Natural resources intelligence branch. Ottawa, 1923.
- British association for the advancement of science: a retrospect 1831-1921. By O. J. R. Howarth. London, The association, 1922.
- Chemistry of urea. By E. A. Werner. London, Longmans, Green and co., 1923.
- Classification of thinnings. India. Forest dept. Calcutta, 1922. (Forest bulletin no. 52.)
- Compendium hymenomycetum, fasc. 9. Par Auguste Sartory. Paris, 1923.
- Congrès de la pomme, Rennes, Nov., 1921. Rennes, Imprimeries Réunies, 1922.
- Destructive distillation of wood. By H. M. Bunbury. London, Benn brothers, Ltd., 1923.
- Diagnosis and treatment of internal parasites. By M. C. Hall. Chicago, Veterinary medicine, 1923.
- Evolution of climate. By C. E. P. Brooks. London, Benn brothers, Ltd., 1922.
- Farm industry considered as a large single corporation. By M. J. Gillen. 1923.
- Flore forestière . . . comprenant toutes les espèces ligneuses de l'Algérie. Par Georges Lapié et A. Maige. Paris, E. Orliac, 1914.
- Flora of the presidency of Madras. v. 5. By J. S. Gamble. Calcutta, Published under the authority of the Secretary of state for India in council, 1923.
- Golf turf of high quality; grass for golf courses. 2d ed. By Stump & Walter co. New York, The author, 1923.
- In a Russian village. By C. R. Buxton. London, Labour publishing company, Ltd., 1922.
- Les insectes des orgues. Par Ernest Perrier de la Bathie. Ugine (Savoie) The author, 1922.
- Investigation of certain factors concerning the resin-tapping industry in *Pinus longifolia*. By H. G. Champion. Calcutta, 1923. (India, Forest dept. Forest bulletin no. 51.)
- List of references on the history of the West. Rev. ed. By F. J. Turner and Frederick Merk. Cambridge, Harvard university press, 1922.
- List of the herbaceous plants and undershrubs of the Gold Coast. By T. F. Chipp. London, Waterlow and sons limited, 1914.
- Mammals of Utah. By C. T. Barnes. Kaysville, Utah, Inland printing company, 1922. (Bulletin of the University of Utah. v. 12, no. 15, April, 1922.)
- Manchuria, land of opportunities. South Manchuria railway. New York, 1922.
- Michigan agriculture. pt. 1-3. Michigan. State dept. of agriculture. Bureau of agricultural development. Lansing, 1922.
- Méthodes actuelles d'expertises employées au Laboratoire municipal de Paris. v. 5. Ed. par André Kling. Paris, Dunod, 1922.
- Money problem. By S. M. Lindsay and P. T. Moon. New York, Academy of political science, 1923.
- Nigeria. Agricultural dept. 1st annual bulletin. Lagos, 1922.
- Note on kindal or hongal. By R. S. Pearson. Calcutta, 1922 (India. Forest dept. Forest bulletin no. 48.)
- Notes on the composition of scientific papers. 3d ed. By T. C. Allbutt. London, Macmillan and co., Ltd., 1923.
- Organized agriculture and its problems. By Clifford Thorne. Springfield, Illinois farmers' institute, 1922.
- Plantae Bequaertianae. v. 2-3. Par Émile de Wildeman. Gand, A. Hoste, 1922.
- Practical permanent pastures for the Southeast. Central of Georgia railway company. Agricultural dept. Savannah, 1923.
- Il problema delle abitazioni; lezioni tenute all'Università commerciale Luigi Bucconi, 1920. Per Luigi Einaudi. Milano, Fratelli Treves, 1920.
- Railroads and business prosperity. Ed. by T. W. Van Metre & P. T. Moon. New York, Academy of political science, 1922.
- Le sang in vitro. Par Émile Liebreich. Paris, Masson et cie, 1921.
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Trade and industry of Finland. Helsingfors, J. Simelius' heirs printing co., Ltd., 1921-22.

Truck operating costs. By B. H. Petty. Lafayette, Ind., Purdue university, 1923. (Purdue university. Engineering experiment station. Bulletin no. 10.)

Women of 1923, international. Chicago, J. C. Winston co., 1923.

Die züchtung kolonialer gewächse. 2. aufl. Von Karl Fruwirth. Berlin, P. Parey, 1922.

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Animal kingdom arranged in conformity with its organization. v. 6-15. By Georges Cuvier. London, 1823-36.

Flora bulgarica. [By] Josef Velenovský. Pragae, 1891.

Prodromus florae peninsulae Indiae Orientalis. v. 1. By Robert Wight and G. A. Walker-Arnott. London, 1834.

Treatise on the falsifications of food and the chemical means employed to detect them. By John Mitchell. London, 1848.

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Boltim algodoeiro [weekly] Centro dos indústrias de fição e tecelagem. São Paulo, 1923.

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Cultures fruitières et industries annexes. Paris, 1923.

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South Africa. Dept. of agriculture. Div. of chemistry series, no. 1. Cape Town, 1922.

United States sugar association. Bulletin. New York, 1923.

LOST BOOKS.

The following books belonging to the library can not be found. It will be appreciated if anyone having information in regard to them will report the fact at the loan desk of the main library:

Morris, Robert T. Nut growing. 1921. Science. v. 46, July-Dec., 1917.

The library has had an incomplete set of a valuable zoological journal called *Zeitschrift für wissenschaftliche zoologie*. It has just purchased most of the early volumes which it lacked, so that it now has all published since the beginning in 1849, with the exception of volumes 2-9. The volumes just acquired are vol. 1 and vols. 10-41.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week June 11-16, 1923. These publications can be obtained only from the stations issuing them.

- Vitamins, health, and the daily diet. J. W. Read and S. Palmer. (Arkansas Sta. Bul. 184, pp. 64, figs. 11, May 1923.)
- Fruit beverage investigations. W. V. Cruess and J. H. Irish. (California Sta. Bul. 359, pp. 525-568, figs. 15, Apr. 1923.)
- Fertilizer variety and seed selection experiments on Irish and sweet potatoes. T. H. White. (Maryland Sta. Bul. 251, pp. 23, Jan. 1923.)
- Experiments on the control of the woolly aphid. E. N. Cory. (Maryland Sta. Bul. 252, pp. 25-36, Feb. 1923.)
- Sweet clover for summer pasture and green manure. J. E. Metzger. (Maryland Sta. Bul. 253, pp. 37-46, figs. 2, Mar. 1923.)
- The thirty-fifth annual report, 1921-22. (Maryland Sta. Rpt. 35 (1922), pp. XVI + 249, figs. 78.)
- Thirty-fifth annual report of the director. B. L. Hartwell. (Rhode Island Sta. Bul. 193, pp. 16, Feb. 1923.)
- Second growth on cut-over lands in St. Louis County. T. S. Hanson. (Minnesota Sta. Bul. 203, pp. 50, figs. 40, May 1923.)
- Wheat and flax as combination crops. A. C. Army. (Minnesota Sta. Bul. 204, pp. 21, figs. 4, Mar. 1923.)
- Farmers' Market Bulletin. (North Carolina Sta. Farmers' Market Bul. 10, No. 62, pp. 8, May 1923.)
- Truck crop investigations—Experiments with inoculated sulphur. F. W. Geise. (Virginia Sta. Bul. 42, pp. 259-263, Jan. 1923.)

Articles in Current Publications By Department Workers

- Aldrich, J. M. (Bureau of Entomology). Two Asiatic muscoid flies parasitic upon the so-called Japanese beetle. No. 2474: Proc. U. S. Nat. Mus., vol. 63, art. 6, pp. 1-4, 1923.
- Blake, S. F. (Bureau of Plant Industry). Two Mediterranean clovers new to the United States. Science, N. S., vol. 57, p. 665, June 8, 1923.
- Cook, F. C., and McIndoo, N. E. (Bureau of Chemistry). Arsenicals: Chemical, physical, and insecticidal properties. Published as Dept. Bul. 1147. June 9, 1923.
- Gahan, A. B., and Fagan, M. M. (Bureau of Entomology). The type species of the genera of *Chalcidoidea* or chalcid-flies. U. S. Nat. Mus. Bulletin, No. 124, p. 173, 1923.
- Hadley, C. H. (Bureau of Entomology). The Japanese beetle as an orchard pest. Pennsylvania Hort. Soc. Proc. 1923, 64th meet., pp. 22-27.
- Hall, Maurice E. (Bureau of Animal Industry). The selection and testing of anthelmintics. Veterinary Medicine, vol. 18, No. 6, pp. 519-523, June, 1923.
- Kellogg, Remington (Biological Survey). Description of the skull of *Megaptera miocæna*, a fossil humpback whale from the Miocene diatomaceous earth of Lompoc, Calif. Proceedings of U. S. Nat. Museum, vol. 61, art. 14, pp. 1-18, figs. 10, pls. 4, July 3, 1922.
- Leighton, Alan, and Mudge, Courtland S. (Bureau of Animal Industry). On the endothermic reaction which accompanies the appearance of a visible curd in milks coagulated by heat: A contribution to the theory of the heat coagulation of milk. Journ. of Biological Chemistry, vol. 56, No. 1, pp. 53-75, May, 1923.
- MacDonald, Thos. H. (Bureau of Public Roads). The functioning of Federal aid in the development of highway transportation. American Highways, vol. 2, p. 4, June, 1923.
- Oberholser, Harry C. (Biological Survey). The Winneshiek Bottoms drainage project. Iowa Conservation, vol. 7, No. 1, pp. 9-10, January-March, 1923.
- Phillips, E. F. (Bureau of Entomology). The honey crop from introduced plants. Ecology, vol. 4, No. 2, pp. 180-182, April, 1923.
- Pirtle, T. R. (Bureau of Agric. Economics). Production and consumption of dairy products in the United States. Dairy Products Merchandizing, June, 1923.
- Schaus, Wm. (Bureau of Entomology). New species of Notodontidae from South America in the Carnegie Museum. Ann. Carnegie Mus., Vol. 15, No. 1, Art. III, pp. 80-90, Pl. IV, March, 1923.
- Sherman, Caroline B. (Bureau of Agric. Economics). Standardizing food and textile products. Journ. of Home Economics, June, 1923.
- Shollenberger, J. H., and Marshall, W. K. (Bureau of Agric. Economics.) Milling and Baking Qualities. Northwestern Miller, June 6, 1923.
- (Bureau of Agric. Economics.) Official tests on the last four crops (wheat): American Miller, June 1, 1923.
- (Bureau of Agric. Economics.) Comparisons on Milling and Baking. Southwestern Miller, May 22, 1923.
- Wallace, Henry C. Federal-aid roads will extend 179,000 miles this season. Michigan Roads and Pavements. Vol. 20, p. 3, May 31, 1923.

CIVIL SERVICE ANNOUNCEMENTS.

Junior microanalyst, July 24, announces in the Bureau of Chemistry, for duty in Washington and in the field, will be filled from this examination at salaries of \$1,620 to \$1,800 a year. The duties of the appointees will include the microanalysis of food and drugs and miscellaneous work on papers, textiles, and such inorganic substances to which micro-analytical methods are adapted. Some investigational work will also be involved. Applicants must have graduated with a bachelor's degree or its equivalent from a university of recognized standing, or be senior students in such institutions. If interested, send for Form 2118.

E. E. Westcott, crop reporter of the Bureau of Agricultural Economics, at St. Paul, Neb., after reporting on crops for more than 20 years has resigned, as he has retired from active farm life.

JULY 1923

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., JULY 4, 1923.

No. 27.

COMMITTEE TO PLAN FOR INSTITUTE AT ROME

Work of International Institute of Agriculture Discussed in Special Conference.

A meeting to consider the improvement of the work of the International Institute of Agriculture at Rome was held June 25 in the office of Secretary Wallace. The meeting was called by the Secretary at the suggestion of Dr. A. W. Gilbert, of Massachusetts. Doctor Gilbert was made chairman of the meeting, and Mrs. Charlotte B. Ware, of Boston, Mass., was made secretary.

Those present formed a temporary committee of 5 for the purpose of organizing a larger committee of 100, which is to be known as the American Committee of the International Institute of Agriculture. It was also decided to take steps to effect the formation of a commission to attend the meeting which will be held in 1924 in Rome, which will consist of Senators and Representatives of Congress, a member of the State Department, and members of agricultural societies.

Work to Be Explained.

A revision of the treaty of 1905 was also proposed. This revision concerns the voting basis, financing, and such other matters as adhering associate members and private contributions to the work, with a view to putting the finances of the institute on a permanently sound basis.

An effort will probably be made to present and explain the work of the institute to the American people during the coming fall. The question of obtaining diplomatic standing for the American representative to the institute was also discussed.

Doctor Gilbert will act as chairman of the committee of five and Mrs. Ware as secretary. The other members of the committee are Gray Silver, Dr. H. C. Moulton, W. D. Brookings, and Dr. W. J.

Carr, Department of State, and L. G. Michael, Department of Agriculture, advisory. Those present at the meeting were Dr. W. J. Carr, of the State Department; Dr. H. C. Moulton and Dr. E. B. Nourse, of the Institute of Economics; E. H. Goodman and W. D. Brookings, of the United States Chamber of Commerce; Prof. J. E. Boyle, of Cornell University; H. E. Van Norman, president of the World's Dairy Congress; C. W. Holman, of the National Milk Producers' Association; A. L. Loomis, of the National Grange; Gray Silver and E. B. Reid, of the American Farm Bureau Federation; and the following from the Department of Agriculture: Dr. H. C. Taylor, Charles J. Brand, L. G. Michael, Dr. O. C. Stine, Dr. L. C. Gray, and J. Clyde Marquis.

Future-Trading Regulations Signed by Secretary Wallace

General rules and regulations governing future trading grain markets under the grain futures act were signed at Des Moines June 22 by Secretary Wallace and sent to the Department of Agriculture for promulgation.

Briefly, these rules provide that reports shall be made to the supervisors of the various future-trading contract markets, either by every individual firm which operates on these markets or through a responsible clearing-house organization at each market. Reports must be made before the opening of the market the following day unless the Government supervisor, for good reason, grants more time. These reports must contain the following information for each clearing member of the market:

(a) The net position at the beginning of the period covered by the report; (b) the quantity of grain purchased and the quantity of grain sold on contracts; (c) the quantity of grain delivered and received; (d) the net position at the end of the day; (e) the aggregate of all long and short accounts; (f) the net position at the end of the day of each separate

(Continued on page 6.)

COOPERATIVE MOVEMENT SHOWS STEADY GROWTH

Studies Made by Department Show Marked Progress Within Last Two Years.

Cooperative associations in the United States are doing an annual business of probably \$1,500,000,000. In the last two years there has been a steady, and in some States a spectacular, increase in the number and scope of farmers' cooperative enterprises. Every state contains farms that sell more or less produce cooperatively. Reports to the department indicate there are considerably more than 14,000 farmers' cooperative organizations in the country, which market from 10 to 15 per cent of the total produce sold by farmers.

Development of Cooperative Movement.

It is conservative to estimate the total annual business of these farmers' buying and selling organizations at \$1,500,000,000. The billion-dollar mark had been passed in 1919, according to the Fourteenth Census, and since then there has been a prodigious development of the cooperative movement. In 1919, according to the census figures, the farm value of commodities marketed and supplies purchased cooperatively was \$806,599,308. This total left out of account the value added by the operations of the cooperatives in assembling, grading, processing, and packing. Even at the most modest reckoning this added value would carry the shipping-point value over the billion-dollar mark. A census taken now would have to include many large organizations not in existence in 1919, such as the large cotton and tobacco cooperatives of the Southern States, whose membership totals exceed all previous records. It would have to include many new organizations dealing in fruit, peanuts, rice, eggs, poultry, and dairy products. Although exact figures are not available as to the amount of business done by these

new organizations, it undoubtedly runs into the hundreds of millions.

State-Wide Organizations Spread.

The first State-wide cotton cooperative association was organized in Oklahoma in 1921. In two years it has grown to be one of the largest business organizations in the State. State-wide associations have since been formed in Mississippi, Texas, Arizona, North Carolina, Georgia, South Carolina, and Alabama. These, with the exception of Mississippi, combined in a national organization known as the American Cotton Growers' Exchange, with headquarters at Dallas, Tex., and with the general sales office at Atlanta, Ga. They have an aggregate membership of more than 175,000 cotton farmers, and in normal years will control a production of more than 2,500,000 bales.

Another big cooperative organization which has sprung into existence in the last two years is the Burley Tobacco Growers' Cooperative Association. This was formed in the fall of 1921 on a non-stock, nonprofit basis under the cooperative law of Kentucky. It has more than 70,000 members and controls about 85 per cent of the burley tobacco grown in Kentucky, Indiana, Ohio, Tennessee, and West Virginia. From January 1 to May 1, 1922, it received about 120,000,000 pounds of tobacco and sold about 70,000,000 pounds. Market conditions were favorable during this period and the association was able to secure prices nearly double those received by the growers in 1921. Other associations recently organized to market tobacco cooperatively are the Dark Tobacco Growers, Hopkinsville, Ky.; the Tobacco Growers' Cooperative Association, Raleigh, N. C.; the Connecticut Valley Tobacco Association, Hartford, Conn.; and the Northern Wisconsin Cooperative Tobacco Pool.

It is noteworthy that the recent cooperative movement in the South has given rise to a number of associations whose membership exceeds the record formerly held by the California Fruit Growers' Exchange. This organization has a membership of about 10,500, compared with 70,000 in the Burley Tobacco Growers' Association and more than 60,000 each in the two other tobacco associations. The State cotton associations have memberships running well into five figures. That of Oklahoma was 34,000 in its first year, and has since been increased.

Studies Cover Wide Field.

Studies of the cooperative movement have been made for the last 10 years by the department. It is now engaged in a survey which is expected to make these

studies more valuable. It is preparing a list of all the cooperative associations concerning which particulars can be obtained and classifying them according to whether they are capital stock or non-stock organizations, whether all members are producers, whether stock or patronage dividends are paid, and whether they are buying or selling organizations. The data are as yet incomplete, but some of the leading facts of the situation may be given.

There are, it appears, about 5,000 cooperative grain elevators in the country, with more than 600,000 members. Most of them are in the north-central grain-growing States. Grain growers in Idaho, Montana, North Dakota, Oklahoma, Texas, and Washington have formed State-wide marketing associations. Attempts to federate them are being made. One of the most successful of these agencies is the Northwest Wheat Growers Associated, of Portland, Oreg., which in 1921 marketed 15,000,000 bushels of wheat for farmers in Washington, Oregon, Idaho, and Montana. There are said to be more than 4,000 live stock shipping associations in the United States, with about 1,000,000 members. Cooperative marketing of dairy products is well established in Minnesota, Wisconsin, New York, Pennsylvania, Ohio, Illinois, California, and Maine. Minnesota leads in cooperative marketing of dairy products. In Wisconsin a single cooperative association receives cheese from 200 factories and does an annual business of more than \$4,000,000.

Rapid progress is being made in the cooperative marketing of fruit. In this branch of cooperation the Pacific Coast States lead. One of the largest fruit shipping associations in the country is the California Fruit Growers' Exchange, of Los Angeles. Its receipts for fruit shipments in the last 18 years have been approximately \$443,000,000. In 1920 it handled 73 per cent of the citrus fruit crop of the State. The success of the Pacific coast cooperatives has led to the formation of fruit cooperative marketing organizations in Florida, Georgia, Illinois, Michigan, Missouri, and New York.

Commodity Groups Satisfactory.

Information received by the department indicates that cooperation functions best when based on one commodity or on a group of related commodities. It requires competent management, sufficient capital, sufficient business, and a loyal, informed membership. Occasionally the mistake is made of regarding cooperation as an end in itself. It should be regarded as a method of enabling small producers, by associated effort, to get the advantage which large-

scale operations give in reduced overhead cost, greater facility for assembling and distributing commodities, lower transportation costs, and other economies.

These objects, the department finds, are more readily obtainable in some branches of agricultural marketing than in others. Live-stock shipping appears to lend itself most readily to the cooperative method. Another form which is well understood is the cooperative creamery, and in this form the farmers of the North Central States have had great success. Operation of cooperative elevators is more difficult, owing to the complexity of the grain business and perhaps also to the fact that grain marketing is already highly developed. Fruit marketing, owing to the perishable nature of the commodity, requires a high degree of selling organization and skill. The department is making detailed studies of some of the older and more successful cooperative associations in this country. It is analyzing their principles and methods, and at the same time is making studies of some of the failures in cooperation. These investigations, it is believed, will enable the department to set up danger signals where danger exists and to mark where the road is clear. It is giving special attention to the problem of standardization, because experience has shown there is scarcely one important marketing function that can not be performed more effectively when the commodity is graded to recognized and definite specifications.

BARLEY GAINING IN IMPORTANCE.

While barley ranks only fourth among the cereal crops of the United States, being exceeded in value by corn, wheat, and oats, it is becoming more important to American agriculture, even though production is not increasing at the present time. The importance of the barley crop and the changing conditions affecting the production of barley in the United States are reviewed in the 1922 Year-book.

Market and economic news services, collected and distributed by the Bureau of Agricultural Economics, are pictured by means of charts showing the leased-wire service, the location of the 1,851 workers of the bureau, and methods of handling economic information, and by sample copies of periodicals dealing with every phase of the news service. The display was arranged on a large panel by B. L. Perkins for exhibit at the annual meeting of the Agricultural College Editors' Association at New Brunswick, N. J., June 25-28.

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

WAGE WAR AGAINST CATTLE DISEASE.

Following a conference recently held at Chicago, the department announces that arrangements have been completed to vaccinate feeder and stocker cattle at public stockyards against hemorrhagic septicemia, also known as stockyards pneumonia or shipping fever. While losses have been gradually on the increase for several years, this disease has become more prevalent during the past fall and winter.

DENIAL OF WOOL-PRICE STORY MADE.

Replying to protests from western wool growers regarding a widely-circulated article predicting lower wool prices, the department has issued a statement saying that this article was not based upon statements made by any of its representatives.

SMALL AMOUNT OF HAY GRADES NO. 1.

Only a small percentage of timothy hay marketed each year grades No. 1, statistics show, but the department's hay-grading specialists have found that a large part of the timothy hay which has been grading No. 2 and No. 3 would have been No. 1 had it been cut at an earlier stage of maturity. Don't let it stand too long before cutting, the department advises.

FOREIGN WHEAT CROP INCREASES.

The 1923 wheat crop in eight foreign countries that last year produced more than one-fifth the total world crop is forecast at 750,785,000 bushels, as compared with 656,988,000 bushels in 1922, according to radiograms received by the department from the International Institute of Agriculture at Rome. The countries include Spain, Bulgaria, Poland, India, Japan, Egypt, Algeria, and Morocco.

CORN, HOG, AND WHEAT STATEMENT.

A forecast of the corn-hog situation and of the wheat situation is to be made by a group of agricultural economists and statisticians called into conference by Secretary Wallace. The conference will be held at Washington July 11 and 12, when a forecast and résumé of the

prospective domestic and foreign demand for corn and hogs and wheat will be prepared.

The conferees will have available the results of the nation-wide pig count just completed in cooperation with the Post Office Department, giving estimates of the spring pig crop and intentions of farmers to breed for fall litters. The Government crop estimate of corn acreage and production to be released July 9 will also be available. With these facts as a basis for forecasts the committee is expected to announce information which will be helpful to farmers in making their program for next fall and winter.

The Government crop report of July 9, giving the condition of spring and winter wheat and a forecast of total production, will be available to the conferees on wheat. This information, considered together with the latest available figures on wheat movement and supply in the United States and abroad, will enable the committee to prepare a rather comprehensive report on the outlook of the world wheat situation. Cotton will not be considered at this conference.

The conference will also prepare a report on probable demand at home and abroad during the next six or nine months.

VISITORS TO THE DEPARTMENT.

Aladar Jendrassik, chemical engineer, assistant at the Polytechnic in Budapest, Hungary, visited the Bureau of Chemistry recently. Mr. Jendrassik is especially interested in nutrition and has been studying for several months at the Johns Hopkins University.

Dean Herbert W. Mumford, of the University of Illinois, spent several days in the Bureau of Agricultural Economics the week of June 18. He conferred with Dr. H. C. Taylor and J. Clyde Marquis, and spent much time going over the rearranged classification of live meat animals.

Director of Extension of Oregon P. V. Maris recently conferred with Dr. H. C. Taylor, J. Clyde Marquis, and J. C. Gilbert regarding market extension work.

Director of Extension L. N. Duncan, of Alabama, was a recent visitor to the Bureau of Agricultural Economics.

The Chicago U. S. D. A. Club held a picnic at Washington Park June 27. Games were played and prizes given the winning contestants. The Assembly Hall at the refectory was engaged for dancing from 9 to 11.

WITH EXTENSION FORCES

MONTANA AGENT COVERS WIDE FIELD.

[It is the aim of this feature of the RECORD to include news from extension workers which might be of assistance to others, to point out how certain perplexing problems were solved in carrying projects through to completion. But we can not refrain from setting forth in brief style the wide variety of activities of a home demonstration agent—Miss Gertrude Erickson, of Valley County, Mont.]

This county has 35 organized communities and new ones are being added each year as leaders are developed. Five hundred families reported last year on gardening and canning work alone, with a total of 37,000 quarts of vegetables canned and 653 pounds dried. The women also canned 3,474 quarts of poultry under Miss Erickson's direction, and 16,380 quarts of meat. There were 68,989 pounds of meat preserved in various other ways.

Cheddar cheese was made by 250 women, who produced 12,959 pounds altogether, as well as 16,520 pounds of soap, 2,014 quarts of soup canned, and 200 gallons of vinegar.

Child-welfare work has been of great interest in this county. Miss Erickson, during the past school year, has helped weigh 850 school children every month, and given health lectures to them. Through her efforts the Glasgow schools and 14 country schools have taken up the idea of the hot school lunch. Mothers who have underweight children have been visited and interested in nutrition classes.

Clothing work under Miss Erickson's leadership, including the making of dress forms, hats, and many garments, has held the interest of a great many rural women. During the year she conducted nine clothing schools. Poultry work has embraced culling, housing, egg preservation, and the introduction of pure-bred stock. One of the banks of the county, through her suggestion, financed the purchase of 500 settings of pure-bred eggs, to be paid for by a return of two pullets from each setting.

A successful feature of her work is the girls' camp, which has been held at Glasgow for the past two summers. Last year there were 150 girls present, coming from 30 communities, each of which paid the expenses of its own girls. Sixty-seven mothers also attended a mothers' camp at Glasgow at another time. Many of them had not been into town for six or seven years. These farm girls and farm mothers went back to their homes with a new vision, and many of them called their neighbors together and passed on to them the things they learned at camps.

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OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

Committees on Clerical Efficiency (Board of Review).

MEMORANDUM No. 439. June 14, 1923.—In accordance with the terms of Memorandum No. 325, dated August 18, 1920, which amended paragraph 32 of the Administrative Regulations, the personnel of the committees on clerical efficiency (board of review) of the several bureaus and offices of the department, for the period from May 1, 1923, to October 31, 1923, is as follows:

Office of the Secretary.—R. M. Reese, chairman; A. McC. Ashley; R. L. Swenson (vice C. C. Wilson).

Office of the Solicitor.—C. W. Boyle, chairman; Fred Lees; J. B. Horigan (vice P. D. Cronin).

Packers and Stockyards Administration.—Stephen Bray, chairman; George T. Ash; Frank H. Sterling (vice C. D. Ashmore).

Weather Bureau.—R. H. Weightman, chairman; F. G. Tingley; C. T. Burns; B. A. Blundon (vice P. C. Day); B. C. Kadel (vice Miss S. A. Beuter).

Bureau of Animal Industry.—C. C. Carroll, chairman; A. W. Miller; A. J. Pistor; G. H. Russell; A. E. Wight (vice U. G. Houck).

Bureau of Plant Industry.—H. E. Allanson, chairman; R. A. Oakley; H. P. Gould (vice C. R. Ball).

Forest Service.—E. A. Sherman, chairman; T. W. Norcross; C. M. Ballard (vice Harry Irion).

Bureau of Chemistry.—S. A. Postle, chairman; A. G. Murray; R. W. Balcom (vice A. E. Taylor).

Bureau of Soils.—A. G. Rice, chairman; C. A. Wolfe; George W. Baumann (vice J. W. McKericher).

Bureau of Biological Survey.—W. C. Henderson, chairman; W. Roy Dillon; Frank G. Ashbrook (vice Mrs. A. B. Morrison).

Division of Accounts and Disbursements.—W. J. Nevius, chairman; J. H. Lynch; Charles L. Woodman.

Division of Publications.—F. J. P. Cleary, chairman (vice E. C. Powell); C. E. Bracey; B. D. Stallings (vice J. O. Riley).

Bureau of Agricultural Economics.—A. F. Krueger, chairman; C. W. Kitchen; C. E. Gage; H. S. Yohe; R. H. Wilcox; W. L. Evans (vice H. F. Fitts).

Bureau of Entomology.—E. B. O'Leary, chairman; W. R. Walton; John E. Graf (vice A. L. Quaintance).

Library.—Miss C. R. Barnett, chairman; Miss E. B. Hawks; Miss H. M. Thompson.

Bureau of Public Roads.—C. D. Curtiss, chairman; H. K. Bishop; H. H. Barrows (vice S. H. McCrory).

Insecticide and Fungicide Board.—M. B. Waite, chairman; J. L. Monarch (vice J. G. Shibley); C. C. McDonnell.

Federal Horticultural Board.—George B. Sudworth, chairman; Karl F. Kellerman (vice E. R. Sasscer); R. Kent Beattie (vice R. C. Althouse).

Fixed Nitrogen Research Laboratory.—Joseph M. Braham, chairman; Edwin J. Grayson; Harry C. Hetherington (vice F. E. Allison).

GRAIN REGULATIONS AMENDED.

An amendment to the regulations under the United States grain standards act recently promulgated by the Secretary of Agriculture provides that grain may be sold by grade and shipped in interstate commerce without inspection between points at which no licensed inspector is located upon compliance with the rules and regulations prescribed by the Secretary of Agriculture and subject to the right of either party to the transaction to refer any dispute as to the grade of the grain to the Secretary of Agriculture. The new regulation requires shippers of such grain to transmit to the purchaser an invoice bearing a statement to the following effect: "This grain not inspected by licensed inspector; grade subject to dispute under United States grain standards act."

In addition, shippers are required by the terms of the regulation to report the details of such shipments if requested by the Bureau of Agricultural Economics. The amendment becomes effective July 1, 1923.

GAME LAW VIOLATORS SENTENCED.

A fine of \$250 and costs, or a jail sentence of three months, was the penalty imposed June 12, 1923, upon each of two violators of the migratory bird treaty act, administered by the Biological Survey. The two men, residents of Savannah, Ga., while duck hunting along the Savannah River, in Beauford County, S. C., were apprehended by Federal game wardens July 15, 1922, and found to have in their possession dead bodies of wood ducks in violation of the Federal law protecting waterfowl and other migratory birds. Sentence was imposed in the Federal court at Charleston, S. C., pleas of guilty being entered in both cases.

TOBACCO SHADE CLOTH TESTED.

The experimentally treated tobacco shade cloth on which the Leather and Paper Laboratory of the Bureau of Chemistry has been working has been sent to the Connecticut tobacco experi-

ment plots at Windsor, Conn., and there erected over shade-grown tobacco. The purpose of treating the shade cloth is to increase its serviceability. Shade cloth now lasts but one year, and it is hoped to at least double its life as a result of these experiments.

HONOR CONFERRED ON DOCTOR POWER.

Dr. F. B. Power, chemist in charge of the Phytochemical Laboratory, Bureau of Chemistry, was recently elected to honorary membership in the New York State Pharmaceutical Association. This is one of the largest organizations of its kind in the United States. The honor was conferred upon Doctor Power in recognition of his valuable scientific researches. Doctor Power and his assistant, V. K. Chesnut, have recently gone to Louisiana to conduct an investigation in cooperation with the Bureau of Entomology.

DOCTOR VEITCH ON FEDERAL BOARD.

Dr. F. P. Veitch, chemist in charge of the Leather and Paper Laboratory, Bureau of Chemistry, has been appointed chairman of the subcommittee on paper of the Federal Specification Board and also represents the Department of Agriculture on the subcommittee on leather.

COTTON RECOMMENDATIONS APPROVED.

The Manchester, Bremen, and Havre cotton exchanges have accepted the recommendations made by the delegates to the International Cotton Conference, held June 11 and 12 in Washington. These recommendations cover the adjustments necessary under the cotton standards act, which goes into effect August 1.

CONTRACT MADE FOR WAR MEMORIAL.

A statement just issued by the Department of Agriculture War Memorial Committee shows that as the result of the last drive for funds there will be available for the cost of the memorial when completed the sum of \$9,983.68. It is believed that further subscriptions will be received which will bring the total over the \$10,000 required. A contract has been closed with the sculptor, the initial payment of \$500 made, and the work is under way. It is estimated that the work will require two years.

Col. W. B. Greeley, Chief Forester, was the speaker at the June 15 meeting of the Department Club at Portland, Ore. His subject was "The Ultimate Use of Land in the United States."

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. How is the Federal aid secured for road construction?

Answer. Federal aid for road construction is allotted by the Secretary of Agriculture only upon formal request of the State highway departments. The department does not cooperate with counties of with individuals and does not recognize requests for aid transmitted by any agency other than the State highway department.

Question. Are there any vacancies in the position of United States game warden, and how are they filled?

Answer. The present appropriation allowed by Congress for the enforcement of the migratory bird treaty act permits the Bureau of Biological Survey to employ less than 30 United States game wardens to cover the United States and Alaska. There are no vacancies to be filled at the present time. Appointments to the position are made from a list of eligibles obtained as a result of examination held by the United States Civil Service Commission. Persons desiring to take an examination for United States game warden should request the United States Civil Service Commission to notify them when an examination will be held.

Question. Can buildings be successfully protected against lightning?

Answer. Unquestionably yes. A study of available data by the Weather Bureau of the department shows that of every 100 fire losses from lightning about 95 occur in connection with un-rodded buildings and 5 in rodded buildings. This showing would unquestionably be much improved were the installations properly made in all cases. The majority of lightning losses in rural districts occur in connection with farm barns.

Question. What is the Federal-aid highway system?

Answer. The Federal-aid highway system is a system of highways authorized to be designated by the Federal highway act approved November 9, 1921. It will consist of not more than 7 per cent of the total mileage of roads in each State so located as to form a connected system of roads covering the entire United States. The mileage of the system when

its designation is complete will be approximately 180,000 miles. It is expected that the system will be approved in all the States during the present summer.

Question. Is the timber supply in the United States considered inexhaustible?

Answer. No. It is impossible to make an estimate as to how long our timber supply will hold out, but the Forest Service makes the statement that the forests of the country are being used up four times as rapidly as they are being replaced and that the end of the merchantable supply of timber from the Southern States is in sight.

Question. Is it possible to buy publications through the department?

Answer. The department does not sell its publications, the distribution being free so long as the supply lasts. It is only when the department's supply is exhausted that publications are sold, and in such cases both purchase order and remittance should be sent to the Superintendent of Documents, Government Printing Office, Washington. That official is not connected with the department.

Question. Has the department a recent bulletin on the care of leather?

Answer. Farmers' Bulletin No. 1183, printed first in 1920 and revised in 1922, deals in a detailed way with the care of leather. It contains suggestions for a judicious selection of articles made from leather and tells how to care for them to obtain the maximum service.

Question. What is the difference between a tornado and a hurricane?

Answer. They are alike in that they are both revolving storms of destructive violence, with extremely low pressure at the center. The former is an offspring or secondary attending a larger cyclonic storm, while the latter is not. Again, the former is peculiar to the Plains States and the Great Central Valleys, while the latter originates in the tropical waters of the Atlantic Ocean. The tornado is small, frequently only a hundred yards in diameter, seldom a quarter of a mile, while the hurricane may have a diameter of several hundred miles.

Question. What does the inspection work of the Bureau of Agricultural Economics for the United States Shipping Board include?

Answer. Under the arrangements made between that bureau and the Shipping Board an inspector has been detailed to inspect all deliveries of meats, poultry, game, and fish for grade and weight. Approximately 168,000 pounds of meats and

lard, 51,000 pounds of poultry and game, and 29,000 pounds of fish were inspected for grade, condition, and weight at New York for the United States Lines during March. This service, which was started January 26 of this year at the request of the Shipping Board, and undertaken by this bureau as an opportunity of putting the meat specification for grade to practical test, has proved so successful that a similar inspection service was started May 2 to cover deliveries to the laid-up fleets at New York and Norfolk and other vessels in the New York Harbor under its control. This bureau also makes inspections of fruits, vegetables, and butter to determine whether they come up to contract specifications. During the month of March a total of 329,264 pounds of fruit and vegetables was inspected in this way and 16,260 pounds of butter.

U. S. D. A. CLUB DIRECTORY.

Albuquerque Club, Lee J. Reynolds, States Relations Service, secretary, Albuquerque, N. Mex.

Atusda Club, J. H. Cain, 1712 Citizens & Southern Bank Building, Atlanta, Ga.

Baltimore Club, D. M. Walsh, 300 Park Avenue, secretary.

Birmingham Club (Federal Agricultural Technical Association), meets second Saturday, 8 p. m., post-office building; Edgar C. Horton, Weather Bureau, secretary.

Boston U. S. D. A. Club, R. S. Clifton, Abbott Building, Howard Square, Cambridge, Mass., secretary.

Buffalo Club, Mrs. C. M. Britt, 80 West Huron Street, secretary.

Chicago Club, meets third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.

Cincinnati Contact Club, W. C. Devereaux, Weather Bureau, secretary.

Denver Club, meets second Monday; lunch, 12.15, Denver Civic and Commercial Association; W. J. Ise, Federal Building, secretary.

Gulf Coast, U. S. D. A. Club, H. D. Money, Bureau Plant Industry, Biloxi, Miss., secretary.

Houston Club, meets first Wednesday; lunch L. H. Daingerfield, Stewart Building, secretary.

Indianapolis Club (Unity Club), meets second Monday; lunch, Chamber of Commerce Building; F. H. Ackelov, Weather Bureau, secretary.

Kansas City Club, Sidney A. Johnson, 923 Live Stock Exchange Building, secretary.

Los Angeles Club, meets second Tuesday; C. H. Beauchamp, 207 Live Stock Exchange Building, secretary.

Louisiana Club, M. C. Virgin, box 95, New Orleans, secretary.

Montgomery Club, L. P. Hughen, box J, Bureau of Public Roads, secretary.

New Haven Club, Sumner A. Dole, post-office building, secretary.

New York Club (N. Y. U. S. D. A.), meets second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. H. Stanton, 204 Franklin Street, secretary.

Oklahoma City Club, meets second Monday; lunch, Chamber of Commerce; Mattie A. Craig, 202 Grand Street, secretary.

Philadelphia Club, meets third Wednesday; lunch, Snellenberg's Restaurant; C. S. Brinton, 134 Second Street, secretary.

Portland (Oreg.) Club, meets first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, post-office building, secretary.

Porto Rico (U. S. D. A. Club), E. Murray Brunner, Forest Service, San Juan, P. R., secretary.

San Francisco, Calif., meets first Wednesday, 12.15, Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.

St. Joseph Club, meets second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary. (Meetings adjourned until September.)

St. Louis Club, meets second Friday; B. S. Jones, 413 Old Customhouse, secretary. (Meetings adjourned for summer months.)

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

MARKET NEWS WIRE 7,000 MILES LONG.

Every morning of the year except Sundays some 900 department employees stationed at the various market centers of the United States from New York to San Francisco are up to count the first carloads of cattle, hogs, fruits and vegetables, dairy and poultry products, and other agricultural produce which have come into the market during the night. They start their day with some rapid calculations of the day's receipts, demands, and prices. By 6 o'clock the information and news of the market conditions which they have collected start rolling into the Washington office over a leased wire connecting all of the principal market stations and continues through the day. The value of this information depends upon the rapidity with which it can be put before the buying, selling, and shipping interests.

Seven thousand miles of leased wire working for the department alone from 6 a. m. to 6 p. m. furnishes the means of collecting and distributing the day's market news and constitutes one of the largest and most intensively used sections of commercial wire in the world. It is kept constantly open 12 hours a day, and all messages are sent by a code system which enables an enormous amount of information to be sent over the same wire in a short time. One symbol often represents a complete market statement. For instance, "Today's price of medium weight hogs (200 to 250 pounds), medium, good, and choice, is \$8.10 to \$8.25" can all be transmitted as follows: "J-810,825." The leased-wire system and the use of the code save much time and money. It is estimated that the same amount of traffic that is sent over the leased wire would cost \$500,000 more in a year if sent regular company rates.

The market news service began in a small way in 1915 with only four commodities being reported. During the war appropriations were increased so that it was possible to lease a total of 18,000 miles of wire, and the number of stations reporting reached 34, practically all of the leading market centers of the country. The service was regarded as an important factor in war work by making available at all times the fullest information on the food situation. Following the war the service

was curtailed until it comprised only 2,600 miles of wire, and only a comparatively few of the large eastern and middle western markets could be covered. Last September an additional circuit was started from Kansas City to Austin, Tex., with a drop at Fort Worth, bringing the total to 3,300 miles.

Later extensions aggregate 7,000 miles. The circuit now extends from Boston south to Washington, thence west to San Francisco, connecting en route New York, Philadelphia, Trenton, Baltimore, Harrisburg, Pittsburgh, Cincinnati, Columbus, Chicago, Fon du Lac, Wis., Minneapolis, St. Paul, St. Louis, Kansas City, St. Joseph, Omaha, Denver, Salt Lake City, etc. These stations simultaneously take off messages from the wires as they go and come from Washington. At the close of the day market summaries on all commodities are dispatched for release to more than 2,000 newspapers throughout the country. Special reports are also prepared for radio, telephone, or telegraph broadcasting stations and transmitted to the offices of distribution. The information received over the wires at the various branch offices is immediately communicated to producers and the trade by telephone, telegraph, radio, and the press, so that at any moment farmers and the trade everywhere may have an accurate picture of the national agricultural market situation.

MANY DAIRY SIRES ARE SCRUBS.

Seventy-five per cent of the dairy bulls in the United States are either grade or scrub. This fact, according to the department, accounts for the low average production per cow in this country. In 1921 there were less than 80,000 pure-bred bull calves registered by the breed associations. But this probably does not represent half the pure-bred bulls born in 1921. The 80,000 or more that were not registered were probably slaughtered because their breeders were not able to market them profitably.

SCALE INSECTS DISCOVERED.

A recent shipment of 12 mango plants received by the United States Department of Agriculture from Brazil illustrates forcibly the danger which accompanies the introduction of plants. Inspectors H. Y. Gouldman and W. T. Owrey, of the Federal Horticultural Board, found these plants to be infested with nine recognized species of scale insects, namely, *Chrysomphalus aonidium* (L.), *Chrysomphalus dictyospermi* (Morg.), *Ischnaspis longirostris* (Sign.), *Howardia biclavis* (Comst.), *Coccus viridis* (Green), *Pseudaonidia trilobitiformis*

(Green), *Vinsonia stellifera* (Westw.), *Parlatoria proteus* (Curt.), *Morganelli longispina* (Morg.). Two additional species were collected, but identifications have not been secured as yet. These plants were also infested with species of aleurodids and aphids, and in the soil around the roots were found ants and isopods.

Future-Trading Regulations Signed by Secretary Wallace

(Continued from page 1.)

account carried by the firm making the report if the net position equals or exceeds such amount as may be specified by the administration. It is understood that this amount may vary according to the size of the different markets.

Operators on the market are required to keep their records in such condition as to make it possible to check them readily. They are also required to furnish the officer in charge of the administration, when requested, a true copy of any reports circulated carrying market or crop information that may affect or tend to affect the price, and must be able to show the source of such information.

Every member of a contract market is required to furnish all information in his possession relating to any attempt to manipulate prices or corner any grain. Concerning these rules and regulations, Secretary Wallace said that the main purposes of the grain futures act are three: To prevent the dissemination of untrue or misleading rumors or information which may affect the price of grain; to prevent manipulation of prices or the running of corners; to acquire information concerning operations on future trading markets which will make it possible to make a thorough and systematic study of the manner in which grain prices are registered on these markets.

Agricultural development of the Northern Great Plains is to be studied by Nils A. Olsen, of the Bureau of Agricultural Economics, who until June 30 was in charge of the Seed Grain Loan Office at Grand Forks, N. Dak. Mr. Olsen will work out from the records of seed loans the history of the loans and will show what the loans have done for farmers of the Northwest. He will also collect other data relative to the experience of farmers in the Northwest. Until late in the autumn he will have his headquarters at Grand Forks, N. Dak.

Czechoslovakia is discussed in a mimeographed report issued by the Bureau of Agricultural Economics.

BRIEF REVIEWS OF NEW BULLETINS.

The Production of Cucumbers in Greenhouses. By James H. Beattie, horticulturist, Office of Horticultural and Pomological Investigations, Bureau of Plant Industry. Pp. 30, figs. 18. May, 1923. (Farmers' Bulletin 1320.)

The development of the vegetable-forcing industry in this country was largely influenced by the winter demand for cucumbers, lettuce, and tomatoes, and these have always been the most important vegetable-forcing crops produced in the various sections of the United States. Green-house grown cucumbers occupy a high place in the estimation of those who have learned to appreciate their superior quality. According to available records, they are second in importance, lettuce occupying first place. These crops represent at least 90 per cent of the \$15,000,000 annual value of the vegetable-forcing crops produced in this country.

The modern forcing house makes it possible to produce a high-grade product over a wide range of seasons and to put it on the market within a few hours after it is harvested. The forcing house makes it possible to mature the crop at seasons when the outdoor-grown crop is not available, as well as to market them in competition with much of the outdoor-grown crop produced in the winter gardening sections of the country.

Success depends on the kind of greenhouse used, the availability of cheap fuel and labor, ready access to suitable markets, and close attention to details. The bulletin discusses the essentials of the industry, including the best types of greenhouses to use, soils and fertilizers, varieties to grow, management of the crop, harvesting and marketing, and other crops to grow during the short days of midwinter.

Evaporation of Fruits. By Joseph S. Caldwell, Plant Physiologist, Office of Horticultural and Pomological Investigations, Bureau of Plant Industry. Pp. 64, figs. 18. May, 1923. (Department Bulletin 1141.) Price, 10 cents.

Evaporation of fruits serves to increase orchard returns by converting fruit excluded from market grades by superficial blemishes into salable products and to maintain fresh fruit prices by absorbing a portion of the marketable grades in years of overproduction. At the present time the drying of fruits is practiced largely as a farm industry carried on by the fruit growers themselves. A total of 252,289 farms reported the production of dried fruits in the census of 1919.

The plants in which the work is done are for the most part small, the size being frequently determined by the size of the owner's orchard. There is great diversity in the drying apparatus, the accessory equipment, and the details of drying methods employed, with a consequent absence of definite standardization of the product. The primary need of the industry is for such a standardization of equipment and application of labor-saving devices to the handling of the material as will enable the production of a better grade of product at lower costs. Types of artificially heated evaporators found by test to be the best suited to specific purposes are described in this bulletin. It also includes a description of model installations of labor-saving machinery, as well as a full discussion of improved methods of handling fruits in preparation for drying as well as during the drying process. The installations are of such moderate size and cost as to be suited to the

means and needs of the largest possible number of fruit growers. They are so planned as to be capable of enlargement or alteration. Community drying plants are also described in the bulletin.

Rice Experiments at the Biggs Rice Field Station in California. By Jenkin W. Jones, agronomist, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 60, figs. 15. June, 1923. (Department Bulletin 1155.) Price, 10 cents.

The rice industry, formerly confined to the South Atlantic and Gulf States, has become important in California, where the 1922 crop was estimated to have a farm value of more than \$9,000,000. Results of experiments with rice, fertilizers, cultural methods, and irrigation practices at the Biggs Experiment Station form the basis of this bulletin. Thirty-five varieties and strains of rice have been grown in tenth-acre plots and nine-year averages obtained for seven varieties. The variety giving the highest yield in the nine years was Wataribune; C. I. No. 1661, a late-maturing, short grain rice, yielding 4,364 pounds per acre.

Fertilizer experiments show that yield is increased by the use of fertilizer. Depth-of-submergence experiments indicate that the highest average yield was obtained by submerging the land 6 inches during the submergence period.

Soil Survey of Adams County, Ind. By Grove B. Jones and Mark Baldwin, of the U. S. Department of Agriculture; S. C. Jones, Thomas Jabine, and T. M. Bushnell, of the Purdue University Agricultural Experiment Station; and J. Bayard Brill, of the Indiana Department of Geology. Pp. 20, fig. 1, map. (From F. O. Soils, 1921.)

This soil survey, made by the Bureau of Soils and the Indiana Agricultural Experiment Station, shows the various soils of the county and discusses their adaptability. Adams County is situated in the northeastern part of Indiana and adjoins the eastern boundary of the State. It has an area of 337 square miles or 215,680 acres. The topography of the county varies from level to rolling, with the highest elevations in the southern part. Practically all of the area is tillable. The agriculture of the county is highly developed. Corn, oats, wheat, and hay are the special crops.

Within the last few years the county agent has been particularly active in his efforts to increase the acreage in soy beans and alfalfa. He states that the soy-bean acreage was increased over 1,000 per cent in one year—1917. The crop is considered a promising one for this section.

According to the 1920 census there are 2,328 farms in the county. This is a slight decrease as compared with the number in 1910. In this decade the average size of farms increased from 83.7 to 88.9 acres. Ninety-six per cent of the area of the county is included in farms, and of the farm land 87.8 per cent is improved.

Application of the Principles of Jelly Making to Hawaiian Fruits. By J. C. Ripperton, chemist, Hawaii Agricultural Experiment Station. Pp. 24, pl. 1. June 21, 1923. (Hawaii Agricultural Experiment Station Bulletin 47.)

Since jelly making from tropical fruits is not an extensively developed industry in Hawaii and because of the importance of this process to provide market for surplus fruit and that which can not for various reasons

be exported, the Hawaii experiment station has conducted experiments to determine the value for jelly making of the more common island fruits. It was found that although many tropical fruits give palatable jellies, the actual number which can be used for practical jelly making is limited to four—guava, poha, roselle, and Isabella or Hawaiian grape, in the order of their commercial importance. Experiments were made to develop a systematic procedure for jelly making from any kind of fruit containing sufficient pectin and acid. A method of determining the pectin content by cubic centimeters was used which gave duplicate results within a quarter of a cubic centimeter and was effective whether one fruit or more than one was used in the experiment. Tables giving sugar, pectin, and acid content from which jellies of good consistency and flavor may be obtained from these fruits are given, together with information on the effect of varying proportions of these constituents, relation of the physical properties of pectin to the resultant jellies, and other information bearing on the commercial production of jelly from tropical fruits.

Absorption and Retention of Hydrocyanic Acid by Fumigated Food Products. By E. L. Griffin, assistant chemist, and I. E. Neifefer, junior chemist, insecticide and fungicide laboratory, Bureau of Chemistry; N. Perrine, assistant in plant fumigation, Federal Horticultural Board; and A. E. Duckett, scientific assistant, stored product insect investigations, Bureau of Entomology. Pp. 16, fig. 2. May 9, 1923. (Department Bulletin 1149.)

The wide use of hydrocyanic acid as a fumigant against certain insects and rodents that infest food products brings it into contact with food, and the object of the experiments described in this bulletin is to determine whether or not this gas, which is poisonous to man, is absorbed and retained by the food. All the foods examined absorbed the fumigant to some extent and tables are given showing the parts per million of the gas retained. It was found that hard rinds of vegetables or skins of fruits had a tendency to decrease absorption, while chlorophyll-bearing vegetables, or those of a succulent nature, generally took up large quantities of the gas. Some of the fruits and vegetables suffered such physical injury that they were unmarketable. In the case of the seeds examined, most of the hydrocyanic acid was rapidly dissipated. Flour absorbed a large quantity of the gas, but gave it off so rapidly that by the end of a week no trace could be detected. No conclusions as to the safety of such fumigated foods are given in this bulletin, that being the problem of the pharmacologist.

ADDITIONAL PUBLICATIONS.

Service and Regulatory Announcements. Bureau of Chemistry. Supplement 157. Notices of Judgments 11301-11350. Pp. 151-182. June, 1923. Price, 5 cents.

Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction During the Period from January 1 to March 31, 1921. Pp. 91, pls. 8. Issued by the Bureau of Plant Industry. May, 1923. (Inventory No. 66: Nos. 52306 to 52854.) Price, 15 cents.

Experiment Station Record. Vol. 48, No. 7. May, 1923. Pp. 601-700. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations and similar institutions and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Account of experiments on the control of Siga (*Schoenobius*) incertellus in the Godavari Delta. By E. Ballard (India). Dept. of agriculture. Memoirs. Entomological series, v. 7, no. 13.
- Acid-base equilibrium of the blood. Gt. Brit. Medical research council. Haemoglobin committee. London, 1923.
- Addresses delivered at the fourth annual Walnut institute, 1922. [Santa Ana?] Calif., 1922.
- A agricultura em Angola. Por José Firmo de Sousa Monteiro. Lisboa, Agência geral de Angola, 1922.
- Apiculture pratique aux colonies tropicales. Par Paul Hermann. Orne, Montligeon, 1920.
- Bakterien und strahlenpilze. Von Rudolf Lieske. Berlin, Gebrüder Borntraeger, 1922.
- Business and investment forecasting, forecasting methods and their application in practical use. By Ray Vance. New York, Brookmire economic service, inc., 1922.
- Canadian grain trade year book 1921/22. v. 2. Winnipeg [1922?]
- Ceylon. Dept. of agriculture. Yearbook 1923. Colombo, 1923.
- Chemical studies on safflower seed and its germination. By V. A. Tamhane. Calcutta, 1923. (India. Dept. of agriculture. Memoirs, Chemical series, v. 6, no. 7)
- Cigar tobacco industry in Pennsylvania. By William Frear, E. K. Hibschmann, Otto Olsen. Harrisburg, Pa., 1923.
- Concrete products, their manufacture and use. By W. R. Harris and H. C. Campbell. Chicago, International trade press, inc., 1921.
- Cultivation and diseases of fruit trees in the Maltese Islands. By John Borg. Malta, Government printing office, 1922.
- Determination of prussic acid in Burma beans (*Phaseolus lunatus*) By J. Charlton. Calcutta, 1923. (Pusa. Agricultural research institute. Bulletin no. 140)
- Effects of the war upon French economic life. Ed. by Charles Gide. Oxford, Clarendon press, 1923.
- Encyclopaedia of veterinary medicine, surgery and obstetrics. 2 v. Ed. by G. H. Woodridge. London, H. Frowde and Hodder & Stoughton, 1923.
- Forestry for profit, how the woodlot can be made to pay. By Theophilus Tunis. New York, G. P. Putnam's sons, 1923.
- Institutional household administration. By Lydia Southard. Philadelphia, J. B. Lippincott company, 1923.
- Insulated and refrigerator barges for the carriage of perishable foods. Gt. Brit. Food investigation board. Engineering committee. London, 1923. (Special report no. 15)
- Interim report on milk and milk products. Gt. Brit. Ministry of agriculture and fisheries. Departmental committee on distribution and prices of agricultural products. London, 1923.
- Market guide for the Orient and Australasia. 1922 ed. New York, American manufacturers foreign credit underwriters, inc., 1922.
- Les méthodes de la chimie organique. v. 3. Par Theodor Weyl. Paris, H. Dunod et E. Pinat, 1919.
- Milk. An interim report of the New South Wales board of trade. Sydney, 1923.
- La mutazione elettrica delle specie botaniche, e la disciplina dell'eredità nell'ibridazione. Per Alberto Pirovano. Milano, U. Hoepli, 1922.
- Note on hydrocyanic acid in the Burma bean (*Phaseolus lunatus*) By F. J. Warth. Calcutta, 1923. (India. Dept. of agriculture. Memoirs. Chemical series, v. 7, no. 1)
- Neues illustriertes kräuterbuch. Von Heinrich Marzell. Reutlingen, Enszlin & Lablins, 1921.
- Oregon out of doors. Portland, Ore., Mazamas, 1922.
- Les plantes en médecine. v. 1. Par Albert Garrigues. Paris, O. Doin, 1923.
- Platyedra gossypiella, Saund., the pink boll-worm, in South India, 1920-21. By E. Ballard. Calcutta, 1923. (India. Dept. of agriculture. Memoirs. Entomological series, v. 7, no. 10)
- Spectroscope, and its uses in general analytical chemistry. 2d ed. By T. T. Baker. London, Ballière, Tindall and Cox, 1923.
- Studies in Indian Dermoptera. By Morgan Hebard. Calcutta, 1923. (India. Dept. of agriculture. Memoirs. Entomological series, v. 7, no. 11)

Warley garden in spring and summer. By Ellen Willmott. London, B. Quartich, 1909.

West Indies. Report by E. F. L. Wood. London, 1922. (Parliament. Papers by command. Cmd. 1679)

OLD BOOKS.

- Handbook voor den landbouw in Nederlandsch Oost-Indië. Door W. L. de Sturler. Leiden, 1863.
- Die papagien, monographisch bearbeitet von Otto Finsch. 2 v. Leiden, 1867-68.
- Vegetationsbilder aus Südbrazilien. Von Richard von Wettstein. Leipzig, 1904.
- Versuche und beobachtungen über die befruchtungsorgane der vollkommeneren gewächse und über die natürliche und künstliche befruchtung durch den eigenen pollen. Von C. F. Gärtner. Stuttgart, 1844.
- Voyages of Captain James Cook. 2 v. London, 1842.

THESES.

- Preparation of bacterial antigens. By C. O. Melick. Chicago, 1922.
- De schimmelgeslachten *Monilia*, *Oidium*, *Oospora* en *Torula*. Door C. M. Berkhout, Scheveningen, 1923.
- Versuch einer historisch-kritischen schildering der grundlagentierferdzeucht im konigreiche der serben, kroaten und slovenen. Von Ivan Blazevac. Bjelovar, 1922.

CORRENT PERIODICALS.

- Asociación de productores de salitre de Chile. Boletín mensual. Valparaiso, 1922.
- Bibliografía general española e hispanoamericana [monthly] Madrid, 1923.
- Revista quincenal de precios corrientes. Montevideo. Bolsa de comercio. 1922.
- South Carolina highway bulletin [monthly] State highway dept. Columbia, 1922.

EXPERIMENT STATION PUBLICATIONS.

The States Relations Service received for its library files copies of the following publications of the State experiment stations during the week June 18-23, 1923. These publications can be obtained only from the stations issuing them.

- Distribution of Arizona wild cotton (*Thurberia thespetoides*). H. C. Hanson. (Arizona Sta. Tech. Bul. 3, pp. 48-59, figs. 3, Apr. 1923.)
- Effect of sodium chlorid and calcium chlorid upon growth and composition of young orange trees. H. S. Reed and A. R. C. Haas. (California Sta. Tech. Paper 4, pp. 32, fig. 6, Apr. 1923.)
- The common animal parasites of swine. R. Graham and I. B. Boughton. (Illinois Sta. Cir. 269, pp. 18, figs. 11, May, 1923.)
- The gas tractor in Montana. H. E. Selby. (Montana Sta. Bul. 151, pp. 24, fig. 3, Dec. 1922.)
- Experiments with alfalfa and grasses at the Judith Basin Substation. N. F. Woodward. (Montana Sta. Bul. 152, pp. 24, figs. 7, Jan. 1923.)
- Annual forage crops on dry land at the Judith Basin Substation. N. F. Woodward. (Montana Sta. Bul. 153, pp. 15, figs. 4, Jan. 1923.)
- Blackleg in cattle. H. Welch. (Montana Sta. Circ. 110, pp. 8, figs. 5, Jan. 1923.)
- Methods of preserving eggs. C. B. Swingle and G. E. Pool. (Montana Sta. Circ. 111, pp. 8, Jan. 1923.)
- Improved methods of controlling grasshoppers. R. A. Cooley, J. R. Parker, and A. L. Strand. (Montana Sta. Circ. 112, pp. 20, fig. 1, Jan. 1923.)
- Flax in Montana, 1923. (Montana Sta. Circ. 113, pp. 8, figs. 10, May, 1923.)
- Experiments on the field control of snapdragon rust, together with a description of a method for the control of the disease in greenhouses. O. Butler. (New Hampshire Sta. Tech. Bul. 22, p. 14, figs. 2, May, 1923.)
- Results of some experiments in pruning fruit trees. W. H. Chandler. (New York Cornell Sta. Bul. 415, pp. 75, figs. 15, Jan. 1923.)
- The clarification of milk for cheese making. W. W. Fisk and W. V. Price. (New York Cornell Sta. Bul. 418, pp. 14, figs. 6, Apr. 1923.)
- Farmers' market bulletin. (North Carolina Sta. Farmers' Market Bul. 10, No. 62, pp. 8, May, 1923.)
- Silage feeding investigations for milk production. S. I. Bechdel. (Pennsylvania Sta. Bul. 178, pp. 23, Feb. 1923.)
- Tolerance of San José scale to sprays. A. L. Melander. (Washington Sta. Bul. 174, pp. 52, figs. 2, Feb. 1923.)

Articles in Current Publications By Department Workers

- Sherman, Caroline B. (Bureau of Agricultural Economics). Market news for bankers. Journal American Bankers Association. June, 1923.
- Williams, O. E. (Bureau of Plant Industry). The composition and manufacture of ice cream. Creamery and Milk Plant Monthly. Vol. 12, No. 6, pp. 79-82. June, 1923.

CIVIL-SERVICE ANNOUNCEMENTS.

Grain Sampler, July 11.—Vacancies in the Bureau of Agricultural Economics for duty in Washington or in the field will be filled at salaries ranging from \$1,440 to \$1,620 a year. The duties of appointees will be to sample and assist in sampling grain under the direction of a supervisor. In addition to educational requirements, at least one year's experience in commercial grain sampling at a terminal market is required as a prerequisite. If interested send for Form 1312.

Assistant Specialist in Home Economics (Food Investigation), \$2,460 to \$2,880.—A vacancy in the States Relations Service will be filled from this examination. The duties of the appointee will be to conduct investigations in household preparation and preservation of food materials in the laboratory of the Office of Home Economics and prepare for publicity purposes the reports of such results. A bachelor's degree in a course including work in food and nutrition is a prerequisite, as well as three years in teaching food chemistry, nutrition, or experimental cookery. A thesis must also be submitted. Those interested should send for Form 1312.

MISS ATWATER TO EDIT JOURNAL.

Helen W. Atwater has resigned as specialist in home economics in the States Relations Service to become editor of the Journal of Home Economics. Miss Atwater is the daughter of Dr. W. O. Atwater, who organized the Office of Experiment Stations and later was in charge of nutrition investigations of the department. During the last years of his life she assisted him in writing and editorial work. Since 1905 Miss Atwater has been officially connected with the nutrition and home-economics work of the department. Among the lines of work in which she has taken an active part are studies of food consumption in American families and on standards of family living being made by the office of home economics and the Bureau of Agricultural Economics. She is the author of numerous farmers' bulletins, professional papers, and other articles on various phases of home economics.

The Journal of Home Economics is the official monthly organ of the American Home Economics Association. Its growth and that of the association warrant a policy of expansion, and Miss Atwater is to become the first full-time editor. She will have headquarters in Washington.

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UNITED STATES DEPARTMENT OF AGRICULTURE



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VOL. II.

WASHINGTON, D. C., JULY 11, 1923.

No. 28.

TOTAL TIMBER SALES DURING YEAR HEAVY

Record Made with Sale of Large Tract From Cascade For- est in Oregon.

Sales of timber from the national forests during the fiscal year ending June 30 were greater than in any like period, the Forest Service has announced.

With the recent sale of 685,000,000 board feet, mostly Douglas fir, from the Cascade National Forest in Oregon, the total for the 12 months is between 2,500,000,000 and 3,000,000,000 board feet, according to preliminary figures. The estimated cut will be between 900,000,000 and 1,000,000,000 board feet, the latter figure representing an increase of nearly 250,000,000 board feet over the cut of the preceding fiscal year.

Management plans for the national forests provide for the cutting and removal of the matured crop of timber in such a manner that reforestation of the cut-over areas will insure a perpetual timber supply. Units of management called working circles are laid out and a limitation of cut fixed for each.

Future Supply Guaranteed.

In some areas the timber is clean cut and a new stand is obtained by leaving seed trees, but in most instances the smaller trees left standing constitute the next potential cut. Artificial restocking or planting of young trees is confined almost entirely to old burned-over areas upon which nature is exceedingly slow in establishing tree growth.

From 40 to upward of 100 years are required to complete the cutting and removal of timber from the usual working circle, thus providing for a new growth of matured timber by the time the sawyer returns to the starting point.

The tract sold from the Cascade Forest is one of the largest bodies of timber of the Douglas fir type ever sold by the department and compares in size with

the recent sale of 890,000,000 board feet of the yellow-pine type from the Malheur National Forest in Oregon and with the sale of 990,000,000 board feet of the sugar and yellow pine type about a year ago from the Lassen National Forest in California.

Government Receipts Increase.

George H. Kelley, of Portland, Oreg., was the successful bidder for the Cascade Forest timber, at an average price of \$2.25 per thousand feet for the Douglas fir. The total value of the timber is placed at \$1,500,000. It will be cut at the rate of 50,000,000 board feet per year, thus increasing the receipts of the Government by about \$100,000 per annum. Prices may be changed by the department in 1928 and at three-year periods thereafter. Fourteen years is allowed for removal.

The body of timber sold comprises 15,700 acres in the watershed of the North Fork of the Willamette River, a short distance from Oak Ridge, the present terminus of the Southern Pacific branch line, 43 miles from Eugene, Oreg. It is presumed that the sawmill will be located at Oak Ridge.

Liverpool Accepts Cotton Standards Recommendations

The Liverpool Cotton Association, in general meeting July 2, unanimously adopted the recommendation of their board of directors accepting the proposals submitted to their delegates by the department.

This proposal stated: "In case the European cotton associations adopt the official cotton standards of the United States for grade and color as universal standards, the Secretary of Agriculture will take such action as may be necessary under section 4 of the United States cotton standards act to vest in the present and next succeeding (annually elected) members of the boards of appeal of the Liverpool Cotton Association, the association du Commerce des Cotons of

(Continued on page 8.)

GENERAL INSURANCE FOR CROPS NEEDED

Department Says Insurance on Crops Is Feasible—Past Fail- ures No Barrier.

General crop insurance is feasible and is needed for the protection of American agriculture. In view of the progress made by insurance in other fields, it is thought that adequate crop-insurance facilities will not long remain undeveloped.

So say officials of the department who have been studying the question. They are preparing data for the Senate committee which was appointed at the last session of Congress to investigate and report on the practicability of extending the scope of crop insurance. This committee held a series of hearings at Washington in April and will reconvene in December.

Billions of dollars are annually invested in farm crops. So great is the risk in this investment that the farmers who make it have been called gamblers. But gambling, say department officials, is a term properly applied only to the taking of unnecessary risks just for the sake of taking a chance. They point out that the risks of agriculture are unavoidable and should be as readily insurable as similar risks in other lines.

Should Cover Actual Damage.

It is regarded that agriculture should not continue without adequate insurance facilities, in face of the general application that has been given to the insurance principle in nearly all other kinds of necessary enterprise. With proper statistical data as a basis for rates, means of supplying the lack ought to be obtainable, say the department's investigators.

Crop insurance, it is believed, should cover actual damage sustained, but not theoretical losses resulting from failure to reap expected profits. Adherence to this rule would greatly lessen the diffi-

culty of establishing a workable system. What the farmer really needs is not an insurance contract which will guarantee him profits when nature fails to furnish them, but simply protection against crop damage so severe as to endanger his financial safety. Such protection, in the opinion of department officials, could be given at a reasonable cost. They do not believe it would be sound policy to furnish insurance against loss of prospects, both for reasons of expense and because such protection might discourage diligence and care in farming. In short, it is believed the farmer himself should carry all risks that can be borne without inconvenience, seeking insurance only for serious unavoidable hazards.

On the other hand, adequate insurance ought to cover all the principal hazards. Any policy that left particular hazards uncovered might leave the insured person worse off, since if he lost a crop by a hazard for which no provision had been made his loss would be increased by the sum he had paid in premiums. In the opinion of department officials a farmer ought to be able to get all necessary coverage on a single policy, giving protection against damage from deficient or excessive moisture, from plant pests, from storms and frosts, from hail and hot winds, and from all other dangers. They hold, in fact, that the policy should cover damage from any cause, except the negligence of the farmer, when the damage is so severe as to bring the crop yield materially below the investment in the crop.

Past Failures Are Considered.

The failure of several attempts made in recent years to work out a general plan of coverage for farm crops is not deemed to indicate insoluble difficulties in the problem. It is attributed rather to special causes and to lack of experience data. In 1920 a large fire-insurance company which offered a contract practically guaranteeing the farmer an income from each acre seeded lost money on nearly every policy, owing to the price recessions which took place in that year. It paid claims on many perfect crops. These failures, in the opinion of the department, resulted from defects of policy rather than from any fundamental difference between the problem of insuring agricultural risks and that of insuring risks in other lines.

Success will come in crop insurance when it is applied on a broad scale, giving an adequate distribution of risk, and is based on proper crop-yield data. It is thought the right basis for premiums would be the actual crop yield on given farms over a long series of years. While such a plan might necessitate building up much additional yield data, depart-

ment officials do not believe the magnitude of the task would be a serious obstacle.

As to the form of organization through which the desired insurance should be furnished, definite conclusions have not been reached. It has been said that the scope of the undertaking and its novel character make it almost necessarily a Government enterprise. But there are considerations which would work against the success of a Government agency. Among the difficulties would be that of fixing equitable rates which would be acceptable as such as between different localities and different farms. Great diversity in rates is unavoidable, on account of differences in the hazards from climate, plant diseases, insect pests, and other factors. The Government would almost certainly meet with bitter criticism as to the fairness of the rates charged.

Another suggestion is that the producers should be brought into mutual associations for the purpose of carrying on a crop-insurance business. Private companies, though somewhat discouraged by the fate of their first attempts in general coverage crop insurance, are continuing their efforts. While still in the experimental stage, crop insurance is believed by those who have studied it to be so thoroughly practical that it is only a question of a few years before some workable plans will be in operation on a large scale.

RICE PRODUCTION INCREASING.

Rice is comparatively unimportant among the cereal crops grown in the United States and also in the national diet, according to the discussion of the rice crop in the 1922 Yearbook just issued. Among the food grains of the world, however, rice holds an important place and forms a large portion of the diet of the people living in many countries of the Orient, especially in tropical and warm temperate climates. Production in the United States is limited to a few areas where it is profitably grown. The center of rice production in 1919 remains in Louisiana and Texas, but Arkansas has greatly increased its acreage and production. The production in South Carolina has almost vanished.

At the regular monthly meeting of the Denver U. S. D. A. Club held on June 11, it was voted to continue the monthly meetings and luncheons during the summer. The chairman read a letter from the office of the Secretary stating that Secretary Wallace would be in Denver with the presidential party.

Monthly Dairy Forecasts to Be Sent Out by Department

To enable dairymen to plan their operations in the light of future prospects as indicated by available statistics on current milk production, prices, stocks, and changes in dairy herds, the department is inaugurating a special reporting service in the leading dairying States. A tentative plan of reporting has been drawn up and is to be tried out in an experimental way in New England, New York, and Wisconsin. An effort will be made to forecast as far in advance as possible the number of dairy cows on farms and prospective milk production.

Thousands of dairymen in the various States are to be requested to report each month to the department the number of dairy cows and heifers on farms at the end of the month, together with the number of heifers and calves under a year old being raised for dairy cows. Information will also be obtained regarding the number of dairy cows and heifers bred each month, the number of heifers freshening with their first calves, and the number of other cows freshening each month.

An effort will be made to obtain information as to sales of dairy cows and heifers for slaughter, as well as the number of deaths monthly. Figures will be obtained on the production of milk and the number of cows milked. It is expected that a sufficiently large number of dairymen can be induced to cooperate in the work to provide the basis for State-wide estimates.

The new service is in response to a long-felt need for more complete information concerning the trend of the dairy industry. Dairymen have been watching with interest the progress of the system worked out by the department with regard to live stock, and as results became available an increasing number of dairymen and milk producers' associations have requested the department to inaugurate a similar system in the dairy industry. At the present time approximately 30,000 farmers cooperate in the live-stock service, and it is planned to increase the number to 50,000. A departure of interest to dairymen will be to request live-stock producers to report separately the number of cattle of the dairy type and the number of cattle of the beef type. It is planned also to include in the dairy reports information concerning feed and pasture conditions.

The Federal Horticultural Board opened an office at Charleston, S. C., on July 1. The office will be in charge of John T. Rogers.

A DIGEST OF THE NEWS

Brief bits of News Digested From
Material Issued by Department During
the Past Week.

LIVE-STOCK RATE HEARING CALLED.

Because of the making of new schedules of charges for the handling of live stock at the Buffalo and Detroit stockyards, the Secretary, through the packers and stockyards administration, has ordered the owners of these yards to appear at hearings to answer the charge that these new rates are not justified at this time. The Detroit hearing will be held July 16 and at Buffalo July 19.

1922 HAY CROP WELL CLEANED UP.

The 1922 hay crop has been practically all marketed, according to a survey completed by the department. On June 15, the date of the survey, about 90 per cent of the marketable surplus of the 1922 timothy crop had been marketed, 98 per cent of the alfalfa, and 97 per cent of the prairie hay. The timothy surplus is slightly larger than at the corresponding time last year, while the amount of alfalfa and prairie hay is slightly less.

WYOMING GETS FOREST ROAD MONEY.

Expenditures totaling \$146,000 of forest highway funds for road-building work in Wyoming have been approved by the Secretary. Six projects are included in the approved program. To assist in constructing approximately 4 miles along the Cody-Yellowstone highway the sum of \$30,000 was set aside. This road is of importance to the Shoshone National Forest.

CONSTRUCT NEW FUMIGATION HOUSE.

A new railway-car fumigation house has been completed and put into operation by the Federal Horticultural Board at Laredo, Tex. This house takes the place of the one destroyed by fire last July. This is probably the largest fumigation house in the world and will accommodate 20 freight cars at one exposure.

FEED PRICES HOLD STEADY IN JUNE.

There was little improvement in the interior demand for feed stuffs during June as compared with May, according to the monthly feed review of the department. Prices held up well considering the rather plentiful offerings for

deferred shipment. Corn feeds were in good demand.

STILL BAR ENGLAND'S LIVE STOCK.

Because of the persistence of foot-and-mouth disease in England, the department has been unable to lift the ban against the importation of live stock from that country. It had been hoped that permits could be issued after July 1, but the report of a new outbreak, received June 21, makes it necessary to continue the embargo.

HURRICANE SEASON OF 1923 IS ON.

The hurricane season of 1923 began June 1, and all stations of the Weather Bureau on the south Atlantic and Gulf coasts have been asked to be on the alert in order that the best possible service may be rendered. During the first two weeks of June no disturbances whatever occurred.

PORTABLE EXHIBITS INCREASE WORK.

The use of portable exhibits is one of the effective means developed to bring the findings of the department before the people of the country. The office of exhibits prepared attractive models, scenes, and charts for use at 100 places in this country and for the Brazilian International Exposition. It is roughly estimated that 8,000,000 people attended the various places where the exhibits were shown.

County Agents Send Replies To Cotton Council Questionnaire

Ninety-four distinct varietal names are given in responses to a questionnaire recently sent by the cotton council to county agents in six of the cotton-growing States east of the Mississippi, asking for a list of the different varieties of cotton grown in their respective counties and an estimate of the acreage planted to each. This figure does not include the count of different strains of comparatively widely used varieties.

In 80 of the 174 counties reporting, estimates indicate that 50 per cent or more of the cotton acreage in the county is planted to a single variety; in 35 of these counties the estimate of acreage in a single variety runs higher than 75 per cent.

The predominating variety in 46 of these 80 counties is Cleveland, Half and Half in 19 counties, Cook in 4, King in 3, Toole in 3, and Trice and College No. 1 in 1 county each. Of the long staples, Lightning Express predominated in 2

counties and Weber Delta Type in 1 county.

Reports indicate that more money and effort are being expended than ever before to promote cotton growing on a commercial scale in other parts of the world. It is probable that competition from these sources, especially with inferior types of American cotton, will greatly increase. Experiments have shown that it does not materially affect the cost of production to grow superior varieties in single-variety communities as compared with the present custom of growing a large number of varieties in a single region. It seems possible that the cotton-growing section of America, by standardizing cotton production with a few superior varieties and improving the quality of the cotton in evenness of staple, strength, and other desirable spinning qualities, might be freed from the competition of the inferior cottons of other cotton-growing sections of the world.

MISS BARNETT GOES ABROAD.

Miss Claribel R. Barnett, librarian of the department, will leave the 1st of August on an official trip to Europe. The purpose of her trip will be to establish better contacts with foreign book dealers, to complete sets of periodicals, to arrange exchanges, to take advantage of the unusual opportunities which are said to exist for the purchase of out-of-print books in Germany and Austria, and to visit some of the important agricultural libraries, such as those connected with the Agricultural University at Wageningen, Holland, the Danish Agricultural and Veterinary High School at Copenhagen, and the International Institute of Agriculture at Rome. Miss Barnett will probably return the early part or the middle of October.

VISITORS FROM NORTH CAROLINA.

Members of the North Carolina State Commission on Community Land Settlement and State Aid for Tenants visited the Bureau of Agricultural Economics July 2. Representatives of the bureau discussed land settlement and State rural credit systems with members of the commission, who later left for the West to continue their study. R. P. Teele, of the bureau, arranged for the commission to come to Washington.

Ten additional warehouses of the Pacific Coast Elevator Co. have just been licensed, making a total of 118 warehouses operated by that company under the warehouse act.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary.

Designation of Assistant Director of Scientific Work.

Memorandum No. 440.—June 20, 1923.—On July 1, coincident with the assignment of the Office of Experiment Stations to the Office of the Director of Scientific Work, Dr. E. W. Allen, Chief of the Office of Experiment Stations, is designated also as Assistant Director of Scientific Work. It is expected that Doctor Allen's assistance will be especially helpful with reference to the coordination of the research work of the bureaus of the department and the experiment stations.

SECRETARY MEETS PORTLAND CLUB.

On July 4 Secretary Wallace addressed employees of the department who are located in Portland, Oreg. A meeting was organized in the auditorium of the public library by the Portland U. S. D. A. club, and all employees of the department known to be in the vicinity were notified.

DOCTOR GALLOWAY RECEIVES DEGREE.

On June 16 the University of Maryland conferred upon Dr. B. T. Galloway the degree of doctor of agriculture in recognition of his services to national agriculture during the past 35 years.

PREPARES NEW INSECTICIDES.

As the result of research work carried on in the Bureau of Chemistry to develop better and cheaper insecticides, Mr. C. R. Smith has synthesized two new compounds, derivatives of pyridine, which are highly toxic to insects. The substances have been tested by Dr. C. H. Richardson, of the Bureau of Entomology, as a contact insecticide on different species of aphids and found to act in a manner similar to nicotine. Efforts

are being made to perfect the reactions so as to produce the new mixtures on a commercial basis. A paper giving the experimental data in detail will soon appear in one of the scientific journals.

ASSISTANCE APPRECIATED.

An investigator from one of the State agricultural experiment stations recently spent about five weeks in Washington engaged in bibliographic research in the department library. To facilitate his work he was given office space and clerical help in one of the offices of the Bureau of Plant Industry, with which his station is in cooperation. After completing his work and returning to his station he wrote an extremely appreciative letter, stating that he had been given ideal working conditions and, therefore, had been able to accomplish twice as much as would have been possible otherwise. In addition, he said that the opportunity of daily contact with the members of the office staff was an even greater privilege to him.

ORGANIZE IN SAN FRANCISCO.

Thirty-three heads of the various governmental branches with offices in San Francisco recently organized a Federal Business Association in that city. Uniform standards of materials for all departments, cooperative buying, coordination between bureaus, and businesslike administration are some of the features that will be taken up by the organization.

E. A. Beal, of the Weather Bureau, acted as chairman of the meeting, and Commander C. E. Russell, area coordinator, explained the organizations of the 60 Federal Business Associations now organized which cooperate with the Bureau of the Budget.

TO IMPROVE FOREIGN CROP NEWS.

Further development of its foreign statistical work to make available to American farmers more complete information on current world agricultural conditions is to be made by the United States Department of Agriculture.

Cesare Longobardi, Chief of the Bureau of Statistics, International Institute of Agriculture, at Rome, has been detailed by the institute to assist the department in the new work. Mr. Longobardi is now in Washington, where he will cooperate with the department for the next 12 months.

The simultaneous return of Joe C. Barrett, market statistician for the department, from Rome, where he made a

complete survey of statistical methods of all foreign countries in reporting crop data to the International Institute of Agriculture, also makes immediately available to the department a fund of data that will be of value in developing the foreign news service.

TO ORGANIZE TABULATING UNIT.

A machine tabulating section has been organized in the Bureau of Agricultural Economics, under the supervision of B. B. Smith, of the Cost of Marketing Division of that bureau. The establishment of this service, which will be located in the C building and will be available to all divisions and members of the bureau, is the result of a recommendation by the subcommittee of the statistical council, which made a study of the machine tabulating and computing work of the bureau.

TO U. S. D. A. CLUB MEMBERS.

The secretary-treasurer of the Chicago U. S. D. A. Club writes in that "the members of the club as well as myself are very sorry that it was deemed inadvisable to allow space in THE OFFICIAL RECORD for the publication of activities of the various clubs. I am of the opinion that members of the other clubs are just as anxious to know of the 'doings' of the other department clubs as well as their own. Please advise me just why this decision was reached and if it will be possible to allow a little space in THE OFFICIAL RECORD for the department clubs."

The RECORD goes to over 16,000 department workers and cooperators, and in the recent questionnaire it was found a comparatively small number are members of the U. S. D. A. clubs. In fairness to all it was not deemed advisable to devote so much space to reports of meetings. But, on the other hand, the Secretary, the department, and the RECORD are all vitally interested in the welfare and development of the clubs. Though it is impossible to maintain a regular department for club news in the RECORD, we are going to devote as much space as possible to them. So send it in. We'll print what we can. And we always call attention of department officials to the reports.

The first annual picnic of the Chicago U. S. D. A. Club was held June 27. All department employees and their families were invited, of which 210 were present. Contests and races were enjoyed, suitable prizes being given by the club to the winners.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What part of the cost of construction of Federal-aid roads is borne by the Federal Government?

Answer. The Federal Government may grant aid for the construction of any road which is a part of the Federal highway system to the extent of 50 per cent of its cost; provided, however, that the total allotment to any road shall not exceed \$15,000 per mile exclusive of the cost of bridges of more than 20 feet clear span. In States more than 5 per cent of whose area is unappropriated public land, the limiting proportion of the cost of the construction may be increased beyond 50 per cent by a percentage equal to one-half of the percentage which the area of the unappropriated lands in each State bears to the total area of the State. In such States the maximum of \$15,000 per mile is increased in proportion to the increased percentage.

Question. Can rain be produced artificially?

Answer. We can not artificially make an appreciable rain, says the Weather Bureau. Putting dust on the clouds or in the air does no good, for the air always is more than sufficiently dusty. Electricity does not help. It does not rain oftener about electric power plants, nor wireless stations, than elsewhere. But blowing up vast quantities of air 2 miles high would be just the thing, for that would give rain, but the job is far too big for us.

Question. How many warehouses have actually been licensed under the United States warehouse act?

Answer. The Bureau of Agricultural Economics has licensed 332 cotton, 230 grain, 21 wool, and 53 tobacco warehouses under the United States warehouse act. The capacity of these warehouses are: 2,529,800 bales of cotton, 20,297,047 bushels of grain, 33,151,250 pounds of wool, and 224,305,000 pounds of tobacco, respectively.

Question. For what products have Federal grades been established?

Answer. Official standards prepared by the Bureau of Agricultural Economics have been promulgated for cotton, wheat, oats, shelled corn, rye, and wool. Tentative grades for cattle, calves, swine, beef, veal, lamb, mutton, and pork carcasses

and products, grain sorghums, milled rice, barreled apples, asparagus, cabbage, cauliflower, celery, cucumbers, lettuce, Bermuda onions, northern-grown onions, peaches, strawberries, sweet potatoes, tomatoes, white potatoes, and shelled Spanish peanuts have been recommended. Standard lengths for sized tobacco have been worked out.

Question. What is the principal aim of the Forest Products Laboratory at Madison, Wis.?

Answer. The aim of the laboratory is to render practical assistance to the manufacturers and users of wood and wood products and at the same time to promote forest conservation and the practice of forestry.

WITH EXTENSION FORCES

VARIETY IS THE SPICE OF LIFE.

If this saying is true, the county agent of Valencia County, N. Mex., certainly enjoys an exceedingly highly flavored existence. Imagine, if you can, a county as far from east to west as the distance across the State of Indiana; one in which the climate varies so much that cotton can be grown in certain sections, while only the most hardy small grains can be produced in others; and, finally, one in which three languages are commonly used.

Valencia County would be a poor place for a swivel-chair county agent. The great distances mean that he must be away from headquarters several days at a time if results are to be accomplished. Slow mails and an almost total absence of telephone service also make a great deal of travel necessary.

If a farmer stops the agent and asks what variety of corn he should plant, before answering the agent must consider the conditions under which the crop will be grown, such as altitude, temperature, and rainfall, and whether the farmer lives in an irrigated or dry-farming section. In planning demonstrations and interpreting results the agent must have constantly in mind these varying factors which have such a profound influence on the agriculture of his county.

The question mentioned above might be put to the agent in any one of the three languages common in the county—Spanish, Indian, or English. The agent must not only be able to understand the question and answer it intelligently but it is good diplomacy to answer in the same language even though the questioner might understand English, which he usually does not.

Under these difficulties, which to some might seem unsurmountable, great progress has been made. Improved varieties of the common farm crops have been introduced, standardization on the better varieties has been effected, and, in general, the agriculture of the county has been advanced more in the past 5 years than in the previous 50.

Valencia is only one of several counties in New Mexico where the agents are confronted with the great variety of problems indicated above. Making a success of county-agent work under such conditions is a man-size job, and the men are responding nobly to the challenge to service which such conditions offer.

CAMP VAIL TO BE HELD AS USUAL.

Announcement of Camp Vail, the annual encampment and exhibition of junior extension work in agriculture and home economics for the 13 North and Middle Atlantic States, to be held under the cooperative management of the department and the State agricultural colleges in conjunction with the Eastern States Exposition, Springfield, Mass., September 16-23, 1923, has been issued. This is an event of great interest to the 75,000 or more boys and girls enrolled in club work in agriculture and home economics in the participating States. Twelve members, six boys and six girls, from each State are eligible for admission, the method of selection being determined by each State club leader for his own State. Each member of the camp must, according to the rules, belong to a team competing in the demonstration of agricultural or home economics practices and the judging of products of the farm and the farm home. The exhibits made, as in former years, are not to be competitive but are to be planned to present club activities and to establish higher standards for accomplishment in the communities represented. One of the chief objects of the encampment is to serve as a training school for rural leadership.

Nearly 1,250,000 farms, or approximately one out of every five farms in the United States, changed occupants in 1922, according to the first survey of the kind made by the department, and "while the changes give evidence of considerable mobility among American farmers, until comparative figures for other years are available it will not be possible to determine whether the extent of the movement in 1922 was greater or less than usual," says Dr. C. L. Stewart, Bureau of Agricultural Economics economist, who prepared the report.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

NEW OATS INCREASE PRODUCTION.

Nearly a quarter of the oat acreage of the United States at present is producing at least 1 to 2 bushels of oats more to the acre than formerly, as a result of the introduction by the Bureau of Plant Industry of the now popular and widely distributed varieties, Swedish Select and Kherson (Sixty-Day) oats. Prior to 1900 these two varieties were practically unknown in this country, but to-day they are grown on about 9,000,000 acres, the former variety being grown on almost 10 per cent of the total oat acreage, and the latter, including selections made from it, on about 14 per cent.

Kherson and Sixty-Day oats were introduced into the United States from southern Russia. The first lot of Kherson oats sent to this country was obtained by the Nebraska station in 1896 through a representative traveling in Russia. As it was obtained from the Kherson Government, the name "Kherson" was given to it. Seed of the Sixty-Day variety was received by the department in Washington in the spring of 1901 from a Province adjacent to the Kherson Government. The Kherson and Sixty-Day varieties are thus of very similar origin and are considered as identical in every way. Both have been widely distributed in the United States, but the Sixty-Day is probably the more commonly grown.

A number of new strains of the Kherson type has been developed by selection of single plants at the State experiment stations. Some of those which have attained considerable popularity are the Albion (Iowa 103), Richland (Iowa 105), Iowar, all developed by the Iowa station in cooperation with the department, State's Pride by the Wisconsin station, and Nebraska No. 21 by that station. The general popularity of these oats and the new strains developed from them must be attributed largely to their early maturity and their ability to produce high yields. They are especially adapted to the corn-belt region.

The Swedish Select variety also came from Russia, being first introduced in 1898 by the Bureau of Plant Industry. It gets its name, however, from the fact that it was introduced into Russia from Sweden some years before. Since its

introduction into this country but little change has occurred in the variety, due largely to the fact that when introduced it was already very uniform and presented little opportunity to make selection through which new varieties might be developed. This variety is especially adapted to the northern grain-growing section of the United States.

In cooperation with the various experiment stations, the department is conducting breeding and hybridization work for the purpose of developing improved strains of oats and other cereals. Considerable progress has been made in combining the disease resistance of certain varieties with other desirable characteristics existing in other varieties not resistant to disease. One of the objections made most frequently against the early varieties, Kherson and Sixty-Day, is the yellow color of the kernel. In order to eliminate this somewhat undesirable character a number of white-kerneled strains have been developed by selection. Several of these, notably Albion, Iowar, and Nebraska No. 21, are of considerable promise and are now being grown commercially.

VANILLA RAISED IN PORTO RICO.

In its endeavor to increase the small number of export crops grown in Porto Rico, the Federal agricultural experiment station at Mayaguez, on that island, imported in December, 1909, a small collection of vanilla bean cuttings. Although conditions in Porto Rico are well adapted to the production of vanilla, this crop had never been grown there. Scarcity of propagating material greatly retarded the station work, but by May, 1912, the original plantings had grown sufficiently to furnish short cuttings for a small new planting. Three and one-half years from the time this planting was made, 973 pods were picked from the 15 vines, cured, and sent to a Philadelphia firm handling vanilla beans exclusively, which reported that the Porto Rico product compared favorably with Bourbon or Java vanilla in the same grades or with the vanilla produced in Guadeloupe. The shipment sold for \$2.50 a pound, a good price for that year.

The 1916 crop was not sold, but divided into small samples and sent to as many as possible of American wholesale houses handling vanilla beans and extract manufacturers for examination. The reports received indicated both the good quality of vanilla produced and a ready market for it.

Since then the station has continued its efforts on problems of cultivation, curing, and preparation for market, and

has been actively working to establish vanilla growing as a commercial crop in Porto Rico, particularly for the coffee planter. Commercial plantings made in 1918 are now coming into bearing, according to reports to the division of insular experiment stations, States Relations Service.

One planter reports that he has just sold his 1922 crop from 2 acres planted in 1918 and from scattered vines in 5 acres more recently planted and just coming into bearing, which he estimates as equivalent to a crop from 3 acres in good bearing. The yield amounted to 850 pounds of cured beans, which sold for \$4 a pound. The crop now on the vines, it is estimated, will amount to more than twice this quantity.

A considerable number of acres will be set to vanilla this year on the island. One grower is planning to increase his plantings by 10 additional acres.

"BACK TO THE LAND" IN HAWAII.

The Federal experiment station at Honolulu, Hawaii, which has been acting in advisory capacity with the Hawaiian Homes Commission in the effort to encourage native Hawaiians to take up agricultural pursuits and improve their mode of living, as a means of checking the rapid decrease in the Hawaiian race, reports that a large tract of Territorial land, known as the Kalamaula tract, on the island of Molokai, has been studied by civil engineers and agricultural experts and 13 farms laid out and Hawaiian families placed on them under the name of the Kalaniana'ole Settlement. These settlers, with the advice and help of the agents of the commission, are working at clearing and leveling the land, building roads and farm buildings, developing a water system, and doing other necessary work toward establishing rural homes. Their first crop in many cases, has been harvested and indicates success in the venture.

The commission is maintained by revenues from rentals of certain Territorial lands and from government water revenues, which form the Hawaiian Homes Commission loan fund, to be utilized in the general development of the land settled, such as building roads and water systems, and as loans not exceeding \$3,000 to each settler. Certain Territorial lands are to be systematically settled by carefully selected Hawaiian families. The size of the farms varies according to the type of land and natural advantages that may exist, ranging from 20 to 80 acres in the first-class farming lands, but extending to greater areas on pastoral lands.

BRIEF REVIEWS OF NEW BULLETINS.

Cotton-Dusting Machinery. By Elmer Johnson, agricultural engineer, Bureau of Public Roads, S. T. Howard, mechanical engineer, and B. R. Coad, entomologist, southern field-crop insect investigations, Bureau of Entomology. Pp. 20, figs. 4. May, 1923. (Farmers' Bulletin 1319.)

Success in dusting cotton plants with powdered calcium arsenate depends largely upon the use of suitable dusting machinery. This bulletin tells the prospective buyer how to select a type of dusting machine suited to the conditions and needs of his own farm; one that should prove efficient and durable if given proper care. It supersedes Farmers' Bulletin 1098. Devices which should be avoided are also described.

Canaries: Their Care and Management. By Alexander Wetmore, assistant biologist, division of biological investigations, Bureau of Biological Survey. Pp. 22, figs. 6. May, 1923. (Farmers' Bulletin 1327.)

Requests are continually received for information on the care of canaries in sickness and in health. To meet them this bulletin, which is a revision of Farmers' Bulletin 770, superseding it, has been compiled from various sources. The pre-war trade in canaries from Germany is again active, and many of the birds are also brought into this country from England and the Orient. More than 150,000 were imported in 1922.

Preliminary Report on Control of San Jose Scale, with Lubricating-Oil Emulsion. By A. J. Ackerman, entomologist, fruit insect investigations, Bureau of Entomology. Pp. 18, figs. 6. June, 1923. (Department Circular 263.) Price, 5 cents.

The increase of the San Jose scale during the last two years in the Ozark region of Arkansas has seriously threatened the apple industry in several localities. Studies to find an effective means of control for this pest have been made by the Bureau of Entomology. Of all the insecticides tried in various experiments at Bentonville, Ark., best results were obtained with the so-called paraffin-oil or lubricating-oil emulsion. This circular discusses the history and seriousness of the infestation, and describes the proper way to prepare and apply oil emulsions.

Unintentional carelessness in spray methods on the part of growers is the chief cause of the present widespread infestation. Unfavorable weather for spraying during the dormant period has been a factor in scale increase, as has lack of parasites and predaceous enemies.

The department recommends thorough spraying in the dormant season, during favorable weather, with an emulsion containing 2 per cent of oil. No indication of injury to trees from the use of the spray recommended has been observed in Arkansas. Applications made during the growing season only result in a partial checking of the scale. Thorough spraying work should always be done to insure reaching all parts of the trees, particularly the tips of the branches.

Effect of Composition on the Palatability of Ice Cream. By Owen E. Williams and George R. Campbell, dairy manufacturing specialists, Dairy Division, Bureau of Animal Industry. Pp. 8, figs. 3. June 7, 1923. (Department Bulletin 1161.) Price, 5 cents.

Contrary to what often has been said, that the palatability of ice cream would be impaired by making it rich in milk solids and

sugar, it was shown by experiment that there is a decided preference by consumers for the richest, sweetest, and firmest products. Manufacturers had obtained some information on this subject, but no one had ever shown in a systematic way how the desirability of ice cream could be altered by using various percentages of fat, sugar, and other constituents.

In these experiments the comparison was made of the ice creams of different composition by selling them on a market where about 50 dairy purchasers had an opportunity to choose from three different kinds without knowing anything about the ingredients contained.

Varying the butter-fat content made a great difference in the preference shown for the ice cream, the larger percentage being most popular. There was not such a decided preference for a high sugar content, but it was noticeable. The preference for different proportions of milk solids not fat was tested in cream made from milk containing 10 per cent fat. Ice cream containing gelatin to give body to it was preferred by a large number. The experiments indicated what quantity a person will eat, except when it is very rich.

Investigations of Potato Wart. By Freeman Weiss, pathologist, office of cotton, truck, and forage crop disease investigations, Bureau of Plant Industry; C. R. Orton, pathologist, Pennsylvania Agricultural Experiment Station; and R. E. Hartman, pathologist for potatoes, Pennsylvania Department of Agriculture. Pp. 22, figs. 3, pls. 4. May, 1923. (Department Bulletin 1156.) Price, 10 cents.

It is now well established that potato culture need nowhere be abandoned on account of the prevalence of the potato-wart disease, so long as suitable immune varieties are available. Cooperative tests conducted by the department have shown that there are a number of American varieties of potatoes which are immune to the disease and may safely be planted in infested areas. The results of these tests, covering a period of from one to four years, are discussed in this bulletin.

A few of the principal varieties which have proved to be immune are Early Eureka, Early Petoskey, First Early, Cordon's Early Snowflake, Flourball, and Irish Cobbler, belonging to the Cobbler group; Early Harvest, Ehnola, Extra Early Sunlight, and White Albino, of the Early Michigan group; Spaulding Rose, of the Rose group; Burbank, of the Burbank group; Bountiful, Delaware, Gold Coin, Green Mountain, Green Mountain Junior, Idaho Rural, McGregor, McKinley, and Norcross, of the Green Mountain group, as well as a number of others.

The use of wart-immune varieties of potatoes was adopted as a quarantine policy in 1920, the disease first having made its appearance in this country in 1918.

A survey to determine the geographical location and extent of the disease was completed in September, 1922, and shows infestation in Pennsylvania, West Virginia, and Maryland.

Soil Survey of Houston County, Ala. By R. T. Avon Burke and A. T. Sweet. Pp. 30, fig. 1, map. (From F. O. Soils, 1920.)

Houston County is one of the best agricultural counties in the State, possessing large areas of good land which are being developed and which offer opportunities to those seeking

a place where a great variety of crops can be successfully produced.

Little effort is made to use the soils for the purposes for which they are best suited. The general practice is to grow crops indiscriminately on all classes of lands without reference to their special adaptations. Little or no attention is given to the selection of particular varieties of the various crops grown, although it is generally recognized that some varieties do better than others on certain soil types. The present agriculture consists of the production of corn, cotton, pea-vine hay, peanuts, velvet beans, sweet potatoes, and sugar cane, some beef cattle, and hogs.

Soil Survey of Choctaw County, Miss. By A. C. Anderson, of the U. S. Department of Agriculture, and E. Malcolm Jones and Thomas Jabine, of the Mississippi Geological Survey. Pp. 38, fig. 1, map. (From F. O. Soils, 1920.)

Choctaw County is situated about 50 miles northeast of the geographical center of the State. It consists of rolling uplands and flat stream bottoms. Farming and lumbering are the principal industries. The principal crops are corn, cotton, lespedeza, sugar cane for making sirup, cowpeas, sweet potatoes, oats, peanuts, Irish potatoes, watermelons, peaches, and a large number of vegetable and garden crops for home use. There has been a marked change in the system of farming since the boll weevil invaded the country. Less cotton and more live stock are produced.

One-horse machinery is used almost exclusively. Commercial fertilizers are used generally on the upland soils. Most of the farm labor is done by the farmer and members of his family. According to the census of 1920, the average size of the farms is 104.2 acres, of which 34.5 acres are cleared. Land values range from \$6 to \$20 for uncleared land. Cleared upland sells for \$8 to \$15 or more an acre, and cleared alluvial land for \$10 to \$30 or more an acre.

ADDITIONAL PUBLICATIONS.

Seed Potatoes and How to Produce Them. By William Stuart, horticulturist, office of agricultural and pomological investigations, Bureau of Plant Industry. Pp. 18, figs. 17. May, 1923. (Farmers' Bulletin 1332.)

Service and Regulatory Announcements. Bureau of Animal Industry. No. 193. May, 1923. Pp. 45-52. June, 1923. Price, 5 cents.

Service and Regulatory Announcement. Bureau of Plant Industry. No. 6. The Adulteration and Misbranding of the Seeds of Redtop. April, 1923. Pp. 1-3. June, 1923. Price, 5 cents.

Swine Raising in Hawaii. By F. G. Krauss, superintendent of extension work. Pp. 43, figs. 26. May 31, 1923. (Hawaii Agricultural Experiment Station Bulletin 48.) Price, 5 cents.

Woolly-Pod Milk Weed: A Dangerous Stock-Poisoning Plant. By C. D. Marsh, physiologist in charge of investigations of stock poisoning by plants, and A. B. Clawson, physiologist, pathological division, Bureau of Animal Industry. Pp. 4, fig. 1. June, 1923. (Department Circular 272.) Price, 5 cents.

"The Organization of State Marketing Agencies" is the title of a mimeographed pamphlet prepared by J. C. Gilbert, of the Bureau of Agricultural Economics. The organization charts, which form the major part of the pamphlet, were worked out from data provided by the State marketing officials. Copies may be obtained from W. J. Holbrook, room 704, Bieber Building.

Articles in Current Publications By Department Workers

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- The Firebug: Wasted Genius or Misguided Ingenuity. *Producer*. June, 1923.
- Bates, C. G. (Forest Service). The Transect of a Mountain Valley. *Ecology*. January, 1923.
- Bishop, H. B. (Bureau of Public Roads). The Field Control of State Highway Maintenance Work: Discussion. *American Highways*, vol. 2, pp. 37, June, 1923.
- Bishop, L. L. (Forest Service). Pines of Hearts Content. *American Forestry*. June, 1923.
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- Carhart, A. H. (Forest Service). Our Most Accessible Glaciers. *Outlook*. May 23, 1923.
- Back to the Pack. *Outers Recreation*. May, 1923.
- Cary, A. (Forest Service). French Naval Stores Results Compared with American. *Naval Stores Review*. June 2, 1923.
- Dater, Philip H. (Forest Service). Mount Hood Loop. *New Year edition of the Oregon Journal*.
- Eldredge, I. F. (Forest Service). Caterpillars a' la Pinte: An Uncommon Moth which Defoliates the Jeffrey Pine and in Turn Is Eagerly Devoured by the Indians. *American Forestry*. June, 1923.
- Gibbons, W. H. (Forest Service). Port Orford Cedar. A "Specialty" Wood. *4-L Bulletin*, February, 1923.
- On Studying One's Business. *West Coast Lumberman*. May 1, 1923.
- Goldbeck, A. T. (Bureau of Public Roads). Tentative Conclusions on the Design of Pavement Sections Derived from Studies on the Effect of Traffic on the Pittsburgh-California Test Road. *American Highways*, vol. 2, p. 18. June, 1923.
- Gould, C. W., and Herman, Albert (Forest Service). The Kiln Drying of No. 1 Common Douglas Fir Boards and Dimension. *West Coast Lumberman*. February 1, 1923.
- Grabow, R. H. (Forest Service). Suitability of Various American Woods for Pulp and Paper-Making. *Journal of Forestry*. May, 1923.
- Guthrie, John D. (Forest Service). Oregon Forest Camps Popular with Tourists. *Oregon Journal of Commerce*. May 10, 1923.
- Oregon National Forests Hosts to Millions of People. *Oregon Motorist*. May and June, 1923.
- Then and Now. *American Forestry*. October, 1922.
- Haasis, F. W. (Forest Service). Root Rot as a Factor in Survival. *Journal of Forestry*. May, 1923.
- Hofmann, J. V. (Forest Service). Forest Fire Prevention and Control. *The Timberman*. June, 1923.
- McKee, E. R. (Forest Service). Results of Tests Made with Glass Cup Turpentine System. *Naval Stores Review*. June 2, 1923.
- Morrell, F. (Forest Service). Rushing Supplies via the "Forest Limited." *American Forestry*. June, 1923.
- Sherman, Caroline E. (Bureau of Agricultural Economics). Grain Grading in a County Laboratory. *Banker and Manufacturer*. June, 1923.
- Sherman, E. A. (Forest Service). The Future Use of Alaska Forests. *International Interpreter*. February 10, 1923.
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- Silver, James (Biological Survey). Hydrocyanic-acid Gas for Woodchucks. *Rural New Yorker*, vol. 82, No. 4746, p. 822. June 9, 1923.
- Sudworth, G. B. (Forest Service). The Technical Nomenclature of North American Trees. *Journal of Forestry*. April, 1923.
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- Design and Construction of Concrete Roads (2d installment). *Canadian Engineer*, vol. 44, p. 582. June 12, 1923.

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- Wetmore, A. (Biological Survey). New Subspecies of Birds from Patagonia. *University of California Publications in Zoology*, vol. 21, No. 12, pp. 333-337. June 16, 1923.
- Winslow, C. P. (Forest Service). Work of the Forest Products Laboratory. *Lumber World Review*. May 25, 1923.

SEED CATALOGUES IN LIBRARY.

It may not be generally known that the library of the department has a very extensive collection of nursery and seed trade catalogues, which at the present time numbers approximately 23,000. These are filed in the office of horticultural and pomological investigations, Bureau of Plant Industry, and are in charge of Miss M. R. Newman. A valuable addition to this collection is a recent gift from Mr. C. R. Orcutt, of La Jolla, Calif., founder of the Orcutt Seed & Plant Co., of San Diego, Calif., and a botanical explorer, collector, and writer of note. An outgrowth of Mr. Orcutt's wide acquaintance with the horticultural trade of the world has been the accumulation, through a period of more than four decades, of an exceptionally large and representative collection of the trade literature. The library is very fortunate in being selected as the recipient of the greater part of this collection.

Liverpool Accepts Cotton Standards Recommendations

(Continued from page 1.)

Havre, and the Bremen Cotton Exchange, the authority to finally determine the true classification as to grade and color, in accordance with said standards, of cotton of American growth exported from the United States."

As agreed by American exporters and the Department of Agriculture in conference May 29, the department sees no objection, during the coming crop season, for American exporters to define the United States cotton standards in terms of their equivalents in Liverpool and other recognized foreign standards and to guarantee that shipments on the United States standards shall equal the specified foreign equivalent.

The Liverpool Cotton Exchange has given notice that they desire certain changes in the universal standards. Since the law requires that the changes proposed be agreed upon a year in advance of the time when they go into effect, Messrs. C. R. Taylor and J. C. Finlay, of the Liverpool Cotton Exchange, will sail Wednesday for the United States to confer with representatives of the cotton trade and the United States Department of Agriculture upon the proposed changes.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

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- Art of grafting in India. By G. B. Set. Calcutta, Ivy nursery gardens, 1920.
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- Economics of marketing and advertising. By W. D. Moriarty. New York, Harper & brothers, 1923.
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- Flora of South Australia. pt. 1. By J. M. Black. Adelaide, R. E. Rogers, 1922.
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- Ricardian rent theory in early American economics. By J. R. Turner. New York, New York university press, 1921.
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THESES.

- Biochemical study of streptococci. By Frances Krasnow. New York, 1922.
- Central and local finance in China. By Chuan Shih. New York, 1922.
- Examination of low-temperature coal tar. By R. P. Soule. New York, 1922.
- Experiments with two methods for the study of vitamin B. By H. I. Edgeworth. New York, 1922.
- Fatty acid radicals of liver lecithin. By H. S. Simms. New York, 1922.
- Linkage relations of the sex-linked characters in *Drosophila obscura*. By D. E. Lancefield. New York, 1922.
- Nutritional factors in the growth of certain yeasts and bacteria. By Louis Freedman. New York, 1922.
- Sulphite waste liquor and its possible utilization. By George Barsky. New York, 1922.

CURRENT PERIODICALS.

- Annales de parasitologie humaine et comparée [quarterly] Paris, 1923.
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- National wild life [monthly] Pittsburgh, Pa., 1922.
- Revue générale d'apiculture [monthly] Bordeaux, 1923.
- Roads and road construction [monthly] London, 1923.

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No. 29.

NEW YORK MAN HEADS BUREAU OF CHEMISTRY

Dr. C. A. Browne, Formerly With Department, to Take Up New Duties in Fall.

Announcement of the selection of Dr. Charles A. Browne, of New York, to head the Bureau of Chemistry, United States Department of Agriculture, was made today by Secretary Wallace. Doctor Browne is at present chemist in charge of the New York Sugar Trade Laboratory (Inc.), and will not take up his new duties until this fall.

Doctor Browne was formerly with the Bureau of Chemistry, resigning in 1907 to accept the position with the New York Sugar Trade Laboratory, a laboratory which was created for the purpose of serving as an umpire in disputes between wholesale buyers and sellers of sugar arising over differences regarding its chemical analysis. The decision of the laboratory is accepted as final by both parties.

Studied in Germany.

Doctor Browne is an agricultural chemist of wide experience and has done notable work in this field. He is an associate editor of the Journal of the American Chemical Society and is the author of many bulletins, papers, and textbooks on chemical subjects. Doctor Browne is a native of North Adams, Mass., where he was born in 1870. After taking his M. A. degree at Williams he studied at the University of Gottingen, Germany, where in 1902 he received both the M. A. and Ph. D. degrees. He took up his profession as a chemist in New York in 1892, and in 1895-96 was instructor in chemistry at the Pennsylvania State College. After four years as assistant chemist at the Pennsylvania Experiment Station, Doctor Browne returned to Germany for two years to study sugar chemistry. From 1902 to 1906 he was research chemist at the

Louisiana Sugar Experiment Station, New Orleans, and in 1906-7 was chief of the sugar laboratory of the Bureau of Chemistry, resigning to become chemist in charge of the New York Sugar Trade Laboratory (Inc.). In 1906 he was United States delegate to the Sixth International Congress of Applied Chemistry at Rome.

The office of Chief of the Bureau of Chemistry has been vacant since the resignation of Dr. Carl L. Alsberg July 15, 1921. Walter G. Campbell, who was assistant chief of the bureau and in charge of the enforcement of the Federal food and drugs act, has been acting chief of the bureau. The law requires that the chief of the bureau be a chemist.

Scope of Work Increases.

Mr. Campbell, who is a lawyer and not a chemist, is ineligible, according to the letter of the law, for the position of chief of the bureau, yet he has in his two years' work as acting chief accomplished a most notable piece of work in perfecting the project system of enforcing the Federal food and drugs act. The enforcement of this act is the biggest single project with which the Bureau of Chemistry is concerned, approximately three-fourths of the employees of the bureau being engaged in some phase of the food and drugs work. Under the project system of enforcing the act all of the field stations of the bureau now operate more or less in unison and according to a plan outlined at the beginning of each year. The plan of work is so arranged that all are working on the same problem at the same time over the entire territory concerned instead of each district or station working on separate and independent plans as heretofore.

Under Mr. Campbell's administration no radical changes have been made in the organization or work of the bureau, and many of the important lines of research and investigation have been continued to a satisfactory completion, with the result that the bureau is functioning better and more efficiently than ever before.

COMMITTEE REPORTS ON FARM-PRODUCT DEMAND.

Economists Consider Principally Corn, Wheat, and Hog Situation.

The committee of economists and statisticians called by Secretary of Agriculture Wallace to consider the foreign and domestic demand for farm products, and particularly the wheat, corn, and hog situation, issued the following report on July 12:

The foreign demand for American food-stuffs during the current marketing season will apparently not be as great as it was a year ago. Unless the foreign situation is very speedily cleared up and a definite turn for the better takes place in Europe it appears not improbable that Europe will have less buying power in our markets during the next crop year than she had during the last. It needs to be understood that foreign demand is not measured merely by volume of exports. The price at which this demand will be forthcoming is the important consideration.

Probable Reduction in Foreign Demand.

The principal reasons for the probable reduction in foreign demand: First, European food production is somewhat larger than last year, due principally to much more favorable crop conditions this year than last, while there is no apparent decline in the output of producing regions that compete with the United States for the European market.

Second, Europe's purchasing power this year is likely to be somewhat smaller than last year. While manufactured exports for the first half year have been appreciably larger than a year ago, the prospect for the second half year is less favorable. There has developed a slight recession of business in leading commercial countries, and the foreign situation has lately been producing serious

economic consequences. European earnings from shipping and other services show little improvement, while credits extended to European countries are much below those of a year ago.

Domestic Demand.

In the United States we have had a very high level of industrial activity, distribution, and consumption. With certain exceptions, there is little evidence thus far of any considerable accumulation of goods, either on the shelves of merchants or in the jobbers' and producers' hands, and the facts as to the high level of production are clear. It seems clear that the home demand has been near to if not at a maximum. We can scarcely consume more of wheat and meat and other farm products than we have in the last year or more. The farmer can hardly now expect any immediate increase in the domestic demand. But with the present full volume of employment and high wages, there seems no prospect during the remainder of 1923 for a decrease in domestic demand for farm produce.

Furthermore, our credit position is unusually strong and more than equal to any demands which may be made upon it in the crop-moving season. There is no present prospect of any money stringency, or a rise in interest rates sufficient to affect business or the farmer unfavorably.

Changes in general business conditions affect the domestic demand for various agricultural products in differing degrees. Should a depression develop in urban industries, it follows, then, that the farmer will feel the effects to some extent. However, the probability of a severe depression in the near future seems to be slight. Any lessening in the industrial activity that may occur will, however, doubtless be accompanied by a reduced demand for choice cuts of meat, early vegetables, the more expensive fruits, milk, butter, etc. On the other hand, it will not decrease but may even increase the demand for the cheaper grades of food.

During the last five years certain forces have combined as to increase the supply that the price level of farm products has been kept below that of prices for other commodities. This situation has generated offsetting forces tending eventually to restore the former equilibrium, thus improving the position of the farmer. Among such forces is the migration of agricultural population to the city. There has recently been a distinct acceleration in this movement. This movement will, in the long run, add to the urban demand for foodstuffs and will eventually lessen the supply of

farm produce, thus tending to establish a more normal relationship between agricultural and other prices.

Marketing of the 1922 spring pig crop (just completed) were 30 per cent above the 1921 crop and 60 per cent above the pre-war. From the indications of the special Government hog report in June, the 1923 crop is fully as large as last year and there are prospects of continued heavy hog production well into the summer of 1924. This heavy hog production has wiped out the unusual corn surpluses resulting from the three large corn crops of 1920, 1921, and 1922. Unless there be a marked improvement in the 1923 corn crop, and in view of probable continued heavy hog production, a corn shortage may develop by the summer of 1924.

The corn-hog ratio declined from 18 to 8 bushels from the spring of 1922 to the midsummer of 1923, is now 25 per cent below average, and from present indications a ratio unfavorable to hogs will last into 1924.

During the first five months of 1923 the European nations have taken a decidedly larger quantity of our pork products at a higher price than seemed probable last January. In addition, favorable industrial conditions in the United States have resulted in the consumption of an unusually large quantity of pork at home which limited the decline.

The ability of the American public to continue the consumption of such large quantities of pork products without a serious price decline from the present level depends upon the maintenance of favorable industrial conditions.

Neither the corn situation, the prospective European demand, nor the domestic industrial outlook warrants the maintenance of the very heavy hog production of the past year.

The Wheat Situation.

The expansion in the wheat area of the chief exporting countries, coupled with the decreased buying power of western Europe, is responsible for the price situation which now prevails. This committee is less impressed with the immediate wheat-supply situation than it is with the future possibilities in case present exporting countries fail to readjust their acreage to offset increasing bread-grain production in Europe.

Owing to the World War, there was an enormous increase in the wheat acreage of the five principal exporting countries of the world outside of Russia and the Danubian countries. Since the peak of war production these exporting countries have decreased their acreage very slightly and are now growing 28,000,000 more acres of wheat than the pre-war

average. In view of the long-time prospects of the return of Russia and the Danubian countries as factors in the world wheat trade, as well as the increase in other exporting countries mentioned above, the American winter-wheat grower should take the first positive step this fall to adjust the winter-wheat acreage in accordance with this situation. There has been some reduction in the winter-wheat acreage of the United States, due to adverse weather conditions rather than to a change of planting policy on the part of the producers. However, the expansion remains about 14,000,000 acres above the pre-war average.

The best data available indicate a current wheat crop for the Northern Hemisphere moderately larger than that for 1922 for the same territory. On the other hand, the carry-over stocks for both importing and exporting countries are apparently not greatly changed from last year. The increase represents only a small percentage and might be wiped out entirely or increased by later developments in North American spring wheat or in the 1923-24 coming harvests in Australia and Argentina. Russia will not export grain in large quantities in the immediate future.

The facts that have been presented in this summary of the world agricultural outlook are well known in the trade and have been discounted in the markets.

The statistics in this report were assembled by the Department of Agriculture.

Committee.

H. G. Moulton, Institute of Economics, Washington, D. C.; B. M. Anderson, jr., Chase National Bank, New York City; H. W. Moorhouse, American Farm Bureau Federation, Chicago; George F. Warren, Cornell University, Ithaca, N. Y.; Carl Snyder, New York Federal Reserve Bank, New York City; W. I. King, National Bureau Economic Research, New York City; W. W. Stewart, Federal Reserve Board, Washington, D. C.; J. F. Ebersole, Federal Reserve Bank, Minneapolis; B. W. Snow, Bartlett-Frasier Co., Chicago; W. E. Grimes, Kansas Agricultural College, Manhattan, Kans.; Hilding E. Anderson, Case, Pomerooy Co., New York City; H. A. Wallace, secretary Corn Belt Meat Producers' Association, Des Moines; E. W. Wentworth, Armour & Co., Chicago; F. A. Pearson, Cornell University, Ithaca, N. Y.; E. G. Nourse, Iowa Agricultural College, Ames, Iowa.

Returns from farming on 6,094 farms is discussed in a preliminary mimeographed report prepared by S. W. Mendum, Bureau of Agricultural Economics.

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

CHINA DEVELOPS COTTON INDUSTRY.

A commercial cotton crop in China of 2,200,000 bales is in prospect, according to a cablegram received by the Departments of Agriculture and Commerce from the commercial attaché at Peking. The report gives the official forecast at 10 per cent more than last year's crop of 2,000,000 bales. Strenuous efforts are being made in China to promote the further development of the cotton industry in that country.

VACCINATION COSTS 10 CENTS PER HEAD.

It is estimated by the Bureau of Animal Industry that it will cost approximately 10 cents a head to vaccinate cattle for hemorrhagic septicemia exclusive of any charge that may be made for handling the cattle to and from the vaccination yards. It was recently announced that arrangements had been completed to commence the vaccination of feeder and stocker cattle at public stockyards against this disease following a conference at Chicago. Funds for this work have been advanced by several stockyards agencies.

EUROPEAN BOUNDARIES CONFUSING.

The shifting of large agricultural areas from one country to another in Europe following the war and the breaking up of large estates into small farms have made it difficult for agricultural statisticians to compare current crop reports with pre-war figures, according to the department. Department people are now studying the agriculture of specific countries as at present constituted.

SOIL SPECIALIST TO STUDY RUBBER.

H. H. Bennett, of the Bureau of Soils, has been assigned by the department to accompany a party being sent in cooperation with the Department of Commerce to investigate rubber production in Central America. A soil specialist is also accompanying another party studying rubber in Brazil.

TWO SALES OF TIMBER PENDING.

Two large timber sales are now pending, according to the Forest Service. One of the sales involves about 2,000,

000,000 board feet of pulp wood in Alaska. Bids will be received for this timber up to July 31. The second sale involves about 121,000,000 board feet of the sugar and yellow pine type on the Plumas National Forest in California. The advertising period for this sale expires August 1.

CHARGES DECLARED DISCRIMINATORY.

The stockyards companies at Chicago and Omaha have been exacting a service and weighing charge equal to one-half the regular yardage on all live stock weighed over their scales the second and successive times, with, however, certain exceptions in which no charge was made. These exceptions made the charges discriminatory, according to an order of the Packers and Stockyards Administration, and the companies were ordered to cease the practice.

WILL TEST WOOL SAMPLES.

A wool-scouring laboratory will be equipped by the Bureau of Agricultural Economics for ascertaining the shrinkage of wool. Tests of samples representing lots of wool will be made for wool producers and others connected with the industry. No charge will be made for these tests, but by performing the service the bureau expects to obtain valuable data on the shrinkage of various grades of wool produced under different climatic and soil conditions. This is said to be the first attempt to determine shrinkage of wool by grades and districts throughout the United States. L. C. Benedict has been transferred from the Bureau of Chemistry to assist in the work.

DEMAND FOR RAISINS STUDIED.

Factors influencing the demand for raisins are being studied by the Bureau of Agricultural Economics in cooperation with the raisin growers' cooperative association. Kenneth H. Berst, assistant marketing specialist, and Gerald W. Tasker, Dudley F. Kimball, and William W. Heusner, temporary field assistants, have gone to Pittsburgh to undertake field work. The study will consist of gathering information on various factors which influence the consumption of raisins, including advertising, wholesale and retail methods of distribution, and practices followed by consumers in home cooking and baking. Consumer surveys of this character have been made in Boston and Washington and will be undertaken in other large cities during this summer.

Decreased Production of Certain Crops Indicated

The general crop outlook is fair, but there is no evidence of overproduction of cereal crops as compared with the 1917-1921 average, according to the monthly agricultural review issued by the department. Decreased production as compared with the five-year average is shown in the case of wheat, corn, oats, and rye. Increases are estimated for barley, apples, and peaches. An accumulation of meat animals is also reported.

The movement and current prices of hogs and cattle are logical evidences of the accumulation of meat animals in the country, the review states. For two years old stock was freely disposed of because it was not worth keeping, but young stock was increased because when feed was cheap enough to burn the natural way to carry it over was in young, growing animals, it is explained. This had the effect of rather less stock in market a year ago, but more now, the review states.

The department's index of purchasing power of a unit of farm products in terms of other commodities that farmers buy is placed at 71 for May, as compared with 70 in April and with 73 in May, 1922. The trend of purchasing power has shown a steady advance since August, 1922, when the index figure was 64.

PROMISING WIREWORM BAIT FOUND.

Investigators connected with the tobacco insects laboratory at Clarksville, Tenn., recently made the interesting discovery that the tobacco wireworms (elaterid larvæ), which had hitherto stubbornly resisted all efforts at direct control, was yielding to the lure of nitrobenzene as a poisoned bait flavoring. In five series of large-scale experiments in tobacco fields they were able to reduce wireworm infestation from 50 to 60 per cent by the use of this chemical as a bait flavoring. It is believed that further experimentation may result in the development of a satisfactory direct method for the control of these larvæ.

The St. Louis U. S. D. A. Club gave a picnic on the afternoon and evening of July 4 at Forest Park. Invitations were extended to all employees of the department and their families, and about 200 attended. Refreshments were served and various games played; everyone had an enjoyable time.



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OFFICIAL ANNOUNCEMENTS.

Memoranda of the Secretary.

Representative on Real Estate Board.

MEMORANDUM No. 441. June 30, 1923.—Effective July 1, 1923, Mr. R. M. Reese is designated as representative of the department on the Federal Real Estate Board, relieving Mr. R. V. Bailey. All business in connection with the Real Estate Board heretofore conducted by Mr. Bailey will be handled by Mr. Reese.

MEMORANDUM No. 442. June 30, 1923.—I am designating the Assistant Secretary of Agriculture, in addition to his regular duties, to serve as acting director of extension work beginning July 1 and to continue until such time as a permanent appointment is made in that position.

Amendment to Paragraph No. 133, Administrative Regulations.

MEMORANDUM No. 443. July 2, 1923.—Effective July 1, 1923, the first sentence of paragraph No. 133, Administrative Regulations, is amended to read as follows:

"Applications for leave of absence without pay for 30 days or less will be made on the form 'application for leave' prescribed by the department and may be approved by the chief of bureau. Chiefs of bureau may, in their discretion, authorize chiefs of field stations to approve applications for leave of absence without pay for 30 days or less. After the granting of 30 days' leave without pay under this authority all applications for additional leave without pay in the same calendar year, whether for more or less than 30 days, will be submitted through the chief of bureau to the chief clerk of the department, stating previous leave granted. Leave without pay will be granted only when the work of the Government will not suffer thereby, and each application for such leave shall explicitly state the necessity therefor." The remaining provisions of paragraph No. 133 are not hereby amended.

START WORK ON 1923 YEARBOOK.

The statistical committee of the Yearbook has begun the compilation of material for the 1923 issue. Inasmuch as the 1922 book will serve as a guide in formulating the next issue, Acting Secretary Pugsley issued a memorandum on July 6 asking for criticism of the statistical ap-

pendix. This should cover the appendix from the viewpoint of contents, arrangement, form of presentation, errata, inconsistencies, omissions, and the like.

Bureau chiefs have been asked to submit an outline of statistics under preparation or capable of summarization which are considered desirable for inclusion in the 1923 issue by August 1. Preliminary tables, indicating the volume of material to be submitted, should be presented not later than September 15.

AGRICULTURAL EDITORS MEET.

Eighteen States were represented at the eleventh annual conference of the American Association of Agricultural College Editors held at the New Jersey State Agricultural College, New Brunswick, June 25-28, which was also attended by representatives of the Division of Publications and the office of cooperative extension work of the Department.

The relation of the agricultural college editor to the extension service, types of publications and agricultural news, good photographs and their uses, and reading matter for farm papers were among the subjects discussed.

In a competitive exhibit of printed material published during the year by each institution, which is a feature of the annual meeting, Ohio won first place with a total of 26 points, New York won second with 20 points, and New Jersey third with 16 points.

VISITS BOLL-WEEVIL STATION.

Dr. E. D. Ball, accompanied by Dr. A. L. Quaintance, recently visited the boll-weevil station at Florence, S. C., which is being conducted by the Bureau of Entomology in cooperation with Clemson College. A visit was also made to the extensive plant-breeding farms of David R. Coker, Hartsville, S. C.

ACTIVITIES OF B. A. I. VARIED.

From its original beginning as a veterinary organization, established to conduct research work in animal diseases and to enforce measures for their control, the Bureau of Animal Industry has grown into an organization which conducts many and various lines of work relating to animals and animal products. A summary of the comment contained in the agricultural press of the United States relating to the bureau's work shows that this is true. For the six months ended June 30, 1923, work relating directly to the control of animal dis-

eases received considerably less than one-half of the total publicity given the bureau's work. Some of the more popular educational work is the better-sires campaign, cow-testing work, and market-milk activities.

G. W. FORSTER RETURNS TO DEPARTMENT.

G. W. Forster, formerly acting chief of the office of farm management and farm economics, has been reinstated in the Bureau of Agricultural Economics, where he will devote his attention to research in production statistics. Mr. Forster spent the past year at Harvard University and the University of Wisconsin, receiving the degree of Ph. D. from the latter institution last month.

STUDENTS VISIT DEPARTMENT.

Students in nutrition classes of George Washington University, accompanied by their instructor, Margaret B. Evans, spent a part of July 6 in the office of cooperative extension work studying the nutrition activities carried on by extension agents as a part in a schedule of tours to the various bureaus of the department engaged in work or having facilities of interest to such students.

The portion of county extension programs of work allotted to nutrition, the type of subject matter and methods of instruction employed by home demonstration agents in their extension teaching, and the relationship between the teaching work of the resident instructor in home economics and that of the home demonstration agent, were among the subjects discussed with the students by members of the staff.

Details of the visit of Secretary Wallace to the Portland (Oreg.) U. S. D. A. Club on July 4 have reached this office. John D. Guthrie, secretary-treasurer, writes that the Secretary addressed about 200 employees of the department and was later introduced to each one. At 6 p. m. the club tendered a dinner to the Secretary, Mr. Bain, and Col. W. B. Greeley at the University Club. There were 37 present. During the dinner each one rose, gave his name, bureau, or particular line of work engaged in. After the dinner the Secretary was taken for a drive over a part of the Columbia River Highway.

The National Elevator Co. of Indianapolis, Ind., has been licensed under the United States warehouse act to operate a 380,000-bushel terminal elevator at that point.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. How is Federal road aid apportioned to the several States?

Answer. Each appropriation made by Congress for Federal aid in the construction of rural post roads is allotted by the Secretary of Agriculture to the various States in proportion to their area, population, and mileage of rural post roads and star routes. One-third of each appropriation is divided in the ratio that the area of each State bears to the total area of the United States, another third is divided in the ratio that the population of each State bears to the total population, and the third portion is divided in the ratio that the mileage of post roads and the star routes in each State bears to the total mileage of the United States.

Question. What is the best way for a farmer to obtain weather forecasts?

Answer. It will depend on his location and mail and telephone facilities. Practically every daily newspaper publishes the forecasts, and the Weather Bureau telegraphs them to rural telephone lines in nearly all the States for the specific purpose of making them available to subscribers. If neither of these services is accessible they can be obtained by radio-telephone. Weather forecasts are now broadcast daily at intervals by 132 stations covering nearly all parts of the country. Write to the Chief of the Weather Bureau, Washington, D. C., and information will be furnished promptly as to the nearest radio station making the broadcasts, the wave length used, and the broadcasting hours.

Question. Will there be any open season on wood duck in any part of the United States?

Answer.—There will be no open season on wood duck in any part of the United States during the hunting season of 1923-24. Section 2 of the migratory bird treaty act prohibits the taking or killing of any migratory bird, except as permitted by regulation. The regulations as they now stand provide for no open season on wood duck, and until such a regulation is promulgated and adopted the season will remain closed. Answers to questionnaires sent out by the Biological Survey show a very gratifying increase of this beautiful game bird in most sections, but do not show them

sufficiently abundant in any section to permit an open season at this time. The game officials of Canada have reached the same conclusion, and there will likewise be no open season on wood duck in Canada the coming fall.

Question. What cost of production studies are now being made by the department?

Answer. The Bureau of Agricultural Economics is securing annually through its crop reporting service cost of production figures covering the principal crops for the entire United States—corn, wheat, oats, hay, cotton, tobacco, and potatoes. This information is being gathered with the intention primarily to show the yearly changes in crop costs by means of indexes. The bureau is also carrying on in cooperation with 15 State colleges and experiment stations 22 cost accounting routes covering approximately 500 farms. On these farms the details of the entire farm business and the costs of everything produced are obtained by frequent visits of a route man. Costs are also being secured on hogs, winter-fed steers, grass cattle, range cattle, dairy products, wheat, cotton, tobacco, cane sugar, and strawberries from a total of 2,080 farms. In addition to the dollars and cents costs upon the above-listed farm products permanent records are made of the basic factors of cost in the production of each, such as quantities of feed, hours of labor, kind and size of equipment, together with yield and quality of these products on each farm.

Question. Are most forest fires caused by lightning?

Answer. No. On the contrary, nearly all forest fires are caused by human agencies. Careless and thoughtless campers, hunters, fishermen, automobilists, picnickers, and other users of the forests cause most of the fires. Farmers who carelessly start brush fires also are responsible for many fires. One of the main purposes of forest protection week, which was observed from April 22 to April 28, was to inform the public concerning the great destruction of our forests by fires and to instruct the public how these fires could be avoided.

Question. I am using a pressure cooker for canning and cooking. How many pounds shall I use for cooking meat?

Answer. From 10 to 15 pounds' pressure is required for meat. Both the pressure and the length of time for cooking depend somewhat on the size, shape, and toughness of the meat. A thick solid piece without bone takes much longer than the same amount of meat cut up in small pieces and longer than a piece

containing a bone. A stewing fowl or even a rooster can be cooked sometimes in 25 or 30 minutes in the steam pressure cooker at 15 pounds pressure.

Trend in Hog Production Shown in Extensive Report

Interesting figures showing the trend in hog production for the present year as compared to that of last year have recently been issued by the Crop Reporting Board in a special swine report. The information upon which the report is based was gathered by rural mail carriers from 140,000 hog raisers in all parts of the country, under the direction of the board in conducting a swine survey.

The survey shows a probable continuance this year of the tendency to increase fall breeding proportionately more than spring breeding. This tendency has been evidenced both by the market receipts and farm reports for the past two years, especially in the Corn Belt, and is making for a more uniform monthly distribution of market receipts throughout the year.

Of the pigs farrowed during the first six months of the present year an increase of nine-tenths of 1 per cent in the number of pigs saved, as compared to the number saved during the same period last year, is indicated by the survey. The number of sows farrowing in the spring of this year was 3.9 per cent greater than in the spring of last year.

For fall pigs, hog raisers have expressed an intention to breed 28.3 per cent more sows than farrowed last fall. The department points out, however, that last year the actual farrowings ran less than the expressed intention to breed. Producers in the Corn Belt States alone last June (1922) expressed an intention to increase fall breeding by 49.3 per cent, but actual increase in farrowing was only 27.8 per cent.

The report concludes that, on the basis of the information gathered in this survey, provided that the mortality is no greater from now on than it was last year, the commercial supply of market hogs, over four-fifths of which comes from the Corn Belt, from the spring crop of 1923 should be about as large as that of the spring crop of 1922, the movement of which, with the exception of sows retained for breeding, is now ended. If expressed intentions as to fall breeding are carried out, even to the proportional extent of last year, the fall crop this year, which will be marketed next summer, will be larger than that of last, both in the Corn Belt and in the country as a whole.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

WEATHER SERVICE WORK EXTENSIVE.

The observations and forecasts of the Weather Bureau cover the largest area of land and sea of any similar service in the world. They include continental United States, Alaska, and all the important bodies of water touching American shores or immediately affecting American waters. The Atlantic Ocean, the Gulf of Mexico, the Caribbean Sea, the Pacific Ocean, the waters of Alaska, and the Great Lakes are all under constant observation by shore observers and ships, which report weather phenomena on the water by wireless to the nearest Weather Bureau station or direct to Washington. These ships also receive warnings of storms, hurricanes, or other dangerous conditions. In addition, the Weather Bureau collects, exchanges, and redistributes by wireless all possible information on world weather conditions indicated by reports from far-distant parts of the globe.

Great Britain regards climatology and meteorology from the angle of maritime rather than agricultural interests. France at present gives a great deal of attention to investigations of value to fliers. Norway is doing a very fine work in polar research. Meteorology in America is applied to the everyday needs of every person in every conceivable walk of life, but in particular to those engaged in agriculture. In no country in the world can the farmer depend so completely on a weather bureau like ours for frost warnings, lest he plant too soon; for rain and storm warnings to protect his crops or live stock; for harvest forecasts, telling him when to expect fair days for getting in his crop. He knows that shippers' forecasts will enable the various transportation agencies to save his perishables, whether fruit, vegetables, or live stock, in transit.

The live-stock man in the Great Plains or in the Rocky Mountain States, the orchardist in New Mexico, the owner of the cranberry bog on Cape Cod have all learned the value of cold-wave warnings issued by the Weather Bureau. Ships scurry for shelter before the hurricane warnings from the Gulf of Mexico. A ship that disregards the Weather Bureau's storm signal on the Great Lakes can collect no insurance if damaged. Receiving immediate word of the coming of heavy snow or even extremely cold

weather gives railroads a chance to have extra workmen ready and to take other steps to keep the tracks clear. River and flood warnings down the Mississippi and other great river valleys habitually flooding in the spring enable engineers to strengthen protection for vast acreages of valuable crops.

American meteorologists are by no means behind those of other nations in research work. Of primary importance are our investigations of upper air conditions of temperature, humidity, wind direction and velocity, and other matters of direct benefit to aviation. Studies of cyclones and anticyclones contribute to an understanding of normal weather conditions. No other nation has undertaken to chart meteorological reports from such widely separated areas as the United States Weather Bureau, which is charting records from western Europe to eastern Asia, from the Philippine Islands to the Panama Canal and Alaska. An important study of the relations between weather and crop yields is going on at the present time.

WITH EXTENSION FORCES

ALFALFA SUCCEEDS IN MINNESOTA.

"Learn to feed—then breed," the slogan of the dairy extension specialists of the Minnesota Agricultural College, is being well put to use in Ottertail County in west central Minnesota. This county is in the great dairy section of the State, producing more dairy products than any other county. However, there is a noticeable lack of production of the protein feeds. Dairymen are constantly purchasing feed the equivalent of which can be produced on their own farms.

As it appeared to the county agent, the greatest need of the farmers was help in producing a balanced ration on their own farms. Alfalfa was the solution to this problem, so it was decided to put on an alfalfa campaign, introducing this valuable legume on as many farms as possible.

To insure the use of good seed at as low a cost as possible, the farmers of the county were assisted in procuring practically 4 tons of certified Grimm alfalfa seed. The local farm bureau handled the seed required. This was scarified and put up in 12-pound packages, the amount recommended to sow an acre.

Samples of soil brought in from different parts of the county were tested for acidity. It was found with few exceptions that there was sufficient lime in the soil, but for those who needed it marl beds were located where the lime could be obtained at a nominal cost.

The campaign was launched in November, 1922. A farm crop specialist from the State college was secured and meetings held throughout the county. After such meetings the farmers had a chance to sign up for the amount of seed they would plant. During the entire winter alfalfa was talked up at all meetings, and the campaign was advertised in local papers and by attractive posters. This spring an alfalfa special was published. This contained articles written by specialists and by local men who had been successful in growing alfalfa. This paper was financed by the banks of the county and proved itself of great value in increasing the acreage planted.

In all 250 cooperators who had never planted alfalfa before were supplied with seed through the Farm Bureau office, planting a total of 650 acres, the areas planted ranging in size from 1 to 10 acres. Many more farmers obtained seed from other sources. It has been estimated that there is an increase of 1,200 acres over the entire acreage of 590 acres, which was last year's alfalfa acreage in east Ottertail, where this campaign was carried on.

Aided by favorable weather conditions, the plots are coming through the year making a very good showing. It is the expectation of the county agent that as the value of the crop as dairy feed becomes better known cooperators will enlarge their plots and other dairymen, not so easily convinced, will plant alfalfa, and that in years to come this alfalfa project will prove of immeasurable value to local dairymen.

The Farm Organization and Settlers' Progress Party, made up of representatives of the Bureau of Agricultural Economics and of the State in which the survey is conducted, has completed its work in Montana and during this month will take up the survey in Colorado and North Dakota. E. O. Wooton, division of land economics of the bureau, is in charge of the work in Colorado, and L. A. Reynoldson, division of farm management of the bureau, heads the party working in North Dakota. Upon completion of the work in these States, surveys will be conducted in Kansas and South Dakota. These surveys include a study of problems of land utilization, the progress settlers have been making, and the system of farm management adapted to physical and economic conditions.

Expenditures totaling \$80,800 of the road fund for construction work on roads serving the national forests in Colorado have been approved by the Secretary.

BRIEF REVIEWS OF NEW BULLETINS.

Distribution of Types of Farming in the United States. By W. J. Spillman, consulting specialist, Bureau of Agricultural Economics. Pp. 30, figs. 5. May, 1923. (Farmers' Bulletin 1269.)

The forces which control the type of farming in any locality may be divided into three chief groups—the physical, biological, and economic factors. Soil and climatic conditions are physical factors that influence the type of farming appreciably. Differences in the character of the soil explain the sudden changes in the type of farming which one sees in traveling across a county or a State. Temperature is a climatic factor limiting the northern distribution of cotton and corn and the southern distribution of wheat. Rainfall and length of growing season are other important climatic factors.

Among biological factors are the effect of the boll weevil on cotton acreages, the chinch bug on corn, the Hessian fly on wheat, rusts which attack oats and wheat where rainfall is heavy. The most important economic factors are the value per pound of a product and the cost of transportation to market. Another is competition with regions that can produce more cheaply. A thorough understanding of the forces controlling the local type of farming is necessary to success.

The Wheat Strawworm and Its Control. By W. J. Phillips, entomologist, and F. W. Poos, assistant entomologist, cereal and forage insect investigations, Bureau of Entomology. Pp. 9, figs. 12. May, 1923. (Farmers' Bulletin 1323.)

The wheat strawworm is distributed throughout the wheat-growing regions of the United States and ranks high in importance as an insect enemy of wheat, often destroying whole fields of spring wheat. Two complete generations occur each year. The first generation kills outright each tiller of wheat which it infests. The second generation causes considerable loss in yield to winter wheat and kills outright the tillers of spring wheat which it attacks.

Several parasites and predacious enemies of this pest aid in preventing losses, but can not be relied upon for complete and effective control. The pest can be controlled by planting wheat 65 to 75 yards from any straw or stubble of the previous season and in regions where spring wheat is grown by destroying all volunteer wheat to prevent reinfestation from this source.

The Boll-Weevil Problem. By W. D. Hunter, entomologist in charge, and B. R. Coad, entomologist, southern field-crop insect investigations, Bureau of Entomology. Pp. 30, figs. 5. June, 1923. (Farmers' Bulletin 1329.)

In spite of the fact that the boll weevil is now distributed over almost all the important cotton-producing sections, nature assists in preventing excessive multiplication, and efficient control methods aid the cotton planter to obtain a fairly satisfactory yield. Heat and insects that prey upon the weevil are the most conspicuous natural control agents. Direct control is effected by poisoning with calcium arsenate, provided due attention is given to the methods of application recommended by the department and to the cultural practices to which poisoning is supplementary. Practically all that is known about combating the boll weevil, its life history, origin, spread, and present distribution, is embodied in the bulletin.

Soil Survey of Red River County, Tex. By William T. Carter, jr., J. O. Veatch, M. W. Beck, H. V. Gelb, H. C. Mortlock, and C. E. Deardorff, of the U. S. Department of Agriculture, and H. W. Hawker, J. F. Stroud, and W. B. Francis, of the Texas Agricultural Experiment Station. Pp. 53, fig. 1, map. (From F. O. Soils, 1919.)

With the completion of the soil survey of Red River County, another 1,039 square miles of Texas has been mapped and the soil types located. Red River County lies in the north-eastern part of the State, in the second tier of counties from the eastern boundary and separated from the State of Oklahoma by the Red River on the north.

The interests of Red River County have been wholly agricultural since the beginning of settlement in 1825. The first crops grown along the Red River consisted of corn and vegetables, followed a little later by cotton and wheat. Hogs and cattle are raised and pastured on the open prairie and forest lands. Soon after settlement was established cotton became the chief cash crop, and it has remained so to the present time. Probably 60 or 70 per cent of the land farmed is used for this crop.

The price of farm land has advanced rapidly in the last few years and continues to increase. The less desirable forest uplands bring the lowest prices, from \$15 to \$50 per acre. Improved upland farms in the forest section sell for \$40 to \$100 an acre. Farm land on the prairies sells for \$150 to \$300 an acre, and improved bottom land for \$50 to \$100 an acre.

Soil Survey of the Shasta Valley Area, California. By E. B. Watson, of the United States Department of Agriculture, and M. E. Wank and Alfred Smith, of the University of California. Pp. 54, fig. 1, map. (From F. O. Soils, 1919.) Price, 25 cents.

The earliest settlers came to the valley in 1851 to 1853. As in other sections of California upon the discovery of gold, the population increased rapidly. To meet the sudden demand for food, the most available parts of the valley were plowed and planted to grain, chiefly wheat. An equally strong demand for horses arose. Miners traveling from the valley to the mountains were willing to pay any price for suitable saddle animals. The agricultural members of the community imported and pastured large herds of horses. As the mining population increased agriculture also increased. With the building of the railroad in 1888 agriculture developed more intensively.

The farms in the Shasta Valley area have grown fewer in number and larger in acreage during the last 10 years. The original ranch owners have prospered, and consequently the tendency is to enlarge the holdings. The average ranch contains between 500 and 1,000 acres, and there are several very large ones. Three centers exist about which smaller farms of 20 to 160 acres have been developed. These farms are devoted mainly to dairying and alfalfa production.

Soil Survey of Madison County, Nebr. By F. A. Hayes, and L. S. Paine, of the U. S. Department of Agriculture, and D. L. Gross and O. M. Krueger, of the Nebraska Soil Survey. Pp. 48, fig. 1, map. (From F. O. Soils, 1920.)

With the completion of the soil survey of Madison County, only 22 counties in Nebraska remain unsurveyed. The report of the survey gives a ready reference to the location and extent of the various types of soil found in the county, as well as an interesting discus-

sion of the kind of agriculture practiced in the county, climatic conditions, and other facts of interest.

Madison County is situated in the north-eastern part of Nebraska, is almost square in outline, and comprises an area of 576 square miles. It has a rolling to sharply rolling topography, except on the broad flat terraces of the rivers and creeks. The climate is well suited to grain farming and stock raising. The long, warm summers are especially favorable for corn, and though the winter temperature is sometimes quite low, crops seldom suffer from winterkilling, owing to the protection of snow.

According to the 1920 census, 87.7 per cent of the county is in farms. The farms vary considerably in size, ranging from less than 50 acres to about 2 miles square. Most of them, however, contain between 80 and 320 acres. In 1920, 54.1 per cent of the farms were operated by owners and 44.4 per cent by tenants. Prices of farm land in the county range from \$100 to \$350 an acre, with an average of about \$150.

ADDITIONAL PUBLICATIONS.

Farm Operations. Compiled by O. A. Juve, Bureau of Agricultural Economics. Pp. 1045-1078. (Separate 890, Yearbook 1922.) Price, 5 cents.

Miscellaneous Agricultural Statistics, 1922. Compiled by Nat. C. Murry and Lewis B. Flohr, Bureau of Agricultural Economics, and Preston C. Day, Weather Bureau. Pp. 983-1044. (Separate 887, Yearbook 1922.) Price, 10 cents.

REPRINT BULLETIN ON DAIRY COWS.

Because of the large demand for Department Bulletin 1069, a reprint was ordered and is now ready for distribution. The bulletin is entitled "Relation of Production to Income from Dairy Cows." Everybody should know that low-producing cows are usually unprofitable and that high producers are usually profitable. This bulletin classifies cows according to production and tells how much more income above feed cost may be expected from the higher-producing dairy cows. It also shows clearly that it pays the dairy farmer to belong to a cow-testing association that he may know the records of his cows and feed according to production. For free copies address Department of Agriculture, Washington, D. C.

Cost of producing Virginia dark fire-cured and bright tobacco in Charlotte and adjacent counties, Virginia, during the crop year 1922 is outlined in a preliminary mimeographed report issued by the Bureau of Agricultural Cooperation in cooperation with the Virginia Agricultural College and Polytechnic Institute. A. P. Brodell is the author.

Florida white potato deal for 1923 is the subject of the first field station summary released by the Bureau of Agricultural Economics this year. The summary was prepared by J. D. Evers.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Book of ice-cream. New ed. By W. W. Fisk. New York, Macmillan company, 1923.
- Brewers' almanack and wine and spirit trade annual for 1923 (30th year). London, 1923.
- Care of shade trees; requirements, diseases, insects and their control, and tree surgery. By H. V. S. Lord. Altoona, Pa., from the Altoona Mirror, August 26, 1922.
- La colonisation en Algérie, 1830-1921. Algeria. Direction de l'Agriculture, du commerce et de la colonisation. 1922.
- Estudo sobre a circulação e fomento de productos agricolas no paiz. Mercados. Custo de vida em relação aos artigos de alimentação. Brazil. Ministerio de agricultura, industria e commercio. Serviço de inspeção e fomento agricolas. Rio de Janeiro, 1922.
- International cotton conference. Resolutions of the International cotton conference, held in Rio de Janeiro from 15th to 20th October, 1922. Rio de Janeiro, Baptista de Souza, 1922.
- Mrs. Beeton's household management. New ed. By Isabella Beeton. London, Ward, Lock & Co., Ltd., 1923.
- La réforme agraire en Tchéco Slovaquie. Prague, 1922.
- Researches on the root disease of sugar cane. By B. A. Bourne. Barbados. Dept. of agriculture. [n. p.] Advocate co., Ltd. [1922?]
- Résumé du cours d'analyse physico-chimique du lait, à l'usage des étudiants en médecine vétérinaire. By A. V. Eeckhout. Ixelles-Bruxelles, G. Bothy, 1923.
- Über die gerbstoff- und anthocyanen behälter der fumaricinen und einiger anderen pflanzen. Von W. Zopf. Cassel, T. Fischer, 1886.
- Die weberknechte der erde, systematische bearbeitung der bisher bekannten Opliones. Von C. F. Roewer. Jena, G. Fischer, 1923.

THESES.

- Influence of certain amino acids upon the enzymic hydrolysis of starch. By Florence Walker. New York, 1922.
- Kalibermessungen der nervenfaseren einiger haustiere. Von Ernst Schmid. Bern, Verfassers, 1922.
- De kwantitatieve botanische analyse van veevoermiddelen. Von J. A. Ezendam. 'S-Gravenhage, J. & H. van Langenhuysen, 1921.
- Die operative heilung des zungenspiels beim rinde. Von Heinrich Strub. Pratteln, A. Bopp, 1921.
- Ozonisieren van fabrieksproducten der suikerindustrie. Von C. W. Schonebaum. Amsterdam, A. H. Kruyt, 1921.
- Recherches sur les matières sèches du sang dans différentes races chevalines en Suisse. Par André Allemand. Bieene, C. Schweizer, 1922.
- Stabilization of the foreign exchanges. By R. M. Jaeger. New York, 1922.
- Studien über biometrik und vererbung des milchspiegels bei der kuh. Von Josef Bruun. Hannover, M. & H. Schaper, 1921.

CURRENT PERIODICALS.

- Black and white bugle [monthly] Published by the Holstein-Friesian cooperative association of New Jersey. New Brunswick, N. J., 1923.
- Country life bulletin [monthly] New York, 1923.
- Rivista di diritto agrario [quarterly] Firenze, 1923.
- Weinbau und kellerwirtschaft [semi-monthly] Freiburg im Breisgau, 1922.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the two weeks June 25-July 7, 1923. These publications can be obtained only from the stations issuing them.

- Spray Calendar. W. E. Britton and G. P. Clinton. (Connecticut Sta. Bul. 244, pp. 183-226, figs. 94, Jan., 1923.)
- Results of Dusting Versus Spraying in Connecticut Apple and Peach Orchards in 1922. M. P. Zappe and E. M. Stoddard. (Connecticut Sta. Bul. 245, pp. 229-243, Feb., 1923.)

- The Apple and Thorn Skeletonizer. B. A. Porter and P. Garman. (Connecticut Sta. Bul. 246, pp. 245-264, pls. 4, figs. 3, Feb., 1923.)
- Bulletin Summary. (Massachusetts Sta. Circ. 70, pp. 3, Apr., 1922.)
- Factors Which Affect the Volatility of Nicotine from Insecticide Dusts. R. W. Thatcher and L. R. Streeter. (New York State Sta. Bul. 501, pp. 34, Mar., 1923.)
- The Aphiscidal Properties of Tobacco Dust. G. F. MacLeod and S. W. Harman. (New York State Sta. Bul. 502, pp. 18, pls. 3, Apr., 1923.)
- Final Report on the Cooperative Experiments in Orchard Fertilization. R. C. Collison and J. D. Harlan. (New York State Sta. Bul. 503, pp. 30, Apr., 1923.)
- Wheat: Continuous With and Without Manure. M. A. Beeson. (Oklahoma Sta. Bul. 140, pp. 15, figs. 4, Apr., 1921.)
- Cotton Variety Tests, With Suggestions for Growing Cotton Under Boll Weevil Conditions. G. Briggs. (Oklahoma Sta. Bul. 141, pp. 15, Jan., 1923.)
- Sheep Feedlug Investigation: Wintering Breeding Ewes. A. E. Darlow. (Oklahoma Sta. Bul. 142, pp. 8, Mar., 1922.)
- The Effect of Lime and Organic Matter on the So-called Hardpan Subsoils. M. A. Beeson and H. F. Murphy. (Oklahoma Sta. Bul. 143, pp. 7, Mar., 1922.)
- Effect of Protein and Mineral on the Development of Swine. C. P. Thompson. (Oklahoma Sta. Bul. 144, pp. 27, figs. 9, May, 1922.)
- Oats. Rotation v. Continuous Culture. H. F. Murphy. (Oklahoma Sta. Bul. 145, pp. 8, figs. 2, Mar., 1922.)
- Roup in Poultry. J. E. Guberlet. (Oklahoma Sta. Circ. 51, pp. 3.)
- Common Smuts and Their Treatment. A. Daane. (Oklahoma Sta. Circ. 52, pp. 3.)
- Suggestions Relative to the Boll Weevil. C. E. Sanborn. (Oklahoma Sta. Circ. 53, pp. 16, figs. 11.)
- Better Seed Potatoes for Oklahoma. W. A. Radspinner. (Oklahoma Sta. Circ. 54, pp. 7, Jan., 1923.)
- Official Testing of Dairy Cattle in Oregon. H. N. Colman. (Oregon Sta. Circ. 41, pp. 38, May, 1923.)
- Insect Pests and Diseases of Currants and Gooseberries. A. L. Lovett and H. P. Barss. (Oregon Sta. Circ. 42, pp. 12, figs. 6, June, 1923.)
- Grape Growing in Oregon. C. E. Schuster. (Oregon Sta. Circ. 43, pp. 16, figs. 5, June, 1923.)
- Crop Rotation and Soil Fertility. W. L. Powers and C. V. Ruzek. (Oregon Sta. Circ. 44, pp. 12, fig. 1, June, 1923.)
- Hungarian Vetch in Oregon. H. A. Scoth. (Oregon Sta. Circ. 64, pp. 4, June, 1923.)
- Drainage and Improvement of White Land and Similar Wet Land. A. L. Powers. (Oregon Sta. Circ. 47, pp. 8, figs. 2, June, 1923.)
- The Chinch Bug. H. C. Severin. (South Dakota Sta. Bul. 202, pp. 561-576, figs. 2, Apr., 1923.)
- Citrus Blast and Black Pit. H. S. Fawcett, W. T. Horne, and A. F. Camp. (California Sta. Tech. Paper 5, pp. 36, pls. 6, May, 1923.)
- Two Common Weeds that Cause Death. A. A. Hansen. (Indiana Sta. Circ. 110, pp. 8, figs. 4, Feb., 1923.)
- Corn Substitutes for Fattening Lambs. J. M. Eyard, R. Dunn, and C. C. Culbertson. (Iowa Sta. Bul. 210, pp. 205-229, figs. 11, Mar., 1923.)
- A Comparison of Roughages for Milk Production. A. C. McCandlish and E. Weaver. (Iowa Sta. Bul. 212, pp. 274-286, Mar., 1923.)
- Blackleg Vaccines: Their Production and Use. J. P. Scott. (Kansas Sta. Tech. Bul. 10, pp. 24, June, 1923.)
- Studies in the Nutrition of the Strawberry. V. R. Gardner. (Missouri Sta. Res. Bul. 57, pp. 31, Mar., 1923.)
- Feeding for Egg Production. H. L. Kempton. (Missouri Sta. Circ. 111, pp. 12, figs. 4, Apr., 1923.)
- The Spring Rabbit Brush: A Range Plant Poisonous to Sheep. C. E. Fleming, M. R. Miller, and L. R. Vawter. (Nevada Sta. Bul. 104, pp. 29, figs. 12, Sept., 1922.)
- The Low Larkspur: A Plant of the Spring Range, Poisonous to Cattle. C. E. Fleming, M. R. Miller, and L. R. Vawter. (Nevada Sta. Bul. 105, pp. 22, pl. 1, figs. 8, Apr., 1923.)
- Relation of the Composition of Rations on Some New York Dairy Farms to the Economics of Milk Production. E. G. Misner. (New York Cornell Sta. Memoir 64, pp. 46, figs. 6, Feb., 1923.)
- Fertilizing Apple Orchards: History of Station Experiment. (New York State Sta. Circ. 66, pp. 8, fig. 1, Mar., 1924.)

Articles in Current Publications By Department Workers

- Campbell, W. G. (Bureau of Chemistry). The food manufacturer's opportunity. Amer. Food Journal, vol. 18, No. 6, June, 1923.
- Caudell, A. N. (Bureau of Entomology). Grylloblatta in California. Canadian Entomologist, vol. 55, No. 6, pp. 148-150. June, 1923.
- Chambers, A. P. (Biological Survey). Capturing a couple of killers in the Wind Cave game preserve. Bull. American Game Protective Association, vol. 12, No. 3, pp. 4-6. July, 1923.
- Chittenden, F. H. (Bureau of Entomology). Notes on the distribution and habits of the North American Phylloreta (Coleop.) Proc. Ent. Soc. Wash., vol. 25, No. 5-6, pp. 131-139, pl. 10. May-June, 1923.
- Evenson, O. L. (Bureau of Chemistry). Results of further investigations of rcmade milk and milk powder. Eleventh Annual Report of International Assoc. of Dairy and Milk Inspectors. Spring, 1923.
- Godfrey, G. H. (Bureau of Plant Industry). Watch for alfalfa eelworm. Washington Farmer, vol. 48, No. 21, p. 10 (526). May 24, 1923. Also in Oregon Farmer, vol. 36, No. 16, pp. 6-7. April 19, 1923.
- Greene, C. T. (Bureau of Entomology). The larva and pupa of Microdon megalogaster Snow (Diptera). Proc. Ent. Soc. Wash., vol. 25, No. 6, pp. 140-141, 1 fig. May-June, 1923.
- Griffin, E. L. (Bureau of Chemistry). Emulsions of mineral oil with soap and water: The interfacial film. J. Amer. Chem. Soc., vol. 45, July, 1923.
- Hall, M. C. (Bureau of Animal Industry). Notes on the present status of anthelmintic medication. U. S. Naval Med. Bull., vol. 18, No. 6, pp. 673-679. June, 1923.
- Hamel, C. C. (Bureau of Entomology). Distribution record on Macronoctua ouusta Grote (Lepidoptera). Proc. Ent. Soc. Wash., vol. 25, No. 5-6, p. 141. May-June, 1923.
- Harrison, A. P. (Bureau of Plant Industry). Geometric progression in optically prepared standards. Journ. of Optical Soc. of America and Review of Scientific Instruments, vol. 7, No. 5, pp. 375-376. May, 1923.
- Note on preparing color standards. Science, N. S., vol. 57, pp. 716-717. June 22, 1923.
- Heinrich, Carl (Bureau of Entomology). New Oletheutidae from eastern United States (Lepidoptera). Proc. Ent. Soc. Wash., vol. 25, No. 5-6, pp. 105-122. May-June, 1923.
- Hervig, R. (Bureau of Chemistry). The determination of fat in alimentary paste, flour, and dried egg. J. Assoc. Official Agr. Chemists, vol. 6, No. 4, May 15, 1923.
- Humphrey, C. J. (Bureau of Plant Industry). Decay of mine timber. Proceedings American Wood Preservers' Association, vol. 18, pp. 213-224. 1922.
- Jones, D. B. and Waterman, H. C. (Bureau of Chemistry). Studies on the digestibility of proteins in vitro. IV. On the digestibility of the cottonseed globulin and the effect of gossypol upon the peptic-tryptic digestion of proteins. J. Biol. Chem., vol. 56, No. 2, June, 1923.
- Keister, J. T. (Bureau of Chemistry). Methods for fat in malted milk and dried milk. J. Assoc. Official Agr. Chemists, vol. 6, No. 4, May 15, 1923.
- Nut margarines. J. Assoc. Official Agr. Chemists, vol. 6, No. 4, May 15, 1923.
- Martin, J. B. (Bureau of Animal Industry). The effect produced upon the fat of hogs by feeding fish meal. Journ. Assoc. Official Agr. Chemists, vol. 6, No. 4, pp. 498-501. May 15, 1923.
- Morrison, Harold (Bureau of Entomology). A report on a collection of Coccidae from Argentine II (Hemiptera: Coccidae). Proc. Ent. Soc. Wash., vol. 25, No. 5-6, pp. 122-126, pl. 9. May-June, 1923.
- Phillips, Max (Bureau of Chemistry). A synthesis of thymol from Para Cymene. II. J. Am. Chem. Soc., vol. 45, No. 6, June, 1923.
- Robinson, T. R. (Bureau of Plant Industry). Safeguarding the introduction of citrus plants through improved quarantine methods. Florida Grower, vol. 27, No. 24, pp. 6-7. June 16, 1923.
- Sando, C. E. (Bureau of Plant Industry). Constituents of the wax-like coating on the surface of the apple. Journ. Biol. Chem., vol. 56, pp. 457-468. June, 1923.
- Scott, E. C. (Bureau Agricultural Economics). Important factors of United States bay grades. Indiana Farmer's Guide. June 9, 1923.

BUREAU OF AGRICULTURE
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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

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GROWTH OF FARMERS' ORGANIZATIONS SHOWN

Increases Shown from 1913 to 1921—Recent Figures not Available.

Cooperative effort on the part of farmers is bringing satisfactory results in many places and with a great variety of products. Information compiled by the department shows a decided increase in the business done by these organizations in the period from 1913 to 1917 and in 1921. Figures for the past two years are not available, but those who have been studying this phase of agricultural development think the increase continued during this time.

Averages taken of the business done by 632 farmers' business associations in 1913 and 1921 show an increase from \$144,700 to \$193,500, or practically 30 per cent. A larger volume of business accounts for most of the increase, but it is only fair to say that a part of the increased return was brought about by higher prices.

Almost 5,000 Organizations Report.

The 1921 figures show almost 5,000 farmers' buying and selling organizations have reported to the department—to be exact, 4,925. Of this number 23 per cent did a business ranging from \$100,000 to \$200,000, and 15 per cent of them had an annual turnover somewhere between \$70,000 and \$100,000. There are several cooperative associations doing an annual business of millions of dollars, but most of the organizations are relatively small. More than 82 per cent of all of them did a business not exceeding \$200,000 in 1921.

Of the associations doing a business of a million dollars or more over 60 per cent are to be found on the Pacific coast; at least that was the condition found in 1921. These giants made up 12 per cent of all the cooperative associations in that territory.

Although the Pacific coast leads in the number of million-dollar organizations, the North Central States probably surpass all other groups in the number of farms affected by cooperative buying and selling. More than one-half of the half million farms reporting cooperative sales of products in 1919 were in these States, including Minnesota, Iowa, Wisconsin, Michigan, Kansas, and Nebraska in the order given. Minnesota had more than 78,000 farms from which crops or live stock were marketed cooperatively, Iowa 43,000, and Wisconsin nearly as many. The number of farms reporting cooperative purchasing in this region was practically two-thirds of the number doing cooperative selling.

In this grain-live-stock-dairy region the total cooperative marketing and purchasing for the year (1919) amounted to a little more than \$800,000,000. The most important crops handled were grain, milk and cream, fruits, and truck. Fertilizer, feed, binder twine, spraying materials, coal, crates, and boxes were bought cooperatively.

Cooperation among farmers has reached its greatest development in California, about one-sixth of the cooperative buying and selling of the 48 States, measured in dollars, being done there. The figures for 1919 show this State's total to be in excess of \$132,000,000. Minnesota followed with \$89,000,000; then in order came Iowa, Nebraska, and Kansas.

NEW LAWS HELP BIOLOGICAL SURVEY.

The Alaskan Legislature, which recently adjourned, passed three bills bearing directly on the work of the Biological Survey. One provides for the branding or marking of reindeer by owners and the recording of the brands or marks. Another one provides for the registering of brands in connection with the propagation of blue foxes and for marking or tagging skins, while the third appropriates \$10,000 for procuring and transporting deer to the islands of Prince William Sound and to Kenai Peninsula and adjacent waters, and for the introduction of goats on Baranof and Chichagof Islands.

WORLD REPRESENTED IN AMERICAN CROPS

Millions Added to Value of Crops by Introduction of Foreign Plants.

The romantic and the practical, the economic and the ornamental, the palm and the pine, the unusual and the everyday; all of these elements may be found in the work of the Office of Foreign Seed and Plant Introduction, Bureau of Plant Industry, which for the past quarter of a century has been scouring all the continents for plants which may be suited to some region of the United States. Most of the specimens are sent in by plant explorers sent out by the department, but in addition there are co-operators in various foreign countries and interested persons everywhere occasionally send in plants or seeds. Eight or ten plants or packages of seeds are received every day on the average, and up to the present time a total of 60,000 have come to the office in Washington and distributed to the propagation gardens maintained in several States. Later, after sufficient increase, seeds or cuttings or plants are distributed to experimenters, of which there are some 10,000, mostly amateurs, scattered over the country.

Some of the Commercially Successful Crops.

This far-flung organization for the increase of the variety of our plant life and the improvement of varieties already here has already accomplished much. Crops which were introduced not many years ago in a few small packages which could have been hauled in one load in a boy's little red wagon have increased to such an extent that they now bring in round numbers \$100,000,000 annually. In this list of crops which have become commercially successful are included durum wheat, which now yields about 40,000,000 bushels a year; Peruvian alfalfa, now the most

important variety in California; Pima cotton, the great crop of the Salt River Valley, Ariz.; the date palm, the growing of which is now a well-established industry in the Southwest; Sudan grass, now a \$10,000,000 forage crop found in many States; the avocado, brought from tropical jungles 10 years ago and now producing \$1,000,000 worth of fruit a year; the dasheen, now grown by 2,000 Southern farmers.

Many Forage Crops Brought In.

In addition to these new crops there are many others which have been established on a smaller scale. There is the Chinese jujube, now well known to confectioners, peaches which will withstand considerable alkali in the soil, blight-resistant chestnuts, and blight-resistant pears.

There is a large list of forage crops which have been found well adapted to certain conditions in this country. In addition to Sudan grass and certain kinds of alfalfa, there are Napier grass, Rhodes grass, kafir, Natal grass, Japanese sugar cane, Siberian millet, soy beans, Carib grass, and feterita.

Including one now on the press, 69 inventories of seeds and plants imported have been published by the department. They include all the introductions up to the end of 1921. In going over these lists one is impressed by the large number of introductions from the Tropics. Doctor Fairchild, in charge of the Office of Foreign Seed and Plant Introduction, anticipates the question which may arise in the minds of those who live in the North. He explains that plants which grow in the colder regions are those which have slowly crept out of the Tropics, adapting themselves to the cold. He says there are ten times as many undiscovered useful plants in the Tropics as are to be found in the colder parts of the globe, and that the plant breeder is striving by means of his art to select the hardiest of these tropical species and adapt them for cultivation as far north as they will grow.

Several Have Peculiar Characters.

Most of the plants brought into this country for trial are destined for the economic discard, but a large number of them will finally be successful either in a large or small way as field, orchard, forest, or garden crops or as ornamentals for street, park, or dooryard. Some of those which have been introduced and are new to us have had an interesting history in some other part of the world. For instance, a Mexican plant, an amaranth related to one of our common weeds, the seeds of which once filled the granaries of the Aztecs and were used

for making bread long before Columbus discovered America, or just as interesting is an African tree whose berry has been long known to the natives because of a peculiar quality in it which makes sour foods eaten after it within a period of 24 hours taste sweet.

China, with a climate much like our own, has contributed large numbers of promising plants. One of the recent interesting ones is the yang-tal, a fruit said to "combine the flavors of the gooseberry, strawberry, pineapple, guava, and rhubarb." The same country has supplied us with new and valuable pears, peaches, jujubes, chestnuts, and many shade trees and ornamentals. Japan has contributed, among many other plants, the mitsuba, a common vegetable which resembles some of our native plants found growing all the way from Nova Scotia to Texas. From Colombia has come a night-blooming cereus with blood-red flowers as large as saucers and a promising blackberry; high-yielding wheats from England and Australia; from New Zealand a corkwood tree producing cork one-half the weight of the ordinary kind; a brilliant gourd from the Philippines which may possibly be grown in the South and marketed as Christmas-tree ornaments; a wild rice from West Africa which may be used for marsh pasture; a citrus fruit from India with a concentrated peach flavor; from Yucatan a dooryard tree which is ornamental and whose leaves provide delicious greens; Australian elephant grass which yields 30 tons of hay to the acre.

These are a few samples which may give an idea of the great variety of plants the department is bringing in daily for trial. Here and there the propagators and the experimenters will find one with promise, and after a decade or so we may find it thoroughly naturalized and a valuable American crop or ornamental. The successes which have come through many of the aliens brought in during the last 25 years give a reason to believe that the department will add many more valuable crops in the future. Coming generations are going to enjoy many more of the fruits of the earth. The United States is being made the world's botanical garden.

Radio talks on the prevention of forest fires are being broadcast every two weeks from the Portland (Oreg.) office of the Forest Service through an arrangement with the Portland Oregonian. Definite dates have been fixed for these talks, which, according to estimates, reach from 10,000 to 15,000 people. A radio release on some phase of the work of the Forest Service is also broadcast once a month from Washington.

Five Hundred Farmers Give Opinions on Stock Feeding

Producing or otherwise obtaining feed economically is the most troublesome problem of farmers who keep live stock. This was brought out emphatically through a questionnaire sent out by the department which was answered by nearly 500 farmers scattered over the entire country. The replies showed that general economy of rations, the cost of grain, and the cost of protein represent about 52 per cent of the difficulties in feeding.

These men classed balancing of rations next in importance. Other problems, such as labor, increases in production, difficulties in wintering stock, short pastures, and variety and palatability of feeds were thought of only in connection with the principal difficulties. That these opinions are worth considering is borne out by the fact that all of the men questioned were progressive farmers and breeders, and the average period of their experience was 20 years.

During the two decades these stock raisers have been working to get ahead, many changes have taken place in the ways of feeding animals. The outstanding progressive step taken has been the wide adoption of the balanced ration. Other improvements in the order given by most of the 500 farmers are more liberal feeding, feeding more legumes, better water supply, providing minerals, feeding according to production, feeding more protein, and more regular feeding. At the same time they list the common errors in feeding which are responsible for poor results, poor combinations of feeds being the one most frequently mentioned, followed by underfeeding as the next most effective reducer of profits.

Practically all of these 500 farmers had raised at one time or another scrubs, grades, and pure bred, and almost to a man they joined in a paean of praise of the purebred. Only 1 per cent of them reported that they had failed with improved stock. It was brought out that these men consider that purebreds make about 40 per cent better use of feed than common stock. Another questionnaire sent out by the department a year ago showed that purebreds have a general utility value 40 per cent greater than common stock.

It is worth while to note that more than 22 per cent of these farmers who answered the Government questions credited the farm press as the principal source of their knowledge of feeding problems. Farm papers, books, bulletins, and records make up the sources given by 53 per cent of them.

A DIGEST OF THE NEWS

Brief Bits of News Digested From Material Issued by Department During the Past Week.

NATIONAL MONUMENT ESTABLISHED.

When President Harding by his recent proclamation set aside 12 square miles within the Powell National Forest in southern Utah as the Bryce Canyon National Monument, he permanently dedicated to public pleasure and instruction one of the most unique and beautiful geological features in the United States, according to the Forest Service. It is 80 miles from Marysvale, the nearest railroad point.

REGULATIONS FOR WOOL ANNOUNCED.

For practical purposes until sets of the official standards for grades of wool can be made available for general distribution, the 600 sets of tentative wool grades now in use in the wool trade may be used in complying with the regulations of the Secretary of Agriculture, effective July 1, the department has announced. There is only a slight difference between the tentative sets and the final grades. The tentative sets will be replaced with the final sets in the fall.

CATTLE POOLING ON RANGE SUCCEEDS.

The pooling of cattle for better management and more economical handling on the national forest ranges is accomplishing the expected results in Colorado, according to a study made by the department. In a recent study it was found that out of 454 outfits 383 pooled their cattle and 71 ranchmen handled their own. The cattle in the pools had an average summer cost for 1922 of \$1.87 a head, while the cattle in the individual outfits cost \$2.26.

STATES AID TUBERCULOSIS WORK.

One of the most encouraging factors in the fight against cattle tuberculosis, says the department, is the activity of the State legislatures in passing laws to facilitate the widespread testing of cattle in specified areas. A State law which contains many points of excellence is that passed by the Iowa Legislature last spring.

FOREST ROADS BUILT DURING 1922.

During the calendar year 1922 the amount of Federal funds spent on forest roads and trails totaled \$5,603,100, ac-

ording to the department. A total of 2,420 miles of forest roads and 4,190 miles of forest trails were built. An additional \$950,000 was secured for this construction work from State and county authorities. During the year 4,550 miles of roads and 19,600 miles of trails were maintained at a cost of \$500,000.

BETTER COTTON VARIETIES INCREASE.

The proportion of cotton of improved varieties grown in North Carolina has increased 50 per cent within the past eight years, according to a report to the department. The plan followed has been to establish community test farms throughout the State to demonstrate the best variety to grow and the value of selected seed. When the work started it was estimated that 90 per cent of the cotton was produced from poor seed.

Roads in Federal System Designated in 34 States

Roads that will comprise the Federal-aid system of highways have been definitely designated in 34 States, according to the Bureau of Public Roads.

A study of the system in the 34 States now approved shows some interesting facts. Nearly every city of over 5,000 population is located upon it, and the few that are not will connect with it over improved roads. Indications are that over 90 per cent of the entire population of the United States will live within 10 miles of a Federal-aid highway. In a number of States the figure is as high as 98 per cent, and in none of the States will it drop below 65 per cent.

The following tabulation shows the mileage in the system by States, estimates being given for those States whose systems are not yet approved.

State.	Federal-aid system.	State.	Federal-aid system.
Alabama.....	13,958	Nevada.....	1,456
Arizona.....	1,498	New Hampshire.....	988
Arkansas.....	15,037	New Jersey.....	983
California.....	4,467	New Mexico.....	3,258
Colorado.....	3,360	New York.....	4,498
Connecticut.....	835	North Carolina.....	3,816
Delaware.....	266	North Dakota.....	14,855
Florida.....	1,855	Ohio.....	4,506
Georgia.....	15,662	Oklahoma.....	17,889
Idaho.....	2,772	Oregon.....	2,814
Illinois.....	14,987	Pennsylvania.....	3,954
Indiana.....	3,957	Rhode Island.....	165
Iowa.....	7,154	South Carolina.....	13,179
Kansas.....	6,423	South Dakota.....	18,077
Kentucky.....	3,250	Tennessee.....	14,564
Louisiana.....	12,667	Texas.....	111,655
Maine.....	1,193	Utah.....	1,430
Maryland.....	1,036	Vermont.....	1,043
Massachusetts.....	11,290	Virginia.....	3,016
Michigan.....	4,582	Washington.....	2,887
Minnesota.....	6,801	West Virginia.....	1,901
Mississippi.....	13,290	Wisconsin.....	15,516
Missouri.....	7,040	Wyoming.....	3,234
Montana.....	4,697		
Nebraska.....	5,500	Total.....	187,406

¹ Mileage given is an estimate, as system is not yet approved.

Injurious Insects Found at Various Ports of Entry

Of especial interest in connection with port inspection work are some recent interceptions made by officials of the Federal Horticultural Board. In Highland Park, Rochester, N. Y., adults of the oblong leaf weevil, *Phyllobius oblongus* Linn., were found feeding on elm by Prof. David Lumsden, who is examining plants imported under special permit. Apparently this is the first record of the occurrence of this common European insect in the United States. An immediate investigation of the Rochester infestation will be made.

During May and June mangoes from the interior of Mexico, possibly the State of Jalisco, were found to be infested with the Mexican fruit fly, *Anastrepha ludens* Lw. They were taken by inspectors on the Mexican border at Matamoros, Nuevo Laredo, Piedras Negras, and Juarez. An inspector of the California State Department of Agriculture also found this insect in mangoes in the ship's stores of a vessel arriving at San Pedro from Mexico.

Mexican-grown Irish potatoes used as ship's stores have during the past three years been found to contain larvæ of an injurious weevil, identified lately as *Epicaerus cognatus* Sharp. This weevil is not known to occur in the United States and all inspectors engaged in port inspection work should carefully examine potatoes for this pest. Infested potatoes are usually found during the spring months. Thus far it has been impossible to determine definitely the exact origin of the potatoes, although they are usually taken on board at Vera Cruz, Mexico.

Eight hundred and forty-five sacks of cotton seed infested with larvæ of the pink bollworm, *Pectinophora gossypiella* Saund., recently arrived at New York from Porto Rico for transshipment to England. The presence of the pink bollworm in the cotton seed not only necessitated the cleaning of the hold of the vessel which brought the cotton seed to New York but also the cleaning of the lighter and the pier over which the cotton seed was trucked. It was also necessary to issue written instructions to the steamship company to have the hold of the vessel carrying the cotton seed to England cleaned on its arrival at Southampton.

The Federal International Banking Co., of New Orleans, unanimously adopted a resolution indorsing the United States warehouse act and urging upon warehousemen of the South to operate their warehouses under this statute.



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OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

(Mr. Pugsley, Acting Secretary).

Amendment to the Administrative Regulations.

MEMORANDUM No. 444.—July 17, 1923.—Paragraph No. 226 of the Administrative Regulations is hereby amended to read as follows:

226. *Requests and correspondence.*—All requests from Members of Congress, State officials, private corporations, organizations, or individuals for exhibits or for participation in expositions, fairs, etc., and all correspondence relative thereto received by the department or by any of the bureaus or offices shall be referred to the Director of Extension Work, who, with the officials interested, will determine the action to be taken.

STATISTICS FOR EVERYONE.

The United States Bureau of Efficiency has recently published a pamphlet entitled "Guide to Original Sources for the Major Statistical Activities of the United States Government." This guide was compiled in connection with the bureau's investigation of the statistical work of the Federal Government. The purpose of this publication is to furnish to persons the names of the branches of the Government service engaged in the collection and dissemination of statistical information under each subject covered by the statistical activities of the Government, in order that anyone desiring information about a particular subject may know in advance what office to address, thus avoiding delay and unnecessary correspondence. The guide also tells how often the statistics relating to any given subject are published by the office conducting the original research.

In this 20-page pamphlet will be found listed all of the statistical activities of the Government from the number of accidents occurring in certain industries and to Federal employees to the number, tonnage, and motive power of yachts.

Copies of this publication may be obtained from the United States Bureau of Efficiency, Washington, D. C.

STATES USE SURPLUS WAR MATERIAL.

Surplus war material which the Government refused to sell at junk prices is being used in road construction to great advantage by the States to whom the material is transferred, according to the Bureau of Public Roads.

At the end of the war there was left unused over a half million pounds of rough castings of spare parts for one of the well-known makes of motor trucks. They were badly rusted and on casual inspection might have been condemned as worthless junk, but it was found that the necessary machine finishing entirely removed all rust and pits. A small offer for the entire lot was made but was not accepted. A few months ago the State Highway Department of North Carolina accepted a portion of them as part of its share of surplus war material for use in road building. Surplus war machinery was used for finishing the parts for use in trucks, also received as surplus war material. The finished parts are worth about 75 cents a pound, as compared with an offer of 1 cent a pound for the parts in the rough.

Other States have followed the example of North Carolina, and the entire supply has been taken up and will be put to useful service.

RAILROADS AID BETTER-SIRES WORK.

Among the numerous agencies supporting the "Better Sires—Better Stock" campaign conducted by the various States and the department are the railroads of the country. Those having active agricultural agents have been especially energetic in displaying posters, conducting demonstration trains, and performing similar activities.

In a recent letter to the department the agricultural agent of the Norfolk & Western Railway Co. states that some of the better-sires posters originally issued have remained in the passenger stations more than three years. During that time the posters have been seen by thousands of persons.

VISITORS TO THE DEPARTMENT.

Gonzalo Robles and Juan Ballesteros, agriculturists representing the Mexican Government in a tour including agricultural institutions of this country, Canada, and England, visited the Division of Agricultural Instruction and the Office of Cooperative Extension Work

July 12 to make inquiries regarding the American system of agricultural education, research, and extension work. They were particularly interested in learning what experience in this country has shown might be of use in connection with the development of similar work in Mexico. Agricultural extension work was inaugurated by the Mexican Government about two years ago, and there are now some 40 agriculturists engaged in about the same activities as those of our county agents. It is planned to institute home demonstration and boys' and girls' club work in the near future.

Toribio Vibar, head of the department of agronomy, University of the Philippines, Los Banos, P. I., visited the Division of Agricultural Instruction July 11, in connection with a study he is making of the United States system of agricultural education and research, particularly of the methods of teaching agriculture in rural and secondary schools. Professor Vibar has recently completed some graduate work at the University of Illinois.

Arno S. Pearse, general secretary of the International Federation of Master Cotton Spinners' and Manufacturers' Association of England, and Arthur Foster, chairman of the North Lancashire Cotton Spinners' and Manufacturers' Association, visited the Bureau of Agricultural Economics to learn about its cotton service and regulatory work. These gentlemen are in this country studying the American cotton industry.

Dr. Richard T. Ely, University of Wisconsin, spent July 14 at the Bureau of Agricultural Economics. Doctor Ely was in Washington in connection with the work of the Institute for Research in Land Economics, of which he is director.

Dr. F. P. Metcalf, who has handled much of the botanical work of the Division of Food Habits Research, Biological Survey, tendered his resignation, effective at the end of the fiscal year. Doctor Metcalf, having received his degree (Ph. D.) from Cornell University, will leave for China, where he will take up his new duties in the fall in charge of the botanical department of Fukien Christian University, Foochow, China.

Over 6,000 appeals from grades assigned by grain inspectors licensed under the United States grain standards act were filed with the offices of Federal Grain Supervision during the first three months of this calendar year. Fifty-five and four-tenths per cent were sustained. Of the total appeals, 4,967 were for wheat, 961 for corn, and 288 for oats. Fees for this work amounted to \$6,874.34.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Will length of service in the department be given any weight under the reclassification act?

Answer. The reclassification act makes no direct provision for the recognition of length of service in connection with the allocation of positions to their appropriate grades in the compensation schedules. However, experience is one of the stated requirements in many of the grades established by the act, and such experience gained through service in the department will be given consideration.

Question. Can weather predictions be made a season in advance?

Answer. Reputable meteorologists the world over are of the opinion that accurate predictions of the weather and temperature for a season in advance can not be made for the sufficient reason that there are no known laws on which to base them. The only exception to this statement is the matter of forecasting the strength of the monsoon winds of India, on which the summer rains of that country are dependent, and these forecasts, while not claiming to be infallible, give in general terms an indication as to whether the rainfall will be above, below, or approximately normal for the summer months and are therefore valuable. Daily weather maps of the world are essential as a first step in arriving at principles that will make seasonal weather forecasting a possibility.

Question. In what States are sugar beets grown on a large scale?

Answer. Sugar beets are grown in the Western and Lake States. In 1919 Colorado ranked first with 1,658,167 tons, Michigan second with 1,025,550 tons, Utah third with 930,427 tons, followed in turn by California, Nebraska, Idaho, Ohio, Wisconsin, and Wyoming.

Question. Can I get any practical suggestions on storage houses for potatoes from the department?

Answer. Send for Farmers' Bulletin 847, Potato Storage and Storage Houses. This bulletin points out that the successful storage of potatoes is dependent on a number of factors and describes the

proper construction and management of storage houses to prevent loss.

Question. What did Center Market cost the Government?

Answer. The initial cost of the market property to the Government was \$960,250. The land on which the market is erected belonged to the Government. Approximately \$20,000 of the \$960,000 earned the first year was spent by the Bureau of Agricultural Economics, which operates the market, for improvements, alterations, and additional equipment.

Question. What are the necessary requirements to obtain a permit to collect the nests and eggs of migratory wild birds for scientific purposes?

Answer. Regulation 9 of the Migratory Bird Treaty Act Regulations provides that a person may take, at any time, migratory birds, their nests, and their eggs for scientific purposes when authorized to do so by permit issued through the Bureau of Biological Survey by the Secretary of Agriculture. Persons desiring the privilege will be supplied with an application blank, which must be properly filled in, indorsed by two well-known ornithologists to show that the applicant is a fit person to be entrusted with the privilege, and returned to the Biological Survey, Washington, D. C. Upon its receipt the matter of issuing a permit is given careful consideration.

Question. Is the quail, or bobwhite, an effective enemy of the cotton boll weevil?

Answer. No. Regardless of its good qualities in other directions, the quail can not be considered to have an appreciable controlling effect on the numbers of the cotton boll weevil. In only 2 of 265 stomachs of quails collected for the Biological Survey in or about weevil-infested fields at various times of the year were the remains of these insects found—a single one in each case. Attempts to place the quail on the list of protected species on the ground that it is useful as an enemy of the cotton boll weevil are especially ill advised, since, when it becomes apparent that the propaganda has no basis in fact, the effect may be directly opposite to that intended.

Question. Has the department any publication telling how to make a fireless cooker at home?

Answer. Farmers' Bulletin 771, Home-made Fireless Cookers and Their Use, gives not only illustrated directions for constructing a fireless cooker but also a number of recipes for dishes which may be cooked in one. The suggestion is made that the cooking box can be used

to keep things cold as well as hot. Send to the department for this bulletin, which is available as long as the supply lasts.

More Fertilizer Used on Cotton Acreage this Year

Increased use of fertilizer on the cotton acreage this year as compared with last year is reported to the department. More than 37 per cent of the acreage has been fertilized as compared with 32 per cent last year. A number of individual States show larger gains.

In Georgia 93 per cent of the total cotton acreage received fertilizer this year, or 10 per cent more than last year's acreage. Florida shows 88 per cent of the cotton acreage fertilized, or 8 per cent more than in 1922; Alabama 88 per cent, an increase of 10 per cent; Mississippi 44 per cent, an increase of 14 per cent; Louisiana 38 per cent, or an increase of 18 per cent; and Arkansas 31 per cent, or an increase of 16 per cent. The remaining cotton States are below the average gain for the belt as a whole.

An average of 260 pounds of fertilizer per acre used is shown for all cotton States, as compared with 251 pounds in 1922. Mississippi and Arkansas show a decrease of 10 pounds per acre and Virginia 15 pounds. In Louisiana the same quantity per acre as last year were used. North Carolina shows the use of 445 pounds of fertilizer per acre as compared with 410 pounds last year; South Carolina 310 pounds as compared with 280 pounds; Georgia 250 pounds as compared with 218 pounds; Florida 250 pounds as compared with 200 pounds; and Alabama 230 pounds as compared with 210 pounds.

WORK IN HAWAIIAN GROUP SUCCEEDS.

The scientific work now being carried on by the Biological Survey in the Hawaiian group and other islands in that region is proving successful. The rabbits on Laysan, as well as a less serious infestation on another island, have been exterminated. Several species of plants of varying habit, suitable to the locality, have been introduced, and the restoration of vegetative conditions at least equal to the original state of the island seems assured. Landings and collections of importance have been made on a number of islands, and a consignment of specimens of interest has already been received in Washington. These include good series of most of the characteristic species of the islands and of the Hawaiian seal.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

SUDAN GRASS GROWS IN POPULARITY.

No other plant importation has ever gained such immediate and wide-spread popularity in the United States as that which resulted from the small handful of Sudan grass seed brought from Central Africa in 1909 by the Bureau of Plant Industry. Sudan grass in the United States, however, is not the result of chance, as is the case with a number of our accomplishments. On the other hand, the important place which it occupies in the cropping system of the general farms of the South and West to-day came about through a systematic search for a grass suitable to the soil and climatic conditions of that portion of the United States as a hay crop that would take the place of Johnson grass, which is undesirable because it is equipped with vigorous underground rootstocks that make its eradication from cultivated fields difficult.

The first importation of Sudan grass seed which was received in the United States consisted of a package containing but 8 ounces of seed of a grass known as garawi, and was secured through the assistance of the Director of Agriculture and Lands of the Sudan government, Khartoum, Sudan, in 1909. A portion of this seed was planted that year at the forage-crop field station at Chillicothe, Tex. From this small beginning has come practically all of the Sudan grass now being grown in the United States. The value of the crop in 1918 when last estimated was \$10,500,000, and the crop continues in its progress of establishing itself in the cropping system of our general farms as an emergency hay crop and summer pasture, and is now being grown where it was at first thought to be wholly unadapted. From the South and West, where it is admirably adapted, it is spreading naturally and rapidly northward into Missouri, Indiana, Illinois, and Iowa. In the South and West it has replaced probably a third of the acreage formerly sown to millet because of its higher yield and better quality of hay.

Because Sudan grass has come to be practically as well known as any of our other forage crops, its progress is now being left to natural causes, the department is, however, doing considerable breeding work in an attempt to develop a grass sorghum like Sudan grass that

will resist the attacks of red-spot, or sorghum blight, by making crosses with Tunis grass, tabucki grass, and Kamerun grass. Another opportunity for success in breeding operations lies in the production of a grain-bearing strain of grass sorghum that can be harvested and threshed in the same manner as wheat or oats.

Since its introduction into the United States, Sudan grass has been tested in many parts of the world. It has been most successful in Australia, and has done well where tested in Brazil and Argentina, and no doubt will become a valued forage crop in the stock-producing sections of South America.

The work done by the United States Department of Agriculture in bringing to light the possibilities of Sudan grass, bringing it from its native country in Africa, where it is found growing wild, and placing it in a position of prominence, has had its effect all over the world.

WITH EXTENSION FORCES

COMMUNITY INTEREST MAINTAINED.

When the newly employed county agent came into Brazos County, Tex., in 1917 he found one of the outstanding needs of his county was for community organization to create interest and pride in the building up of the communities and through which the people could work together in attempting to solve common problems. As soon as plans could be carried out, the agent arranged for a meeting in one community—Tabor—as a result of which the Tabor Welfare Club was organized.

Extension work was discontinued in the county the following December and not resumed until January, 1921, but the Tabor Welfare Club kept up its meetings, carrying out programs, both instructional and recreational, and holding each year an excellent community fair. When the county agent returned to his duties in the county three years later he found that through this means of concerted effort Tabor community had obtained better school facilities, had built a teacherage, and installed electric lights for school and teacherage. A number of modern farm homes had been built, and many farmers had added improvements to home buildings and grounds. Live stock throughout the community had improved in quality through better breeding and feeding methods.

Encouraged by the success of this pioneer organization, the county agent resumed as a part of his extension program the task of building community in-

terest and cooperation. The record of the Tabor Welfare Club was widely advertised. The enthusiastic support of local leaders and teachers was enlisted. The chamber of commerce, Rotary clubs, and business organizations gave encouragement and assistance in club activities and community fairs. A county seat newspaper became an enthusiastic promoter of the work through its columns. Boys' and girls' clubs have been of far-reaching effect in stimulating all community activities. The secretary of the chamber of commerce was especially helpful in cooperating, going with the county agent to gatherings in all parts of the county and assisting in any activities the people desired.

These two representatives of closely related work, farming and commerce, together officiated at box suppers, community Christmas trees decorated for community fairs, spoke or presided or did janitor service for community meetings as occasion required. This hearty cooperation, the agent reports, has not only served to stimulate community organization work, but has tended also to bring about mutual understanding and sympathy with the problems and objectives of both farm and town people.

Results of this work are evident. Three additional communities started active programs last year. Two others have since organized, and another, one of the largest in the county, recently organized on its own initiative. New auditoriums or houses for community meetings, teacherages, and improved school facilities have been secured through these community organizations. Regular yearly programs for monthly or more frequent meetings, combining both educational and entertainment features, are planned and carried out. The community fair idea is spreading, and there is growing interest in exhibits of farm crops, live stock, and home products.

Eldon C. Shoup, the executive secretary of the New England Research Council on Marketing and Food Supply, and the representative of the Bureau of Agricultural Economics in the council, will spend alternate periods of time between New England and Washington to assist in developing several lines of work of the bureau.

H. L. Viereck, who has been in charge of the collection of Hymenoptera of the Division of Food Habits Research, Biological Survey, since December, 1915, tendered his resignation, effective June 28. Mr. Viereck has accepted a position in the entomological branch of the Canadian department of agriculture and will be located at Ottawa.

BRIEF REVIEWS OF NEW BULLETINS.

Lamb and Mutton and Their Use in the Diet. Prepared in the Office of Home Economics, States Relations Service. Pp. 14, fig. 1. June, 1923. (Farmers' Bulletin 1324.)

Housekeepers will be interested in the recipes given for cooking lamb and mutton in different ways. A number of them have appeared before in Farmers' Bulletin 526, which is superseded by this publication, but the arrangement has been changed and simplified. The utilization of lamb and mutton on the farm is kept in mind throughout the bulletin, which includes directions for cutting up a sheep, storing the fresh meat properly, drying it, and preserving it by canning.

Back-Yard Poultry Keeping. By Rob R. Sloucum, formerly of the Animal Husbandry Division, Bureau of Animal Industry; Pp. 23, figs. 15. May, 1923. (Farmers' Bulletin 1331.)

Various uses are now made of the table waste collected from homes in towns and suburbs, but practically the only use that may be made of it on the premises is as feed for chickens. This use may be very profitable if the birds are properly selected for laying qualities and are given good housing and care. This bulletin is really a handbook designed to answer any question that may come up in the mind of the owner of a small flock. It covers such subjects as the kind of fowls to keep, the size of the flock, procuring stock, housing, arrangement and sanitation of yards, feeding, lice and mites, hatching and raising chicks, culling the hens, preserving eggs, and practical pointers.

Plans and bills of materials are given for making houses of low cost and houses that will fit various conditions. Details are given on interior equipment such as roosts, dropping boards, nest boxes, and coops for broody hens.

Diseases of Watermelons. By W. A. Orton, pathologist in charge, and F. C. Meier, pathologist, office of cotton, truck, and forage crop disease investigations, Bureau of Plant Industry. Pp. 31, figs. 21. (Farmers' Bulletin 1277.)

This bulletin discusses and gives control measures for such diseases as wilt, root-knot, gummy stem blight, ground-rot, anthracnose, stem-end rot, and minor diseases. It contains a convenient descriptive key to all these diseases by means of which a grower may identify a disease in his field. Since buyers frequently pay just as high a price to growers of diseased melons as to those who produce healthy ones, it is not surprising that farmers who produce watermelons for the market have been slow to adopt these disease-control measures. However, there is at this time a movement toward cooperation between railroads, distributors, and growers that promises great improvement in this respect.

Nicotine Dust for Control of Truck-Crop Insects. By Roy E. Campbell, assistant entomologist, truck-crop insect investigations, Bureau of Entomology. Pp. 24, figs. 14. September, 1922. (Farmers' Bulletin 1282.)

This bulletin discusses an important application of a comparatively new method of insect control which thus far has surpassed any other known methods of controlling such important pests as the onion thrips, cucumber beetles, the melon aphid, and the pea aphid. Nicotine dust has several advantages over a liquid spray of nicotine sulphate. Dusting requires much less weight of material per acre than spraying and may be done in a much

shorter time with a lighter and less expensive machine, in most cases at less cost for labor. The tiny particles of dust reach many insects inaccessible to sprays. Dust may be applied with hand dusters, horse-drawn outfits, or power-operated outfits, according to the size of the acreage. Certain diseases as well as certain insect enemies of vegetables can be controlled by adding a proportion of powdered sulphur to the nicotine dust. Several forms of chewing insects attacking vegetable crops can be controlled by adding 10 per cent of powdered lead arsenate to the nicotine dust used against aphids or thrips, and this combination treatment is advisable when dusting small plants for cucumber beetles.

Production of Sirup from Sweet Potatoes. By H. C. Gore, chemist in charge fruit and vegetable utilization laboratory; H. C. Reese, assistant development engineer; and J. O. Reed, assistant development engineer, office of development work, Bureau of Chemistry. Pp. 34, figs. 13. July 13, 1923. (Department Bulletin 1158.) Price, 10 cents.

The use of sweet-potato sirup is limited by its cost of manufacture as compared with that of other commonly used sirups. Nevertheless, when the price of sugar and sirup is greatly increased, it might be possible to manufacture this sirup profitably and to the benefit of American agriculture. From the standpoint of quality, sweet-potato sirup has possibilities for use as a table sirup, for cooking purposes, and in the manufacture of colored and short-grain candies, such as taffy, kisses, and caramels. For baking purposes it might find use in dark products, such as ginger snaps. It also has properties suitable for use in blending with other sirups to prevent crystallization.

A commercial method for making sirup from sweet potatoes which are unsuitable for the market, because they are either overgrown or undersized, has been devised to take care of the large percentage of the crop produced each year which is unmarketable. A proposed plan for a sweet-potato sirup plant is outlined in the bulletin, which contains considerable data obtained in the experimental work conducted during the past few years.

ADDITIONAL PUBLICATIONS.

Journal of Agricultural Research. Vol. 24, No. 3, April 21, 1923. Contents: Gummosis of Citrus. (Calif.-33.) By Howard S. Fawcett.—Occurrence and Significance of Phloem Necrosis in the Irish Potato. (G-296.) By Ernst F. Artschwager.—Cultivated and Wild Hosts of Sugar-Cane or Grass Mosaic. (G-297.) By E. W. Brandes and Peter J. Klaphaak.—Protein Synthesis by Azotobacter. (Kans.-33.) By O. W. Hunter. Pp. 191-274, pls. 17, figs. 3. Price, 10 cents.

Journal of Agricultural Research. Vol. 24, No. 4, April 28, 1923. Contents: Studies of the Temperature of Individual Insects, with Special Reference to the Honey Bee. (Minn.-45.) By Gregor B. Pirsch.—A Study on the Effect of Changing the Absolute Reaction of Soils upon their Azotobacter Content. (Kans.-34.) By P. L. Gainey.—Oxidation of Sulphur by Microorganisms in Black Alkali Soils. (N. J.-9.) By Selman A. Waksman, Clara H. Wark, Jacob Joffe, and Robert L. Starkey.—Peach Rosette, an Infectious Mosaic. (Ga.-3.) By J. A. McClintock.—Toxicity and Antagonism of Various Alkali Salts in the Soil. (Utah-17.) By F. S. Harris, M. D. Thomas, and D. W. Pittman.—Identification of Certain Species of Fusarium Isolated from Potato Tubers in Montana.

(Mont.-10.) By H. E. Morris and Grace B. Nutting. Pp. 275-364, pls. 14, figs. 14. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the Journal was suspended December 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year, and the foreign price \$5.25 per year.

Monthly Weather Review. Vol. 51, No. 4, April, 1923. Pp. 175-237, pl. 1, figs. 23, charts 9. Price, 15 cents a copy, \$1.50 a year, payable to the Superintendent of Documents.

Special articles: The occurrence of lightning storms in relation to forest fires in California. By S. B. Show and E. I. Kotok.—Discussion of thunderstorms and forest fires in California. By E. A. Beals.—Forest fire weather in the southern Appalachians. By E. F. McCarthy.—Solar radiation intensities and terrestrial weather. By C. F. Marvin.—Weather forecasting from ships at sea. By A. J. Henry.—Concerning the accuracy of free-air pressure maps. By C. L. Melsinger.—Cox on thermal belts and fruit growing in North Carolina. By A. J. Henry.—The rainfall of Jamaica. By A. J. Henry.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government.

Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Service and Regulatory Announcements. Bureau of Agricultural Economics. No. 75. Official Wool Standards of the United States for Grades of Wool. May 7, 1923. Pp. 1-7. July 16, 1923. Price, 5 cents.

Service and Regulatory Announcements. Federal Horticultural Board. No. 74. January-March, 1923. Pp. 56. June, 1923. Price, 10 cents.

Live Stock, 1922. Compiled by Nat C. Murray, Lewis B. Flohr, O. A. Juve, Emma S. Thompson, Florence C. Fitch, Lila Thompson, and James J. Window, Bureau of Agricultural Economics. Pp. 119. (Separate 888, Yearbook 1922.) Price, 15 cents.

Imports and Exports of Agricultural Products. Compiled by Nat C. Murray, Lewis B. Flohr, O. A. Juve, and Caroline G. Gries, Bureau of Agricultural Economics, from the reports of the Bureau of Foreign and Domestic Commerce. Pp. 34. (Separate 880, Yearbook 1922.) Price, 5 cents.

Forest Statistics. By Louis S. Murphy, W. R. Mattoon, Harry Irion, Alice M. Meynes, and C. R. Tillotson, Forest Service. Pp. 17. (Separate 889, Yearbook 1922.) Price, 5 cents.

A Biological Survey of the Pribilof Islands, Alaska. I. Birds and Mammals. II. Insects, Arachnids, and Chilopods. Part I by Edward A. Preble, assistant biologist, Division of Biological Investigations, and W. L. McAtee, in charge Food Habits Research, Bureau of Biological Survey. Part 2 by various entomologists, with an introduction by W. L. McAtee, Biological Survey. Pp. 225, pls. 15. June 20, 1923. (North American Fauna No. 46.) Price, 40 cents. For sale only.

The Mexican bean beetle has been reported to the department from Lee County, Ala., 50 miles south of the known infested area in 1922. It has also been reported from the eastern part of Mississippi, a State which was not known to be infested last year.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Congrès international d'agriculture. 11th, Paris, 1923. Minutes of the XI-International agricultural congress. [n. p., 1923.]
- Crystallisation of metals. By N. T. Belaiew. London, University of London press, Ltd. [192-.]
- Culture and diseases of the sweet potato. By J. J. Taubenhaus. New York, E. P. Dutton & company, 1923.
- Handbuch der biologischen arbeitsmethoden. 1fg. 84, 91-94. Von Emil Abderhalden. Berlin, 1922-23.
- Handbuch der entomologie. 1fg. 9-10. Von Christoph Schröder. Jena, G. Fischer, 1923.
- Handbuch der vergleichenden physiologie. 1fg. 54. Von Hans Winterstein. Jena, G. Fischer, 1923.
- Hygiène et alimentation du jeune bétail. Par Edmond Curot. Paris, Librairie des sciences agricoles, 1923.
- Law of land contracts. By A. L. Corneffius. Chicago, Callaghan & co., 1922.
- Maintenance of the agricultural labour supply in England and Wales during the war. By J. K. Montgomery. International institute of agriculture. Bureau of economic and social intelligence. Rome, 1922.
- Maladies du jeune bétail. Par Edmond Curot. Paris, Librairie des sciences agricoles, 1923.
- Organisations coopératives. International labour office. Genève, 1923.
- Das österreichische ernährungsproblem. hft. 2. Austria. Bundesministerium für volksernährung. Wien, 1922.
- Plain plantain; country wines, dishes & herbal cures, from a 17th century household receipt book. Arranged by R. G. Alexander. Ditchling, Sussex, S. Dominic's press, 1922.
- Science course for bakers. By David Ellis. London, Blackie and son, Ltd., 1923.
- Scottland. Board of health. Inter-departmental committee on milk. Minutes of evidence taken on the laws, regulations, and procedure governing the sale of milk in Scotland. Edinburgh, 1922.
- Symbolae antillanae. v. 9, fasc. 1. Ed. by Ignaz Urban. Lipsiae, 1923.
- Unsere heilpflanzen. Von Heinrich Marzell. Freiburg im Breisgau, T. Fisher, 1922.
- Variations biochimiques du rapport nucléoplasmatique au cours du développement embryonnaire. Par Elaine Le Breton et Georges Schaeffer. Paris, Masson et cie, 1923.
- World's wheat in May, 1923. By Sir James Wilson. Crieff, Scotland, 1923.

CURRENT PERIODICALS.

- Dun's review; a weekly survey of business conditions in the United States and Canada. New York, 1923.
- Georgia highways [monthly] Atlanta, 1923.
- Revista hortícola [monthly] Bucaresti, 1923.
- Revista geográfica de Puerto Rico [monthly?] San Juan, P. R., 1923.

LOST BOOKS.

The following book belonging to the library can not be found. It will be appreciated if anyone having information in regard to it will report the fact at the loan desk of the main library:

Tschirch. Die biochemische arbeit der zelle. 1921.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week July 9-14, 1923. These publications can be obtained only from the stations issuing them.

- I. The strawberry weevil.—II. A false wireworm on strawberry. W. J. Baerg. (Arkansas Sta. Bul. 185, pp. 33, pls. 3, figs. 2, June, 1923.)
- Tractors in Arkansas. D. G. Carter. (Arkansas Sta. Bul. 186, pp. 18, figs. 7, June, 1923.)
- A study of deciduous fruit tree stocks with special reference to their identification. M. J. Heppner. (California Sta. Tech. Paper 6, pp. 86, pls. 6, June, 1923.)

- Report of road materials project. O. V. Adams. (Colorado Sta. Bul. 284, pp. 46, Apr., 1923.)
- Control of the whorled milkweed in Colorado. W. L. May. (Colorado Sta. Bul. 285, pp. 24, figs. 8, Apr., 1923.)
- A peculiar soil condition in the San Luis Valley. W. P. Headden. (Colorado Sta. Bul. 286, pp. 15, figs. 3, May, 1923.)
- Control of ant invasions. W. E. Britton. (Connecticut State Sta. Bul. of Immed. Inform. 17, pp. 6.)
- The gypsy moth quarantine. (Connecticut State Sta. Bul. of Immed. Inform. 18, pp. 4.)
- Experiments on close inbreeding in fowls. C. Dunn. (Connecticut Storrs Sta. Bul. 111, pp. 137-172, Feb., 1923.)
- Infectious abortion in cattle. Calving and blood reaction records of thirteen herds. G. C. White, L. M. Chapman, and L. F. Rettger. (Connecticut Storrs Sta. Bul. 112, pp. 175-240, Feb., 1923.)
- A method for distinguishing the sex of young chicks. L. C. Dunn. (Connecticut Storrs Sta. Bul. 113, pp. 243-280, figs. 8, Mar., 1923.)
- Flag smut of wheat with special reference to varietal resistance. W. H. Tisdale, G. H. Duncan, and C. E. Leighty. (Illinois Sta. Abs. Bul. 242, pp. 4, fig. 1, May, 1923.)
- The feed cost of milk and fat production as related to yields. H. A. Ross, H. F. Hall, and C. S. Rhode. (Illinois Sta. Bul. 244, pp. 551-573, figs. 3, May, 1923.)
- Baking club manual. B. E. Scholes and H. M. Phillips. (Illinois Sta. Circ. 267, pp. 56, figs. 11, May, 1923.)
- Greenhouse soil sterilization. H. D. Brown, I. L. Baldwin, and S. D. Conner. (Indiana Sta. Bul. 266, pp. 27, figs. 11, Dec., 1922.)
- Meteorological observations. J. E. Ostrander and H. H. Shepard. (Massachusetts Sta. Met. Bul. 414, pp. 4, June, 1923.)
- Controlling peach tree borers with paradichlorobenzene. O. C. McBride. (Missouri Sta. Circ. 112, pp. 4, figs. 2, June, 1923.)
- Thirty-sixth annual report. (Nebraska Sta. Rpt. 36, pp. 96, figs. 10, Feb., 1923.)
- Results of seed and legume inoculation inspection for 1922. J. G. Fiske. (New Jersey Sta. Bul. 377, pp. 73, Jan., 1923.)
- Spinach studies in Passaic County, and cultural notes. L. G. Schermerhorn. (New Jersey Sta. Bul. 385, pp. 11, figs. 6, June, 1923.)
- Dahlias in the garden. C. H. Connors. (New Jersey Sta. Circ. 154, pp. 24, figs. 12, June, 1923.)
- Methods of gram staining. G. J. Hucker and H. J. Conn. (New York State Sta. Tech. Bul. 93, pp. 37, Mar., 1923.)
- Simplified Apparatus and Technique for the Electrometric Determination of Hydrogen Ion Concentration in Milk and Other Biological Liquids. F. E. Rice and A. J. Rider. (New York Cornell Sta. Memoir 66, pp. 16, fig. 1, Apr., 1923.)
- Forty-fifth Annual Report. (North Carolina Sta. Rpt. 1922, pp. 88.)
- Insect Pests and Diseases of Bramble Fruits. A. L. Lovett and H. P. Barrs. (Oregon Sta. Circ. 45, pp. 16, figs. 8, June, 1923.)
- Bimonthly Bulletin of the Western Washington Experiment Station. (Western Washington Sta. Bimo. Bul. XI, No. 2, pp. 25-47, figs. 7, July, 1923.)

Articles in Current Publications By Department Workers

- Blake, S. F. (Bureau of Plant Industry). Two new composites from Florida. Bulletin of the Torrey Botanical Club, vol. 50, p. 203-205. June, 1923.
- Gore, H. C., Reese, H. C., and Reed, J. O. (Bureau of Chemistry). The Production of Sirup from Sweet Potatoes. Published as Dept. Bul. 1158, July 8, 1923.
- Hann, R. M. (Bureau of Chemistry). Methyl and Ethyl Ammonium-Mercuric Bromides. In. J. Am. Chem. Soc., vol. 45, no. 7, July, 1923.
- Scott, L. B. (Bureau of Plant Industry). Progress of nursery-stock investigations of the U. S. Department of Agriculture. Florists' Exchange, vol. 56, p. 25, 27. July 7, 1923.
- Seeds, K. B. (Bureau Agricultural Economics). Hay-market grades. Wallace's Farmer. June 8, 1923.
- Senseman, C. E., and Nelson, O. A. (Bureau of Chemistry). Equations for vapor pressures and latent heats of vaporization of naphthalene, anthracene, phenanthrene, and anthraquinone. J. Ind. Eng. Chem., vol. 15, No. 6, June, 1923.
- Shannon, R. C. (Bureau of Entomology). Nonhuman host records of Wohlfahrtia (Diptera). Proc. Ent. Soc. Wash., vol. 25, No. 5-6, p. 142. May-June, 1923.

- Sherman, Caroline B. (Bureau Agricultural Economics). Home Management Bulletin Service for Banks. J. Amer. Bankers' Association, July, 1923.
- Shull, J. M. (Bureau of Plant Industry). The skunk cabbage. Gardeners' Chronicle III, vol. 73, p. 338. June 16, 1923.
- Snapp, O. I. (Bureau of Entomology). Recent developments in plum curculio investigations in Georgia. Journ. Economic Entomology, vol. 16, No. 3, pp. 275-283. June, 1923.
- Snyder, T. E. (Bureau of Entomology). Three new termites from the Canal Zone, Panama. Proc. Ent. Soc. Wash., vol. 25, No. 5-6, pp. 126-131, 1 fig. May-June, 1923.
- Spencer, G. C. (Bureau of Chemistry). The quantitative determination of acetic anhydride. J. Assoc. Official Agr. Chemists, vol. 6, No. 4. May 15, 1923.
- Taylor, Henry C. (Bureau Agricultural Economics). The Way Out for the American Farmer. Locomotive Engineer's Journal, July, 1923.
- Tidestrom, Ivar (Bureau of Plant Industry). The floral alphabet of the Celts. Torreya, vol. 23, pp. 41-49. May-June, 1923.
- Viehöver, Arno (Bureau of Chemistry). A new sedimentation tube and its use in determining the cleanliness of drugs and spices. J. Assoc. Official Agr. Chemists, vol. 6, No. 4. May 15, 1923.
- Sublimation of plant and animal products. J. Assoc. Official Agr. Chemists, vol. 6, No. 4. May 15, 1923.
- Viehöver, Arno, and Capen, Ruth G. (Bureau of Chemistry). Domestic sources of cantharidin. I. *Macrobasis abbida* Say. J. Assoc. Official Agr. Chemists, vol. 6, No. 4. May 15, 1923.
- Wales, H., and Nelson, O. A. (Bureau of Chemistry). Absorbed Moisture and Water of Crystallization in Certain Common Dyes. J. Amer. Chem. Soc., vol. 45, no. 7, July, 1923.
- Weigel, C. A., and Doucette, C. F. (Bureau of Entomology). Control of the strawberry rootworm in commercial rosehouses. Journ. of Economic Entomology, vol. 16, No. 3, pp. 283-288. June, 1923.

CIVIL SERVICE ANNOUNCEMENTS.

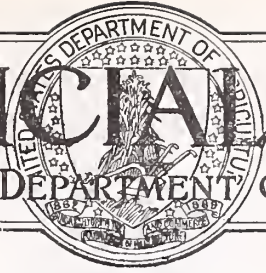
Editor of Research Publications, \$3,000-\$3,600.—Two vacancies in the Forest Service—one in the Branch of Research, Washington, D. C., and the other at the Forest Products Laboratory, Madison, Wis.—and vacancies in positions requiring similar qualifications will be filled from this examination. The duties of the appointee will include the critical review and editing of manuscripts of both technical and popular nature on forest research and wood utilization. The appointee will be required to assist authors in the selection and arrangement of their material; to determine the suitability of material for publication in various periodicals; to revise manuscripts for grammatical correctness, logical arrangement, and accuracy of statement; and to supervise the preparation of copy in proper mechanical form for the printer. Those interested should send for Form 2118. Receipt of applications closes August 14, 1923.

Agricultural Transportation Economist, \$4,000-\$5,500.—A vacancy in the Bureau of Public Roads and vacancies in positions requiring similar qualifications will be filled from this examination. Prerequisite requirements are graduation from a college or university of recognized standing, one year of graduate work in economic subjects, and at least eight years' experience in research or educational work, public service, or writing news articles on economics, agriculture, and allied subjects. A thesis must also be submitted. Those interested should apply for Form 2118. Receipt of applications closes August 21, 1923.

During the past 11 years the department has spent \$20,435,200 in the construction of roads and 8,960 miles of trails within or adjacent to the national forests. In addition, \$7,446,000 of cooperative funds from States and counties was expended upon this construction.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

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WASHINGTON, D. C., AUGUST 1, 1923.

No. 31.

PLAN LONG CAMPAIGN ON WHITE-PINE RUST

Eight-year Fight to be Waged on Disease of White-Pine Forests.

An eight-year campaign to accomplish the general control of the white-pine blister rust now threatening the destruction of our white-pine forests in the North-eastern and Lake States has been undertaken by the Office of Blister Rust Control, Bureau of Plant Industry, in cooperation with the affected States. A special agent has been assigned to each of the districts or counties where white pine is an important crop, who supervise the local eradication of the currant and gooseberry bushes, the intermediate hosts of the fungus, demonstrate to pine owners the best methods of control, and cooperate with State agencies in educational and publicity work.

The past seven years' work in the control of the rust have brought positive evidence that the disease can be brought under control and in time probably eradicated entirely in local areas by the removal of wild and cultivated currant and gooseberry bushes. Under average conditions the bushes do not need to be removed through a greater distance than 900 feet from the pines to adequately protect the trees from commercial damage. The sporidia of the blister rust which infects pine trees are blown about by the wind. They live only a few minutes after they leave the currant and gooseberry leaves. This, together with the fact that cheap and effective methods of destroying these bushes have been developed, are the chief factors contributing to the success of local control of blister rust.

Cost of Work Is Shared.

The labor of removing the bushes is paid for by the individual pine owners or by funds subscribed or appropriated by town associations, etc., in cooperation with the State. The department assists the cooperating States on a dol-

lar-for-dollar basis, and the Federal funds are used to assist and encourage the educational work and to bring about a realization on the part of the general public and of pine owners in particular of the necessity of extending every effort in the immediate application of control measures.

The disease, although present in British Columbia and western Washington, has not yet invaded the principal white-pine timber regions of the West. The department is cooperating with the States directly concerned with the control of this disease in obtaining concerted action to delay the natural spread of the rust and to develop and apply suitable control measures. Quarantine officers of the Western States are informed of the dangerous character of the disease and realize their responsibility in preventing the artificial introduction of blister rust through the shipment of diseased host plants in violation of quarantine regulations.

SAIL FOR STUDIES ABROAD.

Three extension workers, who will study in England and France under scholarships awarded them, sailed from New York the first week in July to be gone three months. They are Evelyn Peyton, county home-demonstration agent for Madison County, Ala.; Ruth Arey, district agent for western Tennessee; and Mary Moreland, specialist in home industries in West Virginia. One month will be spent in England studying food preservation at the experiment station at Bristol University and leather work at the Woman's Institute of Loughton, Essex. They will also do work in rug-making and leather in France. One of the purposes of their trip is to fit them to teach the home utilization of the hides of farm animals, which at present bring almost nothing.

Miss Chiko Kuroda, of Japan, professor of chemistry in the Tokyo Higher Normal School, visited the Bureau of Chemistry on July 19 on her way from Oxford, England, to Japan. She has been studying with Professor Perkins, of Oxford.

DR. STANLEY TO HEAD HOME-ECONOMICS WORK

Named by Secretary as Chief of New Bureau—Assumes Duties September 1.

An announcement of interest to all department people was made on July 24 to the effect that Secretary Wallace had selected Dr. Louise Stanley, dean of home economics, University of Missouri, as chief of the new Bureau of Home Economics. The announcement was made by Acting Secretary Pugsley and said that Doctor Stanley would assume her new duties on September 1.

Doctor Stanley has filled successive positions at the University of Missouri since 1907 as instructor, assistant professor, associate professor, and dean of home economics, during which time she has been instrumental in developing women's work. A year's leave of absence in which she acted as special agent for the Federal Board for Vocational Education, studying home-economics methods in the South and Pacific States gave her a wide acquaintance and experience in vocational educational work. She was delegate to the International Conference of Home Economics Teaching, Ghent, Belgium, in 1913, and at present is chairman of the legislative committee of the American Home Economics Association.

Born in Nashville, Tenn., where she was reared on a farm, Doctor Stanley was graduated from the University of Nashville. She received the degree of bachelor of education at the University of Chicago in 1906, and in 1907 received her M. A. degree at Columbia University. She was awarded the Ph. D. degree at Yale in 1911.

New Chief Is Lauded.

In commenting on the appointment Acting Secretary Pugsley said: "The Nation is to be congratulated in securing Doctor Stanley to head the newly created Bureau of Home Economics. There is no more important work than that

devoted especially to the homes of the country. We are all highly gratified that Doctor Stanley is coming with us.

On June 12 and 13 Doctor Stanley was one of a committee of home-economics workers called to Washington to confer with the Secretary and other department officials to discuss plans and a program of work for the new bureau. Others who attended the meeting were: Miss Ruth Wardell, head of the home-economics department of Illinois; Dr. Helen Thompson, head of the home-economics department of Kansas; Dr. Ruby Green Smith, of the home-economics demonstration department of Cornell University; Miss Edna White, director of the Merrill-Palmer Home Economics School at Detroit; Miss Mary Sweeney, secretary of the American Home Economics Association; and Mrs. Mary Hinman Abel, writer and lecturer on statistical and sociological subjects. At this meeting a fairly definite program of work was suggested which will act as groundwork for future development along home-economics lines.

Field To Be Broadened.

Up until July 1 the work in home economics was carried on as a separate office in States Relations Service. In announcing the decision to form a new bureau Secretary Wallace said in his last annual report that "the establishment of a separate Bureau of Home Economics, with a technical and experienced woman as chief, should enable the work to be extended in that field and to render better service to the workers in the farm home and rural community, as well as make it possible to begin research work in new fields which must be covered and explored scientifically if the department is to render the greatest service to the home maker."

GRAIN SORGHUMS IMPORTANT IN PLAINS.

Had it not been for the grain sorghums, development of farming enterprises in much of the territory in the southern section of the Great Plains area, comprising portions of Kansas, Oklahoma, Texas, and New Mexico would hardly have been possible. They are comparatively unimportant crops when considered in relation to the principal cereal crops and to cotton and hay, but they are of tremendous importance in the southern Great Plains, according to the discussion of cereal crops in the 1922 Yearbook.

The grain sorghums are grown primarily for feeding grains and fodders for farm use. Estimates show that only about 25 per cent of the crop moves off the farms where grown.

EXTENSION OF FARM MANAGEMENT WORK

Ten Years' Study and Experience Proves Importance of a Balanced Program.

Ten years' experience in the conduct of farm management extension work, according to the findings of the farm management section of the recent Corn Belt States extension conference in Chicago, clearly indicates that a well-balanced program must include work of an immediate extension nature and work that will provide fundamental foundation material for the future. The success of such a program, it was felt, depends upon the effectiveness with which it is organized for projection by the extension agents and other local leaders of the extension organization.

Recommendations of Conference.

These recommendations include plans for farm organization and accounting by adult farmers through the keeping of simple farm records and enterprise costs; similar work for juniors in club work and in schools; assistance to farmers in making more economic farm layouts; aiding in the determination of extension programs and the correlation of extension activities by making economic information available; and the dissemination to farmers of timely economic information regarding both long-time and short-time changes of production, price, consumption, and movement of farm products, together with general economic facts bearing on the situation.

It was recognized by the conference that great difficulty is experienced in showing easily measurable results from farm management extension projects, since general success in farming manifests itself in many things not visible to the casual eye. An important result consists in more sound economic thinking by farmers and more accurate understanding of the relationships which determine the economic position of the farm family in the community at large.

The conference was attended by Dr. H. C. Taylor, Dr. A. C. True, Dr. C. B. Smith, A. B. Graham, L. H. Goddard, G. E. Farrell, I. L. Hobson, H. W. Gilbertson, F. W. Perkins, H. M. Dixon, and A. B. Genung, of the department, and by C. E. Ladd, Cornell University, New York; M. L. Mosher, J. D. Bilsborrow, H. C. M. Case, and W. H. Smith, University of Illinois; L. S. Robertson, W. V. Kell, T. A. Coleman, Leroy Hoffman, and W. Q. Fitch, Purdue University, Indiana; J. C. Galloway and P. C. Taff, Iowa State Col-

lege of Agriculture and Mechanic Arts; F. D. Farrell and I. N. Chapman, Kansas State Agricultural College; W. D. Nicholls and C. U. Jett, University of Kentucky; R. J. Baldwin, Michigan Agricultural College; W. L. Cavert and F. W. Peck, University of Minnesota; E. L. Taylor and W. H. Brokaw, University of Nebraska; R. E. Willard and G. W. Randlett, North Dakota Agricultural College; R. F. Taber, C. R. Arnold, and H. C. Ramsower, Ohio State University; H. D. McCullough and W. F. Kumlien, South Dakota State College of Agriculture and Mechanic Arts; and J. C. Donald, University of Wisconsin.

NEW SWEET-POTATO FLOUR PREPARED.

H. C. Gore, of the Bureau of Chemistry, who is working on the utilization of fruits and vegetables, has prepared a flour from sweet potatoes which, when added to the usual formula for bread dough, will produce a baked loaf of greater volume than the ordinary loaf, with the color, texture, and crust fully up to standard.

The use of sweet potatoes in this manner was suggested to Mr. Gore by the high diastatic power observed in two commercial varieties of sweet potatoes—the Nancy Hall and the Porto Rico. This diastatic power or the ability to digest starch, which is the most prominent characteristic of malt made from barley, was found to be about four times greater in sweet-potato flour than in malt.

In preparing the flour the potatoes were washed, sliced, and dried in an up-draft drier at a temperature not to exceed 50° C. When ground the yield of flour was about one-third of the weight of the potatoes.

Dough batches were made in the baking laboratory of the bureau, using the usual formula and adding 1, 1½, 2, and 2½ per cent of sweet-potato flour, which was mixed with the liquid ingredients before the wheat flour was added. When baked the loaves were compared with a wheat loaf, and in each case the volume of the sweet-potato loaf was greater, with a slight improvement in color and texture. In these experiments the sweet-potato flour was not used as a wheat flour substitute, but as a bread improver.

Dr. D. T. Fullaway, of Hawaii, has been appointed specialist in parasites of white grubs and has sailed for Yokohama, Japan, where he will be associated with C. P. Clausen in the Bureau of Plant Industry's search for parasites of the Japanese beetle. Dr. J. F. Illingworth, also, is now in Japan for the purpose of searching for parasites of this beetle.

A DIGEST OF THE NEWS

Brief bits of News Digested From Material Issued by Department During the Past Week.

NEEDLE GRASS CAUSES DAMAGE.

A plant known locally as needle grass recently has been found to be the cause of serious damage to sheep and lamb carcasses in parts of Texas, says the department. The dry barbed seed cases have a needle-like shape and have retentive barbs on the edges which enable the needle when once started in the flesh to burrow its way beneath the skin where it sometimes moves around through considerable areas. The irritation produced naturally damages the carcass and packers find it necessary to trim out the bad spots. It is suggested that the damage may be greatly reduced by pasturing the infested areas heavily in the spring, thus keeping down the grass and preventing the formation of seed.

COTTON REGULATIONS ARE ISSUED.

The department has issued regulations for the enforcement of the United States cotton standards act which goes into effect August 1. The regulations provide for the administration of the act by the Chief of the Bureau of Agricultural Economics and specify how the act shall be administered with respect to optional features. The Secretary of Agriculture is authorized to examine and license cotton classers, and the regulations provide the method by which classers will be licensed.

MORE BARBERRY SCOUTS AT WORK.

Early in July more than 300 field men were added to the force doing farm surveys for eradicating barberry bushes. By the end of the year it is expected that all territory in the eight States west of the Mississippi River in the barberry area will have been gone over. Surveys will also be conducted in five States east of the Mississippi, but it is expected that two years will be required to complete the work there.

VETERINARIANS FAVOR CAMPAIGN.

Practicing veterinarians in regions where the department, the States, and counties are carrying on campaigns against cattle tuberculosis report almost unanimously that the work is a good thing and should be encouraged and increased. These facts were brought out

through letters sent out by the department to a large number. Only 27 out of 410 spoke unfavorably of the work.

LOW TEMPERATURES KILL MILL PESTS.

Some flour-mill owners have found that it is more economical and just as effective to kill the insects which infest the mill, particularly the Mediterranean moth, by the use of freezing temperatures rather than by the use of gas. One mill in North Dakota asked the Weather Bureau to notify the company when a temperature minus 20° or lower could be expected for several hours. When the time came fires were drawn and doors and windows opened. The temperature went to 30 below zero, and all moths and most of the eggs were frozen. The process will not have to be repeated for at least two years.

FOREIGN CROPS PREDICTED LARGER.

The forecasts of wheat production for 16 countries of the Northern Hemisphere is about 1,878,000,000 bushels compared to 1,754,000,000 bushels for 1922, according to a cablegram received by the department from the International Institute of Agriculture at Rome. This is an increase of 124,000,000 bushels or about 7 per cent. Forecasts for 1923 wheat crop indicate that it will be more than twice the 1922 crop in Switzerland, Algeria, and Tunis.

SEED-RICE SHIPMENTS PROHIBITED.

By order of the Secretary, the existing quarantine measure prohibiting the importation of seed or paddy rice from certain designated foreign countries, on account of injurious plant diseases and insect pests, has been extended to apply to all foreign countries except Mexico, from which country importations are provisional. The extended quarantine will go into effect on September 1.

Field work in the collection of consumer-dealer-wholesaler information on factors influencing the demand for raisins has been undertaken at Pittsburgh, Pa., in cooperation with the Raisin Growers' Cooperative Association. The study will consist of gathering information on various factors which influence the consumption of raisins, including advertising, wholesale and retail methods of distribution, and practices followed by consumers in home cooking and baking. Consumer surveys of this character have been made in Boston and Washington and will be made in a number of large cities during this summer.

Relation of Food Control Work and Health Discussed

The relation between the efficient enforcement of food-control laws and the promotion of public health was emphasized by Dr. W. W. Skinner, Assistant Chief of the Bureau of Chemistry, in a recent address before the American Institute of Homeopathy.

The three principal factors contributing to the development of State and Federal food-control laws within the last 15 years, said Doctor Skinner, were (1) the manufacture of foods in the factory instead of in the home and the necessity of holding the manufacturer responsible for the integrity of his product; (2) the development of chemistry and of bacteriology, which brought with it a greater appreciation of the part played by microorganisms in the spoilage of foods and a better control of methods of manufacture and handling of foods to prevent such spoilage; and (3) the educational work carried on by public health associations in awakening the general public to the prevalence of adulteration and its dangers, which culminated in public demand for control measures.

As an instance of the salutary effect of food control laws, Doctor Skinner cited the survey and study of the oyster beds of the North Atlantic coast, made by the Bureau of Chemistry in cooperation with the United States Public Health Association. This work has resulted not only in a vast improvement in the sanitary quality of the oyster supply, thus removing a menace to public health, but has provided a wider market for the product by devising a shipping package in which oysters can be delivered in an edible condition to distant points. The danger to public health from milk and cream containing a large number of bacteria has been greatly reduced by educating producers, shippers, and distributors in the proper methods of handling, and the sanitary condition of bottled mineral waters has been improved by the installation of methods of purification at the source. Constructive work in cooperation with the canning interests has secured to the consumer safe and sanitary products, while actions under State and Federal laws have removed from the channels of commerce quantities of contaminated canned foods.

According to a recent ruling of the Comptroller General, tabulating cards for use with tabulating and sorting machines can now be purchased from the companies leasing the machines. A former ruling required that these cards be obtained from the Government Printing Office.



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THE OFFICIAL RECORD is published as a means of communicating to workers and co-operators of the Department of Agriculture official statements and other information necessary to the performance of their duties and is issued free to them by law. Others can obtain it from the Superintendent of Documents, Government Printing Office, Washington, D. C., by subscription at the rate of 50 cents a year domestic, and \$1.10 foreign. Stamps can not be accepted in payment.

OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary.

(Mr. Marvin, Acting Secretary.)

Representative on Federal Specifications Board.

MEMORANDUM No. 445.—Mr. Paul D. Kelleter, director of purchases and sales, is hereby designated as the department representative on the Federal Specifications Board vice Mr. S. A. Postle.

Cooperation of Workers is Asked by Chief Coordinator

Acting Secretary Pugsley directs attention of department people to a communication which has been received from the Chief Coordinator under date of July 12, in which he points out the necessity for a correct understanding on the part of field employees of the provisions of the Executive Order No. 3578 of November 8, 1921, and particularly to that part which states that the duly authorized agents of the Director of the Budget, of the Chief Coordinator, or of the coordinating boards, shall have access to all books and papers of the various departments which contain any information pertinent to the subject under consideration for coordination.

The department has never had an instance where an employee has failed to furnish information requested by any of the coordinating staff, but the letter of the Chief Coordinator is printed herewith in order that everyone shall understand the requirements in this connection:

From time to time the area coordinators continue to encounter an apparent disinclination upon the part of departmental field agents to cooperate with them in the manner enjoined in the President's order of November 8, 1921. This is due in every case to an apparent ignorance on the part of such officials as to the

existence and contents of the Executive order referred to. Particularly does this apply to those departments whose regulations governing their field services forbid the giving out of information without authority from the head of the service. It is recognized that such regulations are legitimate and necessary. Ordinarily, however, they do not apply to an area coordinator endeavoring to perform the duties assigned him under the President's orders.

The names and addresses of the area coordinators, together with the States that comprise the area in which each operates, are given below:

Area.	Coordinator.	States.
I.....	Commander A. S. Wadsworth, U. S. Navy, quartermaster intermediate depot, Army base, Boston 9, Mass.	Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island.
II.....	Capt. W. S. Miller, U. S. Navy, 728 custom house, New York, N. Y.	New York, New Jersey, Delaware.
III.....	Commander H. D. Lamar, U. S. Navy, custom house, Philadelphia, Pa.	Pennsylvania, Maryland, Virginia.
IV.....	Maj. Talbot Smith, U. S. Army, 538 Federal Building, Atlanta, Ga.	North Carolina, South Carolina, Georgia, Florida, Alabama, Tennessee, Mississippi, Louisiana.
V, VI, and VII.	Lieut. Col. E. R. Tompkins, U. S. Army, 1819 West Pershing Road, Chicago, Ill.	West Virginia, Ohio, Indiana, Kentucky, Illinois, Michigan, Wisconsin, Iowa, Minnesota, Missouri, Arkansas, Kansas, Nebraska, South Dakota, North Dakota.
VIII.....	Lieut. Col. William A. Austin, U. S. Army, Fort Sam Houston, San Antonio, Tex.	Texas, Oklahoma, Colorado, New Mexico, Arizona.
IX.....	Commander C. F. Russell, U. S. Navy, 433 Customs Building, San Francisco, Calif.	California, Nevada, Utah, Wyoming, Montana, Idaho, Oregon, Washington.

It is requested that the heads of the various divisions of all the field services of your department be required to call the attention of their field subordinates to Executive Order No. 3578, of November 8, 1921, and particularly to paragraph 10 of that order, which reads as follows:

All bureau chiefs and employees of the executive Government are directed to furnish any available information desired for purposes of coordination, or to attend any conference on coordination, at the request of the Chief Coordinator. It shall not be necessary for any duly authorized representative of the Director of the Budget, of the Chief Coordinator, or any coordinating authority established by Executive order to secure the approval of the head of a department or military or naval authority of a request for information for use in connection with the activities of the coordinating bodies. The duly authorized agents of the Director of the Budget, of the Chief Coordinator, or of the coordinating boards shall have access to all books and papers of the various departments and independent establishments which contain any information pertinent to the subject under consideration for coordination;

and that they be instructed that the requests of area coordinators for information are to be officially recognized.

Whenever in the opinion of the responsible official information called for is of a secret or confidential nature, the disclosure of which

would be prejudicial to the interests of the Government, the attention of the area coordinator should be called to that fact in writing and the head of the department should be notified. In such cases I will instruct the area coordinators to suspend their requests for information until the field officials have referred the matter to higher authority in their respective departments for guiding instructions.

CONTRACT MADE FOR WAR MEMORIAL.

Status of the fund for erection of a department war memorial shows a total of \$9,983.68, according to a statement issued by W. C. Henderson, chairman of the committee in charge. While the committee would have preferred a larger margin to work on, it is believed that immediate action should be taken to initiate the actual work on the tablet, with the belief that if any shortage should exist when the final payment to the sculptor is due it will be possible to raise such additional sum as may be necessary.

A contract has been executed with the sculptor for the \$10,000 memorial, which is to be completed within two years. Initial payment of \$500 was made to the sculptor upon signing of the contract, with the additional amounts to be paid during the progress and completion of the work.

CLERICAL POOL SUCCESSFUL.

To handle emergency and special work throughout its various divisions in Washington the Bureau of Agricultural Economics maintains a clerical pool consisting of an average of 10 clerks. These clerks are available to help in emergency work and to fill temporary vacancies when regularly assigned clerical employees are absent from duty, thus making it unnecessary for the divisions to employ a clerical force larger than is sufficient to handle established routine. Assignments involving general clerical and semistatistical work, typewriting, listing, checking, cataloging, and in some instances where a working knowledge of stenography is required are covered by persons from the pool, and practically all permanent clerical vacancies are filled by selection from this unit. The records of the bureau show that the average person remains in the pool less than six months.

The maintenance of this pool enables the bureau to expedite the handling of emergency work and gives officials in charge the benefit of the training employees receive while filling temporary assignments.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Is it true that the department will furnish trees at a nominal cost?

Answer. The department has no authority to sell trees to anyone. Conservation commissions in certain States, as well as similar agencies in several States, grow certain kinds of forest-tree seedlings, which they furnish to citizens of the State for planting under approved forestry plans at prices ranging from nearly nominal to estimated actual cost to the State to grow them.

Question. How largely do pork and lard figure in the food supply of the American people?

Answer. Pork and lard are two of the large items in the food supply of the American people. The average annual consumption per capita for the last five years is 67.3 pounds of pork and 12.5 pounds of lard, as compared with 60.9 pounds of beef. In several recent years the consumption of pork, without lard, has exceeded that of all other meats combined.

Question. What equipment is necessary for success in home canning?

Answer. Success in home canning depends a good deal on how well the canner understands the "why" in each step in the method. The causes of spoilage and the precautions necessary to prevent it are thoroughly discussed in Farmers' Bulletin 1211, Home Canning of Fruits and Vegetables, which describes also the various kinds of equipment and the reasons for preferring one piece of apparatus to another. The bulletin may be obtained as long as the supply lasts by writing to the department.

Question. What is the value of the fox-fur industry in this country annually?

Answer. So far as production in captivity is concerned, and judging from figures that are as correct a representation as it is possible to obtain under existing conditions in the United States, it is estimated that in 1922 there were 500 ranchers raising silver foxes; that there were between 12,000 and 15,000 foxes in captivity; and that the value of the investment was about \$8,000,000. This information is based on replies to an official questionnaire sent out annually by the Biological Survey to all

known fur farmers in the United States. There may be isolated ranchers in contiguous territory, but owing to their failure to reply to the questionnaire there is no record of them.

Question. Would you kindly inform me if the department makes analyses of soil?

Answer. It is impracticable for the department to make analyses of soil for individuals, as it is a tedious and expensive operation, and to establish a precedent of this kind would overwhelm the laboratory and the appropriation would be entirely inadequate. Furthermore, a chemical analysis of soils does not and can not indicate their adaptation or productivity.

Question. Is there any advantage in building a pit silo rather than one above ground?

Answer. Pit silos have been constructed in rapidly increasing numbers in the Southwest during the last few years, owing to scarcity of materials for masonry silos, climatic conditions affecting wooden silos, and the high cost of transporting materials. Pit silos can be made by farm labor at a relatively small cash outlay. Farmers' Bulletin 825, Pit Silos, which gives complete directions for constructing them, recommends this type only where a combination of soil and climatic conditions exists similar to those in the Southwest. In the absence of these special conditions the ordinary types of silos described in Farmers' Bulletin 855, Homemade Silos, are recommended.

Question. How can fruit stains be removed from silk?

Answer. Farmers' Bulletin 861, Removal of Stains from Clothing and other Textiles, describes how stains may be removed easily at home by means of a few simple precautions. With some stains prompt home treatment is necessary in order to save the article from being ruined.

The joint committee on definitions and standards will hold a meeting August 6 to 10, inclusive, to consider definitions and standards for flour and meat products. The members of the committee are Dr. W. W. Skinner, chairman; Dr. F. C. Blanck and Mr. R. E. Doolittle, representing the Department of Agriculture; Dr. J. Hortvet, Dr. C. D. Howard, and Dr. E. M. Bailey, representing the Association of Official Agricultural Chemists; and D. W. W. Randall, Dr. L. E. Sayre, and Dr. R. E. Rose, representing the Association of American Dairy, Food, and Drug Officials.

Flag Smut Control Subject of Conferences in Illinois

Two important conferences were held in Illinois recently to consider a program for controlling the infestation of flag smut which has become widely distributed since the disease was first found in Madison County in 1919. Seven counties in Illinois, five in Missouri, and four in Kansas are now known to be infested. Representatives of the Department of Agriculture, the Illinois Department of Agriculture, and the University of Illinois attended and agreed to cooperate in an effort to control the disease.

The use of resistant varieties of wheat seems to be the most promising method of control. Several varieties and strains of wheat have been found free from or highly resistant to flag smut in experiments conducted in the last four years by the department and the Illinois Agricultural Experiment Station near Granite City, Ill. Some of these resistant varieties are already widely grown in the States in which flag smut has been found, and every effort will be made to increase their use. Prominent among them are Mammoth Red and Fulcaster, a strain of which is known as Stoner, or Marvelous. Trumbull, a beardless wheat, and Fulcaster, a bearded wheat, are to be especially recommended.

Harvest Queen (Red Cross) wheat is a variety most susceptible to the disease. Since it has been grown extensively in all of the sections where flag smut is found, it may be responsible to a large extent for the spread of this smut.

A general survey to locate other infested territory will be made, and the shipment of straw from infested areas will be regulated. Seed treatment with copper carbonate and wheat-treating machines will be urged by the State department which also plans to purchase eight seed-treating machines and \$2,000 worth of copper carbonate for distribution within the area for treating seed wheat. The State department will purchase the crop of Shepherd wheat grown near Granite City on about 6 acres for use in experimental work. This is a selection which has been free from smut for four years.

Investigations have shown that seed treatment protects against seed-borne infection but does not protect against the spores in the soil. The fungus will live in the soil for a full year and then infect the wheat. This means that at least two years should intervene between wheat crops in the land if smut is to be avoided.

Illinois county farm advisers will cooperate by holding meetings to acquaint the wheat growers with the problem and its control.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

APPARATUS FOR ROAD WORK DEVELOPED.

The Bureau of Public Roads is the most prolific source of highway testing and research apparatus in the world. The inventive genius of the department engineers manifested itself very early in the history of good road building with the invention of an apparatus for determining the toughness of road-building rock which was invented by Logan Waller Page, the former director of the bureau. A score of years ago when the most important type of improved road surface was the macadam road this apparatus was one of the most useful instruments in the highway testing laboratory. The life of the macadam road depended very largely upon the ability of the stone to withstand the blows delivered by horses' hoofs and wagon wheels. The Page Impact Machine, as it was called, furnished a means of determining in advance the toughness of any particular stone. Almost immediately it was adopted by laboratories throughout the world, and though the day of the macadam road is rapidly drawing to a close the apparatus is still used for testing rock for bituminous macadam and concrete roads.

Later on Mr. Page developed the apparatus known as the Page cementation machine, which was also widely adopted for the testing of rock for macadam roads. The purpose of this machine was to determine the cementing properties of the rock dust resulting from the grinding of the rock used in the road. It was this dust which was depended upon to bind together the crushed stone, of which the road surface was composed, so as to form a hard, smooth surface. The automobile sounded the death knell of the macadam roads when its fast-flying wheels drew the dust from between the stones and scattered it over the near-by country side, and the cementation machine has been put aside for more useful apparatus.

The bureau, however, has kept up with the changes that have been required by the changing traffic of the last decade and literally dozens of instruments have been devised with which to measure the characteristics of the new materials employed in road construction and the new forces brought to bear on the road surfaces by automobiles and motor trucks. One of the most important

single pieces of apparatus developed is the soil-pressure cell. By its use it has become possible for the first time to measure the pressure transmitted to the soil under a road surface. By burying the soil-pressure cells beneath the road surface these pressures measure to the one-tenth of a pound and the engineer is thus supplied with precise knowledge which he had been unable to obtain until the soil-pressure cell was developed. This instrument has a wide usefulness in other fields than highway construction.

Many other devices of the bureau also have uses other than in highway construction; for example, the apparatus for the measurement of impact. This apparatus, designed especially to measure the impact of motor-truck wheels on road surfaces, furnishes the means of measuring a force that has not heretofore been measurable. It is impossible to foresee what developments will come from the use of this type of instrument. It is as fundamental as the weight scale, the foot rule, and the pint measure, and its purpose is to measure the intensity of blows that are delivered so quickly that they can not be measured with an ordinary weight scale.

WITH EXTENSION FORCES

CLUB CAMP WEEK POPULAR.

One of the big events of the summer, according to thousands of members of boys' and girls' agricultural clubs, is club camp week. For this occasion these young farmers and home makers put the care of their live stock, their crops, their baking, or home management temporarily into other hands and enjoy a week of real fun and inspiration.

Attendance at the camps is in a number of States a reward for high attainment in some line of club work, while in others delegates are selected by each club, but in every case the lucky boy or girl is expected to bring back from the encampment new ideas and plans for his home community.

The programs of the camps include practical instruction in agriculture and home economics and supervised play. That of Daviess County, Ky., given below, is a typical schedule.

Daily Camp Schedule.

- 6 a. m. Bugle for rising.
- 6.10. Flag raising; singing Star-Spangled Banner.
- 6.30. Setting-up exercises; swimming.
- 7. Breakfast.
- 8-10.55. Group instruction—Four H development, nature study, home club plans,

health and first aid, agriculture, home economics.

- 11. Medicine ball.
- 11.15. General assembly lecture.
- 12. Dinner.
- 1.30 p. m. Leaders' conference.
- 1.45. Play and recreation.
- 4.30. Rest.
- 6. Supper.
- 7.30. Vesper service.
- 8. Camp fire.
- 9.30. Bed.

In 1922 an average of at least 400 farm boys and girls per State enjoyed the benefit of county or State encampments; in States where camps have been conducted for several years the attendance is much larger. In Montana there were last year 15 camps, with 821 boys and girls attending. In Ohio over 600 club members were in the 1922 club encampment. Kentucky held, last year, 24 camps, with an average attendance of 90 at each; this year practically every one of the 64 counties in the State having an extension agent is planning for a camp. In West Virginia over 1,100 boys and girls attended camps last year; this year 42 county camps are scheduled, besides some junior and district camps. Reports indicate that plans for this form of club activity have been completed in practically every State.

SHORT COURSE AT COLLEGE PARK.

The extension service of the University of Maryland recently inaugurated a new activity by holding its first annual short course for rural women of the State at College Park, June 18 to 22. Representatives from home-demonstration clubs of all but three counties attended, a total of 247 women. Discussions of subjects relating to the farm home by representatives of the department and of a number of State colleges occupied assembly periods. Classroom lectures and demonstrations in foods, household management, house furnishing, clothing, millinery, health, home dairying, poultry, and landscape gardening followed each day. A well-planned course of instruction in recreation was included, laying emphasis on the important contribution which play makes to the well-being and efficiency of the farm family.

The last afternoon of the course was devoted to a sightseeing trip to Washington, D. C., and to the experimental fields and rose garden of Arlington Farm, Arlington, Va. The short-course students and members of the university staff were received at the department by A. C. True, director States Relations Service, and C. B. Smith, chief office of cooperative extension work.

BRIEF REVIEWS OF NEW BULLETINS.

Tomatoes as a Truck Crop. By W. R. Beattie, horticulturist, Office of Horticultural and Pomological Investigations, Bureau of Plant Industry. Pp. 34, figs. 21. June, 1923. (Farmers' Bulletin 1338.)

This bulletin discusses in detail the culture of tomatoes as a market-garden crop and is largely a summary of the methods and results of tomato growers who have been especially successful. The tomato now ranks third in importance among truck crops. The present need of the early and truck-crop tomato industry is not increased acreage but a general improvement in the growing, grading, packing, and marketing of the crop. Marked progress has been made in the development of strains that are resistant to disease, and a number of seed firms are now making a specialty of those that are adapted to the work.

Report on Bird Censuses in the United States, 1916 to 1920. By May Thacher Cooke, assistant in biological investigations, Bureau of Biological Survey. Pp. 36. July 20, 1923. (Department Bulletin 1165.) Price, 5 cents.

The robin is the most abundant species among all the birds in the States north of North Carolina and east of the Mississippi results of seven years' work in taking bird censuses indicate. The English sparrow is second. On the farm land in this section there are approximately nine pairs of robins and eight pairs of English sparrows to each 100 acres. For the land immediately surrounding farm buildings, and including lawns and orchards, there are on an average 130 pairs of birds of all species nesting on 100 acres, while the estimated bird population of the entire farm is about 112 pairs to 100 acres.

The counts made in the southeastern section of the country, the Plains, and in the Rocky Mountain region have been so scattered and of so small an acreage that no conclusions concerning the average bird population of those districts are yet possible. As the work depends entirely on the cooperation of volunteer observers it is hoped by the Biological Survey that many more cooperators will send data in the future. Many problems concerning bird life can only be solved by bird censuses taken over many tracts of land and for a number of years in succession. The Biological Survey advocates counting the singing males at the height of the breeding season and furnishes complete particulars as to how this should be done to those interested.

Demonstration Courses in Kiln Drying, Boxing and Crating, Gluing of Wood, Wood Properties and Uses. Prepared by the Forest Products Laboratory, Forest Service. Pp. 20. June, 1923. (Miscellaneous Circular No. 8.) Price, 5 cents.

This circular gives details of the courses offered by the Forest Products Laboratory, Madison, Wis., to manufacturers, trade specialists, salesmen, and others interested in the practical application of the results of the laboratory's research work. Courses are offered by personal contact and cover a variety of subjects, such as "Kiln drying of lumber," "Boxing and crating," "Gluing of wood," "Wood properties and uses." The courses are given in from one to two weeks and at a fee of \$100 to \$150 for each course.

The demonstration course in the kiln drying of lumber is intended for factory and sawmill executives, foremen, kiln operators, and other employees handling lumber or

wood products. The course in boxing and crating is planned to be of assistance to anyone engaged in the manufacture or sale of shipping containers and to anyone in charge of the selection and use of containers for the shipment of goods. The course in gluing of wood is given for those in charge of gluing in shop or factory where any kind of glued wood product is manufactured, and the course in wood properties and uses is primarily for salesmen of lumber.

The circular also contains lists of firms and companies from which representatives have in the past been sent for instruction in these demonstration courses.

Arbor Day. Prepared by the Forest Service. Pp. 15, figs. 7. June, 1923. (Department Circular 265.) Price, 5 cents.

This publication supersedes Department Circ. 8 of the same title.

Arbor Day is an established institution in this country, which was inaugurated in 1872 by J. Sterling Morton, who once served as Secretary of Agriculture. This new booklet traces the widespread observance of tree-planting exercises in the United States and shows very clearly that the observance of Arbor Day has a distinct and favorable reaction on the spirit of civic betterment. The practical side of this circular embraces the care of trees and gives accurate data on the kind of trees to plant in different sections of the country.

A Forest Fire Prevention Handbook for the School Children of California. Prepared by the Forest Service, U. S. Department of Agriculture, and the State Forester in cooperation with the Superintendent of Public Instruction of the State of California. Pp. 24. July 2, 1923. (Miscellaneous Circ. 7.) Price, 10 cents.

This manual is of distinct educational value as well as of value from a forestry standpoint. The text is profusely illustrated for young readers and is written in a style which school children can easily read, with a series of questions following each chapter to help the teacher. The location and area of the California forests are covered, together with a clear statement of the various species of trees native to the State. The effect of forests on water supply, the recreational facilities made possible by the forests, and the effect, causes, detection, fighting, and prevention of forest fires are also touched upon.

The Work of the Newlands Reclamation Project Experiment Farm in 1920 and 1921. By F. B. Headley, farm superintendent, and E. W. Knight, assistant agriculturist, Office of Western Irrigation Agriculture, Bureau of Plant Industry. Pp. 26, figs. 9. March, 1923. (Department Circular 267.) Price, 5 cents.

The information contained in this report is the direct result of an extensive series of experiments conducted at the Newlands experiment farm during 1920 and 1921. It furnishes some valuable and much-needed information for the settler on the irrigated lands in the West, and discusses the agriculture of the Newlands reclamation project in the light of detailed crop and live-stock statistics collected by the Reclamation Service.

ADDITIONAL PUBLICATIONS.

The Acid Lime Fruit in Hawaii. By W. T. Pope, horticulturist. Pp. 20, pls. 6. July 9, 1923. (Hawaii Agricultural Experiment Station Bulletin 49.) Price, 10 cents.

Experiment Station Record. Vol. 48, No. 8. June, 1923. Pp. 701-800. Price, 10 cents.

Experiment Station Record. Vol. 48, No. 9. Abstract number. June 26, 1923. Pp. 801-900. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Statistics of Crops Other Than Grain Crops, 1922. Compiled by Nat C. Murray, Lewis B. Flohr, O. A. Juve, Emma S. Thompson, Lila Thompson, Caroline G. Gries, Birdella Miller, M. E. Murphey, James J. Window, and Perry Elliott, Bureau of Agricultural Economics. Pp. 129. (Separate 884, Yearbook 1922.) Price, 15 cents.

Statistics of Grain Crops, 1922. Compiled by Nat C. Murray, Lewis B. Flohr, O. A. Juve, Emma S. Thompson, Lila Thompson, Caroline G. Gries, John W. Strowbridge, and James J. Window, Bureau of Agricultural Economics. Pp. 97. (Separate 881, Yearbook 1922.) Price, 10 cents.

Timber: Mine or Crop? By W. B. Greeley, Earle H. Ciapp, Herbert A. Smith, Raphael Zon, W. N. Sparhawk, Ward Shepard, and J. Kiltredge, jr., Forest Service. Pp. 98, figs. 22. (Separate 886, Yearbook 1922.) Price, 15 cents.

The Dairy Industry, which appears in the 1922 Yearbook as an article of 114 pages, has been reprinted as Separate No. 879 of 100 pages. A number of illustrations were omitted in printing this separate, but there was no change in the text.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week July 16-21, 1923. These publications can be obtained only from the stations issuing them:

- Gum diseases of citrus trees in California. H. S. Fawcett. (California Sta. Bul. 360, pp. 369-423, figs. 15, Apr., 1923.)
- Commercial feeding stuffs. E. G. Proulx et al. (Indiana Sta. Bul. 268, pp. 23, figs. 2, Apr., 1923.)
- Supplemental specialty feeds for making 225-pound pigs on pasture. J. M. Evvard and C. C. Culbertson. (Iowa Sta. Circ. 85, pp. 8, May, 1923.)
- Nebraska farm homes. J. O. Rankin. (Nebraska Sta. Bul. 191, pp. 48, figs. 20, May, 1923.)
- Dry farming investigations at the Scottsbluff Substation. L. L. Zook. (Nebraska Sta. Bul. 192, pp. 23, fig. 1, July, 1923.)
- Sixteen years' grain production at the North Platte Substation. L. L. Zook and W. W. Burr. (Nebraska Sta. Bul. 193, pp. 52, figs. 6, July, 1923.)
- Annual report of the Board of Control for the fiscal year ending June 30, 1922. (Nevada Sta. Rpt., 1922, pp. 20, figs. 2.)
- The value of various culling factors. G. W. Hervey. (New Jersey Stas. Hlnts to Poultrymen 11, No. 9, pp. 4, June, 1923.)
- The apple-tree crotch. L. H. MacDaniels. (New York Sta. Bul. 419, pp. 22, figs. 16, May, 1923.)
- The monthly bulletin. (Ohio Sta. Mo. Bul. 8, Nos. 5-6, pp. 65-90, figs. 6, May-June, 1923.)

A new pictorial poster, just issued by the department, illustrates the superiority of pure-bred over common live stock and gives six reasons why pure breeds excel. The reasons are: Better conformation and quality, more products for the feed, greater uniformity, earlier maturity, more salable, and offspring more valuable. The poster is printed on cardboard and measures 15 by 18 inches. It may be obtained without cost by applying to the department.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Administration of industrial enterprises. By E. D. Jones. New York, Longmans, Green and co., 1920.
- American livestock and meat industry. By R. A. Ciemen. New York, Ronald press co., 1923.
- Burgage tenure in mediaeval England. By M. de W. Hemmeon. Cambridge, Harvard university press, 1914.
- Business research and statistics. By J. G. Frederick. New York, D. Appleton and co., 1920.
- Coöperative marketing. By Herman Steen. Garden City, N. Y., Doubleday, Page & co., 1923.
- Cost finding. By D. S. Kimball. New York, Alexander Hamilton institute, 1921.
- Cycles of unemployment in the United States, 1903-1922. By W. A. Berridge. Boston, Houghton Mifflin co., 1923.
- Early English customs system. By N. S. B. Gras. Cambridge, Harvard university press, 1918.
- English field systems. By H. L. Gray. Cambridge, Harvard university press, 1915.
- English patents of monopoly. By W. H. Price. Cambridge, Harvard university press, 1913.
- Evolution of the English corn market from the twelfth to the eighteenth century. By N. S. B. Gras. Cambridge, Harvard university press, 1915.
- Financial and operating ratios in management. By J. H. Bliss. New York, Ronald press co., 1923.
- Flora of the Malay Peninsula. v. 2. By H. N. Ridley. London, L. Reeve & co., ltd., 1923.
- Getting the most out of business. 6th ed. By E. St. E. Lewis. New York, Ronald press co., 1920.
- Liberty and free soil parties in the Northwest. By T. C. Smith. Cambridge, Harvard university press, 1897.
- Railroads: rates—service—management. By H. B. Vanderblue and K. F. Burgess. New York, Macmillan co., 1923.
- Science and common sense in working with men. By W. D. Scott and M. H. S. Hayes. New York, Ronald press co., 1921.
- Stabilizing the dollar. By Irving Fisher. New York, Macmillan co., 1920.
- Standard methods for the examination of water and sewage. 5th ed. American public health association. Laboratory section. New York, 1923.
- Statistical method. By T. L. Kelley. New York, Macmillan co., 1923.
- Theory of arches and suspension bridges. By Josef Melan. Chicago, Myron C. Clark pub. co., 1913.
- Trade and navigation between Spain and the Indies in the time of the Hapsburgs. By C. H. Haring. Cambridge, Harvard university press, 1918.

CURRENT PERIODICALS.

- Arizona. Agricultural experiment station, Tucson. Technical bulletin. [1922?] Barberry scout. Minneapolis, 1923.
- China journal of science & arts [bi-monthly] Shanghai, China, 1923.
- Edinburgh review [quarterly] London, 1923.
- Gt. Brit. Dept. of scientific and industrial research. Building research board. Special report. London, 1921.
- Gulf coast grower [monthly] Silverhill, Ala., 1923.
- Nineteenth century and after [monthly] New York, 1923.
- Zeitschrift für schädlingbekämpfung [monthly] Berlin, 1923.
- Zeitschrift für sukkulentenkunde. Leipzig, 1923.

Articles in Current Publications By Department Workers

- Blake, S. F. (Bureau of Plant Industry). The forms of *Osmorhiza longistylis*. Rhodora, Vol. 25, pp. 110-111. July, 1923.
- Blake, S. F. (Bureau of Plant Industry). Notes on two Ericaceae of the Boston district flora. Rhodora, Vol. 25, p. 116. July, 1923.

- Hall, Maurice, and Shillinger, Jacob E. (Bureau Animal Industry). Some critical tests of Arecoline hydrobromide as an anthelmintic. Jour. Amer. Vet. Med. Assoc., Vol. 63, No. 4, pp. 454-463. July, 1923.
- Holm, George E., and Greenbank, George R. (Bureau Animal Industry). The quantitative determination of tryptophan. Jour. of Amer. Chem. Soc., Vol. 45, No. 7, pp. 1788-1792. July, 1923.
- Holmes, W. C. (Bureau of Chemistry). The estimation of Erythrosine. Color Trade Jour., Vol. 13, No. 1. July, 1923.
- Holmes, W. C. (Bureau of Chemistry). Spectroscopy of Dyes. Color Trade Jour., Vol. 13, No. 1. July, 1923.
- Howard, L. O. (Bureau of Entomology). A fifty-year sketch history of medical entomology. Publication No. 2702 from the Smithsonian report for 1921, pp. 565-586, 10 pls. 1923.
- MacDonald, Thomas H. (Bureau of Public Roads). The economic development of State highways. Good Roads, Vol. 64, p. 214. June 6, 1923.
- Oberholser, Harry C. (Biological Survey). Descriptions of new East Indian birds of the families Turdidae, Sylviidae, Pycnonotidae, and Muscicapidae. Smithsonian Miscellaneous Collections, Vol. 76, No. 6, pp. 1-9, Publication 2721. July 16, 1923.
- Price, D. J. (Bureau of Chemistry). Preventing dust fires and explosions. Chem. & Met. Eng., Vol. 28, No. 20. May, 1923.
- Price, D. J., and Trostel, L. J. (Bureau of Chemistry). What the U. S. Bureau of Chemistry is Doing to Prevent Industrial plant dust explosions and fires. Hartford Agent, Vol. 14, Nos. 10, 11, and 12. April, May, and June, 1923.
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PICTURE SHOWS REFORESTATION WORK.

"Future Forest Giants," a new one-reel motion picture recently released by the department, pictures the extensive activity of the Forest Service in reforestation of great areas, particularly in the Western States, that have been laid bare by forest fires or destructive logging operations.

The progress of a tree from the seed to the towering giant of the forest is shown by a sequence of scenes made in and near the Savenac nursery of the Forest Service at Haugen, Mont., the largest of the nurseries operated by the Federal Government, and where millions of seedlings are grown every year. The Savenac nursery is near the great "1910 burn," scene of one of the greatest timber conflagrations known since the white man crossed the Great Plains, and most of the nursery's product goes into this area. Planting of seed beds, watering, protection from birds and too much sun, transplanting, bundling, and all the other operations necessary in producing the young trees are shown, including the work of the "planting crew" when it places the

seedlings in the ground, at a total cost, including stock and planting, of 1½ cents each. The film ends with scenes of mature timber, ready for utilization.

The film will be circulated through the department's film-distribution system. Authorized persons and institutions may purchase prints at the laboratory cost.

Virginia Maintains Lead in Better-Sires Stock Campaign

According to a report on the progress of the "Better sires—Better stock" campaign, just issued by the Bureau of Animal Industry, 25 counties have the distinction of having 100 or more persons using pure-bred sires exclusively for all kinds of live stock kept. Seven of the 25 have more than 200 persons whose farms are on such a pure-bred sire basis. Following is the list revised to July 1, 1923.

County.	County agent.	Persons enrolled.
Pulaski, Va.	E. C. Grigsby	558
Rockingham, Va.	Chas. W. Wampler	374
Greene, Ohio	Ford S. Prince	350
Union, Ky.	S. C. Brewer	266
Oldham, Ky.	Gordon B. Nance	243
Hardin, Ohio	F. S. Hagy	236
Miami, Ohio	C. M. Senn	214
Kittitas, Wash.	W. L. Davis	198
Greenville, S. C.	A. H. Chapman	176
Hancock, Ohio	E. M. Rowe	156
Guernsey, Ohio	E. H. Reed	149
Belmont, Ohio	J. C. Neff	146
Orange, Va.	Edward V. Breeden	141
Orleans, Vt.	W. T. Abell	139
Defiance, Ohio	Jesse E. Whonsetler	137
Lamolle, Vt.	Frank D. Jones	128
Coshocton, Ohio	G. C. Musgrove	125
Webster, Nebr.	Henry R. Fausch	123
Columbiana, Ohio	C. E. Rowland	122
Addison, Vt.	Francis R. Churchill	118
Pocahontas, W. Va.	H. C. C. Wills	110
Nance, Nebr.	J. P. Ross	104
Orange, Va.	H. A. Dwinell	103
Stafford, Va.	Volney B. Perry	100
Dodge, Nebr.	R. M. Houser	100

It is noteworthy that every county in the list is one having a county agent. County agents have been largely instrumental in interesting farmers in their counties to breed and raise improved live stock.

Regulations under the grain standards act, as amended July 1, require shippers of uninspected grain by grade between points at which no inspector is located to transmit to the purchaser or consignee an invoice bearing a statement to the following effect: "This grain not inspected by licensed inspector; grade subject to dispute under United States grain standards act." In addition, shippers are required by the terms of the regulation to report the details of such shipments if requested by the Bureau of Agricultural Economics.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., AUGUST 15, 1923.

Nos. 32 AND 33.

ARBITRATION REDUCES COMMISSION RATES

New Live-Stock Rates Will Save Shippers Three-Quarters of a Million Dollars Annually.

Complaints by live-stock producers and shippers patronizing the marketing agencies at Chicago, Omaha, Kansas City, and St. Paul that the commission rates charged for selling live stock at these markets were unjust, unreasonable, and discriminatory have resulted in an agreement through arbitration between the complainants and the defendants, in which new rate schedules will be put into effect as soon as circumstances permit. The new rates represent reductions in the selling charges, and it is estimated that these shippers and producers will save approximately three-quarters of a million dollars a year in commissions.

Unusual Procedure.

This formal complaint filed with the Secretary of Agriculture on July 25, 1922, under Title III of the packers and stockyards act, 1921, was met in an unusual way, in that, through mutual consent of the complainants and respondents, the matter was left in the hands of two representatives of the packers and stockyards administration of the Department of Agriculture, H. M. Gore and G. N. Dagger, the producers' organizations and the commission men agreeing to abide by their decision. Furthermore, their task was a pioneer one, in that it was the first time that live-stock commission rates had been determined in this manner. The arbitrators held hearings at the four markets, and the new rates which are announced were arrived at without the embarrassments that usually attach to formal proceedings.

The rates to be put into effect are the result of careful study of conditions on the individual markets and consideration of auditors' reports on the business of individual commission firms, together

with information furnished by the parties concerned.

The new rates for selling cattle at St. Paul, Omaha, and Kansas City, as established by this decision, are a minimum of \$15 for 20 head or less and a maximum of \$19 for a carload, at the

(Continued on page 5.)



WARREN GAMALIEL HARDING.

November 2, 1865—August 2, 1923.

In the death of Warren G. Harding the country lost a great leader and every class of citizenry a sympathetic friend. He was especially the friend of the American farmer, whose plight was among the uppermost national problems he shouldered upon taking office. His broad sympathies overcame sectional and party boundaries. He did much to make the United States Department of Agriculture a more effective agency of service to American agriculture and the people as a whole.

INSECT PARASITES TO BE INTRODUCED

Doctor Howard Finds New Parasites While on Investigational Study in Europe.

Dr. L. O. Howard, Chief of the Bureau of Entomology, has recently returned from a three months' trip to Europe where he consulted with agents and correspondents with regard to the importation into the United States of European parasites of injurious insects which have been accidentally imported from Europe into this country, especially the parasites of the European corn borer.

Keep Balance of Nature.

Many of the insects which have found their way into this country and have become a serious problem here are regarded with little concern in their native country because of the presence there of parasites which hold them in check. Without these parasites the balance of nature is upset and the insect becomes a problem to control by other means. One parasite of the European corn borer was brought in last fall and apparently has become established here. It has made actual attacks in the field that are noticeable. The European corn borer is serious in Massachusetts because of climatic and other seasonal conditions which make possible two broods a year. It is gradually spreading toward the Corn Belt, where it is causing some concern, although at present in New York, Pennsylvania, Ohio, and Michigan conditions are such that only a single brood a year is possible.

Three species of wasplike parasites and two species of flylike parasites for the European corn borer have been liberated to date, and a number of other promising ones are reported by Dr. Howard to have been arranged for collection and introduction.

Doctor Howard attended the International Congress of Agriculture at Paris May 24-28. He was vice president of this congress and responded to the toast

to the United States at the final banquet. He also attended the international conference on the olive fly at Madrid June 18, and the International Conference of Phytopathologists and Economic Entomologists in Holland June 24-30. He was the honorary president of the latter conference, which was largely attended, 26 nations being represented.

Corn-Borer Parasites.

At the conference concerning the olive fly, Doctor Howard was in attendance chiefly because of his eminent position as an entomologist and not because of any serious problem which this pest presents to the United States. As yet there has been no importation of the olive fly into this country and there is no great likelihood of its introduction, because most of the olives come to the United States in the green or pickled state. The olive fly is, however, of great commercial importance in European olive-growing districts.

At the bureau's laboratory at Hyeres, France, in charge of Dr. W. R. Thompson, Doctor Howard found that the work with the parasites of the European corn borer is going on in a most satisfactory way, and that parasites of certain other insects common to both countries are being studied in an effective manner, particularly parasites of the alfalfa weevil. This laboratory was first established in 1920 at Auch, France, near Marseilles, for the primary purpose of studying and collecting insect enemies of the corn borer. Doctor Thompson is at present assisted by two other scientists, an American and a Frenchman.

The alfalfa weevil is most serious in the western alfalfa country, where, when in abundance, it frequently destroys the entire hay crop at the time of the first cutting. It was first noted in Utah about 15 years ago, but since has spread through southwestern Wyoming, western Colorado, northern Nevada, all of Idaho, and to eastern Oregon. Parasites to control the alfalfa weevil were introduced about 10 years ago and at least one has become established and is aiding materially in checking the spread of the pest. The most that can be hoped for in the use of parasites is to check the increase in numbers of the insects. The parasite naturally can not exterminate its host without exterminating itself. Supplementing the alfalfa weevil parasitic control fairly satisfactorily sprays have been developed to aid in the fight against it.

Doctor Howard also reports the recent discovery in Europe of two parasites of the European earwig, which is at present a great nuisance in the vicinity of Seattle, Wash, Portland, Oreg., and Newport, R. I. The European earwig does

considerable damage to garden truck and flowers and when in great numbers invades houses. Arrangements were made for the future study and shipment to this country of these two parasites.

Senator Copeland Guest at Nysuda Club Open Meeting

United States Senator Royal S. Copeland, Acting Secretary Pugsley, W. A. Jump, administrative assistant to the Secretary and budget officer of the department; Mr. Ole Salthe, of the New York City Department of Health; and Richard W. Hickman, former chief of the quarantine division, Bureau of Animal Industry, were the guests of honor at a meeting of the Nysuda Club held at Moaquin's Restaurant July 18.

The heads of each branch office of the department explained briefly the work being carried on in New York and Brooklyn and discussed some of the daily problems that must be handled in the field work, being introduced in turn by Mr. W. R. M. Wharton, president of the Nysuda Club. Acting Secretary Pugsley was then introduced and, after a few words of appreciation of the work being done by the men in the field, introduced Senator Copeland.

Senator Copeland stated that he was deeply appreciative of the opportunity to attend the meeting of the department representatives and learn first hand of the work that the department is doing in his own territory. The Senator explained that he was already somewhat familiar with the work of the department through his own service as health commissioner of New York, which brought him into close contact with the offices of the Bureau of Animal Industry, the Bureau of Chemistry, and others. The Senator from New York was born on a farm and stated that he had something of an understanding of the present problems of the farmer. He indicated his deep sympathy for the farmers of the country and pledged himself to support the work and aid the Department of Agriculture in every way that he could.

The meeting was held as a result of the recent suggestion from the office of the Secretary that the various Usda clubs throw their regular meetings open to such public men as might care to attend in order that they might become familiar with the work of the Department in their local territory. Other similar meetings will be held from time to time by the Nysuda Club in order to let the guests of the organization familiarize themselves with the work conducted in New York by the department.

In addition to the guests indicated others in attendance were: C. O. Dodge, H. W. Redfield, and F. L. Wollard, Bureau of Chemistry; C. F. Hutchinson, tea examiner; Harry B. Shaw, Federal Horticultural Board; J. A. Scary, Weather Bureau; Albert Long, J. Huelson, L. D. Ives, W. F. Schroeder, Oscar Nelson, A. E. Rishel, W. R. Roskrans, E. T. Davison, and R. M. Mullings, Bureau of Animal Industry; and B. F. McCarthy, F. J. Miller, W. C. Norris, O. D. Miller, W. C. Heckleman, and J. H. Frazier, Bureau of Agricultural Economics.

CANE-SUGAR INDUSTRY IN MOVIES.

"Raising cane" and then crushing the juice out of it and making it into pure white granulated sugar is one of the latest subjects to be portrayed on the educational motion-picture screen by the department. The new film is entitled "Sugar Cane and Cane Sugar." It is one reel long.

Cultural processes from replanting preparations to the "laying by" of the cane when it was grown big enough to take care of itself are shown in the early scenes. Harvesting the crop, stripping, cutting, and hauling to the sugar factory are depicted. The factory scenes include the various steps in the manufacture and refinement of granulated sugar from the crushing of the cane between huge corrugated steel crushers to the bagging and barreling of the finished product.

The film was made in Louisiana, where nine-tenths of America's 250,000-ton cane-sugar crop is produced. The Bureau of Chemistry and Plant Industry cooperated in producing the film.

"Sugar Cane and Cane Sugar" will be loaned free, except for transportation, which borrowers will be required to pay both ways. Authorized persons and institutions may purchase prints at the manufacturing cost.

The Bureau of Plant Industry's contribution to the department exhibit at the International Dairy Show at Syracuse, N. Y., October next will be composed principally of material from the Office of Forage Crop Investigations. Three booths have been assigned for material from this office. One booth will be devoted to pasture investigations, one to silage, and one to soy beans. It is possible that a fourth booth will be made available, in which case an exhibit of legumes for the various dairy sections of the country will be shown. The plans for the three booths already allotted have been perfected and approved by the Chief of the Bureau of Plant Industry. Material is now being perfected for the exhibits.

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

PREVENT ROAD ACCIDENTS.

The only way to decrease the large number of highway grade-crossing accidents, says the Bureau of Public Roads, is to adopt preventive measures. The necessity for taking these immediate needs is indicated by a report of the Interstate Commerce Commission, which says that in the final quarter of 1922, 517 persons were killed and 1,710 injured at grade crossings, an increase of 16 fatalities and 105 injuries in comparison with the same period a year before. The best way to stop these accidents, says the Bureau of Public Roads, is by a complete separation of grades by means of subways or viaducts. In many States there has been agitation for legislation to require all users of the highways to stop before crossing a railroad track and a few States have enacted such laws. However, the application of such a law to all railroad tracks, including spur tracks and tracks little used, manifestly would lead to absurdities. Such legislation, nevertheless, is in the right direction and is creating public sentiment against grade crossings and will help in the proper solution of the problem.

JAPANESE BEETLES NOT WANTED.

Because many persons in the region about Philadelphia and Camden have been sending Japanese beetles to the department in Washington, it was found necessary to issue a warning against the practice. It was feared that sending them through the mails might help to spread the insect and such practice is inconsistent with quarantine and postal regulations. The Japanese beetle laboratory at Riverton, N. J., is the place where identifications can be made, as the laboratory is fully equipped for the purpose and located within the quarantine district.

POTATO YIELD IMPROVES SLOWLY.

A very small gain in the per acre yield of potatoes has been made in the last 55 years, according to figures gathered by the department. During the period from 1918 to 1922 the average yield was 98 bushels per acre. Fifty years ago, or for the period 1868 to 1872, the average was 94.5 bushels. That is, we have improved the yield only about 4.4 per cent. However, in the period from

1868 to 1888 the yield went down to 74 bushels, probably largely due to the ravages of the Colorado potato beetle and to financial depressions. Since the depression a number of factors have improved the yield, among them the influence of agricultural experiment stations, agricultural colleges, and the Department of Agriculture; the influence of the Bordeaux mixture treatment in the control of fungous diseases. Recently much attention has been given to the production of better seed, and it is anticipated that more general use of certified seed will bring up the yield.

NEW SALE OF TIMBER.

A sale of timber totaling 80,000,000 board feet on the Mormon Lake and Sawmill Springs unit of the Coconino National Forest in Arizona has been advertised by the department. The average price for all species is \$2.25 per thousand feet. Most of the timber is western yellow pine. The contract period extended over five years and the purchaser may remove the timber at a rate not to exceed 24,000,000 feet a year. The sale area covers 28,000 acres. The total value of the timber is \$180,000. This, however, does not include additional receipts, since the sale merely replaces other sales now about to expire.

UNITED STATES BIG WOOD CONSUMER.

Consumption of wood in this country, says the Forest Service, equals about two-fifths of the entire wood consumption of the world. We use about 22½ billion cubic feet a year and the per capita consumption is 212 cubic feet, of which a little more than half is saw timber, the balance consisting of cordwood. If we include the losses by fire, insects, and disease, the total drain on the forest is close to 25 billion cubic feet. At present we are growing only about 6 billion cubic feet to replace this drain. It is estimated, however, that if the entire forest area of 470 million acres were placed under intensive forestry we could produce ultimately 27 billion cubic feet a year.

VARIED CROPS STOP WEEDS.

That the growing of diversified crops is a large factor in controlling weeds has been demonstrated in Kittson County, Minn., and other parts of the Red River Valley, according to reports received by the department. Growing of clover and of rye is now largely taking the place of the former practice of summer fallowing in combating the sow thistle (which has developed into a menace, as rye is cut before the sow thistle seeds), while the clovers, especially sweet clover, crowd out the weeds. Sweet clover has been rising rapidly in favor as a pasture

crop, although it has been grown there for only about 4 years. In the last 12 years the plantings of rye and clover have increased from 8,000 acres to 60,000.

INSECTS TAKE TOLL OF TREES.

The damage done by insects and diseases to living trees and to forest products amounts to approximately \$130,000,000 a year, according to foresters and entomologists of the department. The western pine beetle, the gypsy moth, the chestnut blight, and the white-pine blister rust do the most damage at the present time. The white-pine blister rust introduced from Europe within the past 20 years now threatens the very existence of the western white and the sugar-pine forests. The only way to protect these trees from the attacks of the rust is through the destruction of currant and gooseberry bushes, on which the pest spends part of his life.

Costs of Marketing Hogs Show Wide Variation

Costs of marketing hogs in the central corn belt through cooperative marketing associations have shown a wide variation between the different organizations, according to studies recently completed of the records of the 1921 shipments of some 200 cooperative associations. These studies indicate, for example, that between the local expense of the association with the lowest cost and that of the association with the highest cost there was a spread of nearly 1,000 per cent. Cost per thousand pounds shipped was about 30 cents for the association with the lowest cost. For the one with the highest cost it was \$3. It is said, however, that the local costs of the different organizations covered such a diversity of functions that "management" was about the only item common to them all.

Officials of the department are pressing forward their study of the whole subject in the hope that it will throw light on the causes of the strikingly wide variation in live-stock marketing costs which has been shown to exist. They believe that diversity in the accounting methods and in the form of shipping associations, and differences in the amount of service received at terminal markets, account for a substantial part of the spread, but leave much of it unexplained. It is expected further investigations will reveal elements of cost which, in many cases, might be eliminated or greatly reduced, and will indicate the direction in which the best prospect of improvement is to be found for the entire live-stock shipping industry.

THE OFFICIAL RECORD

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OFFICIAL ANNOUNCEMENTS.

DEPARTMENT OF STATE,
WASHINGTON.
AUGUST 4, 1923.

The Honorable THE ACTING
SECRETARY OF AGRICULTURE:

By order of The President, as a tribute to the memory of the late President, flags will remain at half-staff on all public buildings of the United States until the close of Monday, September 3, 1923.

Formal calls of organizations, or of officials in a body, upon the President will be deferred until after September 3, 1923.

There will be no official entertainments by officers of the United States prior to December 1, 1923.

(Signed) CHARLES E. HUGHES.

Memoranda of the Secretary.

Representative on Federal Specifications Board.

MEMORANDUM No. 445.—Mr. Paul D. Keller, director of purchases and sales, is hereby designated as the department representative on the Federal Specifications Board, vice Mr. S. A. Postle.

MEMORANDUM No. 446.—July 24, 1923.—A graduate nurse has been appointed in the department and upon request of the bureaus will visit employees detained at home by sickness and render assistance if desired, reporting to the bureau head whatever further action may be necessary in each case. The department nurse will be stationed in the emergency medical room in the basement of the main building (telephone No. 26) and when not out on visiting duty, will be available for the first-aid treatment of employees injured or taken sick while on duty. In her absence another employee will be available for such duty in the emergency medical room as heretofore.

B. A. I. WATCHES FOR CRITICISMS.

The Bureau of Animal Industry does not wait for criticisms of its policies and activities to come in, but it makes a constant study of the agricultural press and other sources to learn the way in which its various lines of work are being received by the public. The information

gained in this study of public opinion is distributed each week in a mimeographed sheet called "The Range Finder." This sheet is sent to all divisions of the bureau, and it enables the bureau officials to keep in close touch with the public's opinion of their work. If the work of a division is being well received or otherwise, that fact is quickly reflected in the press and by correspondence. A summary of the information given in the Range Finder for a period of time shows at a glance the activities which are the most and least popular.

The Range Finder is based principally on editorial and leading articles appearing in about 75 agricultural papers of prominence. It does not include any of the large quantity of published material which is sent out by the department to the agricultural press. A summary of this information for the six months ended June 30, 1923, shows that the campaign for the eradication of bovine tuberculosis continues to lead all others in interest, while the cattle-tick eradication campaign ranks second in popularity. The work of introducing cow-testing associations in dairy communities throughout the country ranked third as a popular subject for comment. Other lines of work receiving much publicity were: Control of hog cholera, the better-sires campaign, and the introduction of bull associations. Adverse criticism of the bureau's work was contained in less than one article out of every 500 published.

Consider Proposed Regulations for Naval Stores Act

The preliminary draft of the proposed regulations for the enforcement of the naval stores act was considered at a conference on July 18 in the department. Representatives of the trade and members of the solicitor's office and the Bureau of Chemistry were present. Mr. R. W. Williams, Solicitor of the Department of Agriculture presided. Mr. W. G. Campbell, Acting Chief of the Bureau of Chemistry, explained the purpose, need, and scope of the regulations, and a discussion followed of the technical features which the trade believes should be covered by the regulations.

This recently enacted law provides that all naval stores entering interstate commerce must be sold under the standards established by the act and that additional standards may be established as needed. The Secretary of Agriculture has placed the enforcement of the law in the Bureau of Chemistry where it is under the immediate direction of Dr.

F. P. Veitch, who has had wide experience in the analysis of the commodities covered by the act.

WHEN YOU MAKE A SPEECH.

The following advice on speech making appeared in the Washington Herald:

"When you talk keep your lungs full. It is as hard to speak on an empty lung as it is to work on an empty stomach. One ancient rule for preachers is in point: 'Begin slow, talk low, strike fire, rise higher, retire.'

"Don't be eloquent. Forget yourself. And don't be in a hurry. Remember that public speaking is more deliberate than private. Cultivate shortness. Make your sentences short. When you say a thing once, don't say it over. As near as possible, confine yourself to driving home one point. You may have five points to make, but no audience ever remembers so many. Why bother with the other four? Pick out the best one, and stick to that.

"Beware of being too funny. Wit is very dangerous unless you are an expert at it. More speakers spoil their effect by trying to tell funny stories than by any other fault.

"Be interesting. Be sure that the people hear what you say; that they understand your words; and that you are talking about something that they want to know.

"Keep your face in one direction. Don't turn your body around to different parts of the audience, as a gardener sprinkling plants with a hose. If you keep facing one way the people outside of that angle can accustom themselves to your voice. If you turn about you will confuse everybody.

"Don't fizzle out. It is a good plan to memorize the words you are going to close with, and have them clear and forcible. Don't just peter out by saying 'I think that is about all I have to say,' or by mumbling some other inanity. Conclude with a wallop."

Joint shipping-point inspection of fruits and vegetables will be conducted in Colorado this year on a voluntary instead of compulsory basis as last year, according to an agreement just entered into between the Bureau of Agricultural Economics, the State Board of Agriculture, and the Director of Markets. Substantially the same organization built up when inspection was compulsory will be used. In Nebraska, arrangements were also made for cooperative shipping-point inspection of potatoes. Such inspection is mandatory under the Nebraska State law.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. How large is Center Market?

Answer. Center Market, Washington, covers approximately two city blocks or nearly 2½ acres. The 664 stalls inside the main market are rented to approximately 200 dealers. There are also 34 spaces under awnings, 100 spaces for farmers' tables on side walls, and 200 wagon spaces for farmers' use.

Question. What is the acreage planted to tobacco in this country annually?

Answer. According to census returns for 1919, tobacco was grown in 42 States, and 1,694 counties, and on 448,572 farms. The crop of 1,465,481,000 pounds was produced on 1,951,000 acres of land and was valued at \$570,868,000. During the five-year period 1917-1921 the average area in tobacco was 1,702,000 acres, the production averaged 1,362,000,000 pounds, and the average value of the crop was \$364,620,000, according to estimates of the Bureau of Agricultural Economics. Tobacco culture is largely located in a comparatively few States.

Question. Are the long-range forecasts of the almanacs and some of the newspapers reliable?

Answer. The making of weather forecasts by days for calendar year as set forth in the many almanacs is unquestionably based on the willingness of many to accept without question most anything that appears in print. Actually such forecasts are not based on sound principles and therefore are without any value whatsoever. The farmer who attempts to carry on his business with these forecasts to guide him must necessarily lose rather than gain by following them. Similar forecasts of weather and temperature for a long time in advance that one sees in the newspapers should be regarded as not worthy of consideration and therefore should not be followed in planning farming operations.

Question. Does the department have any plans of farm houses and other buildings that are available for distribution?

Answer. The Office of Rural Engineering has a number of plans of houses, barns, poultry houses, hog houses, and the like, that are available for those who expect to build and whose needs can be met by the plans on hand. A descrip-

tive list of these plans has been prepared and will be forwarded on request.

Question. What per cent of our farms produce hogs?

Answer. Hogs are produced on three-fourths (75.2 per cent) of the farms in the United States and represent over 10 per cent of the value of the Nation's agricultural production. Hogs in the United States are closely connected with the corn crop. Nearly two-thirds of the commercial production of pork is in that portion of the United States known as the Corn Belt.

Question. Does the Forest Service plant trees to replace those cut from the national forests?

Answer. Only in very rare cases is it necessary to plant trees on timber-sale areas. Natural reproduction is easily obtained in most forests when the mature timber is cut and the area protected from fire and grazing animals.

ARBITRATION REDUCES COMMISSION RATES

(Continued from page 1.)

rate of 65 cents per head for St. Paul and Kansas City, and 70 cents for Omaha. The Chicago minimum charge for 20 head or less will be \$17, with a maximum of \$21 at the rate of 75 cents a head. The cuts represented in these rates for Kansas City, Omaha, and St. Paul amount to from \$1 to \$2 a car and from 10 to 15 cents a head; at Chicago \$1 to \$3 a car and 15 cents a head. The new calf rates on the first three of these markets for single-deck cars are a minimum of \$15 and a maximum of \$20 with a per-head rate of 30 cents, double-deck cars a minimum of \$21 and a maximum of \$26. At Chicago the calf rate for single-decks will be a minimum of \$17 and a maximum of \$22; double-decks \$23 to \$28; the per-head charge being 30 cents. This is a reduction ranging from \$1 to \$4 a car and 5 to 10 cents a head.

New Rates on Hogs.

The new rates on hogs at the first three markets are a minimum of \$12 for 50 head or less, and 15 cents per head up to a maximum of \$14, on a single-deck, and a minimum of \$17 and a maximum of \$22 on double-deck carloads. At Chicago the limits on singles are \$13 and \$15 and on doubles \$18 and \$23. The reductions range from \$1 to \$4 a car and from 13 to 15 cents a head on hogs. In addition to these charges a further charge will be made of 30 cents for each full 500 pounds over 17,000 pounds in a single-deck car and over 27,000 pounds in a double-deck car. This

charge is designed to take care of cars longer than standard sizes, such as 40-foot and 44-foot cars.

The new sheep rates at Kansas City and St. Paul will be the same as the present rates at Omaha and Chicago, which means a reduction of \$1 on single-decks and an increase of \$2 on double-decks at Kansas City and reductions at St. Paul ranging up to \$4 a car.

Mixed stock rates have been revised in accord with other changes, with car reductions up to \$4.

All these rates listed above are for single ownership or for shipments owned by several persons but sold as single ownership. This change in respect to cooperative shipments handled as single ownership lots affords a reduction of as much as \$8 a car at certain markets, and at the others the reduction is equal to the car-lot reductions mentioned previously. Where cars owned by several persons must be handled according to ownership the basic schedule will be \$1 higher than for single ownership, but no one owner shall pay more than the commission would be on a single ownership carload.

Application of New Prorating Schedule.

At all markets when it is necessary or a request has been made to have a single ownership carload graded into market grades and classes or a car owned by more than one person sorted for ownership, marks, or brands a charge of 15 cents shall be made for each draft over three drafts per deck, with a maximum of \$2 for single ownership cars or those handled as such and \$3 for plural ownership for this service. When prorating is done a charge of 25 cents for each owner shall be made with a minimum charge of \$1 and a maximum of \$2.50. This means a cut of \$1 on the minimum at St. Paul and Chicago and \$1 on the maximum at Chicago. The other markets considered here do not have a separate prorating charge, but the new prorating schedule applies to all of them.

The amounts that selling agencies can collect for special services, it may be observed, have been limited by these new schedules, and charges can be made only to the extent that the service has been utilized by shippers. Revised schedules contemplate basic charge for those shipments requiring uniform service and additional charges for those shipments requiring services in addition to usual standard service. This makes it possible for shippers to take advantage of the basic charge when the nature of the shipment makes extra service unnecessary. This is one of the features which is expected to be particularly pleasing to producers and other shippers.

WITH EXTENSION FORCES

VIRGINIA STRESSES KITCHEN WORK.

Kitchen improvement has been successively stressed during the past 15 months in eight counties in Virginia—Wythe, Albemarle, Prince William, Henrico, Chesterfield, Goochland, Powhatan, and New Kent. This was done chiefly through contests within each county, lasting about three months, in which Mrs. M. M. Davis, the State home-demonstration agent, and her assistants cooperated with the county home-demonstration agents and local organizations. In many of the contests there were 25 or more kitchens entered. Each of these was visited twice, first to discuss with the housewife how to make her kitchen more comfortable and convenient, and the second time for scoring. The prize in each case was awarded to the one who had made the most effective changes for the least money. In many communities kitchens not entered in the contests were improved along the lines suggested by the extension workers, as a result of the interest aroused by the contest.

One woman actually made a sink for herself by cementing a dish pan to an old drain pipe. Tea wagons were numerous among the many improvements, as were kitchen cabinets, convenient closets, raised wood boxes, and linoleum tops for tables. Folding ironing boards, cold closets for food, drain boards for the sink, and kitchen stools were other conveniences introduced by more than one contestant. Better grouping of the main equipment of the kitchen was urged and practiced. A number of step-saving changes were introduced, such as moving the ice box from the cellar to the back porch, building a flour bin that would hold the pastry board and rolling pin inside, installing a center sink and worktable combined. White paint, white oilcloth, and even white crêpe paper at the back of a china closet finished and brightened drab corners. Many husbands were prevailed upon to build long-needed shelves, broom racks, and cupboards. Places were found where children could hang up their outdoor clothing in an orderly way, wash their hands before meals, and dispose of their rubbers. Floors were done over, walls refinished.

The agricultural engineering department of Virginia Polytechnic Institute rendered valuable assistance by visiting all the homes interested in having a water supply installed, making surveys and advising the families as to the types of water systems feasible in each instance. In many of the kitchens some

form of running water has been installed as a result.

This kitchen-improvement work has led to many requests for assistance in improving the living room, the whole home, and the grounds surrounding it in these and many neighboring farm homes.

SECOND STATE CAMP CLOSES.

The second State 4-H Club camp of West Virginia, held at Jackson's Mill, closed recently. The schedule was arranged, as last year, in three sections of about 10 days each, including an older boys' camp, volunteers' or local leaders' conference, and an older girls' camp. Following these, county or community club camps will be held throughout the State, in which the club members who have had training at Jackson's Mill will help as volunteer leaders.

Each encampment schedule included educational, recreation, and inspirational features, with members of West Virginia University faculty, Gertrude L. Warren, of the office of cooperative extension work, and visitors from neighboring institutions taking part in the programs. It is a principle of the organization that each year the club members in attendance shall add some feature to the permanent equipment of the camp, learning at the same time a practice which can be made useful in their home communities. This year club members as a part of their work made concrete drinking fountains for the camp, painted some of the camp structures, and planted trees and shrubbery on the grounds. Other work on the programs covered farm machinery and plumbing, concrete construction, farm carpentry, and live-stock judging for the boys, bread making, basketry, sewing, and other home-economics activities for the girls, and supervised play and leadership training for all.

The attendance at each of the three State encampments numbered over 150 young people. Evidence of the appreciation of the camp's influence is indicated by an increased appropriation recently made by the State legislature for expansion.

AGRICULTURAL SCHOOL AT MUNOZ.

C. W. Edwards, animal husbandman in charge of the Federal experiment station in Guam, who has been studying the agriculture of the Philippine Islands, writes of a unique agricultural school at Munoz, Province of Nueva Ecija. This institution was founded by the Philippine Bureau of Education about 10 years ago, is located in a rice-growing, homestead district, and at the time of Mr. Edwards's visit had an enrollment of about 800 students. It forms a complete community in itself, having its own bank,

bakery, exchange, tailor and shoe shops, and other business enterprises, all conducted by the students. The students live in dormitories or in their own farm homes. A part of the training is academic, but the major part is in practical agriculture. Classroom exercises are supplemented by actual field practices. In gardening each student has a plat of ground that he cultivates according to instructions; in poultry raising each student has his own flock, etc. After a certain amount of training has been acquired, groups of four students each are given a tract of land upon which they construct a farm home and cultivate the area in accordance with approved methods. The students share in the receipts from the sale of products produced by them, and when engaged in other work than on their own allotments are paid nominal wages.

This school is proving so successful that others may be established. A commission from Java recently made a study of it and has recommended the establishment of a number of schools of this type in the Dutch East Indies.

AMERICAN CLUB GIRLS IN FRANCE.

A letter dated from Surgeres, France, has been received by the Assistant Secretary from Josephine Arnquist, in charge of girls' club work in the Iowa Agricultural Extension Service, reporting the progress of the canning-club girls, Beulah Rogers and Kathryn Boli-baugh, of Iowa, and Bertha Boger and Elaine Hendricks, of Colorado, who, accompanied by Miss Arnquist and Maude E. Sheridan, State club leader for Colorado, are now traveling and studying in France as winners of the canning-club contest at the International Live-stock Exposition in Chicago, last December.

Two weeks have been spent in a home-economics school in Troyes studying French cookery. One week was spent in demonstrating American methods in villages near Dieppe, using that seaport for headquarters. While there the party visited the home of the president of the farm-women's clubs of that department, Seine-Inferieure. An agricultural exhibit in Paris was attended one day where Normande, Flemish, Hollandaise, De Salers, Montbeliarde, Bretonne, Bordelaise, Jersey, Parthenaise, Gasconne, Durham, and Maine-Anjou cattle were shown.

"Now we are in Surgeres in a dairy school," writes Miss Arnquist. "Yesterday we visited cheese factories. The head of this school, M. Dornic, is an authority on cheese making in France. To-day we go to La Rochelle on the sea. Everything is pleasant, the party is well, and we are kept busy. You see, we had a good start while in Washington. Thanks for all you did for us."

BRIEF REVIEWS OF NEW BULLETINS.

Rural Planning—The Social Aspects. By Wayne C. Nason, junior economist, Bureau of Agricultural Economics. Pp. 30, figs. 25. May, 1923. (Farmers' Bulletin 1325.)

Country planning deserves as much attention as city planning and the results of some actual accomplishments in this field may stimulate more interest in the development of rural sections, and in the conservation of their natural beauty. This bulletin shows what has been done by rural people in their endeavor to create and improve their own institutions for recreation and trade and civic centers, and to conserve for permanent use those institutions of rural life which they already have. It is profusely illustrated with photographs of well-planned and planted roadways, picnic grounds, school yards, streets, parks, athletic fields, libraries, cemeteries, and playgrounds, from communities in Massachusetts, Pennsylvania, Connecticut, New York, Ohio, California, New Jersey, Iowa, and Arizona.

Flag Smut of Wheat. By W. H. Tisdale, pathologist in charge of cereal-smut investigations, Office of Cereal Investigations, Bureau of Plant Industry; G. H. Dungan, associate in crop production, Illinois Agricultural Experiment Station, University of Illinois; and C. E. Leighty, agronomist in charge of eastern wheat investigations, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 7, pls. 2. June, 1923. (Department Circular 273.) Price, 5 cents.

Flag smut of wheat appears as black stripes running lengthwise in the leaf and sheaths of the wheat plant which become twisted and rarely produce a head. Infected plants are usually more or less dwarfed. This disease was first discovered in the United States in some fields of wheat in Illinois in 1919. The infested area is gradually enlarging and indications are that it may become a serious disease unless adequate control measures are put into effect. Flag smut may be held in check and reduced in quantity by judicious quarantine measures, seed treatment, crop rotation, and other sanitary measures and by growing resistant varieties of wheat.

Greasewood as a Poisonous Plant. By C. Dwight, physiologist in charge, A. B. Clawson, physiologist, and James F. Couch, pharmacological chemist, Investigations of Stock Poisoning by Plants, Pathological Division, Bureau of Animal Industry. Pp. 4, figs. 2. July, 1923. (Department Circular 279.) Price, 5 cents.

The greasewood plant, sometimes known as "chico," is a shrubby plant very plentiful on the range in some parts of the West, and has been the cause of occasional large losses of sheep. This plant was listed as poisonous 25 years ago, but recent investigations made by the department have established that under most conditions this plant is a good forage for sheep, but care must be taken that sheep do not graze too long on greasewood when they are very hungry. Animals that once show the symptoms usually die; in other words, a quantity of the plant which will cause the symptoms will cause death.

ADDITIONAL PUBLICATIONS.

Apple By-Products as Stock Foods. By G. P. Walton, assistant chemist, and G. L. Bidwell, chemist in charge, Cattle Food Laboratory, Miscellaneous Division, Bureau of Chemistry. Pp. 40, fig. 1. July 26, 1923. (Department Bulletin 1166.) Price, 5 cents.

History and Status of Tobacco Culture. By W. W. Garner and E. G. Moss, Bureau of Plant Industry; and H. S. Yohe, F. B. Wilkinson, and O. C. Stine, Bureau of Agricultural Economics. Pp. 74, figs. 28. (Separate 885, Yearbook 1922.) Price, 10 cents.

Hog Production and Marketing. By E. Z. Russell, S. S. Buckley, Bureau of Animal Industry; O. E. Baker, C. E. Gibbons, R. H. Wilcox, H. W. Hawthorne, S. W. Mendum, O. C. Stine, G. K. Holmes, A. V. Swarthout, Bureau of Agricultural Economics; W. B. Bell, Bureau of Biological Survey; G. S. Jamieson, Bureau of Chemistry; C. W. Warburton, Bureau of Plant Industry; C. F. Langworthy, States Relations Service. Pp. 100, figs. 56. (Separate 882, Yearbook 1922.) Price, 15 cents.

Journal of Agricultural Research. Vol. 24, No. 5. May 5, 1923. Contents: Determination of Fatty Acids in Butterfat: 11 (Mass. 8.) By E. B. Holland, Mary E. Garvey, H. B. Pierce, Anne C. Messer, J. G. Archibald, and C. O. Dunbar.—Striped Sod Webworm, *Crambus mutabilis* Clemens. (K-106.) By George G. Ainslie. Silver Striped Webworm, *Crambus praelectellus* Zincken. (K-107.) By George G. Ainslie.—Movement of Soil Moisture from Small Capillaries to the Large Capillaries of the Soil upon Freezing. (Mich.-13.) By George John Bouyoucos.—Nutritive Value of the Georgia Velvet Bean (*Stizolobium deeringianum*) (Ark.-3.) By J. W. Read and Barnett Sure. Pp. 365-440, figs. 15, pls. 4. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the Journal was suspended December 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Oats, Barley, Rye, Rice, Grain Sorghums, Seed Flax and Buckwheat. By C. R. Ball, T. R. Stanton, H. V. Harlan, C. E. Leighty, C. E. Chambliss, and A. C. Dillman, Bureau of Plant Industry; O. C. Stine, O. E. Baker, O. A. Juve, and W. J. Spillman, Bureau of Agricultural Economics. Pp. 100, figs. 64. (Separate 891, Yearbook 1922.) Price, 15 cents.

Truck-Crop Insect Pests in the Virgin Islands and Methods of Combating Them. By Charles E. Wilson, entomologist. Pp. 35, figs. 24. June 21, 1923. (Virgin Islands Agricultural Experiment Station Bulletin 4.)

The Year in Agriculture. (Annual Report of the Secretary, 1922.) Pp. 82, figs. 21. (Separate 883, Yearbook 1922.) Price, 10 cents.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week July 23-28, 1923. These publications can be obtained only from the stations issuing them.

Preliminary yield tables for second growth redwood. D. Bruce. (California Sta. Bul. 361, pp. 425-467, figs. 5, May, 1923.)

Dust and the tractor engine. A. H. Hoffman. (California Sta. Bul. 362, pp. 469-486, figs. 8, May, 1923.)

The acid lime fruit in Hawaii. W. T. Pope. (Hawaii Sta. Bul. 49, pp. 20, pls. 6, July, 1923.)

Work and progress of the agricultural experiment station for the year ended December 31, 1922. (Idaho Sta. Bul. 131, pp. 71, Jan., 1923.)

The blueberry maggot in Washington County. Edith M. Patch and W. C. Woods. (Maine Sta. Bul. 308, pp. 77-92, pl. 1, Nov. 1922.)

The Miami County Experiment Farm. (Ohio Sta. Bul. 361, pt. I, pp. 315-343, fig. 1, June, 1922.)

The Clermont County Experiment Farm. (Ohio Sta. Bul. 361, pt. III, pp. 377-412, figs. 3, June, 1922.)

The Trumbull County Experiment Farm. (Ohio Sta. Bul. 361, pt. VI, pp. 475-498, June, 1922.)

Grain sorghums versus corn for fattening lambs.—Third experiment. (Texas Sta. Bul. 306, pp. 32, Feb. 1923.)

Truck crop insect pests in the Virgin Islands and methods of combating them. C. E. Wilson. (Virgin Island Sta. Bul. 4, pp. 35, figs. 24, June, 1923.)

Plans for small barns. L. J. Smith. (Washington Sta. Bul. 123, pp. 26, figs. 26, Apr. 1923.)

MARKET NEWS ISSUED ON HONEY.

Market news reports on honey and beeswax are issued about the first and fifteenth of each month by the Bureau of Agricultural Economics to help beekeepers, both the small producer with only a few hives and the large cooperative organizations with a crop of several hundred cars, to dispose of their crops at prevailing market values.

The reports are sent out from Washington, D. C., mails to all territory east of the Mississippi River, and from Kansas City, Mo., which serves the remainder of the country. Statements of prices and market conditions prevailing in important honey-producing sections with other news items of interest to beekeepers generally are found on the first page of these reports. The prices are largely confined to honey which enters commercial channels in 5-gallon cans if extracted or in 24-section cases if comb honey.

The second part of the report gives news from large consuming centers. Leading receivers and dealers in Boston, New York, Philadelphia, Chicago, Kansas City, St. Louis, Minneapolis, and St. Paul are visited to obtain the quotations at which bottlers, confectioners, bakers, and dealers can buy extracted honey and the price at which comb honey is sold to dealers and retail grocers. Prices are obtained for all flavors and grades which are on the market in any quantity. In a large market like New York City 20 responsible receivers or more may be visited before the reporter feels that he can write a market report that will be adequate as well as accurate.

Although the primary purpose of these reports is to picture the honey situation, beeswax prices are secured for leading consuming centers, and occasionally the prices paid beekeepers for wax in different parts of the country are also shown. Once a month the imports and exports of honey and beeswax are published in the report, and twice a year the imports and exports for the preceding 12 months are tabulated and published in great detail. As a supplement to the market news reports, crops and production reports are issued four times a year. These supplements relate to honey yields, prospects, and the condition of bees and plants.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Accounting theory and practice. 2d ed. v. 1. By R. B. Kester. New York, Ronald press co., 1923.
- Alcoholic fermentation. 3d ed. By Arthur Harden. London, Longmans, Green & co., 1923.
- America and the balance sheet of Europe. By J. F. Bass and H. G. Moulton. New York, Ronald press co., 1922.
- Belt conveyors and belt elevators. By F. V. Hetzel. New York, J. Wiley & sons, inc., 1922.
- Botany of the living plant. 2d ed. By F. O. Bower. London, Macmillan and co., ltd., 1923.
- Burma forest manual. Rangoon, Office of the superintendent, government printing, Burma, 1912.
- Chemical terms used on fertilizer materials, feeding stuffs, fats and oils, explained. Comp. by W. J. Gascoyne, Jr. Baltimore, Gascoyne & co., inc., 1922.
- Chemistry tangle unravelled. By F. W. Gray. London, Longmans, Green and co., 1923.
- City pavements. By F. S. Besson. New York, McGraw-Hill book co., inc., 1923.
- Classified list of printed original materials for English manorial and agrarian history during the middle ages. By F. G. Davenport. Boston, Ginn & co., 1894.
- College chemistry. By Alexander Smith, rev. and rewritten by James Kendall. New York Century co., 1923.
- Elements of glass-blowing. By H. P. Waran. London, G. Bell and sons, ltd., 1923.
- Engineering of excavation. By G. B. Massey. New York, J. Wiley & sons, inc., 1923.
- Europe in convalescence. By A. E. Zimmern. New York, G. P. Putnam's sons, 1922.
- Flowers for cutting and decoration. By R. L. Wright. New York, E. P. Dutton & co., 1923.
- Fundamentals of cost and profit calculation. Rev. ed. by R. S. Denham. Cleveland, Cost engineer publishing co., 1919.
- Handbook of cookery for a small house. By Jessie Conrad. London, W. Heinemann, ltd., 1923.
- Indigenous drugs of India. 2d ed. Rev. and entirely rewritten. By Kanny Lall Dey. Calcutta, Thacker, Spink and co., 1896.
- Ink. By C. A. Mitchell. London, Sir Isaac Pitman & sons, ltd. [1923?].
- Introduction to economics. Rev. By A. S. Johnson. Boston, D. C. Heath & co., 1922.
- La Journée du lait, 19 septembre, 1922. Rapports et compte-rendu. Paris, "Maison rustique," 1922.
- Kapillarchemie. 2. aufl. Von Herbert Freundlich. Leipzig, Akademische verlagsgesellschaft, 1922.
- Kidd on foreign trade. 2d ed. By H. C. Kidd. New York, Prentice-Hall, inc., 1921.
- Kinetic theory of engineering structures. By D. A. Molitor. New York, McGraw-Hill book co., 1911.
- List of references in Economics 2, economic history of Europe since 1800, and of the United States. Rev. By E. E. Lincoln. Cambridge, Harvard university, 1920.
- Manual to Business organization and administration. By J. A. de Haas. New York, Gregg publishing co., 1922.
- Manufacture of pulp and paper from Australian woods. By L. R. Benjamin. Melbourne, 1923. (Australia. Institute of science and industry. Bulletin no. 25.)
- Mechanical engineers' handbook. 10th ed. By William Kent. New York, J. Wiley & sons, inc., 1923.
- Le monde social fourmis du globe comparé à celui de l'homme. t. 4. Par A. H. Forel. Genève, Kundig, 1923.
- Motor transportation of merchandise and passengers. By Percival White. New York, McGraw-Hill book co., inc., 1923.
- New York (State) Bridge and tunnel commission. Report. Albany, 1921.
- Phase rule and its applications. 5th ed. By Alexander Findlay. London, Longmans, Green and co., 1923.
- Pig book for boys and girls. By W. W. Smith. Philadelphia, J. B. Lippincott co., 1923.
- Poisonous plants of all countries. 2d ed. By A. Bernhard-Smith. London, Baillière, Tindall & Cox, 1923.
- Practical dairying. By D. G. Saker. London, Methuen & co., ltd., 1921.
- Seigniorial system in Canada. By W. B. Munro. Cambridge, Harvard university press, 1907.
- Source book for the economic geography of North America. 2d ed. By C. C. Colby. Chicago, University of Chicago press, 1922.

- State papers and speeches on the tariff. By F. W. Taussig. Cambridge, Harvard university, 1893.
- Supply and demand. By H. D. Henderson. New York, Harcourt, Brace and co., 1922.
- Textbook of botany for medical and pharmaceutical students. By James Small. London, J. & A. Churchill, 1921.
- Theoretical chemistry. By Walther Nernst. London, Macmillan and co., ltd., 1923.
- Topographical anatomy of the thorax and abdomen of the horse. By O. C. Bradley. Edinburgh, W. Green & son, ltd., 1922.
- Veterinary studies for agricultural students. 8th ed. By M. H. Reynolds, New York, Macmillan co., 1922.
- What next in Europe? By F. A. Vanderlip. New York, Harcourt, Brace and co., 1922.
- What to cook and how to cook it. Rev. ed. By N. T. Johnson. New York, G. P. Putnam's sons, 1923.
- Wreck of Europe. By Francesco Nitti. Indianapolis, Bobbs-Merrill co., 1922.

CURRENT PERIODICALS.

- Australian cotton grower [monthly] Sydney, 1923.
- Candy factory [monthly] Chicago, 1923.
- Wholesale price list. Ungerer & company, New York.

Articles in Current Publications by Department Workers

- Ashbrook, Frank G. (Biological Survey.) The Importance of Amalgamation to the Silver Fox Business. American Fox and Fur Farmer, vol 11, no. 12, pp. 6-7, July, 1923.
- Eastern Shore of Maryland. Fur Trade Review, vol. 50, no. 11, pp. 90-92, August, 1923.
- Those Misleading Names. Fur Trade Review, vol. 50, no. 11, pp. 180-183, August, 1923.
- Kellogg, Remington. (Biological Survey.) Description of an Apparently New Toothed Cetacean from South Carolina. Smithsonian Miscellaneous Collections, vol. 76, no. 7 (pub. no. 2723), 7 p., 2 pls., July 25, 1923.
- Oberholser, Harry C. (Biological Survey.) The Winneshiek Bottoms Drainage Project. Fins, Feathers and Fur, no. 34 p. 85, June, 1923.
- Sale, J. W. (Bureau of Chemistry.) How the Bureau of Chemistry Assists the Beverage Industry. In Southern Carbonator and Bottler, vol. 87, July, 1923.
- Thom, Chas. (Bureau of Chemistry.) What Maintains Quality in Margarin. In The Natl. Provisioner, June 30 and July 7, 1923.
- Walton, G. P., and Bidwell, G. L. (Bureau of Chemistry.) Apple By-Products as Stock Foods. Published as Dept. Bul. 1166, July 26, 1923.

CIVIL-SERVICE EXAMINATIONS.

Assistant Physiologist, \$2,000-\$2,700.—A vacancy in the Bureau of Plant Industry and vacancies in positions requiring similar qualifications will be filled from this examination. Prerequisite requirements are graduation from a college or university of recognized standing, with special courses in physics and botany. In addition, applicants must show that they have had at least two years of research or experience in experimental plant physiology. They must also submit with their applications a thesis or discussion dealing with some phase of plant physiology. Those interested should apply for Form 2118. Receipt of applications closes September 4, 1923.

Assistant Observer in Meteorology, \$1,080; September 5 and December 5, 1923.—Vacancies in offices of the Weather Bureau throughout the United States and in positions requiring similar qualifications will be filled from this examination. Duties of appointees will be to assist in ordinary routine work in meteorology; learning the construction and functions of standard meteorological instruments and their proper installation and exposure; making and recording observations. No educational requirements nor experience

are specified. Those interested should apply for Form 304, stating the title of the examination desired.

Lithographic Pressman, \$1,400.—A vacancy in the Weather Bureau, Washington, D. C., and vacancies in positions requiring similar qualifications will be filled from this examination. Prerequisite requirements are the completion of an apprenticeship or equivalent training as lithographic pressfeeder and pressman; a thorough familiarity with the modern processes of lithographic reproduction and rotary offset press and equipment, and with printing from zinc or aluminum plates and stones; the ability to mix inks to obtain necessary colors. Those interested should apply for Form 1800. Receipt of applications closes August 28, 1923.

U. S. D. A. CLUB DIRECTORY.

- Albuquerque Club, Lee J. Reynolds, States Relations Service, secretary, Albuquerque, N. Mex.
- Atsuda Club, J. H. Cain, 1712 Citizens & Southern Bank Building, Atlanta, Ga.
- Baltimore Club, D. M. Walsh, 300 Park Avenue, secretary.
- Birmingham Club (Federal Agricultural Technical Association), meets second Saturday, 8 p. m., post-office building; Edgar C. Horton, Weather Bureau, secretary.
- Boston U. S. D. A. Club, R. S. Clifton, Abbott Building, Howard Square, Cambridge, Mass., secretary.
- Buffalo Club, Mrs. C. M. Britt, 80 West Huron Street, secretary.
- Chicago Club, meets third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.
- Cincinnati Contact Club, W. C. Devereaux, Weather Bureau, secretary.
- Denver Club, meets second Monday; lunch, 12.15, Denver Civic and Commercial Association; W. J. Ise, Federal Building, secretary.
- Gulf Coast, U. S. D. A. Club, H. D. Money, Bureau Plant Industry, Biloxi, Miss., secretary.
- Houston Club, meets first Wednesday; lunch, L. H. Daingerfield, Stewart Building, secretary.
- Indianapolis Club (Unity Club), meets second Monday; lunch, Chamber of Commerce Building; F. H. Ackelov, Weather Bureau, secretary.
- Kansas City Club, Sidney A. Johnson, 923 Live Stock Exchange Building, secretary.
- Los Angeles Club, meets second Tuesday; C. H. Beauchamp, 207 Live Stock Exchange Building, secretary.
- Louisiana Club, M. C. Virgin, box 95, New Orleans, secretary.
- Montgomery Club, L. P. Huguen, box J, Bureau of Public Roads, secretary.
- New Haven Club, Sumner A. Dole, post office building, secretary.
- New York Club (N. Y. U. S. D. A.), meets second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. F. Schroeder, Bureau of Plant Industry, U. S. Barge Office, New York City, secretary.
- Oklahoma City Club, meets second Monday; lunch, Chamber of Commerce; Mattie A. Craig, 202 Grand Street, secretary.
- Philadelphia Club, meets third Wednesday; lunch Snellenberg's Restaurant; C. S. Brinton, 134 Second Street, secretary.
- Portland (Oreg.) Club, meets first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, post-office building, secretary.
- Porto Rico (U. S. D. A. Club), E. Murray Brunner, Forest Service, San Juan, P. R., secretary.
- San Francisco, Calif., meets first Wednesday, 12.15, Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.
- St. Joseph Club, meets second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary. (Meetings adjourned until September.)
- St. Louis Club, meets second Friday; B. S. Jones, 413 Old Customhouse, secretary. (Meetings adjourned for summer months.)

United States grades for rough rice have been prepared and those for milled rice have been revised, and both sets of grades are being issued by the Bureau of Agricultural Economics as permissive standards, effective August 1. Neither of these standards is promulgated under the United States grain standards act.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., AUGUST 22, 1923.

No. 34.

W. G. CAMPBELL MADE REGULATORY DIRECTOR

Acting Chief of Bureau of Chemistry is a Lawyer Experienced in Enforcement Work.

Announcement of the selection of Mr. Walter G. Campbell, Acting Chief of the Bureau of Chemistry, to be Director of Regulatory Work is made by Secretary Wallace. This position was recently created by Congress, and is designed to assist the Secretary in administering the law-enforcement work of the department. Mr. Campbell is expected to take up his new duties about October 1, upon the arrival of Dr. C. A. Browne, the new Chief of the Bureau of Chemistry.

Interested in Food-Control Work.

Mr. Campbell is a lawyer by profession. He received the A. B. degree from the University of Kentucky in 1902, and the LL. B. degree from the University of Louisville in 1906. He opened a law office in Louisville immediately after completing the course in law and became at once interested in the legal phases of food-control work, being retained by the Kentucky Experiment Station to look after the enforcement of State food laws in Louisville and its vicinity.

Mr. Campbell was appointed chief food and drug inspector in the Bureau of Chemistry in 1907 to organize the inspection work in the enforcement of the Federal food and drugs act, which became effective that year. He developed and put into effect plans that soon placed the inspection work on a high plane of efficiency. A corps of inspectors, most of whom had little previous experience in the work, was developed into an effective, enthusiastic organization for supervising interstate traffic in foods and drugs.

So effective did this work become under the leadership of Mr. Campbell that when the entire food and drug law enforcement work of the Bureau of Chemistry was reorganized in 1914 he was selected as chief of the eastern food and

drug inspection district, having charge of the supervision of both interstate and foreign commerce in food and drugs throughout the entire eastern section of the United States from Canada to the Gulf and as far west as Ohio. In this position he developed a project system for handling regulatory work that enabled the Bureau of Chemistry to accomplish more work with a given expenditure of time and funds than ever before.

Acting Chief of Chemistry Since 1921.

Mr. Campbell was appointed Assistant Chief of the Bureau of Chemistry in 1916, in which position he directed the enforcement of the food and drugs act throughout the entire United States. In July, 1921, upon the resignation of Dr. Carl L. Alsberg as Chief of the Bureau of Chemistry, Mr. Campbell was ap-

(Continued on page 4.)

Farmers' Intentions to Sow Winter Wheat and Rye This Fall

Twenty-five thousand reports from farmers reporting for their own farms to the department indicate a reduction of 15.5 per cent in the acreage to be sown to wheat this fall. If their intentions of August 1 are carried out, it would make a total sown acreage this year of about 39,200,000 acres, compared with 46,379,000 acres actually sown last fall, of which 39,750,000 acres were harvested, there having been an abandonment of 14.3 per cent. Compared with the pre-war (1909-1913) average annual sowing, the intended sowing this fall is an increase of 16.2 per cent, and compared with the pre-war average annual harvested acreage, an increase of 29.6 per cent.

Reports on rye acreage indicate a reduction of 9 per cent. The acreage sown last fall is estimated at 5,234,000; a reduction of 9 per cent would therefore indicate a total acreage to be sown this autumn of 4,759,000. The pre-war (1909-1913) average annual acreage sown was 2,562,000.

COUNTY AGENT BRINGS 400 TO DEPARTMENT

Secretary Talks to Farmers and Wives of Franklin Co., Pa.— Nearly Hundred Cars.

On August 15, 425 farmers and farm women, members of the Franklin County (Pa.) Agricultural Extension Association, accompanied by County Agricultural Agent J. H. Knode, Assistant County Agent Albert Lent, and John B. Crawford, president of the organization, paid a visit to the Department of Agriculture and listened to an impromptu address by Secretary Wallace. This was the second annual educational tour taken by the members of the association. Traveling in 87 automobiles, they visited the Government farm at Beltsville, Md., and the University of Maryland before coming to Washington.

Farmers Carry Burden.

Secretary Wallace, standing on the steps of the administration building, spoke briefly on the present situation of the American farmer and of what is being done and suggested for his benefit. "You farmers in Pennsylvania are not the only ones who are having difficulties," he said. "The trouble is Nation-wide and world-wide. The war let loose economic forces which are not easy to control. In this country agriculture has seemed to suffer, especially after every war. It seems an irony of fate that the farmers of this Nation must carry the heavy share of the burden of war while the war is on and then an unfair share of the economic burden when the war is over. Speaking generally, however, farmers in the eastern section of the country have suffered less relatively than farmers in most other regions. For one thing, you have a more diversified agriculture than in many sections. For another thing, the advance in freight rates has not been so much to your disadvantage.

"Here in the Department of Agriculture we hear from more farmers and come in contact with more farmers than any other department of the Government. I receive thousands of personal letters. I have journeyed over a good deal of the country during the past year and a half and have had an opportunity to come in contact with a good many thousands of farmers. We have not been blind to the difficulties under which farmers have been working. We have been doing everything we could to help.

"Relief to agriculture can come in three ways. First, through legislation. The last Congress enacted more helpful legislation to agriculture than any other half dozen Congresses in our history, and already we are getting considerable benefit from this legislation.

Attention to Economics.

"Second, through administration. We have been reorganizing the Department of Agriculture with a view to making it more helpful to the men in the fields and to the women in the farm homes. I think we have made some progress. People who are in touch with what we are doing tell us so, at least. We have given a great deal more attention to economic matters. I have felt that it was more important that we should stress our service along the line of helping farmers market their crops more effectively and adjust their production to consumption more intelligently, rather than blindly to encourage larger production. The fact is we have too much production just now, in view of the consuming power. I do not mean that we are producing more food than the people of the world need, but we are producing more food than the people of the world will buy at a price high enough to cover the cost of production.

"Third, relief must come through the farmers themselves. When all is said and done, the farmer can do more for himself than anyone else can do for him. He must do this individually on his own farm and collectively through his farm organizations.

"Many people think that we should resort to arbitrary measures to raise prices of our agricultural products. Some would fix prices by congressional action. The experience of the past 3,000 years has shown the folly of this. Some of the measures suggested so vigorously by people who claim to speak for farmers would make their condition worse instead of better.

Department Not Showy.

"I am glad you have come down here to see what we are doing in the Department of Agriculture, and I hope you will enjoy your visit. Do not expect anything

showy. We have a large number of people working here, 20,000 in the Department of Agriculture in the country as a whole, and more than 4,000 here in Washington, and we have the largest group of scientific men in one organization in the world. But these men work quietly in offices and laboratories, some of them spending months and even years studying the habits of pests or working on some particular disease, but in many cases there is not much that can be shown. Nevertheless, these men are accomplishing great results for agriculture. Sometimes one discovery representing a few years' work of scientists saves farmers of the country many millions of dollars, and the United States is filled with examples of improvements in crops, animals, and methods that prove the work of the scientist is being pushed in the right direction.

"I want to make it clear that everyone connected with the Department of Agriculture is trying to make this work helpful to the men and women and boys and girls on the farms. You are the people we are working for and you are the people we are always glad to see here and always glad to hear from, because the better we know you and the better you know us the more helpful we can be to you."

Mr. Knode, the county agent, in speaking of these tours, said: "These trips which we plan to make each succeeding year so long as they are as popular as at present, are primarily educational, and we expect to profit a great deal from them in introducing into our county the best farming practices we see round about us and in the spirit of cooperation we are developing." The first tour was made to the Pennsylvania State College and Experiment Station.

NEW HIGH RECORD IN TIMBER SALES.

Forest Service announces that receipts from timber sales during the fiscal year 1923 exceeded those for 1920, the next highest year, by \$641,576.18. For the fourth quarter of 1923 they aggregated \$807,884.57—also a new record—a gain of \$180,365.36 over the same period in 1920, the next highest fourth quarter. A total gain of \$860,896.84 was made over 1922 receipts, while the fourth quarter of 1923 exceeded that of 1922 by \$185,442.36. With one exception, every district registered a gain over 1922, the increase for the entire service being 48.4 per cent. To district 5 (California), with an increase of 145.4 per cent, goes the palm for the best showing in this respect, the Alaskan forests coming next in order with a 73.1 per cent gain.

EXTENSIVE QUARANTINE AGAINST FRUIT FLIES

Board Prepares Against Dangerous Pests From Many Lands—Effective Nov. 1.

A quarantine on all fruits and vegetables offered for import into the United States, effective November 1, as a safeguard against bringing in fruit and melon flies, is announced by the Federal Horticultural Board. This is one of the most extensive plant quarantines ever established by the board. Canada alone is exempted from the quarantine, and no new prohibitions are placed on commodities from Mexico. These insects are known to be serious crop pests in various parts of the world and as yet have not made their way into the United States, where it is thought they would cause severe damage to our fruits and vegetables.

Special Permits Issued.

Under special permit shipments of certain fruits and vegetables may be brought into the country at the discretion of the board. Application for permits must be made to the Federal Horticultural Board at Washington, D. C. Full information concerning the intended shipment must be given in the application.

Action was taken by the department following a hearing some months ago at which all interests concerned were present. Restrictions on bringing in fruits and vegetables from outside countries were considered necessary for the protection of American crops. Copies of the regulations will be available in a few weeks and may be had upon application to the board.

"The purpose of Quarantine No. 56," says the board, "is to safeguard the American fruit and vegetable crops from the danger of fruit flies and related pests. The quarantine and regulations thereunder are based on the hearing of December 19, 1922. The restrictions on the entry of fruits and vegetables provided for in the regulations are believed to be the least which will give such protection.

"The fruits and vegetables which are open to entry under the quarantine and the restrictions on such entry are indicated in regulation 2. It will be noted that the articles which may be imported include the principal items which have hitherto been important commercial factors.

"No restrictions are placed on imports from Canada under this quaran-

(Continued on page 5.)

A DIGEST OF THE NEWS

Brief bits of News Digested From
Material Issued by Department During
the Past Week.

USE FOR BIG SWEET POTATOES.

The department has been making a study of the problem of utilizing oversized sweet potatoes, a problem which is rather a serious one in years when there is particularly good growing weather, sometimes as much as 40 per cent of the crop being made up of these overgrown potatoes. It has been found that these "jumbos" may be used as a source of potato flour, dehydrated potatoes, starch, sirup, alcohol, vinegar, breakfast foods, and various feeds. A method for the commercial manufacture of sweet potato sirup has been developed by the Bureau of Chemistry, but during times of ordinary prices for other sirups and sugars the process is not considered profitable. Under special conditions it may be, and cheaper methods may yet be devised.

TIMBER SHORTAGE LOOMS.

America faces an inevitable timber shortage unless something is done soon, according to the Forest Service, which calls attention to the fact that the timber supply has been mined as much as coal has been taken from the ground. However, if intensive forestry methods were practiced on all forest land, which is some 470,000,000 acres, the problem could be greatly alleviated. Three things are necessary: To stop unrestrained forest exploitation; to reduce waste in the use of timber; and to increase timber production to the full capacity of the land. It goes without saying that protection from fire, insects, and disease are necessary.

PURE-BRED HOGS CHEAP.

Pure-bred hogs sold at low prices in 1922, according to a survey made by the department. Reports on the sale of 30,382 pure-bred hogs were analyzed, and the results indicate that the swine business has been depressed along with other branches of agriculture. The average price received for each breed, including all ages and both sexes, at both private and auction sales, was as follows: Berkshire, \$30.57; Chester White, \$42.72; Duroc Jersey, \$45.91; Hampshire, \$44.42; and Poland China, \$41.94. Auction sale averages were from \$10 to \$25 above those sold privately. The difference, it is pointed out, was due partly to the large number of pigs under 8 months of age sold privately, whereas

auction sales are usually confined to more mature animals. This survey is a new feature of the news service work of the Bureau of Agricultural Economics and is the first of a series of surveys to be made at intervals of six months.

DANGERS OF GALVANIZED IRON.

Food or drink should not be allowed to stand for even a short time in a galvanized-iron vessel. Such a utensil is not desirable for use in making preserves or jellies or holding cider or other fruit juices. This is according to a statement by the Bureau of Chemistry. It appears that the zinc which is used in galvanizing will be dissolved and will give the food an unpleasant taste and may cause sudden and intense illness. Experiments made by the Bureau of Chemistry with limeade, orangeade, milk, carbonated water, tap water, and distilled water held overnight in galvanized-iron buckets proved that zinc contamination occurred in each case.

STRAW GAS TOO EXPENSIVE.

As a result of certain advertising literature which has been circulated among farmers the impression has been made in many places that gas can be made from straw and at a profit for use on the farm. Some advertisers have given the impression that the department has endorsed certain straw-gas equipment. This the department has never done. It has been shown by experiments conducted by the Bureau of Chemistry that it is possible to produce straw gas, but it is not profitable to manufacture it under present conditions.

NEW FOREST STATION.

The Northeastern Forest Experiment Station, provided for by the last Congress, began its work on August 1. The general headquarters of this station will be at Amherst, Mass., making it possible for close cooperation with the Massachusetts State Agricultural College. S. T. Dana, who was forest commissioner of Massachusetts, is the director of the new station, which will cover the northeastern forests region, including the New England States and New York. The staff will cooperate, as far as possible, with all forest agencies in the Northeast, including the agricultural colleges and experiment stations, forest schools, State forest services, timberland owners, and others.

LAKE SAVED FOR BIRDS.

Swan Lake, a body of water about 10,500 acres in area, in Nicollet County, Minn., has been saved through the efforts of the State game and fish commission-

ers, the Biological Survey, and land-owners and conservationists of the region. A movement was on foot to lower the level of the lake several feet and finally to drain it entirely, but an examination of the wild fowl of the lake showed that it was very desirable to preserve it. In deciding the case the district court of Minnesota laid emphasis on the great importance to the public welfare of such bodies of water. At least 50 kinds of plants valuable as food for water birds grow in this lake.

High-Pressure Sales Methods Used in Cut-Over Districts

Investigations made by the department into methods of land settlement in use in the cut-over districts of northern Michigan, Wisconsin, and Minnesota indicate that elaborate advertising and high-pressure salesmanship have induced many persons to take up raw land who are not fitted for pioneering life, and that much land not well suited to agriculture is being sold.

Land settlement in the United States to-day has not the spontaneous character which it possessed a quarter of a century ago. Few persons now seek a pioneering life on their own initiative. Most settlers take up raw land as the result of special inducements and facilities held out by agencies interested in promoting the sale of land.

Operations by land-settlement companies are not brought under wholesale criticism by officials of the department. The question is raised, however, whether from a national standpoint any material good is accomplished by forcing lands into use which ordinarily would not be cultivated until pressure of food requirements made their cultivation profitable. The bane of the land-settlement business in the cut-over districts lies in the fact that competition for a limited number of buyers compels resort to heavy advertising and selling outlay, which burdens the land with more overhead costs than it can carry. This fact, say department officials, makes it difficult even for land-settlement companies of the highest character to give settlers as good a chance of success as their enterprise deserves.

About 1,400 pounds of tobacco samples were recently received from western Kentucky by the Bureau of Agricultural Economics in connection with its tobacco standardization work. This lot, valued at \$420, was given to the bureau, and it is the first shipment of several lots of samples arranged for by F. B. Wilkinson on his last trip to Kentucky.



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OFFICIAL ANNOUNCEMENTS

Memorandum of the Secretary.

Changes in Departmental Purchasing Procedure.

MEMORANDUM No. 447.—August 13, 1923.—Beginning August 14 1923, the following changes relative to purchasing procedure will be effective:

(1) The Department Board of Awards is abolished and the duties heretofore devolving on the board will be assumed by the office of the Director of Purchases and Sales. Acceptance of bids will be by the director. Before approval is had recommendation of the bureau procuring the articles will be obtained.

(2) All purchase requisitions heretofore approved by the Secretary of Agriculture, as provided by paragraph 64 of the Fiscal Regulations, will hereafter be approved by the Director of Purchases and Sales.

(3) The Director of Purchases and Sales is authorized to waive newspaper advertising and execution of contract and bond where such action is recommended by the bureau concerned.

(4) The department representative on the General Supply Committee will in his capacity of such representative report to the Director of Purchases and Sales.

The changes herein ordered will facilitate the handling of the purchasing work of the department through elimination of unnecessary routine procedure and at the same time will increase the opportunity of the Director of Purchases and Sales to effect savings and render more efficient service to the various branches of the department.

WELFARE BOOTH SHOWS PROFIT.

Final figures show a profit of \$483.67 from the booth operated by the Welfare Association on the department grounds during the Shrine convention:

Current running expenses-----	\$164. 54
Sales at booth (besides above)-----	808. 83
Subsequent sales, cakes, etc.-----	136. 12
Total receipts-----	1, 109. 49
Soft drinks, ice cream, etc.-----	625. 82
Profit-----	483. 67

TELL IT TO FOLEY.

If E. A. Foley, the agricultural trade commissioner of the Bureau of Agricultural Economics, stationed at London, is

notified of contemplated visits to England by representatives of this department, it will facilitate the arranging of such contacts as he is called upon to make. As an illustration of the delay experienced by representatives of this department, Mr. Foley, in a recent letter, states that two specialists of the department have waited in London for several days while he has made an effort to obtain permission for them to visit a large manufacturing company there. Had Mr. Foley known of the wishes of these officials he could have previously arranged for a visit or had a refusal, and thus saved the time of the visitors and himself.

Representatives of the Bureau of Agricultural Economics in foreign countries are always ready and willing to assist fellow workers, and in this effort to be helpful Mr. Foley suggests that he, as well as representatives in other countries, be notified as far in advance as possible of visits by officials of this department.

1923 WOOL CLIP ESTIMATED.

A wool clip of 228,031,000 pounds for 1923 is the preliminary estimate issued recently by the department. This exceeds the 220,155,000 pounds clip of 1922 and the 223,062,000 pounds clip of 1921, but is below the clip of 1920, which was 235,005,000 pounds, and still further below that of 1919, with its 249,958,000 pounds. Texas, with 19,700,000 pounds, leads in the estimate of the wool clip for 1923. Wyoming is next, with 18,800,000 pounds, followed by Montana, with 18,295,000 pounds; Utah, with 17,210,000 pounds; Idaho, with 16,500,000 pounds; Ohio, with 14,313,000 pounds; California, with 14,181,000 pounds; and Oregon, with 13,200,000 pounds. No other State has as much as 10,000,000 pounds.

VISIT JAPANESE BEETLE LABORATORY.

On July 25 representatives of the Federal Horticultural Board, the Bureau of Entomology, and several near-by States visited the Japanese beetle laboratory at Riverton, N. J., to look over the work under way in the investigation and control of this insect. The party left the laboratory at about 10 a. m. and visited a number of apple and peach orchards where the insect was abundant and has done much damage to the foliage and fruit. In the afternoon a conference was held at the laboratory, at which time C. H. Hadley and L. B. Smith explained the various phases of the work under way and reported upon progress being made in the investigational phases of the problem. Remarks were made by

Prof. W. J. Schoene, of Virginia, and Prof. E. N. Cory, of Maryland, on the damage caused by the insect and its probable future spread. Among those present at the round-up were the following:

Frank P. Willits, secretary of the Pennsylvania Department of Agriculture; John M. McKee, deputy secretary of agriculture of Pennsylvania; W. A. McCubin, of the Pennsylvania Department of Agriculture; H. B. Weiss, of the New Jersey Department of Agriculture; Prof. Wesley Webb, of Delaware; Prof. C. N. Cory and C. C. Hamilton, of Maryland; Prof. H. E. Hodgkiss, of State College, Pa.; Dr. K. F. Kellerman and G. B. Sudworth, of the Federal Horticultural Board; Dr. A. L. Quaintance, of the Bureau of Entomology.

W. G. CAMPBELL MADE REGULATORY DIRECTOR

(Continued from page 1.)

pointed acting chief of the bureau, and has filled that position until the present time. Mr. Campbell was ineligible for the position of Chief of the Bureau of Chemistry, since the law requires that the occupant of that position be a chemist.

During the two years Mr. Campbell has had full charge of enforcing the Federal food and drugs act he has increased the efficiency of the work through perfecting the project system of handling it. This system provides a plan of operation by means of which all the organization units of the bureau located in different sections of the country work together in unison toward the accomplishment of a definite object. Thus various forms of adulteration and misbranding are attacked in all sections of the country at once and checked or eliminated entirely in a short time with the minimum expenditure of time and funds.

The form of organization and the system developed for the enforcement of the food and drugs act has been used as a model for the enforcement of other Federal statutes.

In the position of director of regulatory work Mr. Campbell, under the Secretary of Agriculture, will have the general supervisory administration of the regulatory acts which it enforces. Among the most important of such acts, in addition to the food and drugs act, may be mentioned the meat inspection act, the insecticide and fungicide act, the plant quarantine act, the tea inspection act, the migratory bird treaty act, the cotton futures act, the grain standards act, the warehouse act, the packers and stockyards act, the future trading act, and the naval stores act.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Is it true, and why, that the Mexican avocado or alligator pear is forbidden entry into this country?

Answer. The entry from Mexico and Central America of all avocados, avocado seeds, and avocado nursery stock less than 18 months old has been prohibited since February 27, 1914. The reason for this action is the occurrence in the countries named of a dangerous enemy of avocados known as the avocado weevil, which lives within the seed of the avocado. Provision is made, however, for the entry at the port of New York, when shipped by all-water route, of the large, thick-skinned variety known as Pagua, which is less subject to infestation than the small, purple, thin-skinned avocados.

Question. Where can I get information on the best kind of hog house to build?

Answer. Plans for the construction of farrowing and shelter houses for hogs are given in Farmers' Bulletin 438, Hog Houses. These show how they should be built to be most effective. Proper housing is an important factor in the successful raising of hogs, and for relatively little expense and effort good, serviceable, well-ventilated houses may be built. While the supply lasts the bulletin is available on application to the department.

Question. Is a county agricultural extension agent permitted to distribute bulletins from other experiment stations than the one in the State in which he is employed?

Answer. Yes; if such publications are needed in furtherance of extension work in the agent's county and have the approval of the State director of extension. If mailed in a penalty envelope, they should be accompanied by a letter signed by the county agent with his official title, stating the purpose for which the bulletins are sent. General distribution of such publications should not be made by the agent in penalty envelopes.

Question. Why are turpentine and rosin called "naval stores"?

Answer. Gum spirits of turpentine, rosin, and tar, among other things, have been known for 100 years or longer as "naval stores" because they are among those articles of commerce imported into England in ships, and also because they

were largely used in the days of wooden ships as ship stores and supplies. Within comparatively recent years the term "naval stores" has been applied almost exclusively to gum turpentine, rosin, tar, and spirits of turpentine.

Question. What is the test for distinguishing edible mushrooms from poisonous ones?

Answer. The collector of mushrooms can not depend upon any simple test. If he intends to use them for food he must know what he is gathering. Send for Farmers' Bulletin 796, "Some Common Edible and Poisonous Mushrooms." This bulletin describes the common species of fungous growths and by means of illustrations makes them easily recognizable.

Question. What is a well-chosen diet for a family?

Answer. The kinds of foods needed, and in a general way the proportions in which these foods should be used, is given in a Farmers' Bulletin, No. 1313, Good Proportions in the Diet. In this bulletin the proportions are discussed in terms of the amount of food needed by a family consisting of a father and mother, both doing active, but not hard, muscular work, and three children under 12 years of age. Such a family group is taken as the starting point for considering the needs of other families. The problems of food selection considered come under four heads, namely, adequacy, wholesomeness, attractiveness, and cost. Attention is called to certain exceptionally important foods under each group that must not be omitted for any long period of time.

EXTENSIVE QUARANTINE AGAINST FRUIT FLIES

(Continued from page 2.)

tine, and no prohibitions are placed on fruits and vegetables from Mexico other than those that have been long in force on account of the Mexican fruit fly, avocado weevil, and certain potato pests. The authority to import citrus fruit from the West Indies through northern ports, in addition to the imports of fruits and vegetables authorized from all foreign countries, limits the prohibitions as to the West Indies largely to certain tropical fruits the commercial imports of which have been hitherto unimportant—the danger, in fact, being largely due to the occasional small lots brought in by passengers or as ships' stores.

"It may be pointed out that the countries which have for us the greatest danger from fruit flies and related pests, such as those of Africa and the subtropical and tropical regions of

Europe, Asia, and South America, and the countries and islands of the Pacific, are permitted under the quarantine to export to the United States important fruits and many vegetables, the same, in fact, as are permitted from the temperate and more northern countries. The excluded fruits other than oranges from the subtropical and tropical countries and islands are for the most part of small commercial importance, such as fresh figs, peaches, plums, apricots, and other rather perishable fruits, and the strictly subtropical and tropical fruits—in other words, the fruits involving the greatest danger from fruit flies. * * *

Many Infested Shipments.

"That the danger of entry of important fruit fly and other pests in connection with imports of fruits and vegetables is a very real one is clearly indicated by the many interceptions of infested fruits and vegetables which have been made at various ports of entry, both by Federal and State inspectors. Many of these interceptions have been in connection with fruits brought in by passengers or by ships' crews or as a part of ships' stores, but others have been in connection with commercial shipments. * * * Except as to the ports of California and Florida, and in very recent years New Orleans, no thoroughgoing inspection has been maintained of fruit and vegetable entries. That this country has not become invaded by fruit flies, the worst of all fruit pests, is therefore more a matter of good fortune than otherwise.

A Growing Danger.

"The danger is, furthermore, a rapidly growing one with the increase of world commerce and especially with the shortening of time between countries by the building of speedier ships. As an example, it is now possible to send fairly perishable fruit, such as peaches, apricots, melons, etc., from South Africa to New York and to have such fruit cross the continent to San Francisco. A portion of a shipment of nectarines so routed from South Africa was intercepted in California and found infested with fruit-fly larvæ. It is known also that various foreign countries invaded with fruit flies are making preparations to increase their fruit and vegetable exports to the United States, and some of the occasional shipments which have already reached us from such countries have, as just noted, proved to be infested with fruit flies. The risk which will follow the more frequent and larger shipments which are in prospect is evident, and the necessity for taking prompt measures to protect the American fruit cultures from these pests would seem to require no further argument."

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

CORNCOBS YIELD VALUABLE PRODUCTS.

About 20,000,000 tons of corncobs, which in most cases have been considered as having no great value, are produced in the United States each year. For a number of years, however, the Bureau of Chemistry had its eye on this enormous quantity of material in the hopes of being able to produce some useful substance from this otherwise wasted by-product of the great corn crop. After conducting a series of experiments to discover the best methods of utilizing corncobs in various ways, such as a source of raw material for paper making and for the manufacture of adhesives for use in the manufacture of fiber and wall board and similar products, a substance known as furfural was recovered as a by-product in the processes which were developed.

Furfural had been, up to this time, a comparatively rare chemical and had been sold chiefly in small quantities for scientific purposes and at a price as high as \$30 per pound. It is now selling on a commercial scale for 25 cents per pound and the work of the Bureau of Chemistry experimental plant indicates a production cost on a large scale of considerably less than 10 cents per pound. Owing to the previous scarcity of furfural and its attending high price commercial uses were practically unknown. Recent research, stimulated by the possibility of cheap production has, however, brought out a number of uses. The fields of most immediate promise are in the manufacture of hard resins similar to Bakelite, as a solvent in the paint and varnish industries, as a solvent for nitrocellulose and cellulose acetate, and as a germicide and fungicide.

The Bureau of Chemistry has developed processes for the production of furfural as the chief product from corncobs or as a by-product in the production of a pentosan adhesive. With the first process 9 pounds of furfural may be obtained from 100 pounds of cobs. In the by-product process about 2 pounds of furfural are formed from 100 pounds of cobs, together with 40 pounds of a pentosan adhesive and about 60 pounds of cellulosic residue.

The pentosan adhesive has been found to be the most satisfactory binder yet used for the production of fuel briquets from anthracite mines. It is also of value as a substitute for sodium silicate in the manufacture of fiber containers and as a

general cheap adhesive. The cellulosic residue can be used in the manufacture of molded articles, and after washing with caustic soda is a substitute for wood flour, used extensively in many industries.

WITH EXTENSION FORCES

IT PAYS TO ADVERTISE, SAYS AGENT.

Newspaper advertising helps farmers sell their products, according to John Walz, county agent for Douglas County, Wis., and to prove it he carries a contract for advertising space by the year in the Superior Farmers' Telegram. In it he advertises seeds, live stock, and other products for Douglas County farmers.

"My biggest job is helping farmers find a profitable market," says Walz. "After they have learned what to produce and how to produce it in this new country they have to find out how to connect up with the good buyers." With this idea in mind he has made the county-agent office headquarters for marketing information for farmers.

Some farmers were paying dealers up to 33 cents a pound for clover seed this spring, while others were selling to buyers at 19 cents a pound when Walz started advertising the seed for producers. About 500 bushels changed hands at around 24 cents a pound, a profitable price for both grower and buyer. Five thousand bushels of pedigreed seed oats were also sold in the same way, while about 3,000 head of live stock were listed with the county agent and sold in 1922.

The Douglas County agent has also helped form farmers' marketing companies. The Twin Ports Dairy Association has been in operation for about three years and supplies more than half their milk to Superior and Duluth distributors. It has secured better prices for dairymen. The Patzau Poultry Association ships eggs direct to consumers.

"The individual farmer can not afford a consistent, widespread advertising program of continuous publicity for his small production. His only solution is collective or cooperative advertising and collective selling to furnish a continuous supply for the demand which advertising creates. This is where the county-agent office is of great service to Douglas County farmers," declares Mr. Walz.

TRAINED IN POULTRY JUDGING.

More than 4,000 Texas boys' and girls' club members were trained in poultry judging this summer, preparatory to the poultry judging contest held in connec-

tion with the summer short course at the Agricultural and Mechanical College of Texas, July 23-28. From these, judging teams were selected in 47 counties and individuals sent from 3 other counties.

These figures show a striking increase over those for 1922, when 800 boys and girls took the training and 18 counties were represented in the State contest.

Both standard-bred and utility breeds were judged. Fifty per cent of the score was based on placing the fowls and 50 per cent on giving reasons for the placings made.

WILL STUDY EXTENSION WORK ABROAD.

Under scholarships awarded them by institutions in France and England, three American extension workers are spending three months in study abroad. Two of them, Evelyn Peyton, county home demonstration agent for Madison County, Ala., and Ruth Arey, district agent for western Tennessee, sailed from New York the last week in June; the third, Mary Moreland, specialist in home industries in West Virginia, preceded them, having gone in April to Yugoslavia to assist in introducing club work under the auspices of the minister of agriculture.

Rug making will be studied by these extension workers in the school of Rodez, Aveyron, France, leather work either in Paris or Rodez, and cheese making at Roquefort. One month will be spent in England studying methods of food preservation at the experiment station of Bristol University and leather work at the woman's institute of Loughton, Essex, one of the purposes of the trip being to learn methods of home utilization of hides of farm animals which, when sold in the raw condition, bring a very low price.

FEWER HOGS IN WORLD.

Numbers of swine in the principal producing countries of the world are estimated at 227,431,000 head by the department, compared with 263,844,000 head for a representative pre-war year. This is a decrease of 36,413,000 head or 14 per cent. The United States shows the largest increase in production. There were 63,424,000 hogs on farms on January 1, 1923, compared with 58,933,000 hogs on farms on January 1, 1914. Smaller increases are indicated for Argentina and Canada. The number of swine in most of the European countries was less in the recent estimates than during the pre-war period the department states. Some of the countries showing decreases in numbers are France, Germany, and Denmark.

BRIEF REVIEWS OF NEW BULLETINS.

Diseases, Ailments, and Abnormal Conditions of Swine. By T. P. White, assistant chief, Division of Hog Cholera Control, Bureau of Animal Industry. Pp. 26, figs. 8. June, 1923. (Farmers' Bulletin 1244.)

Although the ravages of hog cholera have been reduced 60 per cent below the worst years, lack of attention to herds and failure to apply all the precautions available leave it still the greatest menace to the industry. Much of the bulletin is devoted to this disease and to a number of diseases which in the time of cholera outbreak go unnoticed or are diagnosed as cholera. These other diseases include anthrax, epilepsy, gastroenteritis, necrobacillosis, pleurisy, pneumonia, poisoning, swine plague, tuberculosis, and worms. Many other diseases and abnormal conditions are described and proper treatments are given. There are also chapters on the prevention of disease and on the causes of losses during shipment.

Development of Cooperative Shelter-Belt Demonstrations on the Northern Great Plains. By Robert Wilson and F. E. Cobb, assistants in dry-land arboriculture, Bureau of Plant Industry. Pp. 28, figs. 15. Jan. 13, 1923. (Department Bulletin 1113.) Price, 10 cents.

Under the direction of the department, 1,234 cooperative demonstration shelter belts were planted in the Great Plains area of Montana, North Dakota, South Dakota, and Wyoming during the five-year period from 1916 to 1920. Of this number, 716 were still growing at the close of the summer of 1920. This cooperative work was undertaken to show the possibility of planting trees for shelter in this section, to demonstrate the proper methods of starting and caring for these plantings, and to determine the different trees that are adaptable to the project. The experiment has shown conclusively that it is possible to successfully start a planting of trees on the average upland farm site in that region, but it will remain for future investigations to show whether or not it is possible for such plantings to maintain themselves after they have attained their maximum growth.

The Formation and Pathological Anatomy of Frost Rings in Conifers Injured by Late Frosts. By Arthur S. Rhoads, formerly assistant in forest pathology, office of investigations in forest pathology, Bureau of Plant Industry. Pp. 16, pls. 6. (Professional Paper.) Feb. 13, 1923. (Department Bulletin 1131.) Price, 10 cents.

Various types of frost injury are described and descriptions and photomicrographs are given of the frost-ring formation, showing in detail the characteristic distortion of the wood elements within the frost-ring zone. The young shoots injured by late frosts may either wilt or become permanently distorted or, as generally happens, they may be killed outright and replaced by one or more volunteer shoots. Young trees injured by repeated frosts often develop an abnormally compact and bushy form. Frost injury that results in the killing of the young shoots often detracts greatly from the straight axial growth of the trees, and where frequently repeated may render the trees absolutely valueless for commercial purposes.

Soil Survey of Duval County, Fla. By Arthur E. Taylor and T. J. Dunnewald. Pp. 48, fig. 1, map. (From F. O. Soils, 1921.) Price, 25 cents.

The history of the agricultural development of the county from the time of the first

settlement by the Spanish in 1791 occupies a part of the report, concluding with a complete discussion of the present agriculture. Farming in Duval County, Fla., has not yet become a highly specialized industry, and there has consequently been no close study on the part of the farmers of the adaptation of soils to certain plants or varieties of plants. A survey of the soils by the department shows that they are prevailing sandy and poorly drained, but specially fitted for certain crops. Included in this report is a large colored map which serves to show distinctly the extent and location of the different soil types and facilitates the study of the soil conditions. At present corn, sweet potatoes, and sugar cane, ranking in acreage in the order named, are the principal crops. The principal agriculture of the county consists of general farming and cattle and hog raising on the open range.

ADDITIONAL PUBLICATIONS.

Journal of Agricultural Research, Vol. 24, No. 6. May 12, 1923. Contents: Species of rhizopus responsible for the decay of sweet potatoes in the storage house and at different temperatures in infection chambers. (G-298.) By J. I. Lauritzen and L. L. Harter.—The inheritance of growth habit and resistance to stem rust in a cross between two varieties of common wheat. (G-299.) By Olaf S. Aamodt.—Effect of organic decomposition products from high vegetable content soils upon concrete drain tile. (Minn. 46.) By G. R. B. Elliott.—Injury to foliage by arsenical spray mixtures. (Mont. 11.) By D. B. Swingle, H. E. Morris, and Edmund Burke. Pp. 441-558, pls. 10. Price, 10 cents.

Journal of Agricultural Research, Vol. 24, No. 8. May 26, 1923. Contents: Some Graminicolous species of Helminthosporium: I. (G-306.) By Charles Drechsler. Pp. 641-740, pls. 33. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the Journal was suspended December 1, 1921 and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 194. June, 1923. July, 1923. Pp. 53-59. Price, 5 cents.

Service and Regulatory Announcements. Bureau of Biological Survey. No. 55. August 3, 1923. Pp. 13. Migratory Bird Treaty Act, and Regulations. Price, 5 cents.

Service and Regulatory Announcements. Federal Horticultural Board. No. 74. January-March, 1923. Pp. 56. June, 1923. Price, 10 cents.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week July 30-August 4, 1923. These publications can be obtained only from the stations issuing them.

Establishing a Commercial Vineyard in Arizona. F. J. Crider. (Arizona Sta. Bul. 96, pp. 46, figs. 30, June, 1923.)

The Efficiency of Legume Inoculation for Arizona Soils. R. S. Hawkins. (Arizona Sta. Tech. Bul. 4, pp. 61-85, figs. 8, May, 1923.)

The Pruning of Citrus Trees in California. R. W. Hodgson. (California Sta. Bul. 363, pp. 487-532, figs. 20, May, 1923.)

Application of the Principles of Jelly Making to Hawaiian Fruits. J. C. Ripperton. (Hawaii Sta. Bul. 47, pp. 24, pl. 1, June, 1923.)

Swine Raising in Hawaii. F. G. Krauss. (Hawaii Sta. Bul. 48, pp. 43, figs. 20, May, 1923.)

The Feed Cost of Milk and Fat Production as Related to Yields. H. A. Ross, H. F. Hall, and C. S. Rhode. (Illinois Sta. Abs. Bul. 244, pp. 4, Aug., 1923.)

Infectious Abortion in Swine. (Illinois Sta. Circ. 271, pp. 4, figs. 2, June, 1923.)

Annual Report, 1922. (Iowa Sta. Rpt. 1922, pp. 64.)

The Iowa System of Soil Management. W. H. Stevenson and P. E. Brown. (Iowa Sta. Bul. 213, pp. 289-318, figs. 13, May, 1923.)

Meteorological Observations. J. E. Ostrander and H. H. Shepard. (Massachusetts Sta. Met. Bul. 415, pp. 4, July, 1923.)

Lamb Feeding Experiments in Western Nebraska. J. A. Holden. (Nebraska Sta. Bul. 194, pp. 35, fig. 1, Aug., 1923.)

The Plains False Wireworm and its Control. (Nebraska Sta. Circ. 20, pp. 11, figs. 3, July, 1923.)

Tractor Farming in New Jersey. E. R. Gross and A. G. Waller. (New Jersey Sta. Bul. 386, pp. 24, figs. 7, May, 1923.)

Lamb Feeding Experiments. (New Mexico Sta. Bul. 138, pp. 12, Apr., 1923.)

Cost Accounts for Six Years on Some Successful New York Farms. G. F. Warren et al. (New York Cornell Sta. Bul. 414, pp. 139, fig. 1, Feb., 1923.)

Results of Tobacco Experiments in Pennsylvania, 1912 to 1922. (Pennsylvania Sta. Bul. 179, pp. 28, figs. 25, June, 1923.)

Winter Wheat in South Dakota. A. T. Evans and G. Janssen. (South Dakota Sta. Bul. 200, pp. 487-516, fig. 1, Dec., 1922.)

Some Experiments with Spring Wheat in South Dakota. A. N. Hume and A. T. Evans. (South Dakota Sta. Bul. 201, pp. 518-560, Feb., 1923.)

Soy Bean v. Alfalfa Hay for Milk Production. E. L. Anthony and H. O. Henderson. (West Virginia Sta. Bul. 181, pp. 10, fig. 1, May, 1923.)

FILM SHOWS HOW BEET SUGAR IS MADE.

Growing 16,000,000 tons of sugar beets and manufacturing 1,000,000 tons of beet sugar annually is the latest activity of agricultural production featured on the educational silver sheet by the department. The new film is titled "Beets From Seed to Sugar Bowl" and is one reel in length.

The picture tells the story of America's beet-sugar and sugar-beet industries from the planting of the beet seed through the various cultural and harvesting practices, and carry on into the sugar factory, showing the various steps in the manufacture and refinement of beet sugar. The photography was done in a beet-growing center of the mid-West, and in a modern beet-sugar factory. The Bureau of Plant Industry and the Bureau of Chemistry of the Department of Agriculture cooperated in subject-matter supervision.

Beets from Seed to Sugar Bowl will be loaned free, except for transportation charges, which borrowers will be required to pay both ways. Authorized persons and institutions may purchase prints at the manufacturing cost.

Live-stock market reports of the Baltimore Union Stockyards will be broadcast by the Bureau of Agricultural Economics through the Arlington Naval Radio Station, beginning about August 1.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Church life in the rural South. Ed. by E. de S. Brunner. New York, G. H. Doran co., 1923. (Committee on social and religious surveys. Unique studies of rural America 4.)
- Cooperative democracy attained through voluntary association of the people as consumers. By J. P. Warbasse. New York, Macmillan co., 1923.
- Costs, their compilation and use in management. By I. A. Berndt. Chicago, H. P. Gould co., 1920.
- Current economic problems. Rev. ed. Ed. by W. H. Hamilton. Chicago, University of Chicago press, 1922.
- Economics of welfare. By A. C. Pigou. London, Macmillan and co., Ltd., 1920.
- Elfin-forest of California. By F. M. Fultz. Los Angeles, Times-mirror press, 1923.
- Encyclopedia of food. Comp. by Artemus Ward. New York, A. Ward, 1923.
- European situation as affecting the demand for wheat . . . delivered at National wheat conference. Chicago, June 19, 1923. By A. E. Taylor. Chicago, Wheat council of the United States, 1923.
- Farm implements and machinery. By J. R. Bond. London, Benn brothers, Ltd., 1923.
- Food industries. 4th ed. By H. T. Vuité and S. B. Vanderbilt. Easton, Pa., Chemical publishing co., 1923.
- Forest resources of the world. By Raphael Zon and W. N. Sparhawk. New York, McGraw-Hill book co., Inc., 1923.
- Future home. By C. S. Hemphill. [n. p.] 1923.
- Gt. Brit. Ministry of agriculture and fisheries. Departmental committee on distribution and prices of agricultural produce. Interim report on fruit and vegetables. London, 1923.
- Great revival in the West, 1797-1805. By C. C. Cleveland. Chicago, University of Chicago press, 1916.
- Guide économique de l'Algérie. Par Felix Falck. Paris, A. Michel, 1922.
- Guide to the insects of Connecticut. pt. 4. By W. E. Britton. Hartford, 1923. (Connecticut. State geological and natural history survey. Bulletin no. 34.)
- Handbook of projection for theatre managers and motion picture projectionists. 4th ed. By F. H. Richardson. New York, Chalmers publishing co., 1922.
- De Inrichting van de bedrijfsgevoenen voor akkerbouw en veeteelt in Nederland. Door A. M. Kuyjsten. s'Gravenhage, J. & H. van Langenhuysen, 1919.
- Kunstdünger, handelsdünger. Von A. Kwisda. Leipzig, Waldheim-Eberle, 1922.
- Law of allotments and allotment gardens (England and Wales) 3d ed. By E. L. Mitchell. London, P. S. King & son, Ltd., 1922.
- Native plants of Wisconsin suitable for cultivation. By William Toole, sr. Madison, Wisconsin state horticultural society, 1922.
- Organized co-operation. By J. J. Dillon. New York, Rural New Yorker, 1923.
- Outline of genetics, with special reference to plant material. By M. C. Coulter. Chicago, University of Chicago press, 1923.
- Poultry keeping on the farm. By Edward Brown. London, Benn brothers, Ltd., 1923.
- Practical dietetics. 14th ed. By A. F. Pattee. Mount Vernon, N. Y., A. F. Pattee, 1923.
- Predetermination of true costs and relatively true selling prices. By F. A. Parkhurst. New York, J. Wiley & sons, Inc., 1916.
- Principles of city land values. 2d ed. By R. M. Hurd. New York, Record and guide, 1905.
- Principles of economics. By A. L. Faubel. New York, Harcourt, Brace and co., 1923.
- Problems in cost accounting. By DeW. C. Eggleston. New York, D. Appleton and co., 1918. (College of the city of New York series in commerce, civics and technology.)
- Die quantitative organische mikroanalyse. 2. aufl. Von Fritz Pregl. Berlin, J. Springer, 1923.
- Quebec (Province) Legislature. Legislative assembly. Committee on agriculture, immigration and colonization. Rapport. [n. p.] 1922.
- Salvaging of civilization. By H. G. Wells. New York, Macmillan co., 1922.
- Schematismus der grundbesitzer Ungarns. [By] Gyula Rubinek. Budapest, 1922.
- Selling expenses and their control, a study in the retail distribution of clothing. Northwestern university, Evanston, Ill. School of commerce, Chicago. Bureau of business research. New York, Prentice-Hall, Inc., 1922.

- Society of motor manufacturers and traders, Ltd. Report on the tractor trials held at Shrawardine, nr. Shrewsbury. September 20-24, 1921. [n. p., 1921?]
- Source-book of research data. Ed. of 1923. New York university. Graduate school of business administration. Bureau of business research. New York, Prentice-Hall, Inc., 1923.
- Surface tension and surface energy. 3d ed. By R. S. Willows and E. Hatschek. London, J. & A. Churchill, 1923.
- Supplement to F. Hamilton Davey's Flora of Cornwall. By Edgar Thurston and C. C. Vigers. Truro, O. Blackford, 1922.
- Theoretische, praktische und analytische chemie. v. 9, 10, 12. 4. aufl. Von J. S. Muspratt. Braunschweig, 1922.
- Times survey atlas of the world. London, "The Times," 1922.
- Truth about the treaty. By André Tardieu. Indianapolis, Bobbs-Merrill co., 1921.
- Variations biochimiques du rapport nucléoplasmatique. Par Éllane Le Breton et Georges Schaeffer. Paris, Masson et cie, 1923.
- Wavelength tables for spectrum analysis. Comp. by F. Twyman. London, A. Hilger, Ltd., 1923.
- Wood distillation. By L. F. Hawley. New York, Chemical catalog co., Inc., 1923.

OLD BOOKS.

- Catalogue of plants growing without cultivation in the state of New Jersey. Rev. ed. By O. R. Willis. New York, 1877.
- Cincinnati. v. 1; 1856. Cincinnati, 1856.
- Die coniferen. Von Franz Antoine. Wien, 1840.
- Economy of agriculture. By David Lloyd. Germantown, Pa., 1832.
- Flora der preussischen Rheinprovinz. Von P. W. Wirtgen. Bonn, 1857.
- Flore luxembourgeoise. Par F. A. Tinant. Luxembourg, 1836.
- Homes without hands. By J. G. Wood. London, Longmans, Green and co., 1865.
- Statistics of the state of Georgia. By George White. Savannah, 1849.

CURRENT PERIODICALS.

- Banker & tradesman [weekly] Boston, 1923.
- Detroit motor news [monthly] Detroit, 1919.
- Economica; issued terminally by the London school of economics and political science. London, 1923.
- Hungary. Kon. Ungar. statistisches centralamt. Magyar statisztikai szemle [monthly] Budapest, 1923.
- Leite e lacticinios; revista bimestral. Rio de Janeiro, Brasil, 1922.
- Union coloniale française. Bulletin [monthly] Paris, 1923.
- U. S. compiled statutes, 1918. Pamphlet supplement. St. Paul, Minn., 1923.

Articles in Current Publications By Department Workers

- Ainslie, G. G. (Bureau of Entomology). A corn-feeding Geometrid, *Pleuroprucha insularia* Guen. (Lepidoptera, Geometridae). Ohio Jour. Science, Vol. 23, no. 2, p. 90-101, March-April, 1923.
- The *Crambidae* of Florida. The Florida Entomologist, vol. 6, no. 4, p. 49-55, April, 1923.
- Bailey, Vernon (Biological Survey). Collecting tracks. Journal of Mammalogy, vol. 4, no. 3, p. 195, August, 1923.
- The harmless horn-toad that shoots blood from its eyes. Nature Magazine, vol. 1, no. 6, p. 53, June, 1923.
- Coffman, F. A. (Plant Industry). Minimum temperature of germination of seeds. Journal of American Society of Agronomy, vol. 15, p. 257-270, July, 1923.
- Dudley, J. E., and Seales, E. M. (Bureau of Entomology). Color marking of the striped cucumber beetle (*Diabrotica vittata* Fab.) and preliminary experiments to determine its flight. Jour. Econ. Ent., vol. 16, no. 4, p. 363-368, August, 1923.
- Fealy, N. E. (Plant Industry). Sugar producing palms, their history, description, habitat, sugar, and products other than sugar. Facts about sugar, vol. 17, p. 58-61, July 21, 1923.
- Gabrielson, Ira N. (Biological Survey). Four new bird records for Oregon. The Condor, vol. 25, no. 4, pp. 139-140, July, 1923.
- Notes on *Thomomys* in Oregon. Journal of Mammalogy, vol. 4, no. 3, pp. 189-190, August, 1923.
- Goldbeck, A. T. (Public Roads). Concrete in roads. Engineering News-Record, vol. 91, p. 58, July 12, 1923.
- Hadley, C. H., and Smith, L. B. (Bureau of Entomology). Spread of the Japanese beetle, *Popillia japonica* Newm. Jour. Econ. Ent., vol. 16, no. 4, p. 349-353, August, 1923.
- Harsch, Raymond (Public Roads). Blast-furnace slag as an aggregate in concrete. Engineering News-Record, vol. 91, p. 146, no. 4, July 26, 1923.
- Hatt, W. K. (Public Roads). Highway research program. Motor Truck, vol. 14, p. 28, no. 7, July, 1923.
- Holmes, W. C. (Bur. Chemistry). Influence of the temperature at which the solution of dyes is affected upon the nature of the solution. Color Trade Journ., Vol. 13, No. 2, August, 1923.
- The spectrophotometric identification of dyes. I. Acid dyes of the patent blue type. Journ. Ind. Eng. Chem., Vol. 15, No. 8, August, 1923.
- Volumetric estimation of auramine. Color Trade Journ. Vol. 13 No. 2, August, 1923.
- Howard, L. O. (Bur. Entomology). The house fly—carrier of disease. Hygeia, Vol. 1, No. 1, pp. 38-42, illus. April, 1923.
- Concerning mosquito control measures. Hygeia, Vol. 1, No. 2, pp. 80-84 illus. May, 1923.
- Fleas and lice. Hygeia, Vol. 1, No. 4, pp. 238-242, illus. July, 1923.
- Jewett, S. G. (Biol. Survey). A breeding record of *Citellus mollis*. Journal of Mammalogy, Vol. 4, No. 3, p. 191, August, 1923.
- Keen, Sadie E. (Bur. Entomology). Note on occurrence of *Macrosiphum pisi* Kalt. on Scotch broom. Journ. Econ. Ent., Vol. 16, No. 4, pp. 394-395, 1923.
- LaForge, F. B., and Mains, G. H. (Bur. Chemistry). Furfural from corncobs. II. The Bureau of Chemistry experimental plant and process of furfural production. Ind. Eng. Chem., Vol. 15, No. 8, August, 1923.
- Poore, H. D. (Bur. Chemistry). The effect of dialysis on the direct crystallization of citric acid from lemon juice. Ind. Eng. Chem., Vol. 15, No. 8, August, 1923.
- Pratt, J. G. (Bur. Entomology). The ideal photographic printer. Camera Craft, Vol. 30, No. 8, pp. 355-360, illus. August, 1923.
- Preble, Edward A. (Biol. Survey). Death of Frank Blake Webster. Journ. of Mammalogy, Vol. 4, No. 3, pp. 196-197, August, 1923.
- Rohwer, S. A. (Bur. Entomology). New Malayan wasps of the subfamily Pseninae. Philippine Journ. Science, Vol. 22, No. 6, pp. 593-601, June, 1923.
- Rose, Albert C. (Bur. Public Roads). Some problems in Alaska. Western Highways Builder, Vol. 5, p. 24, July, 1923.
- Schreiner, Oswald (Plant Industry). Toxic organic soil constituents and the influence of oxidation. Journ. American Society Agronomy, Vol. 15, pp. 270-276, July, 1923.
- Shear, C. L. (Bur. Plant Industry). Phoma: a sample of mycological nomenclature and classification. Mycologia, Vol. 15, pp. 174-182, July, 1923.
- Simmons, Perez (Bur. Entomology). A house fly plague in the American Expeditionary Force. Journ. Econ. Ent., Vol. 16, No. 4, pp. 357-363, August, 1923.
- Snapp, O. L., and Alden, C. H. (Bur. Entomology). A note on the life history of the San Jose scale (*Aspidiotus perniciosus*) in the South. Journ. Econ. Ent., Vol. 16, No. 4, pp. 395-396, August, 1923.
- Stanton, T. R. (Bur. Plant Industry). Naked oats. Journ. of Heredity, Vol. 14, pp. 177-183, July, 1923.
- Steiner, G. (Bur. Plant Industry). Intersexes in nematodes. Journ. of Heredity, Vol. 14, pp. 147-158, July, 1923.
- Thom, Chas. (Bur. Chemistry). What constitutes spoiled food? Am. Food Journ. Vol. 18, No. 7, July, 1923.
- Thompson, W. R. (Bur. Entomology). A criticism of the "sequence" theory of parasitic control. Annals of the Entomological Society of America, Vol. 16, No. 2, pp. 115-128, 2 fig. June, 1923.
- Tidestrom, Ivar (Bur. Plant Industry). New or noteworthy species of plants from Utah and Nevada. Proceedings Biol. Soc. of Wash., Vol. 36, pp. 181-184, May 1, 1923.
- Turrentine, J. W. (Bur. Soils). The efficient recovery of nitrates from caliche. Journ. Ind. and Eng. Chemistry, Vol. 15, No. 8, p. 853, August, 1923.
- Viehoever, Arno, and Capen, R. G. (Bur. Chemistry). New sources of Santonin. Journ. Am. Chem. Soc., Vol. 45, No. 8, August, 1923.
- Weir, J. R. (Bur. Plant Industry). The genus *Chrysomys*. Mycologia, Vol. 15, pp. 183-187, July, 1923.
- Wetmore, Alexander (Biol. Survey). The wood rat in Maryland. Journ. of Mammalogy, Vol. 4, No. 3, pp. 187-188, August, 1923.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., AUGUST 29, 1923.

No. 35.

LARGEST PULP-TIMBER SALE BY DEPARTMENT

**Forest Service Sells 3,340,000
Cords to San Francisco Firm—
On Permanent Basis.**

The largest sale of pulp timber ever made by the Forest Service was announced on August 24. It is possible that this is the largest sale of the kind ever made anywhere in the world. The transaction involves 334,000,000 cubic feet of timber, or about 3,340,000 cords, in the Tongass National Forest, Alaska. The buyer is the firm of Hutton, McNear & Dougherty, of San Francisco.

Fourteen Units Laid Out.

The Cascade Creek Unit is the second of 14 pulp and paper units in the Tongass National Forest within which sales have been awarded following legal advertisement. The prices bid are 60 cents per cord for the Sitka spruce timber, which forms 27 per cent of the stumpage and 30 cents per cord for the western hemlock, which forms 72 per cent of the stumpage. The remaining timber is composed of western red cedar and Alaska cedar for which the contract price is 60 cents per cord. These prices are in accord with the minimum advertised rates. The stumpage alone is sold, of course, title to the land remaining in the Federal Government.

The original prices will stand until April 1, 1931, at which time, and at five-year intervals thereafter, the Forest Service has the right to readjust the prices to the extent of making them conform with the then prevailing prices for similar timber on the Tongass National Forest. The sale period extends until March 31, 1956; but the timber will be paid for only as it is cut, in installments of not more than \$20,000.

Will Build Paper Plants.

The purchaser has agreed as part of the consideration for the timber to build a pulp-manufacturing plant of not

less than 100 tons daily capacity, and ultimately with a daily capacity of 200 tons, at the Cascade Creek water-power site on Thomas Bay, 20 miles from Petersburg, Alaska, within the Tongass National Forest. It is understood that the firm plans to install a complete newsprint plant with a daily capacity of 200 tons.

According to the plans of the Forest Service for this sale unit, as well as for all pulp timber developments in Alaska, the timber will be cut on a perpetual supply basis, enough seed trees being left to insure complete natural reproduction. The volume of pulp timber and the area of timber-growing land within the unit, reserved from other disposition, are sufficient to afford a permanent source of raw material for this enterprise.

Under the perpetual timber supply plan at least 1,500,000 tons of paper can ultimately be produced in Alaska every year. This amount is more than one-half of the newsprint now consumed annually in the United States and nearly 20 per cent of the total consumption of all kinds of paper and wood fiber products. As each new unit of timber and water power is developed in Alaska, the manufacturing capacity will be gauged to the timber supply and growing power of the land so that there will be no depletion of raw material.

Policy Indorsed by Harding.

The Cascade Creek sale is in line with the policy for the development of the

(Continued on page 5.)

FAREWELL TO MR. PUGSLEY.

A farewell luncheon was given to Assistant Secretary Pugsley in the Cosmos Club at Washington August 17. The luncheon was attended by the Secretary, the bureau chiefs, and a few others. Talks were made by Secretary Wallace, Mr. Pugsley, and Dr. W. A. Taylor. Mr. Pugsley takes up his new duties as president of the South Dakota Agricultural College, Brookings, S. Dak., about October 1.

NOT DEALING WITH NEW DISEASE, SAYS WALLACE

**In Speaking of Situation of Wheat
Farmer—Need Better Balance
of Farm and Industry.**

"The ruinously low price of wheat is not a new agricultural disease," said Secretary Wallace in a statement on the agricultural situation issued to the press on August 20. "It is," he continued, "just one more acute symptom of the general trouble from which agriculture is suffering. The disease itself is the distorted relationship between prices of farm products and prices of other commodities. This is not a new diagnosis. It has been pointed out from time to time for the past two and one-half years. The sooner people engaged in commerce and industry frankly recognize the trouble, the better it will be for all of us. The farmer could get along fairly well with present prices of what he has to sell if prices of what he must buy were down accordingly. But prices of other things remain high. That is what hurts. Wages in industry and on the railroads are almost twice as high as before the war. Taxes are about twice as high. Freight rates are from 50 to 75 per cent higher. Metals, building materials of all kinds, are from 50 to 100 per cent above pre-war prices. All of these are items in the farmer's cost of production. Until a fair relationship is restored between agriculture and industry and commerce, agriculture will be upset and will have reason to complain. If the present plane of prices of commodities other than agricultural is to be maintained, then to have general prosperity agricultural prices must be brought up. That probably means that agriculture must be gotten off the international market.

Wheat Farmer Hard Hit.

"With wheat selling for considerably less than the cost of production, hundred of thousands of specialized

wheat farmers are having a mighty hard time of it. In the diversified farming region east of the Missouri River wheat is but one of several crops and the trouble is not so serious. But in the spring wheat belt of the Northwest and the winter wheat belt of the Southwest where wheat is the main crop, wheat growers are suffering severely. Thousands of wheat farmers will go bankrupt. Other thousands will be able to hold on only by the practice of the most grinding economy.

"It is not long since the corn farmer went through just such an experience. So also the cattle grower of the range States (who is not yet out of the woods), the potato grower, some of the fruit growers, the rice growers. The case of the wheat grower is made worse because most of our wheat goes into the channels of trade. However, because of the low price, less of it will be sold as wheat this year and more of it fed.

What Can Be Done?

"The pressing question is, What can be done to help the wheat growers get more nearly the cost of production for this year's crop? Some urge that the Government ought to fix a fair price. That could be done only by the Government preparing to buy unlimited quantities at the price fixed. Others suggest that the Government go into the market and buy 200,000,000 bushels of wheat and store it, on the theory that the taking off the market of that quantity would send up the price to a fair figure. I am not hopeful of good results from either of these plans. How would the Government dispose of the surplus accumulated? What effect would either action have on wheat acreage? What effect would it have on the acreage and price of other grains and of live stock? Would the same policy be adopted in case of ruinously low prices for other farm products? The wheat situation is bad enough in all conscience, and certainly the majority of our people would favor any practical method of helping, but we ought to be reasonably sure that the remedy attempted will do the farmer more good than harm and will not make our situation worse instead of better.

"Whether these acute situations might be relieved, if the Government should set up an agency with large authority to handle our surplus farm products in its discretion and provide it with ample funds, I do not know. I do not believe anyone knows.

"Almost everyone who comes back from Europe tells of large crops, and assures us that Russia will this year export large quantities of wheat. I do not think many of our European travel-

ers have an opportunity to secure reliable information on this point, but all such stories tend to have a bearish effect on our own wheat prices. A gradual decline in our exports of grains and meats is to be expected. We can not hope to keep them at the high rate of recent years. But these exports are not going to vanish overnight. Europe will continue to buy large quantities of us for some time.

Railroads Can Help.

"Our railroads could help in this trouble by making some reduction in freight rates on farm products. How far the western grain-carrying roads can go in this direction under their present operating expenses I am not prepared to say, but the roads running east from western primary markets ought to be able to make some substantial reduction in freight rates on all grain, flour, live stock, and meat products, especially if destined for export. If our railroad rate men would take the farm situation to heart and get down and study it as one of their own problems, I believe they could help a great deal.

Wheat Acreage Reduction.

"Economic forces are steadily grinding away to remedy some of the farm troubles. The low price of wheat this year will in itself bring some reduction in acreage. This is clearly indicated by the department report on farmers' intentions to plant, which was made public August 15. The acreage of winter wheat has been greater than usual in the States east of the Missouri, because for a number of years it was paying better than corn. Now corn is more profitable. In the spring and winter wheat belts proper a forced reduction in acreage is coming, because thousands of wheat growers who have been barely hanging on will be driven out by the ruinous prices of this year. It is a terribly hard situation for the individual, but those who remain will be benefited.

"High wages in the cities and low wages and prices on the farms are forcing a large movement from the farm to the city. Under conditions which now prevail this seems to be an economic necessity. Because of high wages and low prices more and more farmers are adjusting their production to what they can grow with their own labor. All this tends to bring farm production more in line with what the consumers will buy at a fair price.

General Farm Conditions Improving.

"In general, farm conditions are better than they were a year or two years ago. The legislation passed by Congress has

been helpful. The new cooperative law gives farmers assurance that they can go ahead and organize cooperative associations without being prosecuted for combining. The agricultural credits act is now functioning and money for operating and marketing purposes can be borrowed freely and at fair rates. The packers and stockyards act and the future trading act give assurance of free, open and competitive markets for grain and live stock, and for the first time cooperative associations of farmers can operate on these markets. The Federal warehouse act is an essential part of the credit machinery, and the number of such warehouses is increasing rapidly.

"The Department of Agriculture has been able to extend its helpful activities during the past year. Our special agents in Europe have been helpful in holding foreign markets. Federal inspection at shipping and receiving points, dissemination of information on better marketing methods, extension of reliable market news by wire and mail, all help to market to better advantage.

"When all is said and done the fundamental fact remains to be dealt with. Agriculture and industry and commerce must be brought into more nearly normal relationship and until this is done these acute agricultural troubles will develop one after the other."

Michigan Tourists Learn the Work of the Department

About 500 Michigan farmers and others arrived in Washington August 18 in a big motor caravan of a hundred cars. A village was established at the automobile tourist camp in East Potomac Park, and the acting mayor was established in his headquarters known as the "Town Hall." Food, gasoline, and other supplies were delivered by local dealers and sight-seeing tours arranged as soon as the village was established.

Monday night, Secretary Wallace addressed the "nomads" on the present situation of agriculture and the work of the department. The next two nights department motion pictures were shown. The exhibition was staged by the Office of Motion Pictures in the open air at the automobile tourist camp in East Potomac Park.

The films shown included "Out of the Shadows," dealing with the relations between animal and human tuberculosis. Other films were a scenic, "Roads to Wonderland," "A Tale of Two Bulls," and "She's Wild."

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

BREAD BIGGEST FOOD ITEM.

The average person depends more upon bread for the daily ration than upon any single article of food. The Bureau of Home Economics says this is due to the fact that bread contains certain materials needed for health, is inexpensive, wholesome, palatable, and readily available nearly everywhere. When it sells for 10 cents a pound it furnishes body fuel at the rate of about 8 cents a thousand calories. Few common foods are as cheap as that. In addition to being good fuel, bread is also to some extent a muscle builder, and if made from the whole grain it contributes to the supply of mineral substances. Long ago our ancestors found that bread, milk, and berries made a good meal. Scientists have proved that the combination provides about everything needed, even to the newly discovered vitamins.

SUBSTITUTE FOR CIGAR BOXWOOD.

To give the desired cedar odor to cigars, it is no longer necessary to use boxes made of cedar, the supply of which is becoming scarce, but liners for boxes made of paper treated with a cedar oil give the desired results. The department has done considerable work on this problem, but it is not yet finished. However, the results obtained so far are promising, and those who have tried the treated inserts are satisfied with them.

COCKLEBUR POISONS LIVE STOCK.

Farm animals running on pastures infested with young cockleburrs may be poisoned by eating them, according to investigations made by the Bureau of Animal Industry. Young pigs up to 2 months of age have been found more susceptible than other stock, although occasionally reports came in on the poisoning of other animals. It seems that the dose generally needed to cause poison is not very far from 1½ pounds of green plant to 100 pounds of animal, but there is considerable variation. Symptoms appear within 24 hours after the plant is eaten, and usually last only a few hours. There is little difference between the dose that produces sickness and the dose that causes death. The best remedy found is to keep stock away from land infested with cockleburrs while

the plants are very young, but when milk or raw linseed oil is given to poisoned animals recoveries occur.

GERMANS CUT FAT RATIONS.

Germany is again on short fat rations. Reports received by the department from representatives in Berlin indicate that there is no great hope for large imports of American lard during the remainder of the year, for it is expected that, because of the relative cheapness, bacon will find a better market there. In 1922 the per capita fat supply in Germany was from 75 to 80 per cent of the pre-war average. Germans now get much more of their fat from vegetable sources, margarine being by far the largest single factor. The composition of the margarine used is much different than formerly. Once it was an animal product, but in that country it is now made almost entirely of vegetable oils. Butter consumption in Germany has dropped from about 15.2 pounds per capita in pre-war years to less than 10 pounds. In the cities the shortage is actually much greater because the rural population, lacking a profitable market, has increased consumption of butter. Many farm laborers are now demanding their wages in agricultural products.

LAND WILL BE SCARCE.

Within a few decades the export surplus of the United States will largely disappear. This is the conclusion given by Dr. L. C. Gray, of the Bureau of Agricultural Economics, before the Institute of Politics at Williams College, Mass. The per capita crop average, he says, is decreasing, and was less in 1922 than in 1900. The big increase in our surplus for export was made possible by a reduction in the area of land used for production of live stock, particularly beef, cattle, and horses. The average yield per acre of crops has not increased during the past 20 years. Doctor Gray predicts that we will soon find ourselves subjected to dependence on foreign sources of supply for farm crops.

Economic factors involved in the operation and management of cotton farms are being studied in South Carolina by the Bureau of Agricultural Economics in cooperation with Clemson Agricultural College. It is hoped that this study will provide fundamental facts and principles for determining more profitable plans for farm organization and management under boll-weevil conditions. A farm management and cost of production survey is now in progress in Anderson County.

Night Air-Mail Route Opened Between Chicago and Cheyenne

By invitation of the Post Office Department, the Weather Bureau was officially represented at Omaha during the four-day experimental operation of the new night air mail route between Chicago and Cheyenne. Owing to the inability of Professor Marvin, Chief of the Weather Bureau, to attend personally, Mr. Vincent E. Jaki, in charge of the aerological station at Drexel, Nebr., was designated to witness the experiments.

The Weather Bureau has been providing special forecasts for the air mail service ever since its inception in 1918. This service is especially essential in connection with the new continuous air route between New York and San Francisco, which involves all-night flying over the stretch between Chicago and Cheyenne.

Arrangements have been made to furnish the radio station of the air mail service at Maywood, Ill., with route weather forecasts by the Weather Bureau twice daily, at 10 a. m. and 9:30 p. m. These will be used by the pilots of the night mail planes between Chicago and Cheyenne, Wyo., leaving each of these stations at 8 p. m.

The morning forecast, covering the period from noon to midnight, will be for the first part of the journey in either direction. The evening forecast, covering the period from its issue until 7 a. m., will be broadcasted by the air mail station at Maywood and given to the westbound pilot at Iowa City, Iowa, at 10 p. m., and to the eastbound pilot at North Platte, Nebr., at about the same time. Forecasts will be furnished for four levels: The surface, 1,000, 2,500, and 5,000 feet.

RECORD-BREAKING HOG SLAUGHTER.

Records of the Bureau of Animal Industry of the department show an unusually large hog slaughter for the fiscal year ended June 30, 1923, in establishments operating under Federal meat inspection. During the year 48,600,069 hogs were slaughtered. This number is greater than that for previous years by 4,201,680. Due largely to the record-breaking hog slaughter, the total slaughter is also higher than any previous year. During the fiscal year the total number of animals slaughtered and Federally inspected was 73,397,676. This number is 2,689,039 higher than the previous record, which occurred during the fiscal year ended June 30, 1919.



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Budget Bureau Announces Hotel Rates for Government Employees

A circular has just been issued by the Bureau of the Budget announcing reductions in rates on rooms offered by various hotels throughout the country to officers and employees of the Government traveling on official business. It includes all hotels which, at the present time, offer such reduced rates.

Instances have come to the attention of the Bureau of the Budget in which misunderstandings have arisen between hotel employees and applicants for reduced rates. It is suggested that if officers and employees of the Government ascertain the regular rates when they apply for accommodations, show their credentials, and ask for the reduction before registering, misunderstandings will be largely avoided. It is believed that the presentation of travel order or other official instructions will constitute sufficient identification for this purpose. Should any hotel listed in this circular decline to grant the reduction indicated (provided the applicant has furnished proper identification and claimed reduction at time of registering), it is requested that the bureau be promptly informed.

VETERAN OF WEATHER BUREAU DIES.

Mr. Delos T. Maring, Chief of the Division of Stations and Accounts in the Weather Bureau, died July 18, 1923. Mr. Maring was one of the veteran employees of the Weather Bureau and its predecessor, the meteorological service of the Signal Corps, having entered the earlier service January 16, 1884. For many years he was principal assistant in the Instrument Division to Professor Marvin, whom he aided in the development of several types of meteorological apparatus and whom he succeeded as Chief of the Instrument Division in 1913, when Professor Marvin was appointed chief of bureau.

In consequence of the death of Mr. Maring, Mr. R. H. Weightman, chief clerk, has been assigned in charge of the Division of Stations and Accounts.

Duties in connection with publicity have been transferred from the chief clerk's office to C. F. Tolman, meteorologist in charge of the bureau library.

DR. L. A. ROGERS HONORED.

In recognition of his researches in bacteriology and dairy technology, the University of Maryland has conferred the degree of doctor of science upon Lore A. Rogers, bacteriologist in charge of the Dairy Division research laboratories of the Bureau of Animal Industry.

Doctor Rogers was graduated from the University of Maine in 1896, after which he took graduate work at the University of Wisconsin. He was a bacteriologist at the New York Experiment Station at Geneva for a short time, and then entered the United States Department of Agriculture in 1902. His many contributions to the scientific advancement of the dairy industry have won for him a place preeminent among the dairy research workers of America, while his work as a bacteriologist has carried an influence far beyond the confines of the dairy world. Methods developed by him are now adopted as standard for the sanitary analysis of water; and one of the modes of preparing typhoid vaccines employed by the United States Army during the World War made use of a method devised by Doctor Rogers some years previously for the preparation in quantity of dried bacterial cells. He is a member of numerous scientific societies, and a past president of the Society of American Bacteriologists.

EXPERIMENTAL KITCHEN MOVED.

The experimental kitchen of the Bureau of Home Economics, located at 1312 B Street since February, 1918, now occupies a section of the basement of the east wing. The "kitchen" consists of four laboratories equipped for cooking and other general tests, and one chemical laboratory. At present five specialists are carrying on experimental investigations. These consist of working out household methods of preparing extracts from apples and citrus fruits, thereby increasing the yield and making possible many jellies which we otherwise could not have; determining the most advantageous way of cooking new varieties of vegetables to retain their flavor and nutritive value, and canning them; making yeast bread from soft-

wheat flours; investigating oil stoves to determine which types are least expensive to operate; measuring the consistency of culinary fats under varying conditions, and determining the shortening power of each; and ascertaining the internal temperature of various foods during different methods of cooking, with a view to determining effect of heat upon nutritive values.

Well-Bred Animals

Yield the Most Meat

The importance of good breeding is strongly revealed in a study of meat yields of various classes of animals in proportion to live weight just completed by the department. The data were obtained from a number of Government sources and from the packing industry. All the principal kinds of market live stock were included in the work, the grades varying from common stock to animals slaughtered in the carcass competitions of the International Live Stock Exposition.

The difference in dressing yield for various grades of cattle ranged from 48 to 66 per cent, meaning that that proportion of the animal was the dressed carcass. For sheep and lambs the dressing yield varied from 42 per cent for common market ewes to 58.3 per cent for international show wethers. The figures for swine show dressing percentages ranging from 75 to 85.3 per cent. The relatively high figures for swine are due in part to the fact that the skin and head commonly remain on the carcass. The international show animals in each instance are chiefly pure breds, fed especially to produce an ideal carcass.

The results, in the judgment of specialists of the Bureau of Animal Industry, are clear-cut evidence that the types of animals shown and recognized as best by judges of live stock are much superior to poorly bred stock from a meat standpoint.

W. R. Dunlop, professor of economics, College of Tropical Agriculture, Trinidad, West Indies, was a recent visitor to the department. He has been connected with the service of the foreign office of the British Government for about 20 years, most of which time has been spent in the West Indies in agricultural work. Professor Dunlop expressed profound interest in the magnitude and work of the department, and was particularly impressed with the interest and support given to agriculture in the United States, in contrast with the lack of interest and support in England.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What has the department done in studying advertising of farm products?

Answer. In studying terminal marketing of agricultural products, particularly milk marketing, a study of the effect of advertising upon consumer demand has been made in the Boston district. This study is described in a preliminary report issued by the Bureau of Agricultural Economics. Further studies of factors affecting consumer demand for farm products have been made on cranberries, raisins, and citrus fruits. The extent and influence of advertising is covered in these studies.

Question. How can one procure department films?

Answer. Persons connected with cooperating institutions should apply through the heads of such institutions. Extension workers should apply through their State directors of extension. Employees of bureaus of the department should apply through the usual bureau channels.

Persons not connected with the department or a cooperating institution may apply direct to the office of motion pictures, United States Department of Agriculture, but will find it advantageous to have their application recommended by a bureau, local extension worker, or their State extension director. Such applicants are required to pay transportation charges on the films from Washington and return.

The above applies to borrowers of films for limited periods. Prints of any Department of Agriculture films may be bought by authorized purchasers at the laboratory manufacturing cost, under the conditions that no changes be made in the subject matter without approval from the department, that credit to the department be retained, and that no advertising matter be inserted or added.

Complete information as to borrowing or buying films, as well as a list of the 170 available subjects, are given in Department Circular 233 and supplement.

Question. What nature of work is carried on at the fixed-nitrogen research laboratory?

Answer. The fixed-nitrogen research laboratory was transferred from the War Department to the Department of Agriculture at the close of the World War to carry on investigations to determine the best, cheapest, and most avail-

able means for the production of nitrates and other products, munitions of war useful in the manufacture of fertilizers, and other useful products by water power or any other use. This work was first established when the United States entered the World War in order to study the matter of nitrogen for explosives.

Question. Has the free discussion of cattle tuberculosis and the campaign to eradicate the disease hurt the dairy industry or limited the use of milk?

Answer. No. The campaign has been going on now for nearly six years and approximately 200,000 diseased cows have been slaughtered. At the same time statistics show that there has been a rapid increase in the number of dairy cows and in the production and consumption of dairy products. Several hundred towns are now requiring tuberculin testing of all dairy cows, and great numbers of farmers are waiting to get their herds on the accredited list of the department as having herds free from the disease. A recent questionnaire sent out to veterinarians in sections where the work is being carried on shows that these men are almost unanimously in favor of the campaign.

Question. Is there any way of treating apple cider so that it will stay sweet?

Answer. Yes. The department has found that apple cider may be kept sweet for an indefinite time by Pasteurization. The process is very simple. Sterilize glass top jars or bottles by boiling for 15 minutes. Fill them with freshly made cider and seal. Then place them in a wash boiler on a wooden rack to keep them from touching the bottom. Cover the jars with cold water and heat slowly to 175° F. Keep pint bottles at this temperature for 15 minutes, quart bottles 20 minutes, and half-gallon bottles 25 minutes. Allow them to cool in the water bath and then store them in a cool dark place. Farmers' Bulletin 1264 will give more detailed directions if the cider is intended for sale.

Question. How much pulp wood can be produced in Alaska and in the West on a permanent basis?

Answer. The Forest Service estimates that the national forests of Alaska can produce 2,000,000 cords of pulp wood annually, or enough to manufacture one-third of the pulp products now consumed in the United States. The Federal Government owns practically all of the timber in Alaska. A preliminary survey of the pulp-wood resources of the western United States indicates that at least 1,000,000 cords could be produced on a

conservative estimate of the permanent productive power of the forest lands in addition to the lumber production of the present and probably future. In other words, Alaska and the Western States can easily furnish one-half the pulp needs of the country.

Question. How much milk is produced in the United States?

Answer. The estimated production of milk in the United States in 1921 was approximately 99,000,000,000 pounds. On the basis of 25,000,000 dairy cows the average production per cow, therefore, was about 4,000 pounds. With our present population there is available about 920 pounds of milk for each person, either in the form of milk or some of the various products of milk.

LARGEST PULP TIMBER SALE BY DEPARTMENT

(Continued from page 1.)

national forests in Alaska, which was a subject of special study by President Harding during his trip to the Territory and which received his indorsement.

This is the second pulp timber area awarded to operators on the Tongass National Forest. The first sale was made in the latter part of 1920, when the Alaska Pulp and Paper Co. of Seattle bought about 15,000,000 cubic feet of stumpage within the Port Snettisham unit. This company is now operating a small pulp mill and contemplates the erection of a newsprint plant. A third sale is now pending.

Licenses to develop the water power in the national forests of Alaska are obtained from the Federal Power Commission, under an arrangement which allocates the power sites to the manufacture of the timber most logically available to them. The Cascade Creek site has an estimated capacity of 23,700 horsepower. The Forest Service and the Federal Power Commission are collaborating in a survey of the more important water powers in southeastern Alaska whose development will facilitate the establishment of a paper industry.

Grades formulated by the Bureau of Agricultural Economics have been recommended for 14 fruits and vegetables. They are: Barreled apples, asparagus, cabbage, cauliflower, celery, cucumbers, lettuce, Bermuda onions, northern-grown onions, peaches, strawberries, sweet potatoes, tomatoes, and white potatoes. Tentative grades have been recommended for shelled Spanish peanuts. Studies looking toward the establishment of grades for honey are now being made.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

For 31 years now the United States has been free from the dreaded contagious disease known as pleuropneumonia of cattle which is still prevalent in many foreign countries. Because of our stringent laws and efficient system of preventing the introduction of foreign animal diseases, this country enjoys relative security from any recurrence of the malady. The eradication of pleuropneumonia cost the National Government \$1,509,100.72, required about five years' time, and is regarded as one of the great achievements of the Bureau of Animal Industry.

The disease first appeared in the United States in 1843 on Long Island, N. Y., having been brought with an importation of cattle from England. It was not until 1862, however, that it attracted any wide attention and that was when it had become a problem in the State of Massachusetts. It was successfully eradicated there by 1865, but by that time it had spread until it had reached Pennsylvania, New York, New Jersey, Maryland, Virginia, West Virginia, District of Columbia, and Connecticut, when Congress recognized the necessity of Federal cooperation with the infected States in fighting the disease.

On May 29, 1884, an act of Congress established the Bureau of Animal Industry primarily to control the spread of pleuropneumonia and to take steps to eradicate it, for which the sum of \$150,000 was appropriated. The inadequacy of the appropriation and the lack of authority handicapped the new bureau severely in its attempts at wiping out the disease. Because of skepticism on the part of many live-stock owners and others, it became necessary to prove the contagiousness of the disease, and, accordingly, experiments were conducted at the Experiment Station, Washington, D. C., and on Barren Island in New York Bay. The test was begun on Barren Island September 20, 1884, and by January 3, 1885, 22 out of the 31 animals in the test had contracted the disease and 30 out of 41 animals contracted the disease in the test begun at the Washington station on November 1, 1884. In spite of the pointed results of these tests, the public was slow to cooperate in the eradication work, and much more time was required than would be necessary under present conditions of public enlightenment and power of the bureau to en-

force laws. The spread of the disease to the West made it necessary for the new bureau to divert its attention from the Eastern States to the outbreaks west of the Alleghany Mountains, where it was threatening the beef and dairy industries. Most of the States at that time had neither adequate laws nor funds to cooperate effectively, and some showed a disinclination to enforce existing statutes. Eradication of the disease meant the slaughtering and disposing of many animals to prevent interstate shipment, and until funds were made available by an act of Congress in 1887 for the payment of indemnity for condemned animals, progress was slow. Increased appropriation for this work from year to year and renewed confidence in the possibility of control greatly facilitated the operation of the bureau, and by 1890 the disease was confined to areas around New York City and Jersey City. By the end of 1891 two counties in New Jersey were the only areas that had not been declared free from the plague. The last case of pleuropneumonia was traced and found in the suburbs of Newark, N. J., on March 25, 1892, and six months later the United States Department of Agriculture issued a proclamation declaring the United States free from the disease of contagious pleuropneumonia and dissolving all quarantines which had been established for control of the disease.

The United States was the first of the large nations of the world up to that time which, having been extensively infected with this disease, was able to extirpate it completely. When it is considered that the States were not prepared to cooperate effectively in eradicating pleuropneumonia, that serious opposition was encountered on almost every hand, and that other countries had labored a much longer time and made greater expenditures of money without success, the favorable outcome must be regarded as a great achievement for the Bureau of Animal Industry. It accomplished the first great thing it undertook—the paramount purpose for which it was created—and laid the groundwork for similar campaigns against other diseases in later years.

BOYS' AND GIRLS' CLUB ACTIVITIES.

Two demonstration teams, one in agriculture and one in home economics, and one judging team will be sent by each of the States taking part in the Interstate Fair, Sioux City, Iowa, September 16-22. Among the new features this year is a full-sized stage with scenery, wings, and drop curtains, on which club members will give their

demonstrations. The scenery, which has been prepared by the office of exhibits, represents farm and home surroundings and will form a helpful background for demonstrations in farm and home practices. The demonstrations will be part of a continuous program to be given during a specified period each day of the fair and each day's program will be given over exclusively to some major club activity, such as poultry work, meal preparation, or live-stock sanitation. An educational exhibit will also be prepared by each State participating, showing some phase of the demonstration work carried out by club boys and girls, and for this the office of exhibits is sending illustrative panel backgrounds.

U. S. D. A. CLUB DIRECTORY.

Albuquerque Club, Lee J. Reynolds, States Relations Service, secretary, Albuquerque, N. Mex.

Atsuda Club, J. H. Cain, 1712 Citizens & Southern Bank Building, Atlanta, Ga.

Baltimore Club, D. M. Walsh, 300 Park Avenue, secretary.

Birmingham Club (Federal Agricultural Technical Association), meets second Saturday, 8 p. m., post-office building; Edgar C. Horton, Weather Bureau, secretary.

Boston U. S. D. A. Club, R. S. Clifton, 179 Commercial Street, Boston, Mass., secretary.

Buffalo Club, Mrs. C. M. Britt, 80 West Huron Street, secretary.

Chicago Club, meets third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.

Cincinnati Contact Club, W. C. Devereaux, Weather Bureau, secretary.

Denver Club, meets second Monday; lunch, 12.15; Denver Civic and Commercial Association, W. J. Ise, Federal Building, secretary.

Fort Worth Club, A. R. Losh, Bureau of Public Roads, president.

Gulf Coast U. S. D. A. Club, H. D. Money, Bureau Plant Industry, Biloxi, Miss., secretary.

Houston Club, meets first Wednesday; lunch, L. H. Daingerfield, Stewart Building, secretary.

Indianapolis Club (Unity Club), meets second Monday; lunch, Chamber of Commerce Building; F. H. Ackelov, Weather Bureau, secretary.

Kansas City Club, Sidney A. Johnson, 923 Live Stock Exchange Building, secretary.

Los Angeles Club, meets second Tuesday; C. H. Beauchamp, 207 Live Stock Exchange Building, secretary.

Louisiana Club, M. C. Virgin, Bureau of Agricultural Economics, box 95, New Orleans, secretary.

Montgomery Club, L. P. Hughen, box J, Bureau of Public Roads, secretary.

New Haven Club, Sumner A. Dole, post-office building, secretary.

New York Club (N. Y. U. S. D. A.), meets second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. F. Schroeder, Bureau of Animal Industry, U. S. Barge Office, New York City, secretary.

Oklahoma City Club, meets second Monday; lunch, Chamber of Commerce; Mattie A. Craig, 202 Grand Street, secretary.

Philadelphia Club, meets third Wednesday; lunch, Snellenberg's Restaurant; C. S. Brinton, 134 Second Street, secretary.

Portland (Oreg.) Club, meets first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, post-office building, secretary.

Porto Rico (U. S. D. A. Club), E. Murray Brunner, Forest Service, San Juan, P. R., secretary.

San Francisco Club, meets first Wednesday, 12.15, Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.

St. Joseph Club, meets second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary. (Meetings adjourned until September.)

St. Louis Club, meets second Friday; B. S. Jones, 413 Old Customhouse, secretary. (Meetings adjourned for summer months.)

BRIEF REVIEWS OF NEW BULLETINS.

Tobacco Hornworm Insecticide: Recommendations for Use of Powdered Arsenate of Lead in Dark-Tobacco District. By A. C. Morgan, entomologist, Southern Field Crop Insect Investigations, Bureau of Entomology. Pp. 8. June, 1923. (Farmers' Bulletin 1356.) (This bulletin is a revision of and supersedes Farmers' Bulletin 867.)

The results of experiments against the tobacco hornworm with both arsenate of lead and Paris green are given, and their effectiveness compared. Powdered arsenate of lead is recommended for use in the dark-tobacco district. It never seriously injures tobacco, even under the most unfavorable conditions. Paris green, on the other hand, although an effective insecticide, frequently burns tobacco very severely and may reduce the value of the crop by as much as 50 per cent in exceptional instances.

Home Tanning of Leather and Small Fur Skins. By R. W. Frey, associate chemist, I. D. Clarke, assistant chemist, and F. P. Veitch, chemist in charge, leather investigations, Bureau of Chemistry. Pp. 29, figs. 9. August, 1923. (Farmers' Bulletin 1334.)

Sometimes hides can scarcely be given away, yet farmers must pay from \$1 to \$1.50 a pound for leather in small pieces. Under such conditions they naturally feel that they must either work up their raw materials or do without the finished leather. Small fur skins of low market value can be tanned for home or country use, but to do a fairly satisfactory job of tanning on the farm requires some skill and a considerable amount of experience. Only in the event that the margin of price between the raw hide and the finished product is such as to warrant the farmer in tanning for himself is it advisable to attempt home tanning.

Culture of Citrus Fruits in the Gulf States.

By E. D. Vosbury, formerly scientific assistant, office of horticultural and pomological investigations; and T. Ralph Robinson, crop physiologist, office of crop physiology and breeding investigations, Bureau of Plant Industry. Pp. 42, figs. 14. July, 1923. (Farmers' Bulletin 1343.)

Although very heavy plantings of citrus trees have been made in the last 10 years, and enormous crops of fruit may be harvested in the Gulf States in the near future, the market demand is increasing also. The growing of citrus fruits of such excellence as to command a ready market is a highly complex business. Skill, energy, and attention to details are requisites for the successful grower. The business of growing citrus fruits for the market from the standpoint of the prospective grove owner is here discussed very completely; the results of recent investigations on pest control and grove management are summarized for the experienced grower. Emphasis is laid on the personal investigation of sites and soils with reference to frost protection, variety and stock adaptation, cultural methods, and economy in production.

The Strawberry Rootworm as an Enemy of the Greenhouse Rose. By C. A. Weigel, entomologist, and C. P. Doucette, junior entomologist, greenhouse insect investigations, Bureau of Entomology. Pp. 14, figs. 14. July, 1923. (Farmers' Bulletin 1344.)

For many years an important enemy of strawberry and raspberry plants, the strawberry rootworm has recently developed a liking for the roots and leaves of hothouse roses. While the insect is in the beetle stage it attacks almost every part of the plant

above ground; the grubs eat the tender rootlets and girdle the larger roots. Heavy losses from these ravages have been reported from all the large rose-growing regions except on the Pacific coast. After two or three seasons of attack the plants become weakened and sickly and are less able to resist the inroads of diseases. The new activities of this insect are described and the best methods for fighting this pest are given. A table shows what may be done at various seasons throughout the year.

Carpet Beetles and Their Control. By E. A. Back, entomologist in charge of stored-product insect investigations, Bureau of Entomology. Pp. 14, figs. 13. July, 1923. (Farmers' Bulletin 1345.)

Carpet beetles of different species are frequently associated with clothes moths because their larvæ damage wooleus, furs, feathers, and many other materials which clothes moths also choose as food for their newly hatched grubs. While carpet beetle larvæ are not ordinarily as destructive as clothes moths because only one brood occurs per year, they get into upholstered furniture and articles made of silk, hair, or bristles as well as wooleus and furs, and even feed on dried animal matter. There are four common species in the United States—all of them troublesome pests to the housekeeper. Remedies for protection against them and for their control are suggested. Fumigation should be attempted only by those well informed on the subject or who have had previous experience in handling them.

Accounting Records and Business Methods for Live-Stock Shipping Associations. By Frank Robotka, assistant, Iowa Agricultural Experiment Station, and collaborator, Bureau of Agricultural Economics. Pp. 52. August 8, 1923. (Department Bulletin 1150.) Price, 10 cents.

A system based on the methods used by shipping associations in various parts of the country and which experience has shown to be sound, practical, and adaptive, is recommended to fill the need for simple yet complete accounting records. This system is specifically designed to meet the requirements of associations that make the shipping of live stock their main business, and those which occasionally buy feed and other farm supplies unloaded directly from cars and paid for on delivery. The method can also be adapted for use by farmers' elevators or produce and supply associations which have a warehouse and carry a stock of supplies.

ADDITIONAL PUBLICATIONS.

Journal of Agricultural Research. Vol. 24, No. 7. May 19, 1923. Contents: A statistical study of the comparative morphology of biologic forms of *Puccinia graminis*. (G-300.) By M. N. Levine.—Relation of certain soil factors to the infection of oats by loose smut. (G-301.) By Lucille K. Bartholomew and Edith Seymour Jones.—Influence of temperature, moisture, and oxygen on the spore germination of *Ustilago avenae*. (G-302.) By Edith Seymour Jones.—Influence of temperature on the spore germination of *Ustilago zaeae*. (G-303.) By Edith Seymour Jones.—Spores in the upper air. (G-304.) By Elvira C. Stakman, Arthur W. Henry, Gordon C. Currau, and Warren N. Christopher.—Studies on the life history of stripe rust, *Puccinia glumarum* (Schm.) Erikss & Henn. (G-305.) By Charles W. Hungerford.—Influence of some nitrogenous fer-

tilizers on the development of chlorosis in rice (B-18.) By L. G. Wells and J. O. Carrero. Pp. 539-640, figs. 21, pls. 9. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18 the issue is semi-monthly. The publication of the Journal was suspended December 1, 1921, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Monthly Weather Review. Vol. 51, No. 5. May, 1923. Pp. 239-290, pls. 2, figs. 18, charts 8. Price, 15 cents a copy, \$1.50 a year, payable to the Superintendent of Documents. Special articles: A new form of thermoelectric recording pyrhelometer. By H. H. Kimball and H. E. Hobbs.—Sunspots and terrestrial temperature in the United States. By A. J. Henry.—Some characteristics of Texas rainfall. By I. R. Tannehill.—Panama climate. By R. Z. Kirkpatrick.—Concerning halos of abnormal radii. By L. Besson.—Comments on halos of unusual radii. By W. J. Humphreys.—Winds and weather of central Greenland: Meteorological results of the Swiss Greenland Expedition. By C. F. Brooks.—Snowstorms of May 8-9, 1923, in Michigan. By E. B. Whitier.—Snowstorm of May 9, 1923, in the Saginaw Valley, Mich. By F. H. Coleman.—Tornado in Davidson County, Tenn., May 12, 1923. By R. M. Williamson.—Tornado at Little Rock, Ark., May 14, 1923. By H. S. Cole.—Small tornado at Thrall, Tex., May 14, 1923. By W. D. Fuller.—Torrential rains in extreme southeastern Texas. By E. Carsou.—The Cloumel tornado of May 22, 1923. By J. W. Arnold.—Veering of backing winds as indicating the weather. By E. P. Jones.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government.

Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Service and Regulatory Announcements. Bureau of Agricultural Economics. No. 76. Revised Regulations for Cotton Warehouses, approved May 29, 1923. Pp. 1-35. July, 1923. (Supersedes Office of the Secretary Circular 153.)

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week August 13-18, 1923. These publications can be obtained only from the stations issuing them.

Legumes in relation to soil fertility. M. J. Funchess. (Alabama College Sta. Circ. 48, pp. 18, figs. 3, Aug., 1923.)
Fertilizers for Delaware crops and soils. C. A. McCue and G. L. Schuster. (Delaware Sta. Circ. 12, pp. 12, figs. 11, July, 1923.)
Apple blotch. M. W. Garduer, L. Greene, and C. E. Baker. (Indiana Sta. Bul. 267, pp. 32, figs. 12, Jan., 1923.)
Thirty-fourth annual report, 1922. (Louisiana Sta. Rpt. 34 (1922), pp. 47.)
Preliminary reports of experiments with feeding steers, using cottonseed meal and molasses. E. Barnett and C. J. Godell. (Mississippi Sta. Circ. 48, pp. 12, fig. 1, Apr., 1923.)
A few facts about the station and its work. (New York States Sta. [pamphlet], pp. 23, figs. 20.)
Nicotine dust kills cucumber beetles. J. E. Dudley, Jr., H. F. Wilsou, and W. D. Mecum. (Wisconsin Sta. Bul. 355, pp. 10, figs. 4, June, 1923.)

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Agricultural and forest products of British West Africa. 2d ed. By G. C. Dudgeon. London, J. Murray, 1922.
- Americana annual. 1923. New York, Encyclopedia Americana corporation, 1923.
- Aperçu sommaire de l'agriculture en Danemark. Par la Société royale d'agriculture de Danemark. Copenhague, Impr. Luno, 1916.
- Atlas flour cook book. By E. H. Glover. Milwaukee, Atlas flour mills, 1923.
- Bilderatlas der anatomie und biologische zuckerrübe (Beta vulgaris L. var Saccharifera) Von O. O. Tabentski. Kiev, 1922.
- Botanical, chemical, and pharmacological reference list to Chinese materia medica. Comp. by B. E. Read. Peking, Bureau of engraving and printing, 1923.
- Buyers' guide for the chemical industry. Society of chemical industry. Advertisement dept. London, 1923.
- Canada. Parliament. House of Commons. Special committee to inquire into agricultural conditions. Minutes of proceedings and evidence. Ottawa, 1923.
- Le chef-d'oeuvre colonial de la France. L'Algérie. Par Paul Despiques et Jean Baroby. Algeria. Direction de l'agriculture, du commerce et de la colonisation. Alger, 1921.
- Der chemische betrieb in der pflanze. Von Maximilian Wagner. Freiburg i. Br., T. Fisher, 1922.
- Cultivation of lac in the plains of India (Tachardia laeca, Kerr). By C. S. Misra. Calcutta, India, 1923. (Pusa. Agricultural research institute. Bulletin no. 142)
- Diseases of the tea bush. By Thomas Petch. London, Macmillan and co., ltd., 1923.
- L'emploi du purin en France et en Allemagne. Par Albert Maupas. Paris, Librairie agricole de la maison rustique, 1923.
- L'enseignement professionnel en Algérie. Algeria. Direction de l'agriculture, du commerce, et de la colonisation. Paris [192-]
- Estadística industrial del Perú. Por C. P. Jimenez. Lima, Imprenta Americana, 1922.
- Farm costing and accounts. By C. S. Orwin. London, Benn brothers, ltd., 1923.
- Forest trees of the District of Columbia. By W. R. Mattoon and S. S. Albertis. Washington, American forestry association, 1923.
- Graphic analysis of the census of manufacturers of the United States. 1849 to 1919. National industrial conference board. New York, 1923.
- Insect pests and fungous diseases of farm crops. By A. Roebuck. London, Benn brothers, ltd., 1923.
- Introduction to the study of economics. By W. M. W. Splawn and W. B. Bizzell. Boston, Ginn and company, 1923.
- Little book of perennials. By A. C. Hottes. New York, A. T. De La Mare co., inc., 1923.
- Origin of the Aberdeen-Angus and its development in Great Britain and America. 5th ed. American Aberdeen-Angus breeders' association. Chicago, 1922.
- Peste porcina (cólera del cerdo) Por C. López y López. Asociación general de ganaderos. Madrid, 1923.
- Praktischer leitfaden für die anzucht . . . der kaktéen. 5. aufl. Von W. O. Rother. Frankfurt a. Oder. Trowitzsch & sohn, 1923.
- Protists and disease. By J. J. Clarke. London, Ballière, Tindall & Cox, 1922.
- Questions agricoles d'après-guerre. Par Albert Martin. Rouen, Journal de Rouen [1922?]
- Secrets of meat curing and sausage making. 5th ed. B. Heller & co. Chicago, 1922.
- Sericulture industry of South China. By C. W. Howard. Canton Christian college. College of agriculture. [n. p.] 1923.
- Some possible bearings of genetics on pathology. By T. H. Morgan. Lancaster, New era printing co., 1922.
- Standard methods of milk analysis. 4th ed. American public health association. Laboratory section. New York, 1923.
- Structural members and connections. Ed. by G. A. Hool and W. S. Kinne. New York, McGraw-Hill book co., inc., 1923.
- Structure intérieure et mode de développement des bactéries. Par A. Kirchensteins. Riga, 1922.
- Tratado completo del cultivo de la huerta. 4. ed. Por Buenaventura Aragón. Madrid, L. Santos, 1923.
- Vanille, vanilline, vanille-extracten. Door W. L. Ufermark. Amsterdam, Druk de Bussy, 1922. (Koloniaal instituut, Mededeeling no. 17. Afdeling handelsmuseum no. 3)

Wildseuchenbekämpfung. Von Adam Olt and A. Ströse. Neudamm, J. Neumann, 1922.

OLD BOOKS.

- Catalogo poliglotta delle piante, compilato dalla Contessa di San Giorgio. Firenze, 1870.
- Enumeratio plantarum phanerogamicarum in Austria inferiori crescentium. Ed. a G. D. Dolliner. Vindobonae, 1842.
- Flora comense disposta secondo il sistema di Linneo. Dal Giuseppe Comolli. Como, 1834-57.
- Flore de l'île de Leshou. Par C. A. Candargy. Uster-Zürich, 1889.
- Fruits and fruit-trees. By L. H. Grindon. Manchester, Eng., 1885.
- Pharmacopoeia of India. By E. J. Waring. London, 1868.
- Tentamen florum basileensis [and Supplementum] [By] C. F. Hagenbach. Basileae, 1821-34.
- Wörterbuch der botanischen gattungsnamen. Von Carl Salomon. Stuttgart, 1887.

THESES.

- Die beschlisse in regierungsbezirk Erfurt. Von Wilhelm Nolte. Stuttgart, 1921.
- History of Greek economic thought. By A. A. Trover. Chicago, 1916.
- Irrigation of sugar cane in Hawaii. By W. P. Alexander. Honolulu, 1923.
- Die jodameoba büschli beim schweine. Von Bruno Feibel. Hamburg, 1922.
- Die koehsalzmethode bei der untersuchung der haustierkokzidien. Von Ludwig Otten. Hamburg, 1923.
- Ueber mikrofilarienfunde in Simulium nölerei. Von E. F. K. Hauck. Hamburg, 1922.
- Ueber physiologische wirkungen des kalkes in verbindung mit andern nährstoffen. Von Hans Winn. Neuruppin, 1921.
- Zur kenntnis der kokzidiose des hundes. Von Hugo Zapfe. Hamburg, 1923.

Articles in Current Publications By Department Workers

- Bishop, F. C. (Bureau of Entomology). Lumberneck of fowls produced by fly larvae. Journal of Parasitology, vol. 9, No. 3, pp. 170-173, March, 1923.
- Bishop, F. C. (Bureau of Entomology). Frank Cummings Cook. Jour. Econ. Ent., vol. 16, No. 4, pp. 398-399, August, 1923.
- Hall, Maurice C. (Bureau of Animal Industry). The relation of parasites to poll evil and fistulous withers. Vet. Medicine, vol. 18, No. 8, pp. 715-718, August, 1923.
- Hertwig, Raymond (Bureau of Chemistry). Composition of commercial mustard seeds and the detection of added mustard bran in prepared mustard. J. Assoc. Official Agr. Chemists, vol. 7, No. 1 August 15, 1923.
- Hertwig, Raymond (Bureau of Chemistry). The determination of lipoids and lipid-phosphoric acid in flours, alimentary pastes, noodles, and eggs. J. Assoc. Official Agr. Chemists, August 15, 1923.
- Hertwig, Raymond (Bureau of Chemistry). Determination of zinc and copper in gelatin and glue. J. Assoc. Official Agr. Chemists, vol. 7, No. 1, August 15, 1923.
- Hertwig, Raymond (Bureau of Chemistry). Differentiation of noodles made from whole egg from those made with yolk. J. Assoc. Official Agr. Chemists, vol. 7, No. 1, August 15, 1923.
- Howard, L. O. (Bureau of Entomology). A 50-year sketch history of medical entomology. Annual report of the Smithsonian Institution, 1921, pp. 565-586, 10 plates. Washington, 1923. Publication 2702.
- Ross, Wm. H. and Merz, Albert R. (Bureau of Soils). The economies of concentrated fertilizer. Chem. & Met. Eng., vol. 29, No. 8, August, 1923.
- Shaw, Roscoe H., and Sherman, James M. (Bureau of Animal Industry). The production of volatile fatty acids and carbon dioxide by propionic acid bacteria with special reference to their action in cheese. Jour. of Dairy Science, vol. 6, No. 4, pp. 303-309, July, 1923.
- Sherman James M., and Albus, William R. (Bureau of Animal Industry). Physiological youth in bacteria. Journ. of Bact., vol. 8, No. 2, pp. 127-139, March, 1923.
- Sherman, James M., and Shaw, R. H. (Bureau of Animal Industry). The propionic acid fermentation of lactose. Jour. Biol. Chem., vol. 56, No. 2, pp. 695-700, June, 1923.
- Whittier, E. O., and Sherman, J. M. (Bureau of Animal Industry). Propionic acid and ketones from whey. Indust. and Eng. Chem., vol. 15, No. 7, pp. 729-731, July, 1923.

CIVIL SERVICE ANNOUNCEMENTS.

Accountant (Live Stock Commission Companies), \$2,000-\$3,500; September 19. Vacancies in the Packers and Stockyards Administration, Washington, D. C., or in the field, will be filled from this examination. Applicants must show that they have had at least four years of practical experience on the books of account of live-stock commission merchants. This experience must have involved the keeping of double entry books of account, and must have included the preparation of trial balances, profit and loss statements, and balance sheets. If interested, apply for Form 2118.

Junior Librarian, \$1,400-1,620; September 19. Vacancies in the Department of Agriculture, Washington, D. C., and in positions requiring similar qualifications will be filled from this examination. Prerequisite requirements are graduation from a college or university of recognized standing, and one year's training in a recognized library school or two years' experience in a library using modern methods. If interested, apply for Form 1312.

Medical assistant (pharmacology), \$3,000-\$3,600.—A vacancy in the position of medical assistant, Bureau of Chemistry, Washington, D. C., and vacancies in positions requiring similar qualifications will be filled from this examination. The duties of the appointee will be to carry on pharmacological and toxicological investigations and research in connection with the standardization and physiological assay of certain drugs as required by the United States Pharmacopoeia. Prerequisite requirement is graduation with the degree of M. D. from a recognized college of medicine with an undergraduate course which included a full course in pharmacology and a thorough training in physiological chemistry or education equivalent to an M. D. degree, such as the degree of Ph. D., with special training in pharmacology or physiological chemistry. In addition, applicants must show that they have had at least two years' experience or postgraduate training in toxicology, pharmacology, or experimental medicine. Those interested should apply for Form 2118. Receipt of applications closes September 11, 1923.

Assistant pathologist, \$2,040-\$2,500.—Two vacancies in the Bureau of Plant Industry, Washington, D. C., and vacancies occurring in positions requiring similar qualifications will be filled from this examination. The appointee to one of the present vacancies will be assigned to the investigation of diseases and spoilage of fruits in terminal markets and instructing inspectors in their diagnosis and designation; the appointee to the other present vacancy will be assigned to the investigation of take-all and root-rot diseases of wheat, which will include laboratory work on the isolation and culture of those organisms, and field work. Prerequisite requirements are graduation from a college or university of recognized standing, and the completion of at least two years of postgraduate work in plant pathology, including specialization in the subject for which certification is required. Those interested should apply for Form 2118. Receipt of applications closes September 18, 1923.

Hay standards helper, \$900-\$1,200; September 19.—Vacancies in the Bureau of Agricultural Economics, Washington, D. C., or in the field will be filled from this examination. The duties of this position will be to assist in the hay-standardization laboratory in the separation of hay samples for analysis and to assist in the preparation of display boxes; also to assist in connection with seed standardization. If interested, apply for Form 2379.

Junior laboratory aid (plant pathology), \$840; September 19.—A vacancy in the Bureau of Plant Industry, Washington, D. C., and vacancies in positions requiring similar qualifications will be filled from this examination. The duties of the appointee will consist of assisting in the plant pathology laboratory by making culture media, making simple chemical analyses, and washing and keeping in order laboratory glassware and apparatus. While the pay of an aid is necessarily low, yet opportunities will be afforded for advancement to more remunerative positions. Those interested should apply for Form 304.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., SEPTEMBER 5, 1923.

No. 36.

SECRETARY REVIEWS PRESIDENT'S SPEECH

Says Address on Alaska by Late President Will Go Down in History.

Workers in the Department of Agriculture will find a great deal of satisfaction in the deliberate conclusions reached by former President Harding on his trip to Alaska and made known in his great speech at Seattle, his last public appearance. Secretary Wallace on August 31 released an extended statement in which he told something of what was found on the Alaskan trip and quoted from President Harding's address. It was particularly gratifying to the staff of the Department of Agriculture that President Harding indorsed in the most sweeping terms the work of the department in Alaska and especially commended the department's administration of the forests.

Indorses Department's Timber Contract.

Referring to the timber contract offered by the department, the President discussed it at length and not only indorsed it but made this sweeping statement, "I venture, with some knowledge of conditions in various paper-making countries, to state that no better contract, indeed none so good, can be secured in any of them."

In his press release Secretary Wallace says, concerning this:

"To the objection that the contract offered by the Department of Agriculture is not sufficiently liberal to encourage the investment of capital, he called attention to the fact that exactly this same type of contract has been in force for many years, both in the States and in Alaska, and has resulted in the satisfactory development of timber utilization. As a matter of fact, he found over a dozen sawmills operating successfully in Alaska under this contract. He found that the

timber from the national forests was being largely used by the fishing and mining industries and by settlers and prospectors. He saw a large vessel at the Juneau dock loading with lumber cut from the national forests. He learned of the expanding export trade in high-grade Alaskan lumber to the States and to foreign countries. In fact, he became not only persuaded that the policy of the Department of Agriculture was sound and helpful, but became an enthusiast in its support and gave it as his deliberate judgment that intelligent and sincere people can not regard this policy as in any way hampering the development of the timber industry.

Development to be Slow.

"He referred to the pulp mill already in operation and the other contracts on the point of being closed and said, 'We are, in short, on the eve of an expansion which, if not rapid, will be sound and permanent. Frankly, I do not look for rapid development in Alaska. It could only be had at the cost of sacrificing a few immediately available resources and then abandoning the rest. That we do not desire and will not knowingly permit.'"

President Harding's conclusions with regard to the need of a general reorganization of Federal activities in Alaska are also gratifying. On this subject he said very clearly that there is no need of a general reorganization of Federal activities and that the Federal Government's processes have not paralyzed but rather have promoted the right sort of Alaskan development and that the Territory needs their continuance. On this subject Secretary Wallace says, "The fact is that those industries in Alaska which have had the benefit of conservation policies are the industries which are developing and upon which the Alaska of the future will be built, while those industries which have been thrown open to exploitation are the vanishing industries, the looting of which has enriched not the people of Alaska but outside exploiters who took their money away with them."

COMMITTEE ASKS FOR UNIFORM TERMINOLOGY

Nearly 20 Terms Included in Recent Recommendations— Action Deferred.

The terminology committee, named by the Assistant Secretary about a year ago and active since that time, has issued its first statement and recommendation regarding the spelling and definition of certain terms on which there has been a lack of uniformity. A recommendation that the terms affected be adopted has been made to the Public Printer and no action will be taken to put them into effect until he has considered the matter.

The list upon which the committee has issued final action contains nearly 20 terms, mostly agricultural or terms which have a wide use or are very important in the publications of the department. The committee has a number of other terms under consideration and reports will be made on them from time to time when final action has been taken.

Universal Adoption Favored.

The department through this committee has not attempted to dictate to those outside of the department what should be the spelling and definition of these various terms, but it is attempting to establish uniformity in their use within the department, and it is hoped that this lead will be followed elsewhere since the lack of uniformity is evident not only in the department but in State publications, farm papers, newspapers, magazines, and in the dictionaries.

This first list on which final action has been taken includes the words Brahman (Zebu), to be used in place of Brahma; purebred, to be used instead of pure-bred or pure bred; butterfat, to be used instead of butter-fat or butter fat; census; survey; count;

estimate; forecast; thresh, to be used instead of thrash; National Forest, to be used instead of national forest; sorghum; kafir, instead of kaffir or kafir corn; milo, instead of milo maize; broomcorn, instead of broom-corn or broom corn; sorgo, instead of cane sorghum, saccharine sorghum, or sweet sorghum; potato, the official common name of *Solanum tuberosum*, to be used instead of white potato, round potato, or Irish potato; sweet potato, the official common name of *Ipomoea batatas*.

Some of the definitions decided upon by the committee on terminology should attract wide interest particularly those of the words census, survey, count, estimate, and forecast. The definitions of these terms follow:

Census: An official enumeration of persons, property, or things in a given area as of a stated time.

Survey: The gathering of facts relating to particular things in specific areas.

Count: An accurate enumeration of samples, selected to represent the whole.

Estimate: An expression of judgment regarding what is true at any given time as to value, amount, size, or character, based upon partial data, past relationships, calculation, appraisal, and general knowledge of the subject under consideration.

Forecast: A statement of what may be expected to happen, based upon present conditions and observations interpreted in the light of previous experience.

Definitions of the other words in the list are as follows:

Brahman (Zebu): Strictly speaking, white Zebu bulls, regarded as sacred by the adherents of the religion of Brahma. Proposed by the United States Department of Agriculture to be used as synonymous with Zebu (*Bos indicus*), the humped cattle of India.

Purebred: Bred from the best or purest blood; of a breed kept pure for many generations.

Livestock: Domestic animals kept for farm purposes, especially, marketable animals such as cattle, horses, hogs, sheep, and goats.

Butterfat: A milk fat, the natural fat of cow's milk, chemically a mixture of nine or more glycerides.

Thresh: To beat out or separate, as seeds from straw, chaff, or pods.

National Forest: A tract of land belonging to the United States, which has been reserved by Congress or by presidential order for purposes of forest and watershed protection and for continuous timber production.

Sorghum: Botanically, plants of *Holcus sorghum* L., in the broad sense, and of *H. halepensis* L., including broomcorn,

durra, kafir, milo, sorgo, Sudan grass, Johnson grass, etc.

Kafir: A group of semijuicy-stemmed sorghum varieties grown for grain and forage. Erroneously called "kafir or kaffir corn."

Milo: A group of pithy-stemmed sorghum varieties, grown chiefly for grain. Erroneously called "milo maize." Compare durra and feterita.

Broomcorn: A group of sorghum varieties grown for broom making.

Sorgo: A group of sweet-juiced sorghum varieties grown for sirup and forage. Known also as sorghum, saccharine sorghum, sirup sorghum, and sweet sorghum, and erroneously as "cane" and "sugar cane."

Potato: The plant *Solanum tuberosum* or one of its esculent tubers, locally known as Irish, white, round, or common potato.

Sweet potato: The plant *Ipomoea batatas* or one of its fleshy esculent roots, erroneously known as "yam" in some parts of the world.

Weather Bureau Men Take Part In Balloon Activity

Although aerial navigation does not enter into the routine duties of Weather Bureau men, several of them have voluntarily taken part in aeronautical enterprises, where they have been able to use to good advantage their expert knowledge of winds and weather.

The veteran balloonist of the Weather Bureau is Col. H. B. Hersey, in charge of the Weather Bureau station at Los Angeles. This official began his aeronautical career as meteorological adviser to the Wellman Polar Expedition of 1906-7. He accompanied Lieut. Frank T. Lahm, U. S. A., winner of the first Gordon Bennett balloon race in 1906, and the following year he sailed the balloon *United States* in the international race from St. Louis. During the World War he was in charge of the balloon school of the United States Signal Corps at Fort Omaha, Nebr., with the rank of lieutenant colonel.

C. LeRoy Meisinger, now on duty at the central office of the Weather Bureau in Washington, has taken part in no less than 15 balloon flights, including a night flight from Omaha to St. Paul in less than six hours, and a flight beginning at 3 a. m. at Omaha, in which clouds were entered at about 500 feet elevation, and the ground was not seen, except for one minute, for more than five hours. In this case the landing was in South Dakota in a fog.

Another experienced balloonist is C. G. Andrus, who is attached to the aerologi-

cal station at Due West, S. C. Mr. Andrus accompanied Ralph Upson, of Detroit, in the national elimination balloon race from Indianapolis last July as aid and meteorological observer. These balloonists landed near Wapakoneta, Ohio, after a particularly thrilling experience. Their balloon was new, of the largest size permissible under the rules of the race, and was equipped to use to advantage the most up-to-date methods of ballooning, including the reception of meteorological reports and other information by radio. They left Indianapolis at 4.29 p. m. and traveled northeast. At 1.59 a. m. of July 5, when at an elevation of 5,800 feet, the balloon suddenly burst and started rapidly downward. The appendix bridle was hastily cut, permitting the balloon to form a parachute, and all ballast, including fifty-two 30-pound sandbags and an oxygen tank weighing 86 pounds, was hurriedly thrown out. The descent was rapid at first, then slower, owing to the efficiency of the parachute, and in six minutes the basket gently landed within a few feet of a farmhouse and tree, over which the balloon gracefully draped itself. Awakened by the bombardment of sandbags, the occupants of the house had fled, scantily clad, into a neighboring wheat field. It was more than half an hour before they could be reassured sufficiently to return to the house.

RUN DAIRY IMPROVEMENT TRAINS.

A dairy-improvement train representing the extension service of Purdue University, the American Jersey Cattle Club, the Indiana Jersey Cattle Club, the National Dairy Council, and other organizations will tour southern Indiana September 17 to 28.

P. O. Hurley, agricultural agent of the Baltimore & Ohio Railroad, who recently visited the department to obtain exhibit material, stated that the train will make one stop in each of the 11 counties on the route. A pure-bred dairy bull is to be given away at each stop, the award to be made by lot. In addition to the 11 bulls that will be distributed in that manner, about 40 other bulls will be carried on the train, to be sold at very nominal prices to farmers, who will bring scrub sires to the train. Beef prices will be allowed for scrub sires brought in by persons desiring to obtain good pure breeds. The train will be operated under the direction of the Agricultural Bureau of the Baltimore & Ohio Railroad and is typical of similar activities conducted in other States in support of better dairying and the better-sires movement.

A DIGEST OF THE NEWS

Brief bits of News Digested From
Material Issued by Department During
the Past Week.

MEAT INSPECTION SETS NEW RECORD.

Records of the Bureau of Animal Industry show unusually large hog slaughter for the fiscal year ending June 30, in establishments under Federal meat inspection. During the year 43,600,069 hogs were slaughtered. This figure breaks all previous records by 4,201,680. Due largely to the number of hogs butchered, the total slaughter is also higher than any previous year. During the year the total number of animals slaughtered and Federally inspected was 73,397,676. This is 2,689,039 more than the previous record.

SALE OF PULP TIMBER IS ANNOUNCED.

The Cascade Creek unit of pulp timber, located on Thomas Bay in the Tongass National Forest, Alaska, has been awarded conditionally to the firm of Hutton, McNear & Dougherty, of San Francisco, according to the Forest Service. This sale, involving 334,000,000 cubic feet of timber, or about 3,340,000 cords, is the largest sale of pulp timber ever made by the department. As far as records are concerned it is one of the largest single sales of pulp timber ever made in this country.

STOCKYARDS HEARINGS ARE POSTPONED.

By order of the Secretary the hearings in the case of the department against the stockyards company at Chicago concerning reweighing charges has been continued from August 27 to September 17. The reweighing tariff, which previously had been suspended for 30 days, has been extended for a like period from September 30. The hearing at Omaha was continued from August 24 to October 1. The schedule in question also was suspended for a further period of 30 days.

IMPROVED LIVE STOCK ON INCREASE.

About 150,000 head of improved live stock were secured by farmers in 1922, according to reports to the department, as a result of the work of agricultural extension agents. Over 100,000 head of these are registered stock and include some 8,000 dairy bulls and 15,000 dairy cows; 7,000 beef bulls and 6,700 beef cows; 15,000 boars and 40,000 sows; 9,000 rams and ewes; 1,000 stallions,

jacks, and mares. High-grade dairy and beef cows comprise the remainder of the total number.

KENTUCKY LEADS IN BETTER LAMBS.

Kentucky is leading the eastern sheep-producing States in a campaign to eliminate the "bucky" lamb, according to department reports. This is the third season that the campaign has been carried on by the extension agents. It is estimated that more than 200,000 docked wether and ewe lambs will be marketed from Kentucky this year. The high quality of these lambs already has attracted the attention of many eastern buyers and the bids at public auctions thus far have been satisfactory.

PRACTICE BETTER HANDLING METHODS.

Some 115,000 head of live stock thrived under the latest approved methods of care and feeding in 1922, due to the fact that they were kept by boys or girls who had joined a pig, beef, or dairy club, the actual care and management of the animals being a major part of the club work. There were more than 78,000 of these young stockmen enrolled last year, say reports to the department. This is an increase of nearly 10,000 over the enrollment of the year before.

FIND FIFTEEN NEW PLANT DISEASES.

Fifteen new diseases of field and vegetable crops were reported in the United States during 1922, according to the department. Twelve crops were affected. They were carrot, spinach, Swiss chard, lettuce, potato, radish, Chinese cabbage, bean, watermelon, sweet potato, tomato, and tobacco. Most of the diseases appeared in very restricted areas, seeming to be the result of abnormal climatic and similar conditions.

Intermediate Credit Banks Accommodate Cooperatives

The fact that new cooperative associations are being formed and older ones are increasing their membership indicates that the amount of the year's crop to be marketed through them will break all records, according to reports to the department. A big factor in promoting cooperative marketing is the improvement recently made in credit facilities.

When Congress enlarged the powers of the War Finance Corporation in 1921, the first steps were taken toward better credit accommodation for cooperatives.

Up to date that organization has authorized advances to them amounting to more than \$190,000,000. Although only \$38,500,000 of the money has been actually used, the fact that it was available has been a powerful beneficial influence.

As the War Finance Corporation will cease making advances on February 29 next, many cooperative associations are opening up lines of credit at the new intermediate credit banks. The real service of these banks, like that of the War Finance Corporation, can not be measured merely by the volume of their discounts or advances. Their chief value is seen in the fact that the credit made available by them often induces or encourages private financial institutions to offer credit accommodation, when otherwise they might stand aloof.

The intermediate credit banks seem likely to operate soon on a bigger scale than was expected. Each of the 12 institutions was provided with a capital of \$1,000,000 from the Treasury immediately after organization. Five of them have since called for additional capital to a total amount of \$5,000,000, so that the present paid-in capital of the 12 banks is \$17,000,000. Discounts of agricultural paper for banks have been made to the amount of \$1,000,000 by the intermediate credit institutions. For the present, the Federal Farm Loan Board, which supervises the banks, is limiting loans and discounts to terms of nine months. Borrowers, however, have the practical assurance that the terms will be renewed when necessary.

Although financing of cooperative associations probably will call for considerable more money this year than ever before, managers of such associations are confident all necessary accommodations will be available. They report that bankers all over the country are readily taking cooperative paper.

The intermediate term financing problem is practically solved. The attitude of private banking institutions toward agricultural finance has been greatly influenced by the action taken by Congress in setting up new credit machinery, which is prepared both to help the banks and to help the cooperatives directly, and when the intermediate credit banks are in full operation the American farmer will find himself practically on a par with commerce and industry, as regards credit facilities.

William Weber, who has been serving as personnel clerk of the Weather Bureau, has been appointed chief clerk of the bureau. He is succeeded as personnel clerk by C. W. Rohrer.



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Figures Show When It Will Pay Farmer To Feed Wheat

As a result of the low market price for wheat and the shortage of corn for live-stock feeding, many farmers have appealed to the department for advice as to the comparative feeding value of wheat and corn. The visible supply of corn on the 1st of July of this year, 3,167,000 bushels, was the lowest in more than 10 years and extremely short, as compared with the visible supply a year ago. On the other hand, we have a wheat surplus. In view of these conditions, says Assistant Secretary Pugsley, the wheat growers and the live-stock feeders may be able to help each other.

The Bureau of Animal Industry has studied the relative values of wheat and corn and the methods of feeding wheat to the different domestic animals. Based on digestible nutrients, wheat and corn are practically equal, pound for pound, according to these studies. But corn and corn products alone make a better feed for cattle than wheat and wheat products alone. It is not necessary to grind corn as a hog feed, while wheat should be coarsely ground or crushed for feeding to any kind of live stock. On the other hand, wheat, according to experiments made in Nebraska, has proved 5 per cent more efficient than corn for fattening steers when fed with alfalfa hay, a little prairie hay or straw, bran, and linseed meal.

There are certain definite ratios between the prices of corn and wheat when the latter may be fed as profitably as corn. Experiments carried on by the Bureau of Animal Industry indicate that when corn is 50 cents a bushel on the farm, 54-cent wheat can be fed profitably to all animals, including poultry, sheep, hogs, and beef cattle; 56-cent wheat to hogs and cattle; and 62-cent wheat to beef cattle alone. Similarly it is figured that when corn is 75 cents a bushel on the farm, 80-cent wheat can be fed profitably to all animals including poultry; 84-cent wheat to cattle and hogs but

not to sheep and poultry; while 92-cent wheat is profitable for beef cattle only. The ratio of prices when corn is \$1 on the farm shows that \$1.07 wheat can be fed with profit to all types of live stock; \$1.12 wheat to hogs and cattle; and \$1.23 wheat to beef cattle. The ratios when corn has a different value are approximately the same, but it must be remembered that the cost of grinding or crushing the wheat has not been considered.

There are conditions, of course, when there may be a wider spread in the prices of wheat and corn, delivered on the farm, than market prices indicate. The farmer who has lots of wheat and little corn, with a long haul to market and to a corn supply, will find that he can pay considerably more for his wheat and yet feed it with profit.

HIGH-SCHOOL STUDENTS EXHIBIT.

The program for the Massachusetts summer conference on agricultural education held at Massachusetts Agricultural College, Amherst, early in August, included the study of the farming enterprises of former students in agriculture in high schools, accessible from Amherst. Successful projects in dairying, poultry, and various phases of truck growing, carried on by former students on their own farms or in partnerships with their parents, were visited. Massachusetts, which is one of the pioneer States in teaching agriculture in the public schools, follows the home project method of instruction. Over 600 high school students enrolled in agricultural subjects last year. A follow-up system, noting the enterprises in which former agricultural students engage and their degree of success, is maintained as an aid in determining future programs and first-hand study of these enterprises has for some time been included in the programs of the Massachusetts agricultural education conferences.

Discussions of farm management and marketing work as related to vocational agriculture were features of the conference. E. H. Shinn, division of agricultural instruction, presented some factors in vocational education which have been found in the department's studies of prime importance.

J. E. Whitfield, assistant director of agriculture, Tuskegee Normal and Industrial Institute, Tuskegee Institute, Ala., spent the week of August 27 in the department studying new developments in the lines of work of the various bureaus which would be especially helpful in his work. He was accompanied by T. M. Campbell, field agent in negro extension work for the Gulf States, with headquarters at Tuskegee Institute.

New Usda Club Organized By Fort Worth Employees

A new member joined the ranks of the Usda Clubs with the recent organization of a department club by workers in Fort Worth, Tex. Temporary officers were chosen with A. R. Losh, of the Bureau of Public Roads, president; Vernon E. Foster, Packers and Stockyards Administration, vice president; Dr. D. S. Landis, Weather Bureau, second vice president; and Dr. C. L. Norris, Bureau of Animal Industry, treasurer.

In a letter announcing the formation of the club, Mr. Losh stated that the club plans on holding meetings each month for the purpose of discussing the problems of the various branches of the department and working toward the highest type of public service. There are about 120 members of the department in Fort Worth, and one of the aims of the club will be to provide ways for these folks to become better acquainted with each other personally as well as with each other's work.

Replying to Mr. Losh's letter, Secretary Wallace said: "I am very glad to know that the employees there are to come together in this way and congratulate you and the other officers of the club on the opportunity now before you to promote good feeling among the members of the department and increase the effectiveness of the department work in and about Fort Worth. The office here desires to keep in close touch with the activities of the department clubs and will be glad to be advised of what you are doing from time to time; also to render assistance in any way possible. Please convey my good wishes for the success of the club to all of the members."

F. P. Lund, office of cooperative extension work, has been granted a year's leave of absence for the purpose of studying agricultural extension work in Europe and of introducing some phases of the American system, particularly boys' and girls' club work and home demonstration activities, under the auspices of the International Education Board. Mr. Lund will have headquarters in Copenhagen, Denmark, and will spend the greater part of his time in that country, although visits will be made to Sweden, Czechoslovakia, and other European countries. He sailed from New York September 3.

The Svedberg, professor of colloid chemistry at the University of Upsala, Sweden, was a recent visitor to the department.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What is the 28-hour law administered by the department?

Answer. This act is designed to prevent cruelty to cattle, sheep, swine, and other animals while in transit in interstate commerce. It prohibits common carriers from confining animals in transit for longer than 28 hours without unloading them into properly equipped pens for rest, water, and feeding for at least 5 hours. Before the passage of the act it was common for animals to be confined while in transit for 60 hours or more without feed or water.

Question. Are hay inspectors trained by the Government?

Answer. Federal hay inspectors before being permitted to make inspections are required to take a course of training in the use of the Federal hay grades. This course is given at designated time and place by specialists of the Bureau of Agricultural Economics. The length of the course depends on the ability of the student, the training continuing until a high degree of accuracy is attained. In the case of men with considerable experience in handling and grading hay under old methods, the time required to complete the course is usually from three to four weeks. Less experienced men require a longer training period.

Question. How does the Weather Bureau determine the speed and direction of the wind at different heights, in its upper-air observation work?

Answer. Special balloons are used by the Weather Bureau observers. A balloon of finest rubber is filled with hydrogen and weighed. It is then sent up and watched until it breaks. Charts show the speed it travels. The tests can be made only in fair weather, as rain destroys the accuracy of the work. A new altitude record for balloons of this type was recently made when one of them went up 13 miles in two hours and three minutes.

Question. What information can you give me on the manufacture of denatured alcohol from corn?

Answer. Denatured alcohol can be manufactured from corn, but not at a profit, for the reason that it can be made much cheaper from low-grade mo-

lasses, which is a by-product in the manufacture of sugar. The technical processes for making denatured alcohol from corn have been worked out and published. The Bureau of Chemistry has issued a mimeographed circular on the production of industrial alcohol.

Question. Do cereals have a high food value?

Answer. Cereal grains are very valuable foods because of the large amount of starch, about 75 per cent of the total grain, which they supply for body fuel, and the 8 or 10 per cent of protein which, with 2 per cent of ash and 2 to 3 per cent of fat, make up the nutritive substances present. The germ portion of the grain supplies vitamin and the outer or bran layers add bulk to the diet. The average fuel value is around 1,600 calories per pound.

Question. What is the area method of barberry eradication?

Answer. This question is understood to refer to the unit area in which the survey is carried on. The eradication of the common barberry is being accomplished by a farm-to-farm survey covering every farm in the more than 800 counties requiring survey in the 13 north-central wheat-growing States. Every farm is visited and the farmstead and wood lot or timberland inspected to locate common barberry. The individual property is the unit, then the county and the State. Practically all cities and towns have been surveyed, but those requiring resurvey are covered in the course of the farm-to-farm survey.

THOROUGHBRED WINS ENDURANCE RIDE.

The second annual 300-mile Colorado endurance ride, conducted under the supervision of a number of organizations interested in the development of horses with speed and endurance under the saddle, was concluded early in August, and was won by "Norfolk Star," a thoroughbred mare. Nineteen horses started in this ride, of which seven finished.

The ride consisted of five days riding of 60 miles each. Each horse carried 225 pounds and in order to acquire a perfect time score should complete each day's ride in 9 hours or 45 hours for five days. This ride is governed by the same rules and conditions as the annual endurance ride which is held in the East and approved by the War Department, the Chief of the Remount Service, and the Chief of the Bureau of Animal Industry, and gives additional valuable data pertaining to endurance and riding qualities of horses under different climatic conditions.

Agricultural Forecasts Will Benefit Farmers, Says Chief

"Agricultural forecasting by public agencies will put farmers more nearly on an even basis with those in other industries in deciding whether to continue in accordance with their old plans or readjust their production, owing to permanent changes which may have taken place in marketing conditions," says Dr. H. C. Taylor, chief, Bureau of Agricultural Economics. According to Doctor Taylor, forecasting can be viewed not only from the standpoint of the individual farmer and the merchant dealing in farm products, but also from the national point of view, which involves the question of the right utilization of land—how much should be used for each of the cultivated crops, how much for forestry, and how much for parks and playgrounds in order that the maximum of national well-being may be attained.

"Frequent changes in the sources of supply, quantities produced, and the consequent changes in process of farm products lead to a desire for a better basis of judgment than most farmers now have when projecting their plans for the coming year," he says. "Merchants who deal in farm products give even more attention to agricultural forecasting than do farmers themselves. These facts have led various agencies to attempt to supply these needs by making forecasts of what is likely to happen.

"Knowledge of the intentions of others, who are simultaneously figuring on making readjustments, will improve the basis of passing judgment. The purpose of agricultural forecasting is the wise guidance of production in order that there may continue to be a proper balance between the various lines of production and between agriculture and other industries."

NEW EXPERIMENTAL FUR FARM.

The Biological Survey is establishing a new experimental fur farm in order to study the habits of fur-bearing animals and the possibilities of growing them in captivity and producing fur of good quality. The farm is located 3½ miles from Saratoga Springs, N. Y., on the State highway to Corinth. Work of a similar nature has been carried on by the bureau at Keeseville, N. Y., but this farm will be discontinued as soon as the new farm is ready for operation. The new site is more easily accessible than the old, both by automobile and by bus line. The tract comprises 20 acres, of which approximately 15 are covered by an excellent growth of timber.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

Sorghums Made Development of Semiarid West Possible

Without the sorghums it scarcely would have been possible to develop farming enterprises in much of the territory of the semiarid West and Southwest, where they have taken the place occupied by corn in the more humid sections of the country. The grain sorghums are the tilled grain crop in the rotation, and they provide the feed grain and roughage for farm and range live stock and silage for the dairy and beef industries. Because of insufficient rainfall and drying winds it is not possible to grow corn in this territory to supply these needs.

The sorghums, which comprise several groups, each having a different name and each containing several varieties, are closely related botanically and are similar in general appearance and culture. The principal groups are sorgo, kafir, milo, and durra, the later including feterita. They are for the most part native to Africa.

The introduction of the sorghums and their subsequent establishment in farming extends back over a long period of years. Over 1,200 separate lots of sorghum seed of both grain and forage varieties have been received from foreign countries, but the most important single shipment is probably that of 16 varieties of sorgo, or sweet sorghum, from Natal, South Africa, in 1857. Different varieties of grain sorghums were introduced at intervals from early colonial times, but none persisted in cultivation. Of the varieties now grown in this country, the earliest arrivals were the White durra and Brown durra, which were introduced from Mediterranean Africa to California in 1874 and still are grown there sparingly under the name of "Egyptian corn." About 1879 the white variety appeared in Kansas under the name "Jerusalem corn," but whether from California or direct from Syria is not known. At about the same time there was grown sparingly in Kansas a similar variety known as "rice corn," which probably was the present White milo.

In 1876 the Centennial Exposition was held in Philadelphia. The exhibit of the Orange River Colony of South Africa contained the seeds of two varieties of kafir, a group of grain sorghums

grown by the Kafir tribes in Natal. A thimbleful of this seed reached the State commissioner of agriculture in Georgia in 1877 and by him was sent to Dr. J. H. Watkins, of Palmetto, Ga. He grew and selected the plants until 1885, when he distributed some seed. In 1886 larger quantities were distributed by him and through the agricultural commissioners of the State of Georgia and the United States. The crop became established in Kansas in about 1888.

The sorghums are now grown over a wide territory for forage, grain, and sirup. Census figures for 1920 showed a total of 8,953,671 acres of the different varieties, distributed all over the United States. The District of Columbia is credited with 2 acres grown for forage, while Texas is credited with a total of 3,027,074. Oklahoma ranks next with over 2,000,000 acres, and Kansas follows with 1,622,997 acres. Almost 50,000 acres are grown in Kentucky for sirup.

WITH EXTENSION FORCES

Four hundred general farmers in two days budded 18,000 native pecan trees from improved stock this spring in Gillespie County, Tex. A few days ago when a department representative visited the county over 50 per cent of the new stock was thriving.

This somewhat astonishing two-days' work has a history back of it which explains how it could be accomplished. Five years ago attention was called to the opportunity offered in the abundant native pecan trees by the county agent, who demonstrated budding practices on the farms of Otto and William Kneese. Four hundred trees on these farms are now producing pecans of highest quality.

When the present extension agent came into the county in November, 1921, he made a careful analysis of the needs and potential features of the county with the idea of adopting a program of work which would center on a limited number of outstanding subjects. Among these, the development of the pecan industry was selected as promising worth while returns, with the Kneese trees as proof of its practicability.

Local leaders were secured for 18 communities and a county meeting called by the extension agent to work out a plan of procedure. At this meeting it was made plain that in order to build up a successful pecan-growing industry, a long-time campaign would be necessary. Petitions were given to the local leaders to circulate among their neighbors with the object of determining the number

interested in the project, the agent agreeing to give a budding demonstration in each community showing sufficient interest. Eighteen demonstrations were given in 1922.

Twelve budding schools were held later in the year, attended by 300 farmers, in which 900 pecan trees were budded, the farmers doing practically all of the work themselves under the agent's direction. Over 600 grew, an indication of the thoroughness of the instruction.

In continuance of his program, the county agent planned an extensive campaign for 1923 to arouse county-wide interest and action. Meetings were held in every community, in which specialists from the State agricultural college assisted. Local leaders and the county agent outlined a definite line of procedure. Twenty-three communities had by this time taken up the work. The first goal for budding 5,000 trees was raised to 15,000 through the encouragement of the county judge, a pecan fancier, who, with the commissioners' court, sponsored the enterprise, contributing the wax required in the budding process. The pecan growers of San Saba County contributed buds from parent trees of highest quality. It was decided to do all of the budding in the county on one definite date.

The county agent continued the work of training leaders in the budding process, who, in turn, trained others, using ordinary buds for practice. Each local leader circulated among his neighbors an agreement to which the farmer, the county agent, the commissioners' court, and the State agricultural college were parties, under which they signed up for a definite number of trees. A final county meeting was held at the county seat shortly before the date set for the budding, attended by over 300 farmers.

On the day appointed the local leaders came to the court house for the buds, wax, and budding knives, which they distributed to their neighbors who had signed the agreement. The county agent, during the two days, drove from community to community to see that the program worked smoothly. Some communities worked in groups from farm to farm; in others each farmer worked singly or they worked in pairs or by family.

At the end of the two days over 18,000 buds had been set and the foundation for a profitable industry laid.

This program will be continued and broadened, as the work develops, to include care and management of the stock, and, by the time the trees come into bearing, about three years, the grading of the nuts and preparation for market will be demonstrated.

BRIEF REVIEWS OF NEW BULLETINS.

Parasites and Parasitic Diseases of Sheep. By Maurice C. Hall, Zoological Division, Bureau of Animal Industry. Pp. 53, figs. 31. April, 1923. August, 1923. (Farmers' Bulletin 1330.) Price, 10 cents.

Animal parasites contribute to most of the losses in sheep, mutton and wool. Bacterial diseases, on the other hand, cause comparatively little suffering to sheep. It is the sheepman's business to prevent disease, and as soon as an outbreak is noticed a competent veterinarian should be called in. A post-mortem examination of one of the sick animals may disclose the trouble and save others. Parasitized animals usually do not have fever—they are unthrifty, and unthriftiness may go into emaciation with a fatal termination. Such measures as pasture rotation, use of forage crops, feeding from racks or bare floors, draining or filling swamps, and restraint of wandering dogs are recommended for parasitic control.

Blackleg: Its Nature, Cause, and Prevention. By John R. Mohler, Chief of the Bureau of Animal Industry. Pp. 13, figs. 3. June, 1923. (Farmers' Bulletin 1355.)

This disease, which is found in all climates and altitudes in practically all parts of the world, is the cause of great losses in this country, particularly in the great cattle raising and feeding sections of the West. Immunization by vaccination is the only practicable and effective means of protecting animals against it and eventually ridding pastures of the infection. The nature of the malady and the characteristic symptoms are so described and compared with those of other diseases that there can be little danger of confusion. Cattle, especially young animals from 6 to 18 months of age, are most susceptible, but sheep and goats also are subject to it, and in exceptional cases hogs have contracted it. Although blackleg may occur at any time of the year, spring and fall are the seasons of greatest prevalence.

Status and Results of Home Demonstration Work, Northern and Western States, 1921. By Florence E. Ward, in charge extension work with women, office of extension work, in the North and West, States Relations Service. Pp. 26, figs. 7. July, 1923. (Department Circular 285.) Price, 5 cents.

Records show that in 1921 practically 35,800 more women became members of extension organizations than in 1920. Also, 4,864 new communities undertook to carry on one or more features included in extension programs. A notable accomplishment of the year's work was the development of local leadership. This circular describes how each phase of the work was carried out and the improvements made over methods used during previous years. Progress was made during the year toward cementing the interest of all the people—men, women, and children—through a common program of work in which the home demonstration agent's part has been more effective than before.

ADDITIONAL PUBLICATIONS.

The Dairy Industry. By C. W. Larson, Bureau of Animal Industry; L. M. Davis, O. A. Juve, and O. C. Stine, Bureau of Agricultural Economics; A. E. Wight and A. J. Pistor, Bureau of Animal Industry; and C. F. Langworthy, States Relations Service. Pp. 98, figs. 54. (Separate 879, Yearbook 1922.) Price, 15 cents.

Milk and Its Uses in the Home. Prepared by the Office of Home Economics, States Relations Service, with the cooperation of the Dairy Division, Bureau of Animal Industry. Pp. 20, figs. 2. July, 1923. (Farmers' Bulletin 1359.)

Service and Regulatory Announcements. Bureau of Agricultural Economics. No. 77. Rules and Regulations of the Secretary of Agriculture Governing the Inspection of Hay under an Act of Congress approved February 26, 1923. Pp. 6. (August, 1923.) Price, 5 cents.

Bureau of Chemistry. No. 158. Notices of judgment 11351-11400. July 28, 1923. Pp. 183-210. August 10, 1923. Price, 3 cents.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week August 20-25, 1923. These publications can be obtained only from the stations issuing them.

Report for the fiscal year ending June 30, 1922. (Florida Sta. Rpt. 1922, pp. 75R+VI, figs. 12.)

Relation of types of tenancy to types of farming in Iowa. C. L. Holmes. (Iowa Sta. Bul. 214, pp. 323-364, figs. 14, May, 1923.)

Cane and beet molasses for fattening lambs. J. M. Evvard, C. C. Culberson, and Q. W. Wallace. (Iowa Sta. Bul. 215, pp. 370-400, figs. 3, April, 1923.)

Relationships between hydrogen ion, hydroxyl ion, and salt concentrations, and the growth of seven soil molds. H. W. Johnson. (Iowa Sta. Res. Bul. 76, pp. 307-344, figs. 8, Jan., 1923.)

Kansas State Live Stock Registry Board. (Kansas Sta. Insp. Circ. 13, pp. 119, figs. 3, Dec., 1920.)

State Live Stock Registry Board. (Kansas Sta. Insp. Circ. 15, pp. 4, Dec., 1921.)

State Live Stock Registry Board. (Kansas Sta. Insp. Circ. 20, pp. 3, Dec., 1922.)

The morphology of the double kernel in Zea mays var. polysperma. Mildred E. Stratton. (New York Cornell Sta. Memoir 69, pp. 18, figs. 8, June, 1923.)

Farmers' Market Bulletin. (North Carolina Sta. Farmers' Market Bulletin 10, No. 63, pp. 8, Aug., 1923.)

County experiment farms in Ohio.—II. The Paulding County experiment farm. (Ohio Sta. Bul. 361, pt. 2, pp. 346-375, figs. 3, June, 1922.)

County experiment farms in Ohio.—IV. The Hamilton County experiment farm. (Ohio Sta. Bul. 361, pt. 4, pp. 414-438, fig. 1, June, 1922.)

County experiment farms in Ohio.—V. The Washington County experiment farm. (Ohio Sta. Bul. 361, pt. 5, pp. 440-473, fig. 1, June, 1922.)

County experiment farms in Ohio.—VII. The Mahoning County experiment farm. (Ohio Sta. Bul. 361, pt. 7, pp. 500-525, June, 1922.)

County experiment farms in Ohio.—VIII. The Belmont County experiment farm. (Ohio Sta. Bul. 361, pt. 8, pp. 528-541, June, 1922.)

County experiment farms in Ohio.—IX. The Madison County experiment farm. (Ohio Sta. Bul. 361, pt. 9, pp. 544-563, June, 1922.)

The cane fruit industry in Oregon. H. Hartman. (Oregon Sta. Circ. 48, pp. 28, figs. 10, July, 1923.)

Mosaic and other systemic diseases of brambles in Oregon. S. M. Zeller. (Oregon Sta. Circ. 49, pp. 15, figs. 9, July, 1923.)

BETTER-SIRES LITERATURE AVAILABLE.

For the convenience of county agents and others who desire to conduct systematic work for live-stock improvement, the Bureau of Animal Industry

is prepared to furnish complete material necessary for conducting such work. The material includes posters, bulletins, survey and enrollment blanks, and illustrated matter developed in connection with the "Better Sires—Better Stock" movement.

This plan relieves persons in the field from specifying the exact class of literature desired. The assortment of posters, blanks, and other material has been developed as the result of four years' experience in supplying county agents and others with literature for field use. The assortment includes a sample address which, when modified according to local conditions, is useful in explaining the purpose of the work and benefits to be expected.

PURE-BRED SIRES SIGN NOW READY.

In response to numerous requests, the United States Department of Agriculture has prepared a sign to be distributed free to persons who enroll in the "Better Sires—Better Stock" campaign. The sign is lithographed on cardboard in several colors and resembles a metal tablet. It measures 11½ by 15 inches. Each sign issued will bear the official enrollment number of the person to whom it is presented, as authority for its display. Persons who have already enrolled in the "Better Sires—Better Stock" campaign may receive the sign if they write to the Bureau of Animal Industry for it, giving their official enrollment number.

Arrangements for issuing a feed report by the Pennsylvania State Bureau of Markets in cooperation with the Bureau of Agricultural Economics have been completed by G. C. Wheeler, of the Federal bureau. The Bureau of Agricultural Economics will furnish reviews covering the condition of the feed, grain, and hay markets, upon which information the State's reports will be based. Pennsylvania proposes to start this new service as soon as possible.

Similar reviews are now being furnished the States of New Jersey, New Hampshire, Vermont, Massachusetts, Connecticut, New York, and Ohio.

The second edition of the popular poultry poster, "Standard-bred Poultry Pays Best," has just been received from the printer and is now being distributed to persons whose requests were received after the first edition was exhausted. The new edition is 15,000 copies, and approximately 10,000 copies will be available for general distribution after the orders on file up to August 15 have been filled.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Anatomy and physiology of capillaries. By August Krogh. New Haven, Yale university press, 1922.
- Art of investment. By M. W. Gaines. New York, Ronald press co., 1922.
- Biochemie. 4. aufl. Von Karl Oppenheimer. Leipzig, G. Thieme, 1922.
- Biochemisches handlexikon. bd. 10. Von Emil Abderhalden. Berlin, J. Springer, 1923.
- Botulism and food preservation. (The Loch Maree tragedy.) By G. R. Leighton. London, W. Collins sons and co., ltd., 1923.
- Die Bredower forst bei Berlin. Von Fr. Markgraf. Berlin-Lichterfelde, Naturschutzverlag, 1922.
- Chinese economic trees. By Woon Young Chnn. Shanghai, Commercial press, ltd., 1921.
- Citrus culture in Florida. By H. J. Wheeler. Jacksonville, Fla. American agricultural chemical co., 1923.
- Co-operation and the future of industry. By L. S. Woolf. London, G. Allen & Unwin, ltd., 1920.
- Cotton and the cotton market. By W. H. Hubbard. New York, D. Appleton and co., 1923.
- Economic problems of democracy. By A. T. Hadley. New York, Macmillan co., 1923.
- Employment, hours and earnings in prosperity and depression, United States, 1920-1922. By W. I. King. New York, National bureau of economic research, inc., 1923.
- Farm records and the production of clean milk at Moundsmere. By Wilfred Buckley. London, Country life, ltd., 1917.
- Ferns (Filicales) treated comparatively with a view to their natural classification. v. 1. By F. O. Bower. Cambridge, Cambridge university press, 1923.
- Foreign exchange. By E. S. Furniss. Boston, Houghton Mifflin co., 1922.
- Forestry for profit. New Jersey. Dept. of conservation and development. Division of forestry and parks. Trenton, N. J., 1922.
- Founders of political economy. By Jan St. Lewinski. London, P. S. King & son, ltd., 1922.
- Fundamental principles of purchasing. By H. D. Murphy. New York, Purchasing agent co., inc., 1923.
- Germany's capacity to pay. By H. G. Moulton and C. E. McGuire. New York, McGraw-Hill book co., inc., 1923.
- Manufacture of chrome leather. By M. C. Lamb. London, Anglo-American technical co., ltd., 1923.
- Orthoptères et dermaptères. Par. L. Chopard. Paris, P. Lechevalier, 1922.
- Outlines of American foreign commerce. By A. L. Bishop. Boston, Ginn and co., 1923.
- Paleopathology. By R. L. Moodie. Urbana, University of Illinois press, 1923.
- Le palme di Villa Lucia. Per Gioacchino Ruffo. Firenze, Ciuthna, 1920.
- Die pflanzenalkaloide. 3. aufl. Von Richard Wolfenstein. Berlin, J. Springer, 1922.
- Die physikalische chemie in der inneren medizin. 3. aufl. Von Heinrich Schade. Dresden, T. Steinkopff, 1923.
- Positive theory of capital. By E. V. Böhm-Bawerk. New York, G. E. Stechert & co., 1923.
- Principles and processes of cotton yarn manufacture. Rev. ed. By W. E. Winchester. Philadelphia, Philadelphia textile school, 1921.
- Problems in marketing. 2d ed. By M. T. Copeland. Chicago, A. W. Shaw, 1923.
- Public health service. By L. F. Schmeckler. Baltimore, Md., 1923. (Institute for government research. Service monographs of the United States government)
- Review of the present problems and methods of agricultural bacteriology. By Christian Barthel. Stockholm, P. A. Norstedt & söner, 1923.
- Sale of foods & drugs acts. 7th ed. By the late Sir William J. Bell. London, Butterworth & co., 1923.
- Der stickstoff. Von Hans Hummel. Stuttgart, E. Ulmer, 1922.
- La théorie des capacités fonctionnelles et ses conséquences en agriculture. Par L. L. Daniel. Rennes, F. Simon, 1902.
- Tieraugenheilkunde. Von Gustav Schleich. Berlin, J. Springer, 1922.
- Le travailleur agricole français. Par Georges Risler. Paris, Payot, 1923.

Treatise on chemistry. New ed. v. 2. By Sir H. E. Roscoe. London, Macmillan and co., ltd., 1923.

Tubercle bacillus infection and tuberculosis in man and animals. By Albert Calmette. Baltimore, Williams and Wilkins co., 1923.

CURRENT PERIODICALS.

- Advertising & selling [monthly]. New York, 1922.
- American bankers association. Journal [monthly]. New York, 1921.
- Central landowners' association. Quarterly Journal. London, 1922.
- Confctioners' union [weekly?]. London, 1923.
- Revue pratique des maladies des pays chauds (Egypte médico-chirurgicale) Paris, 1922.
- Seed trade news [weekly]. Chicago, 1923.

LOST BOOKS.

The following periodical belonging to the library can not be found. It will be appreciated if anyone having information in regard to it will report the fact at the loan desk of the main library:

Torreja. v. 9-10, 1909-10.

Articles in Current Publications by Department Workers

- Howard, L. O. (Bureau of Entomology.) Entomology, United States Bureau of. The American Annual, Chicago, 1923. p. 286-288.
- Howell, A. H. (Biological Survey.) James Hibbers Langille, obituary notice. The Auk, Vol. 40, No. 3, p. 572-573. July, 1923.
- McAtce, W. L. (Biological Survey.) Another insect birds should not eat. The Auk, Vol. 40, No. 3, p. 560. July, 1923.
- Ducks useful in Arkansas as scavengers of red rice. The Auk, Vol. 40, No. 3, p. 527-528. July, 1923.
- Economic ornithology in recent entomological publications. The Auk, Vol. 40, No. 3, p. 557-558. July, 1923.
- Success in prairie tree planting. The Auk, Vol. 40, No. 3, p. 559-560. July, 1923.
- MacDonald, T. H. (Bureau of Public Roads.) Uncle Sam's valuable interest in our State highways. Highway Engineer and Contractor. Vol. 9, No. 2, p. 49. August, 1923.
- Pelree, Vernon M. (Bureau of Public Roads.) Developments in the use of local materials for road work. American City Magazine, vol. 29, No. 2, p. 136. August, 1923.
- Sherman, Caroline B. (Bureau of Agricultural Economics.) Standardization of farm products. Journal American Bankers Association. August, 1923.

CIVIL SERVICE ANNOUNCEMENTS.

Assistant marketing specialist (economic marketing research), \$2,100-\$3,000; September 19. Vacancies in the Bureau of Agricultural Economics and in positions requiring similar qualifications will be filled from this examination. Requirements are graduation from a college, university, or technical school of recognized standing, followed by one year of graduate study of economics and related studies, and one year's consecutive experience in marketing or statistical research. A thesis or discussion must be presented. If interested, apply for Form 1312, stating the title of the examination desired.

WILL FIGHT PREDATORY ANIMALS.

Following a recent conference between Dr. W. B. Bell, of the Biological Survey, and members of the State Board of Agriculture of Missouri, at Sedalia, a cooperative agreement has been completed providing for operations against wolves, coyotes, and other predatory animals in that State. The legislature, at

its last session, appropriated \$15,000 for cooperation with the department in an effort to protect live stock, poultry, and game from the depredations of predatory animals. Provision was also made by the legislature for the State game department to cooperate and to expend other funds at its disposal for this purpose, and plans to this end are under consideration. The field operations will be under the leadership of E. F. Pope, of the Biological Survey, acting as a joint executive officer of the Federal and State Departments of Agriculture.

WILL INTRODUCE NEW GAME BIRDS.

Through the interest and cooperation of H. E. Coffin, of Detroit, Mich., the Biological Survey is enabled to make an experiment in introducing certain species of game birds into the Southern States, the outcome of which is awaited with great interest. In British Honduras and Guatemala occurs the ocellated turkey—a very beautiful wild species named from the brilliance of its plumage. It is desired to introduce a flock of these fine birds on Sapelo Island, Ga., where a large tract of virgin forest, well watered and abounding in a wealth of suitable food, seems to offer an excellent field for the experiment. To obtain the necessary stock the Biological Survey in the spring of 1923 sent Harry Malleis, a field naturalist of considerable experience, to British Honduras.

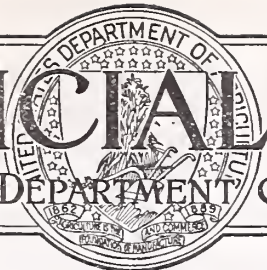
A schedule of Federal, State, and private broadcasting stations sending radio market reports has just been issued in revised form by the Bureau of Agricultural Economics. The schedule lists the name and call letters of each station, type of transmission, and wave length used, the nature of the reports, and the time of transmission. Copies of the schedule may be had upon application to the Bureau of Agricultural Economics, Washington, D. C.

Clifton B. Lowe, State veterinarian of Tennessee, has been appointed field agent in animal husbandry, Office of Cooperative Extension Work, to represent the extension interests of the division of animal husbandry, Bureau of Animal Industry. Prior to his service in Tennessee, Doctor Lowe had been connected at different periods with the Bureau of Animal Industry.

Doctor Lowe will make a study of the best methods of organizing for the conducting of extension work in the States and will assist in the development of methods of extension teaching in animal husbandry.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

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WASHINGTON, D. C., SEPTEMBER 12, 1923.

No. 37.

FOREST EXPERIMENT STATIONS PROVIDED

Great Stimulus To Work—One Located at Amherst, Mass., and Another at St. Paul.

Experimental work for the furtherance of forestry in the United States will receive a great stimulus through the opening of two new forest experiment stations, for which Congress provided at its last session in the appropriations for the Forest Service.

One of the new stations is called the Northeastern Forest Experiment Station, and will have its headquarters at Amherst, Mass., in cooperation with the Massachusetts Agricultural College. The other is known as the Lake States Forest Experiment Station, and will be located at St. Paul, Minn., where it will cooperate with the Minnesota Agricultural College.

Department Will Provide for Research Work.

Under the terms of an agreement for the Massachusetts station between the college and the department, the college will furnish laboratory and office facilities for members of the station staff, will provide facilities for experimental work in the 700-acre tract of woodland belonging to the school, as well as provide for a small nursery. The department is to maintain the headquarters of the station at Amherst, will give a series of lectures on forestry, and will provide for and make possible research work by those students who care to undertake such studies.

The establishment of this new forest experiment station is part of the program the department has in mind whereby each important forest region will have its own station to work on local forest problems, as well as upon broader phases of the fundamentals of growth. One of the many activities of the new station will be the organization of a research council on which will be

representatives of the forest schools, State forestry departments, agricultural colleges, and the forest industries throughout the entire region. Its main function will be to consider the advisability of new projects, location of field work, and agencies capable of undertaking or cooperating in the work. In this way the interests of the entire region can be brought together to work out a plan of forest investigations in order to meet the needs of the region without a duplication of effort or overextension of activities. The field work for the present season is to be limited to a study of the growth and yield in the spruce-fir forest in the northern part of the region.

Experienced Forester to Be in Charge.

S. T. Dana, formerly forest commissioner of Maine, has been appointed director of the station. He has had wide experience in forestry in the United States, and at one time was in charge of the forest investigations work of the Forest Service. He is thoroughly conversant with the region in which his work will lie, and has been identified with forest work there for a number of years. Walter H. Meyer, who has just recently returned from a year's study in the forest schools of Sweden, will assist Mr. Dana. Other members of the station staff have not yet been announced.

Other forest experiment stations in the East include the Appalachian, with headquarters at Asheville; the Southern, at New Orleans; and the Lake States, at St. Paul. In the West the Forest Service has established four relatively small forest experiment stations—the Wind River, at Carson, Wash.; the Fremont, at Colorado Springs, Colo.; the Fort Valley, at Flagstaff, Ariz.; and the Priest River, at Missoula, Mont.

All annual reports from leaders of predatory animal and rodent control work have been received. These indicate that most important progress has been made during the past fiscal year in developing these two important activities of the Bureau of Biological Survey.

IMPROVEMENT NOTED OUTSIDE WHEAT AREA

Index Number Advances Slightly—Hog Prices Show Seasonal Improvement.

According to the monthly agricultural review of the department general agricultural conditions outside the wheat belt are apparently somewhat better this season than last.

The East, the South, the Corn Belt, the range country, and the Pacific coast apparently show improvement both in position as to debts and outlook for fall income. The wheat situation is not to be overlooked, however. It is an acute symptom of the general and persistent maladjustment between the returns for labor of country workers and those of urban workers.

July Shows Slight Advance.

The index of purchasing power of farm products advanced slightly during July, but is still seriously below par, and in agricultural circles there is a resultant broad undercurrent of dissatisfaction which is still a factor to be reckoned with. The index of purchasing power of a unit of farm products in terms of other commodities is placed at 72, as compared with 71 in June and with 69 in July a year ago.

Despite heavy market receipts of hogs, prices have made a seasonal advance. More than 48,500,000 hogs went to slaughter during the past fiscal year, or about 4,250,000 more than in any previous year. The export movement shows more pork, lard, and meats, but less wheat and cotton going out of the country. Storage stocks of dairy products and eggs are slightly above the five-year average.

The Northwestern Lumberman's Association is cooperating in the work of fighting blister rust and is soliciting funds from 4,200 retail lumber dealers in Minnesota, North Dakota, and Iowa, asking for \$5 from each of them.

New Explosive to be Distributed By Bureau of Public Roads

Having distributed some 12,000,000 pounds of picric acid, a surplus war explosive, among the States for road building and land clearing work, the Bureau of Public Roads is now about to begin the distribution of approximately 18,000,000 pounds of sodatol, a product made from surplus war material. The contract for preparing, cartridgeing, and shipping sodatol has been awarded to E. I. du Pont de Nemours & Co. Shipping will be begun from Barksdale, Wis., by October 1. It is expected that later it will be available for shipment from Repauno, N. J.; Ashburn, Mo.; Louviers, Colo.; and Du Pont, Wash.

Sodatol is a high explosive made by mixing trinitrotoluene (T. N. T.) and sodium nitrate. It is prepared for use in double-dipped paraffined cartridges weighing about 7 ounces. The cartridges are packed in wooden boxes, each containing 50 pounds of the explosive. While it is more sensitive than T. N. T. or picric acid, there is no danger whatever in handling it, provided that the ordinary care used in handling dynamite or other explosive is used. It will burn without exploding—at least, in small quantities—and should not be exposed to fire or flame.

So far as ordinary handling is concerned, sodatol has no toxic effects. It can be used in any open-air blasting operations and will not cause headaches, stain the hands, nor cause other ill effects. A cartridge of sodatol, as it has been prepared for distribution, weighs about 7 ounces and is equal in strength for agricultural blasting to the usual cartridge of dynamite, which weighs 8 ounces. That is, in a 50-pound box of dynamite there are 100 cartridges, while in a 50-pound box of sodatol there are about 120 cartridges, each one of which is equal in strength to a cartridge of 40 per cent dynamite. Sodatol is a nonfreezing explosive and will give good results at all ordinary temperatures.

On account of the high freight charges on explosives in small lots, shipments of sodatol can not be made by the department in less than carload lots. To prevent this material from falling into the hands of speculators, no one is permitted to secure more than 1,000 pounds. In each State, where there is sufficient demand to warrant it, some State agency, usually the State agricultural college, handles the distribution within the State. The same agency handles the distribution of the blasting caps. Information

as to what agency is handling the distribution in any State can be obtained from county agricultural agents or from the State agricultural college. The Department of Agriculture can not accept individual orders for either sodatol or caps.

There is no charge for the explosive itself, but the cost of preparation and the freight charges must be paid by the consumer. These costs are necessarily different in various parts of the country, but, in general, they amount to about one-third the cost of an equivalent amount of dynamite.

MEASURES DUSTINESS WITH AIRPLANE.

Following the decision of the International Union of Geodesy and Geophysics in Rome in May of 1922 to establish an international study of the dust content of the air, the Weather Bureau has been making tests by airplane of the number of dust particles in a given quantity of air.

Since visibility is so large a factor in air flight, as also in surface operations of various kinds, and especially navigation, a study of the visibility of the air and the conditions governing it becomes of considerable importance. This problem considers the particles due to incomplete combustion of coal and other fuels which appear as smoke in the lower levels but higher up merely contribute to the general mistiness of the atmosphere. It also takes up the question of the distribution of dust particles from volcanoes and how long they remain in the air; also the question as to whether we have any dust in our atmosphere which comes from the interplanetary spaces.

This dust count was taken from the surface and from the top of the Washington Monument this winter, but aviators at Bolling Field, with the permission of the Chief of the Army Air Service, are now cooperating with the bureau.

The tests are taken at different levels, from 1,000 feet to 10,000 feet above the ground. Each trip requires about 50 minutes.

The dust counter used collects the dust from a known volume of air and deposits it on a small and very thin glass disk, where by means of a powerful microscope the particles can be counted and their character determined.

Tests at American University have shown 90 dust particles per cubic centimeter on a very clear, dry day, and as high as 933 per cubic centimeter on one day of very limited visibility, but with the same dry condition of the air which prevailed on the former occasion.

The study of the dust conditions of the air is just beginning. It is expected that in the future much help will be given in this way to seamen and aviators.

Over 4,000 Farmers Submit 1922 Production Expenses

Reports from 4,000 farmers in all parts of the country to the department show that, on the average, in 1922 it cost 66 cents per bushel to produce their corn, \$1.23 per bushel to produce wheat, and 53 cents per bushel to produce oats. The cost figures include charges for the labor of the operator and his family and for use of the land. Where the price received for the product was less than cost either the farmer did not receive going wages for his time or he did not receive for the use of his land an amount equal to the cash rental value reported, it is pointed out.

The average cost of producing an acre of corn on 3,400 farms was \$23.01. The average yield was 35 bushels per acre, making the cost per bushel 66 cents. The average value of the corn sold was 73 cents per bushel. Of the cost, 52 per cent was for man and horse labor in preparing seed bed, planting, cultivating, harvesting, and marketing; 16 per cent for fertilizer and manure; 2 per cent for seed; 23 per cent for land rent; and 7 per cent for miscellaneous items, such as twine, wear and tear on machinery and storage buildings, crop insurance, etc. An average of 26 acres of corn per farm was grown.

The average cost of producing an acre of wheat on 2,400 farms was \$19.68. The average yield was 16 bushels per acre, making the cost per bushel \$1.23. The average sale value of the wheat reported was \$1.11 per bushel. Preparation of seed bed, planting, harvesting, threshing, and marketing took 46 per cent of the cost; land rent, 25 per cent; fertilizer and manure, 12 per cent; seed, 9 per cent; and miscellaneous costs 8 per cent. An average of 57 acres of wheat per farm was grown.

The average cost of producing an acre of oats on 2,600 farms was \$17.40. The yield per acre was 33 bushels, and the cost per bushel 53 cents. An average selling price of 48 cents per bushel was reported. Fifty per cent of the cost was for man and horse labor, including seed-bed preparation, planting, harvesting, threshing, and marketing; 8 per cent for fertilizer and manure; 7 per cent for seed; 27 per cent for land rent; and 8 per cent for miscellaneous costs. Twenty-four acres of oats were grown per farm.

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

SHEEP INDUSTRY RECOVERS RAPIDLY.

Rapid recovery from the depression which struck it three years ago is being made by the sheep industry under the stimulus of tariff protection, fairly good prices, and improved credit facilities, say reports to the department. Proof that the industry is recovering is seen in the fact that the number of sheep in this country has increased by 882,000 over the total on the corresponding date in 1922. It is still 243,000 below the 1921 total of 37,452,000, but the rate of increase suggests that the losses of the liquidation period will soon be made up.

MARK DECLINE AFFECTS GRAIN TRADE.

Chaotic conditions developed in the grain trade in Germany as a result of the recent further fall of the mark and depreciation on the purchase of foreign exchange, says a report to the department from its Berlin representative. Brokers particularly have been hard hit. For brokerage on grain which they sold early in the season but which is only now being paid, the money they received is practically nothing. Millers have little grist to grind, although bakers and consumers are clamoring for flour. Bread made from wheat flour is now a luxury beyond the reach of many.

NEW USES FOR WOOD ARE REVEALED.

Chemical research is revealing new uses for wood that were not dreamed of a few years ago, according to a recent report from the department. One example given is that of the extended use of pulp wood not only for paper products but also for fiber containers, wall board, and similar forms of material. Wood is already in use for the making of artificial silk, rope, carpets, and other fabrics.

BARBERRY WORK COVERS WIDE AREA.

An area equivalent to 200 counties was covered during the last fiscal year in the faru-to-farm survey for barberry bushes. This is one step in the fight against wheat rust being carried on by the department in cooperation with State agricultural colleges and other agencies. In all, 740,855 bushes were re-

moved from 6,799 properties in the preliminary survey, while 66,607 sprouting bushes and 9,138 seedlings were destroyed in the follow-up campaign.

DEVELOP NEW HARD SPRING WHEAT.

A hard red spring wheat which is resistant to the principal forms of black-stem rust has been developed in North Dakota by the department and the North Dakota Agricultural Experiment Station. This wheat was first introduced from Russia in 1903 by Prof. H. L. Boley, and is now known as Kota. About 6,000 acres of Kota wheat were grown in 1922, and much more this year. It is a bearded wheat which ripens about as early as Marquis. In milling and baking experiments Kota wheat has shown results nearly equal to those obtained with Marquis.

ARGENTINA INCREASES ACREAGES.

The area sown to wheat in Argentina for the 1923-24 season is estimated at 17,038,000 acres according to a radiogram received by the department from the International Institute of Agriculture at Rome. Acreage sown for the 1922-23 season was 15,940,000 acres. The oats area is estimated at 2,632,000 acres as compared to 2,618,000 acres last year; flax at 4,824,000 acres compared to 4,112,000 acres.

PORK SUPPLIES IN GERMANY LARGER.

Pork supplies in Germany will be somewhat larger next winter than they were last year, owing to a considerable increase to the number of hogs in Prussia, says a report to the department from its Berlin representatives. Stocks of hogs for the whole of Prussia were estimated at 9,460,000, compared with 8,683,000 in June, 1922, or an increase of 780,000. It is pointed out that the census returns are probably below the actual number of hogs in the country because conditions prevented a full count in some districts.

The recommendation of the grades committee of the National Hay Association that the association give its support to the department in devising a workable system of inspection and practical grades, was accepted at the annual meeting of the association held last week. It was also recommended that the incoming grades committee be instructed to advise with and assist this department in establishing the grades.

Improvement of Process For Making Cassina Beverage

A new process for making the new beverage cassina, which eliminates the former "herbish" taste to which there was some objection, is announced by Mr. George F. Mitchell, supervising tea examiner of the Bureau of Chemistry, who recently returned from South Carolina, where he has been operating the experimental cassina factory which was established last spring. Those who have sampled a hot or an iced drink made from the new process leaves are enthusiastic over its qualities as a palatable and refreshing beverage. It has a flavor and a stimulating effect that are believed to be distinct commercial assets.

The water and beverage laboratory of the Bureau of Chemistry has prepared from the new process leaves a flavoring extract which Mr. J. W. Sale, chemist in charge, considers to be superior in richness and mellowness to extracts previously made in his laboratory. Ice cream made by Mr. O. E. Williams, of the Dairy Division, using the extract as prepared by Mr. Sale, has met with favor. So concentrated is the extract that one tablespoonful will flavor a gallon of ice cream and only 2 cubic centimeters (32 drops) are necessary to flavor a carbonated drink. Directions for the preparation of this extract will be issued by the water and beverage laboratory.

Mr. Mitchell first conceived the idea of curing the leaves of the cassina plant by a process similar to that employed with tea, when he learned from Dr. F. B. Power, chemist in charge of the phytochemical laboratory of the bureau, that cassina leaves contained about as much caffeine as coffee. Laboratory experiments having shown that a palatable beverage was possible, the commercial possibilities of the new drink were studied. An experimental factory was established at Mount Pleasant, S. C., where the largest supply of the raw material was available. Making use of some old machinery which the Government had abandoned several years ago after a futile attempt to establish a domestic tea industry, 6,000 pounds of cassina were prepared and distributed. The new beverage met with instant favor, although it did not possess the palatability of the drink as prepared from the leaves cured by the new process. Packages of cassina are now on the market retailing for 60 cents a pound.

Mr. Mitchell states that all the leaves of the cassina plant may be used, as they all contain caffeine. Tannin, a usual constituent of natural caffeine drinks, however, is present in a less degree in cassina than in similar beverages.



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OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

Board of Survey.

MEMORANDUM No. 448.—Effective September 1, 1923, the department board of survey in Washington will function under the direction of the Director of Purchases and Sales. The board will be composed of the following: B. H. Dutrow, chairman; C. C. Wilson; and H. A. Nelson.

The chief clerk or other designated officer of each bureau of the department will have all unserviceable articles, as well as all other articles which are of no further use to the bureau in Washington, turned over on the first and third Monday of each month to the board for issue to other bureaus, to place in stock in the department supply room, to deliver to the mechanical superintendent for salvage of such parts as may be useful, or if not needed by any branch of the department for delivery to the General Supply Committee as required by law.

The board shall also order and supervise the destruction of articles which are absolutely worthless or can not be utilized in the department or by the General Supply Committee.

Mr. Dutrow will continue to handle the sale of all surplus perishable products from the various bureaus.

MARKET NEWS SERVICE EXTENDED.

Extension of the leased-wire telegraph system of the department to Southeastern States was made September 4. Telegraph stations on the circuit for the reception of national agricultural market news were opened at Richmond and Atlanta, to be followed later in the week by the opening of stations at Raleigh and Columbia. A similar office is to be opened at Jacksonville November 1.

The establishment of the new service will make available to the Southeast daily information on movement, prices, and condition of fruits and vegetables at the leading market centers of the country, similar data on live stock and dairy products, and periodic information on farm commodities in cold storage. By cooperative arrangement with local agricultural officials, educational institutions, the press, and radio-broadcasting stations, it is expected to develop a complete system whereby the important market news of the day will be widely disseminated among farmers and other agricultural interests.

WEATHER REPORTS ASSIST MANEUVERS.

The Army Air Service conducted an interesting series of bombing maneuvers off Cape Hatteras beginning September 5, the targets being the battleships *Virginia* and *New Jersey*. By invitation of the War Department the Weather Bureau was officially represented at these tests by Dr. C. LeRoy Meisinger, who has been specially identified with the subject of aeronautical meteorology. Special arrangements were made to furnish frequent weather reports and forecasts in connection with these maneuvers. In order to get a wider field of operation for automobiles, airplanes, and other vehicles traversing the area covered by the maneuvers, a part of the Weather Bureau telegraph line at Cape Hatteras, together with two Coast Guard telephone lines and the Navy compass circuit, were temporarily placed underground as a cable.

DAIRY AND MILK INSPECTORS MEET.

The International Association of Dairy and Milk Inspectors will meet in Washington September 28 and 29 and October 1, just previous to the first meeting of the World's Dairy Congress. The object of the association is to "develop uniform and efficient inspection of dairy farms, milk establishments, milk, and milk products, and to place the inspection of same in the hands of men who have a thorough knowledge of dairy work." It has been actively functioning for 12 years.

Because of the great shortage of men trained for cow testing association work, the dairy department of the Pennsylvania State College will give a short course of six days beginning August 13 to train men for the positions now open. The only qualifications for entrance required by the college officials are accuracy with figures, practical dairy experience, honesty, and good judgment.

Law Has Made Insect-Killing Preparations More Dependable

Under the insecticide act of 1910, administered by the department, a manufacturer may sell any insecticide providing he tells on the label the truth about the contents and does not exaggerate in describing its powers as a destroyer or repellant, and provided the remedy is not injurious to the plants or animals to which it is to be applied. When this law first went into effect a large percentage of the preparations for destroying insect pests of animals and plants were deceptively labeled; many of them had no effect whatsoever.

At the present time a large proportion are truthfully labeled, and if the consumer will but take the trouble to critically read the label, he may be quite sure of getting something that will kill the bug which he is after. Uncle Sam no longer tolerates the sale of fake pest killers—all must prove their worth in actual tests made in that part of the country where the insects in question are prevalent, or in the department's laboratories located on a farm near Washington.

On this farm dogs are kept to provide "pasture" for fleas; chickens infested with lice and mites provide means for testing various powders and dips; cockroaches are raised in large numbers; bedbugs were grown with only moderate success on guinea pigs and rats, and now the public supplies the insects in abundance when the department makes known its wants. An orchard of many kinds of fruit trees, a garden, a vineyard, and shade trees provide means for testing insecticides or preparations said to be effective against plant pests.

Although hundreds of vendors of fake bug killers have been driven off the market, a few of them still continue to evade the law. One of the most plausible of these parasites has been selling so-called insecticides to be poured into holes bored into the trunks of infested trees or placed in these openings in capsules, the claim being made that the sap will carry the poison into the leaves where it will kill the insects feeding upon them. Many substances containing various ingredients from ordinary sand to the deadly cyanide have been recommended and sold by these charlatans for use in this manner. Tests made by the insecticide laboratory in the manner prescribed have produced only negative results. Even when enough of such poisons as cyanide and sodium arsenite to kill the branches were introduced into the circulations of growing trees the insects feeding on the leaves were not injured.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question: Is coffee produced commercially anywhere in the United States?

Answer: This crop is not grown on a commercial scale anywhere in the continental United States, although coffee plants have been grown with slat-house protection in Florida. Coffee is a native of tropical countries and can not withstand frost or continued spells of cold weather. There is therefore no possibility of successful commercial production of this crop anywhere in the United States.

Question: What is the project system used in the Bureau of Chemistry?

Answer: This system provides a plan of operation by means of which all the organization units of the bureau located in different sections of the country work together toward the same end. In this way various forms of adulteration and misbranding are attacked in all sections of the country at once and checked or eliminated entirely in a short time with the least expenditure of time and funds. The form of organization and the system developed for the enforcement of the food and drugs act has been used as a model for the enforcement of other Federal statutes.

Question: Why do open "parks" occur in the forested regions of the West?

Answer: The reason has never been explained in a wholly satisfactory manner; they are probably due to a combination of factors rather than to any one. A recent publication (Bulletin 1105, Natural Reproduction of Western Yellow Pine in the Southwest) throws some light on the subject. The author shows that absence of reproduction in "parks" in the Southwest is due to a heavy, compact clay in which seedlings have great difficulty in becoming established, because such soils rapidly lose moisture near the surface and the seedlings die from drought.

Question: What was the insecticide act of 1910?

Answer: The insecticide act of 1910 placed upon the department the responsibility of regulating the interstate shipments and importations into the United States of insecticides and fungicides, which are preparations for the control of plant and animal insects and diseases.

The provisions of the law are designed to protect farmers, fruit growers, market gardeners, and stock and poultry raisers from fraudulent misbranding and adulterated insecticides and fungicides.

Question: Is it possible to make a henhouse out of a piano box?

Answer: Two piano boxes would be better. Back Yard Poultry Keeping, Farmers' Bulletin 1331, tells how to construct a very satisfactory poultry house at small expense by placing two piano boxes back to back and covering them with tar roofing paper. Other bulletins issued by the department on the subject of poultry houses are Farmers' Bulletin 1113, Poultry Houses, and Farmers' Bulletin 574, Poultry House Construction, either of which will be sent on application to the department as long as the supply lasts.

Question: May a county agricultural extension agent demonstrate methods and practices recommended by other experiment stations than the one in the State in which he is employed?

Answer: Agricultural methods and practices recommended by other institutions than those with which the agent is connected should have the approval of the State extension director before being demonstrated by the agent.

Three hundred and eighteen full and 501 fractional sets of the official cotton standards of the United States have been sold by the Bureau of Agricultural Economics since the beginning of the calendar year. The proceeds for these standards amount to \$25,097.20.

The increased sale is attributed to the revision of the old standards and the enactment of the United States cotton standards act, which, after August 1, makes illegal the use of other standards in interstate or foreign commerce.

With the adoption of the standards for grade and color by the exchanges at Liverpool, Manchester, Havre, and Bremen, the bureau expects that during the next six months sales will amount to more than twice this figure.

Agreements with European cotton associations for the adoption of universal cotton standards and arbitrations will be made by Lloyd S. Tenny, assistant chief of the Bureau of Agricultural Economics, and Arthur W. Palmer, cotton specialist of the department, who sailed last week for England and the continent. G. T. Willingmyre, wool specialist of the department, sailed at the same time to conduct, with Mr. Tenny, an investigation of European methods of grading wool.

Federal Warehouse Act Provides for Grain Storage

In regard to the conditions under which farm grain storage may be made to conform with the Federal warehouse act, a statement was recently made by the Acting Secretary in a letter to Mr. Gray Silver, of the American Farm Bureau Federation.

"An individual or an association or partnership desiring to enter the public warehouse business and which can meet the requirements may be licensed under the act," says the letter. "A plan for farm storage within the law is along the following lines. A number of farmers in a community might form a corporate organization. The various farm storages might then be leased or sold to the corporation. The corporation could then operate the various units as a public warehousing system. When the corporation meets all the requirements of the act and the regulations, and when it is determined that the various units are suitable for the purposes of the act, a license will be issued to the corporation to operate the different plants. The corporation, however, would be obliged to operate the different units as public storage places.

"The Federal warehouse act provides solely for licensing persons engaged in the business of storing agricultural products. Its purpose is to provide a warehouse receipt which will be generally acceptable for collateral purposes. This department has made strenuous efforts to get bankers to view Federal warehouse receipts in this light. In the past two years it has made substantial progress in that direction.

"The War Finance Corporation, the Farm Loan Board, and the Federal Reserve Board and its various member banks have recognized as preferential receipts issued by persons engaged in the business of warehousing when such receipts were issued under the Federal act. Various large banking institutions from Portland, Oreg., to Boston and from Chicago to New Orleans have given similar recognition. Various farmers' associations through the use of receipts thus issued have been able to borrow many millions of dollars, and in fact a number of them have already arranged to use this same form of receipt with intermediate credit and private banks for financing this year's crops. * * * Federal warehouse receipts as issued thus far have been acceptable for collateral purposes to the Farm Loan Board. It has made no ruling as to the acceptability of warehouse receipts which might be issued under the plan of farm storage suggested above."

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

DEPARTMENT DEVELOPS SAND-CLAY ROAD.

The sand-clay type of road surface developed by the Bureau of Public Roads, and which is composed of a mixture of sand and clay, has become one of the most popular and useful types of road surface for light traffic. Until the possibilities of this type of construction became known the public roads of a large section of the Southern States had never been improved. Its discovery and development marked the first impulse toward rural road improvement in that region. Hundreds of thousands of square yards are now built annually.

Everyone knows that a clay road is very difficult to travel when it becomes wet. The sand road, on the other hand, is almost impassable when it is dry, but hard and firm when it becomes wet. One of the best known speedways for automobiles is the sand beach at Daytona, Fla., and the excellence of this motor race track is due to the fact that the sand is constantly moist.

Engineers of the Bureau of Public Roads, especially William L. Spoon, who traveled about in the Southern States in the late nineties building object-lesson roads and teaching the people how to improve their road conditions, observed these differences between sand and clay and concluded that a combination of the two materials in suitable proportions would bring about a compromise of the outstanding characteristics of each and would produce a road surface which would be better than a clay road when it is wet and better than a sand road when it is dry. They took the lead in experiments to develop a practical method of mixing the two materials and to determine the proportions in which they should be mixed for the best results.

The particular advantage of the sand-clay road is that it is cheap. It is made of materials which occur in abundance and close at hand in many parts of the Southern States. In some sections they are the only materials available from which road surfaces can be built without transporting materials from a distance. Had it not been possible to improve the roads by surfacing them with sand-clay it is probable that the development of these roads of the South would have been greatly retarded because of the in-

ability of these States to pay for more expensive road surfaces. That the type is suitable for light rural traffic, regardless of the cost, is indicated by the fact that thousands of miles have been built with Federal aid since the inauguration of the Federal-aid policy in 1916.

Several Counties Accredited Free of Cattle Tuberculosis

An amendment to the Federal regulations having to do with the eradication of cattle tuberculosis, in which provision is made for classifying certain areas where the disease has been practically eliminated as modified-accredited areas, has been signed by the Acting Secretary to take effect immediately. There are now many counties in various States where this cattle plague practically has been eradicated and many others in which the clean-up work has gone very far. As a result of this action by the department these areas will be recognized and will be freed of certain inhibitions which are necessary in other territory. The provisions contained in these new regulations were unanimously adopted by the United States Live Stock Sanitary Association at its annual meeting last winter and by representatives of the various cattle breeders' associations.

The regulations will be carried out by the Bureau of Animal Industry in cooperation with the State live-stock sanitary authorities. The States will maintain quarantines to protect the designated areas from the introduction of untested animals from other parts of the State or from other States.

Under the amended provisions a county may be designated as a modified-accredited area when a complete test of all the cattle in the area shows less than one-half of 1 per cent to be reactors; that is, affected with tuberculosis. Those few herds in which infected animals were found will be quarantined and can not be retested within less than 60 days from the date of the original test.

The first list of counties to be announced by the Chief of the Bureau of Animal Industry as being modified-accredited areas is as follows: Indiana—Dearborn; Michigan—Hillsdale, Charlevoix, Antrim, Emmet; North Carolina—Scotland, Rowan, Pender, New Hanover, Davis, Davidson, Cumberland, Cabarrus, Buncombe, Forsythe; Tennessee—Bradley, Marshall. Tests have shown all these counties to have less than one-half of 1 per cent of tuberculosis.

WITH EXTENSION FORCES**HELP CHEESE PRODUCERS TO ORGANIZE.**

From the standpoint of its importance to the farmers of the county the organization of the State cheese producers' association is perhaps the outstanding achievement of the county agent work in Dodge County, Minn. The object of the organization was to shorten the route from producer to consumer, to improve the quality of cheese manufactured, and to add to the returns to the producer.

In developing the organization a series of meetings was arranged by the county agricultural agent. These meetings were addressed by men in the State dairy extension work. After presenting the general features of the work the preliminary State organization meeting was called at Pine Island. Ninety men representing 15 cooperative cheese factories in Dodge, 6 in Olmsted, and 6 in Goodhue Counties were present. Articles of incorporation and by-laws which had previously been drawn up by a special committee were adopted at this meeting. President Krumrey, of the Wisconsin Cheese Producers' Association, had been secured to address the meeting. A committee of three men was selected to visit the Wisconsin Cheese Producers' Association.

In connection with this organization the county agent talked at 28 local cheese-factory meetings, and at 6 meetings in neighboring counties. Four days were spent in committee work drawing up articles of incorporation and by-laws. One hundred and thirty-four farmers were visited.

As a result of special meetings in Dodge and Goodhue Counties, at which the work was presented by the Dodge County agent, 17 cooperative factories in Dodge County, 6 in Goodhue, and 3 in Olmsted County joined the federation.

A cold-storage warehouse company was organized in connection with the cheese producers' association. This is also a cooperative company. Through the sale of shares to producers a \$30,000 cold-storage plant was erected at Pine Island.

Since operation started something over a year ago, practically all the cheese shipped by these factories through the State association has graded No. 1 quality. The association is now handling probably 65 per cent of the cheese in the State. Splendid financial results are being secured by the members. The association is this year doing a million-dollar business for its farmer members in the three counties.

BRIEF REVIEWS OF NEW BULLETINS.

Coloring Satsuma Oranges in Alabama. By R. C. Wright, physiologist, Office of Horticultural and Pomological Investigations, Bureau of Plant Industry. Pp. 23, figs. 3. August 22, 1923. (Department Bulletin 1159.) Price, 5 cents.

Citrus fruits, especially Satsuma oranges, when grown under certain climatic conditions may be mature and highly desirable for food while the skin of the fruit is still green in color. If left on the trees, the fruit deteriorates, and yet in the mind of the consuming public a green-colored orange is unfit for food. This has led to the perfection of a coloring process which gives to the orange the right color without in any way injuring its food value. After the oranges have been graded the fruit is put in storehouses, where exhaust gases given off by a gasoline engine or by the incomplete combustion of a kerosene stove destroy the green chlorophyll which masks the yellow color of the oranges. The process of coloring as applied to conditions in Alabama enables the growers to get their fruit on the market four to six weeks sooner than if it were left to color on the trees, thus enabling the growers to obtain better prices and also to insure the crop against early frosts.

The Australian Tomato Weevil Introduced in the South. (A preliminary account.) By F. H. Chittenden, entomologist in charge, truck-crop insect investigations, Bureau of Entomology. Pp. 8, figs. 6. July 31, 1923. (Department Circular 282.) Price, 5 cents.

A new insect pest recently discovered in the South is the Australian tomato weevil. While it favors the potato and tomato as food, it is also a rather general feeder, and the belief is expressed that it may become of great importance, like the sweet-potato weevil, unless measures are taken for its suppression. Concerning the latter, much remains to be learned. Lead arsenate has been successfully used in practical field work with potatoes and turnips. Applications of spray for other insect pests, when the beetles or larvae of the tomato weevil are present, may control the tomato weevil also. Calcium arsenate would probably be equally effective either as a dust or spray and a little cheaper than lead arsenate. It is not unlikely that the distribution of poisoned baits would be effective.

Soil Survey of Emmet County, Iowa. By D. S. Gray, of the Iowa Agricultural Experiment Station, and F. W. Reber, of the U. S. Department of Agriculture. Pp. 35, fig. 1, map. (From F. O. Soils, 1920.)

This report sets forth the history of the agricultural development of Emmet County, Iowa, from its beginning in 1856 up to the present time, when the agriculture consists of grain growing, dairying, and the raising of hogs, beef cattle, horses, and sheep. Recent surveys have disclosed that the productivity of the soils can be maintained successfully by a system of soil management involving deeper plowing, more thorough cultivation, crop rotations, the incorporation of manure and crop residues, and thorough drainage. A large, colored soil map which is included adds to the value of the report.

ADDITIONAL PUBLICATIONS.

Agricultural Cooperation: A Selected and Annotated Reading List. Compiled by Chastina Gardner, junior assistant in market information, Bureau of Agricultural Economics. Pp. 55. July, 1923. (Miscellaneous Circular No. 11.) Price, 10 cents.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 195. July, 1923. Pp. 61-68. August, 1923. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week August 13-18, 1923. These publications can be obtained only from the stations issuing them.

Commercial fertilizers. E. G. Proulx et al. (Indiana Sta. Bul. 269, pp. 64, fig. 1, May, 1923.)

Studies on the parasitism of *Helminthosporium sativum*. J. J. Christensen. (Minnesota Sta. Tech. Bul. 11, pp. 42, pls. 10, figs. 2, Nov., 1922.)

Studies in the physical ecology of the Noctuidae. W. C. Cook. (Minnesota Sta. Tech. Bul. 12, pp. 38, figs. 5, Mar., 1923.)

The parasitism of *Colletotrichum lindemuthianum*. J. G. Leah. (Minnesota Sta. Tech. Bul. 14, pp. 41, pls. 8, figs. 6, Mar. 1923.)

A study of the damping-off disease of coniferous seedlings. T. S. Hansen et al. (Minnesota Sta. Tech. Bul. 15, pp. 35, figs. 20, Apr., 1923.)

Thirtieth annual report, 1922. (Minnesota Sta. Rpt. 30 (1922), pp. 151, figs. 10.)

Egg prices and cold-storage holdings. G. W. Hervey. (New Jersey Stas. Hints to Poultrymen 11 (1923), No. 10, pp. 4, figs. 3, July, 1923.)

New Jersey's poultry exhibitions. W. C. Thompson. (New Jersey Stas. Hints to Poultrymen 11 (1923), No. 11, pp. 4, fig. 1, Aug., 1923.)

Effect of shading and ringing upon the chemical composition of apple and peach trees. H. R. Kraybill. (New Hampshire Sta. Tech. Bul. 23, pp. 27, June, 1923.)

The monthly bulletin. (Ohio Sta. Mo. Bul. 8 (1923), No. 7-8, pp. 97-128, figs. 2, July-Aug., 1923.)

Apple rosette. O. M. Morris. (Washington Sta. Bul. 177, pp. 30, figs. 8, July, 1923.)

Wintering range calves. (Wyoming Sta. Bul. 134, pp. 16, fig. 1, May, 1923.)

WESTERN PINE BEETLE CONTROL.

An important field of the activities of the Bureau of Entomology is the development of methods for the protection of our forests from their insect enemies and the supervision of the application of these methods.

One example of the potentiality of forest insect destructiveness is found in the work of the western pine beetle. During the last 10 years, on an area of 1,165,000 acres in southern Oregon and northern California, this beetle has killed 10 per cent of the pine stand, causing a loss which amounts to 1,200,000,000 board feet valued at over \$3,600,000.

In 1920 and 1921 this loss became so alarming that the private timber owners and Federal Government combined forces to combat the pest on their adjacent and intermingled holdings. For the work on Federal lands and the entomological supervision Congress appropriated \$150,000 and the private owners of timber agreed to spend, if necessary, a like amount in the protection of their timber.

May of 1922 witnessed the inauguration of this cooperative-control project which without question is the largest of

its kind ever undertaken in the suppression of the western pine beetle.

The project area was divided into three parts and the actual control work assigned to the United States Forest Service, the United States Indian Service, and the Klamath Forest Protective Association (an association of the private timber owners), with general administrative supervision vested in a board of control.

The remedial measures which had been developed by the bureau many years ago were adopted for the project and the Bureau of Entomology, branch of forest insects, given authority to supervise the work to see that the methods were correctly and properly applied. These methods consist, briefly, of locating and felling the infested trees containing the live overwintering broods of the destructive bark beetles, peeling the upper part of the felled tree, and burning all of the infested bark.

The spring operations of 1922 covered 71,470 acres with the clean-up work. About 180 men were employed, grouped in 10 control camps; 6,964 trees, containing 6,892,010 board feet, were felled and treated at a cost of \$32,301.99.

The work was continued during the rest of the year and through the spring of 1923. Up to the present, 21,359 infested trees, containing 24,216,790 board feet, have been felled and burned, and the destructive broods destroyed over an area of 260,342 acres. The cost to date, exclusive of the entomological supervision, has amounted to \$93,579.57, approximately half of which has been met by the private timber owners.

It is estimated that, as a result of the work, enough timber has been saved in the first year to more than offset the cost of the work.

It will be necessary to continue the work throughout 1924 in order to cover the extensive infested area of approximately 2,000 square miles (about the size of the State of Delaware), at which time it is expected that the epidemic will be placed under control, with the consequent saving of millions of board feet of pine timber.

Arrangements have been completed by which Alexander Znamensky, a Russian entomologist, will be employed by the Bureau of Entomology for a year to conduct investigations in Southern Russia to determine whether parasites likely to be useful against the Japanese beetle can be found there and shipped to infested areas in New Jersey. Species of beetles closely related to the Japanese beetle are known to occur in Southern Russia. Mr. Znamensky will be located at Poltava or Stavropol.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Afforestation in the United Provinces, India. By E. Benskin. Allahabad, Superintendent, Government press, 1922.
- Agriculture and the guild system. By Montague Fordham. London, P. S. King & son, ltd., 1923.
- Amateur's guide to landscape gardening. By Ernest Hilborn. [n. p.] 1923.
- Better dairy farming. By E. S. Savage and L. A. Maynard. Ithaca, N. Y., Savage-Maynard co., 1923.
- Birds of the Pacific coast. By W. A. Eliot. New York, G. P. Putnam's sons, 1923.
- Chemistry applied to home and community. By P. G. Beery. Philadelphia, J. B. Lippincott company, 1923.
- Considerations sur l'être vivant. v. 2. Par Charles Janet. Beauvais, A. Dumontier, 1921.
- Crisis ganadera Argentina. Por P. T. Pagés. Buenos Aires, "Gadola," 1922.
- Dictionary of applied physics. v. 5. By R. T. Glazebrook. London, Macmillan and co., 1923.
- Economic conditions in the Philippines. Rev. ed. By H. H. Miller. Boston, Ginn and co., 1920.
- Economics for to-day. By Alfred Milnes. London, J. M. Dent & sons, ltd., 1920.
- Europäischen bienen (Apidae) fig. 5. Von Heinrich Friese. Berlin, W. de Gruyter & co., 1923. Completes the work.
- Everybody's money. By Ernest McCullough. New York, G. P. Putnam's sons, 1923.
- Farmer's raw materials; air, water, soil and manure. By James Hendrick. Edinburgh, W. Green & son, ltd., 1923.
- Forests of India. v. 2. By E. P. Stebbing. London, J. Lane, ltd., 1923.
- Fruits of victory. By Norman Angell. New York, Century co., 1921.
- Fundamentals of organic and biological chemistry. By T. G. Phillips. New York, D. Appleton & co., 1923.
- Glossary of textile terms. By H. P. Curtis. Manchester [Eng.] Marsden & co., ltd., 1921.
- Handbook on rose culture in India. By R. Ledlie. Calcutta, Thacker, Spink & co., 1923.
- House and home. By Greta Gray. Philadelphia, J. B. Lippincott company, 1923.
- Illustrated flora of the Pacific states. v. 1. By Le Roy Abrams. Stanford University, Calif., Stanford University press, 1923.
- Investigations into the occurrence and classification of the haemoglobinophilic bacteria. By Martin Kristensen. Copenhagen, Levin & Munksgaard, 1922.
- Laboratory studies in tropical medicine. 5th ed. By C. W. Daniels and H. B. Newham. London, J. Bale sons and Danielsson, ltd., 1923.
- Lilles. By H. S. Adams. New York, McBride, Nast, 1913.
- Microbes et fertilité du sol. Par Edmond Kayser. Paris, Payot, 1923.
- Monographie des centaureas des Alpes Maritimes. Par J. I. Briquet. Bale, Georg & co., 1902.
- Nazareth alumnae cook book. Nazareth academy, Nazareth, Ky. Alumnae. Louisville, Ky., 1923.
- New South Wales. Legislative council. Select committee on agricultural industry. Interim reports . . . on the conditions and prospects of the agricultural industry and methods of improving the same. Sydney, 1923.
- Perlidæ. subfam. Perlinae. Par Franz Klapálek. Bruxelles, 1923. (Collections zoologiques du baron Edm. de Selys Longchamps. fasc. 4, 2. Fam.)
- Pflanzenschutz. Von Gustav Köck und L. Fulmek. Wien, C. Gerold's sohn, 1922.
- Pflanzenwelt der bolivischen Anden. Von Theodor Herzog. Leipzig, W. Engelmann, 1923.
- Pharmacodynamie des colloïdes. Par W. Kopačewski. Paris, Doin, 1923.
- Phase rule and the study of heterogeneous equilibria. By A. C. D. Rivett. Oxford, Clarendon press, 1923.
- Productive poultry husbandry. 5th ed. By H. R. Lewis. Philadelphia, J. B. Lippincott co., 1923.
- Railroad construction. 7th ed. By W. L. Webb. New York, J. Wiley & sons, inc., 1922.
- Rhus dermatitis. By J. B. McNair. Chicago, University of Chicago press, 1923.
- Rural education. By A. W. Ashby and P. G. Byles. Oxford, Clarendon press, 1923.

- Science and practice of photographic printing. By L. I. Snodgrass. Effingham, Ill., 1923.
- Some aspects of recent British economics. By J. A. Hobson, D. H. MacGregor and Reginald Lennard. Chicago, University of Chicago press, 1923.
- Svenska insekter. hft. 2. Av Albert Tullgren och Einar Wahlgren. Stockholm, P. A. Norstedt & söners förlag, 1921.
- Tbéorie et pratique des colloïdes en biologie et en médecine. Par W. Kopačewski. Paris, Vigot frères, 1923.
- Tropical Holland. By H. A. W. van C. Torchiana. Chicago, University of Chicago press, 1921.
- Variety in the little garden. By L. Y. King. Boston, Atlantic monthly press, 1923.
- Welsh black cattle. Welsh black cattle society. Bangor, North Wales [1923?]
- Le zèbre. Par Achille Griffini. Milano, U. Hoepli, 1913.
- Die zucker-fabrikation. 5. aufl. Von Hermann Claassen. Magdeburg, Schallehn & Wollbrück, 1922.

OLD BOOKS.

- Catalogue of the fruits cultivated in the garden of the Horticultural society of London. 2d ed. Royal horticultural society. London, 1831.
- Contribution to the anatomy of Hatteria. By A. K. L. G. Günther. London, 1867.
- Culture of the peach and nectarine. By George M'Ever. London, 1859.
- De flora van Nederland. Door C. A. J. A. Oudemans. Haarlem, 1859-62.
- Flore du grand-duché de Luxembourg. Plantes phanérogames. Par J. H. W. Krombach. Luxembourg, 1875.
- Fruit grower's instructor. By George Ells. London, 1825.
- Further discovery of bees. By Moses Rusden. London, 1679.
- History of discovery in Australia, Tasmania and New Zealand. By William Howitt. London, 1865.
- Index plantarum horti c. r. botanici Pragensis. A. V. F. Kostelecky. Prag, 1844.
- Joachim Camerarius II., ein botaniker des XVI. Jahrhunderts. Von Franz Rimmer. St. Pölten, 1888.
- List of plants found growing wild within thirty miles of Amherst. By N. A. Cobb. Northampton, Mass., 1887.
- Recherches sur les ossements fossiles. 4. ed. Par Georges Cuvier. Paris, 1834-36.
- Wilton garden. By Isaac de Caus. [London? n. d.]

THESES.

- Beitrag zur frag, welche organe, sekrete und exkrete des kranken tieres den maul- und klauen-seuche-erreger enthalten. Von Valentin Göbel. Berlin, 1922.
- Beiträge zur prophylaxe und therapie der maul- und klauen-seuche. Von Wilhelm Pschorr. München, 1921.
- Das mittelfulzcarcinom beim haushuhn. Von O. H. Remmele. Heidelberg, 1922.
- Zur praktischen wertung der haarfarben beim rinde. Von F. X. Weissenrieder. Luzern, 1921.
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Handling of Tuberculous Cattle Shown in Report

To ascertain the extent to which cattle that have reacted to the tuberculin test are being held as segregated herds in the United States, a recent survey was made through the field offices of the Bureau of Animal Industry.

Data gathered show that there are within the United States only 201 herds containing 2,461 tuberculous cattle permanently maintained for breeding purposes. In addition, there are on 191 premises 447 animals, which, on June 30, 1923, were being held temporarily for various reasons. This is a total of only 392 premises on which there are 2,908 head of tuberculous cattle that have been held longer than the usual 30-day period.

It is noteworthy that 66 per cent of the total held are found in six States in which tuberculosis in live stock exists rather extensively. Reports of 18 States indicate that no quarantined diseased herds are being maintained, while in 5 other States the records show that only five or less diseased cattle are under quarantine for an indefinite period.

Frequent discussion of the problem of retaining diseased cattle after they have reacted to the tuberculin test has led to the belief that the idea might be favorably looked upon by the live-stock owners of the United States. The figures quoted above, however, indicate that the progressive American farmer is desirous of totally eradicating the disease at the earliest possible moment, which undoubtedly accounts for the small number of such cattle being held.

Eighteen million pounds of sodatol, a surplus war explosive, is to be distributed by the Bureau of Public Roads for road-building and land-clearing purposes. The new supply of explosive is very similar to dynamite and picric acid, 12,000,000 pounds of the latter having already been distributed to road builders and farmers. A contract has been let to the Du Pont Co. for cartridging, and shipments should begin from Barksdale, Wis., about October 1.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., SEPTEMBER 19, 1923.

No. 38.

NEW HEAD OF POULTRY DIVISION PLANS WORK

Dr. M. A. Jull to Visit Places Carrying on Work—National Program Planned.

Dr. Morley A. Jull, who recently assumed charge of the poultry division, is planning an extensive trip through the West and Middle West to visit the department's various substations where poultry work is being carried on, and to make plans for the development of a national poultry program.

Graduate of Toronto University.

Doctor Jull is a graduate of Toronto University and at one time had charge of the poultry work of the British Columbia Department of Agriculture. He also has served as manager and lecturer of the poultry department of MacDonald College at McGill University, and has taken special studies at the University of Wisconsin under Dr. Leon J. Cole.

He has done considerable experimental work on the mechanism of heredity, the relative value of seasonal egg production, the comparative value of the different breeds, fattening poultry, and other related subjects. He is the author of a number of bulletins and articles on subjects connected with the production of poultry.

Just prior to this investigational tour Doctor Jull will attend the annual meeting of the New Jersey State Poultry Breeders' Association, October 4-5, at Atlantic City, where he will give a talk on Uncle Sam's poultry program. On his trip to the Middle West he will visit the poultry departments of the State agricultural colleges and experiment stations, making his first visit at Mountain Grove, Mo., then to Columbia, Mo.; Manhattan, Kans.; Lincoln, Nebr.; Ames, Iowa; Madison, Wis.; Urbana, Ill.; and Lafayette, Ind. At Purdue on October 17 and 18 he will attend the Indiana State

Poultry Association's annual meeting and give a talk.

From Indiana he will go to the Minnesota University, at St. Paul; Bozeman, Mont.; Moscow, Idaho; Pullman, Wash.; Corvallis, Oreg.; Davis and Berkeley, Calif.; and then to Glendale, Ariz., where the department maintains a substation devoted exclusively to poultry investigation. In connection with his visit there he will look into the possibilities of establishing turkey investigational work especially. On the remainder of the trip he will stop at Tucson, Ariz., and Cedar Park (State College), N. Mex. On November 5 and 6 he will attend the annual meeting of the Texas State Poultry Association at College Station, Tex.

Counting Atmospheric Dust New Work of Weather Bureau

Visibility is a large factor in air flight and in various surface operations, especially navigation. A knowledge of conditions governing visibility is therefore of considerable importance. Dustiness or mistiness may be due to incomplete combustion of coal or other fuels seen as smoke at lower levels. Some dust particles come from volcanoes. Some, it is thought, may come from interplanetary spaces.

The Weather Bureau of the United States Department of Agriculture was provided with an instrument for measuring atmospheric dust, known as a dust counter, by the section of meteorology of the International Union of Geodesy and Geophysics in Rome in May, 1922. A dust count has been taken daily during the past year by the Weather Bureau from the surface at Washington, D. C., and from the top of the Washington Monument. The War Department has also permitted aviators at Bolling Field to cooperate with the Weather Bureau, taking tests at different levels from 1,000 feet to 10,000 feet above ground.

The dust counter used collects the dust from a known volume of air and de-

(Continued on page 5.)

PAMPHLET EXPLAINS INTERMEDIATE CREDIT

Questions and Answers Deal With Credit Question in Concise Manner.

Through the enactment of the agricultural credits act of 1923 intermediate term loans are now available to farmers for production and marketing purposes. Intermediate credit banks were chartered and organized shortly after the law was passed and have been in operation for several months.

A primer has been prepared by the department, which explains the agricultural credits act so that the workings of the system may be readily understood. The primer is arranged in the form of questions and answers in simple, concise words.

The purpose of the act, it is explained, is to provide intermediate credit for the farmer. It enables the farmer to borrow for production and marketing purposes, for periods ranging from six months to three years, depending upon the purpose for which the credit is used.

Runs for Longer Period.

Intermediate credit, as the phrase is commonly used, means credit granted to farmers for terms longer than those covered by ordinary bank loans but shorter than those for which farm mortgage loans are usually made. It is based on personal and collateral security; that is to say, on the character and standing of the borrower, and on commodities or other personal property pledged to guarantee repayment of the money loaned. Farm credit other than mortgage credit, and running for terms of from six months to two or three years, is properly spoken of as intermediate credit. Because there has been no regular source of intermediate credit in the past for this phase of farm operation, farmers have been obliged to resort to the make-

shift plan of renewing short-term loans from bankers and merchants.

By the nature of his business the farmer needs intermediate credit more than other producers. Compared with that of business men, the turnover of the farmer is slow. Loans of a short maturity, therefore, are suited to business needs. But crop growers, with few exceptions, have only one turnover a year. Live-stock producers have yet a longer turnover than grain growers. Farmers need longer term credit than business men, owing to the nature of their work.

Federal intermediate banks are located in the same cities as the 12 Federal land banks and have the same officers and directors. One such bank serves each Federal land-bank district. Each bank is entitled to capital from the National Treasury up to \$5,000,000, and may issue short-term bonds to the amount of ten times its bank's paid-in capital and surplus. The maximum loaning power of the 12 banks at present is \$660,000,000.

Farmers Can Form Corporations.

Individual farmers can not borrow direct from these banks because the cost of setting up the machinery for this purpose would make the interest rate too high. They can, however, form agricultural credit corporations of their own to discount paper with the intermediate credit banks. Such corporations must have a capital of \$10,000.

The evident intent of the law is that existing credit machinery shall be used as far as possible. It is desirable or advisable to form new credit agencies only where the present ones are inadequate or do not take advantage of the new discount facilities. Improvement of existing credit agencies, rather than their destruction, is the object of the law.

The Federal Loan Board has already approved the following commodities, when properly stored, as security for loans: Grain, cotton, wool, tobacco, peanuts, broom corn, beans (including soy beans), rice, alfalfa, and red-top clover seeds, hay, nuts, dried prunes, dried raisins, and canned fruits and vegetables. Other commodities will be added to the list.

Other Provisions Are Made.

The agricultural credits act not only provides for the improvement of intermediate credit to the farmer through the organization of intermediate credit banks but also makes the following four other important provisions: (1) Under the provisions of the act the Federal reserve act is amended by increasing the maximum term for which the reserve banks may discount agricultural and live-stock paper from six to nine months; (2) the definition of agricultural paper is

broadened to include loans to cooperative marketing associations for grading, processing, packing, preparing for market, or marketing any agricultural product handled for members; (3) State banks are now eligible for admission to the Federal reserve system with but 60 per cent of the capital required for national banks; (4) privately financed and managed national agricultural credit corporations may be organized under Federal charter, if they have a capital of at least \$250,000.

Big Increase in Registration of Motor Vehicles Continues

The remarkable increase in number of motor vehicles registered in the United States has continued in the first six months of 1923 without any sign of falling off in the rate, according to the Bureau of Public Roads of the United States Department of Agriculture. On July 1 the total registration of motor cars and trucks amounted to 13,002,427, an increase of 764,052 since the first of the year. In these figures allowance has been made for reregistration and non-resident registrations as far as possible.

The rate of increase is the same as that which has prevailed since 1916, during which time registrations have increased from 3,512,996 to 13,002,427 in a period of six and one-half years.

Trucks and commercial cars now number 1,371,058, an increase of 92,254 since January 1, and the rate of increase is greater than that for the total registration of all vehicles.

The table issued by the bureau shows registrations as follows: Private passenger cars, 11,571,181; taxicabs, buses, and cars for hire, 60,188; trailers, 24,111; and motor cycles, 141,521. The numbers of the last two classes of vehicles are not included in the registration total.

The total registration revenue reported is \$167,240,937, of which \$134,733,325 is applicable to road work by or under the supervision of State highway departments.

In 27 States gasoline taxes were collected amounting to \$8,669,174, of which \$4,977,864 is applicable to road work by or under the supervision of State highway departments. Revenue from this source will be materially increased in the latter half of the year when the gasoline tax laws of several additional States go into effect.

Dr. Bohuslav Sykora, connected with the Rockefeller Foundation and Ministry of Health and Education of Czechoslovakia, recently called at the Dairy Division to discuss problems connected with the control of milk from the sanitary standpoint in his country.

Radiophone Supplements Weather Bureau Service in West Indies

Since November 20, 1920, the United States Weather Bureau has been broadcasting through the naval radio station at San Juan, P. R., each evening at 9 p. m., seventy-fifth meridian time, a weather bulletin for the benefit of shipping in the eastern Caribbean Sea and contiguous waters (Weather Bureau circular dated October 26, 1920). The bulletins are disseminated only during the hurricane season, June to November, inclusive, and consist of observations of weather conditions taken at approximately 7 p. m., current date, at the following places:

San Juan, P. R.; St. Thomas, Virgin Islands; Basseterre, St. Kitts; Roseau, Dominica; Bridgetown, Barbados; Santo Domingo, Santo Domingo; Puerto Plata, Santo Domingo; Castries, St. Lucia; Willemstadt, Curacao; Port of Spain, Trinidad.

When storm or hurricane conditions are indicated information relating to location, direction of movement, and progress of the storms are added. Warnings and advices covering a hurricane that has been announced also are broadcast at intervals until the danger has passed. The broadcasts are made by radio telegraph first on a wave length of 600 meters, damped oscillation, with an immediate repeat on 5,250 meters, continuous wave.

Since July 1, 1923, the foregoing service has been supplemented by radiophone broadcasts (360 meters) of practically the same information through the San Juan station of the Radio Corporation of Porto Rico (WKAQ) at 8 p. m. seventy-fifth meridian time. Additional broadcasts are made at 9 a. m. and 1 p. m., seventy-fifth meridian time, whenever a storm or hurricane is in progress over the eastern half of the Caribbean Sea, from the Windward Islands westward to San Domingo. This supplemental service was designed for the benefit of the people in the islands of the West Indies and such ships as are equipped for radiophone reception. The bulletins are broadcast in English and in Spanish.

Hon. Emilio C. Joubert, minister of the Dominican Republic to the United States, recently called at the Dairy Division to discuss methods of procuring a better milk supply for his country. Minister Joubert is intensely interested in bringing about improvements in dairy sanitation in the interest of national health and welfare.

A DIGEST OF THE NEWS

Brief bits of News Digested From
Material Issued by Department During
the Past Week.

FARMERS ADOPT IMPROVED METHODS.

Improved methods of growing wheat, to produce better grain and grow it more economically, advocated by agricultural extension workers, were adopted on over 90,000 farms in 1922, according to reports to the department. One and a quarter million bushels of seed wheat were treated by farmers for smut in this connection.

NEW FUR FARM IS ESTABLISHED.

An experimental fur farm is being established in the northwestern part of New York by the Bureau of Biological Survey, in order that observations and studies may be made of the habits of fur-bearing animals and of the possibilities of growing them in captivity and producing fur of good quality. A similar farm which has been in operation by the bureau at Keesville, N. Y., will be discontinued as soon as the new one is ready.

WAR BROUGHT ON NEW INDUSTRY.

A considerable industry in making Camembert cheese has grown up in New York, Illinois, Michigan, and California in recent years as a result of trade conditions during the war which cut off our imports and forced American manufacturers to supply the demand in this country. At least 10 factories are now in operation making Camembert cheese, according to reports received by the department.

BREEDERS' ASSOCIATIONS INCREASE.

More than 600 additional live-stock breeders' associations were formed with the assistance of agricultural extension workers in 1922, and 300 communities were encouraged to purchase bulls cooperatively, according to reports to the department. Cooperatively owned, improved breeding stock, cooperatively buying and selling of feeds and stock, and community adoption of sanitary measures in care of live stock are features of these organizations.

CHEMICAL ENGINEERS WILL MEET.

The American Institute of Chemical Engineers holds its annual meeting in Washington December 5, 6, 7, and 8. They are planning to take this oppor-

tunity to learn more of the research activities of the Government, particularly from the viewpoint of the chemical engineer and the cooperation which the department may desire from the industry.

They are planning to visit the Department of Agriculture on December 7, holding a session from 10 a. m. to 12.30. They have indicated a desire to have the following speakers present the topics assigned them, allowing about 15 minutes for each speaker:

C. A. Browne, "Work of the Bureau of Chemistry." W. B. Greeley, "Forest products in the chemical industry"; F. G. Cottrell, "Fixed nitrogen research"; Milton Whitney, "Fertilizers and soil fertility"; John R. Mohler, "Animal products and by-products"; W. A. Taylor, "Plant products, chemical raw materials"; H. C. Taylor, "Marketing of agricultural products"; E. D. Ball, "Research program of the Department of Agriculture."

Cooperative Buying of Feeder Cattle Becoming Popular

An organized effort on the part of farmers to buy feeder cattle direct from the western ranges or market centers where such cattle are sold is one of the recent cooperative measures brought to the attention of the department. One of the latest of these is that of the Maryland farmers who are placing orders for feeder cattle with William T. Griffith, representing the Maryland Farm Bureau Federation. At present Mr. Griffith is touring the State taking orders for this year's shipments. Cattle will be purchased for farmers in eight counties. Nearly 500 animals were brought in by one Maryland county last year on a cooperative-purchase plan and were fattened and sold for satisfactory prices on the Frederick and Baltimore markets. In all about 43 carloads of range feeders were imported from Nebraska and South Dakota last year.

The first problem, and a very important one, which the cattle feeder must decide is his supply of feeders. In the regions of more intensified farming only a very small per cent of those men feeding cattle produce or raise their feeder supply because of high-priced land and lack of pasture facilities which make the cost of producing feeder stock too great. This, coupled with the noticeable improvement in the feeder cattle coming from the western range country, has turned the attention of these cooperative buyers to this, the natural source of supply, and the bulk of the cattle finished in these regions of intensified farming will more and more come from the large

feeder producing areas of the western and southwestern range States.

It is possible to obtain range feeders through various methods on the large live-stock markets, at auctions where feeder cattle are assembled, either in the range area or feeding sections, or on the range direct from the individual producer. Some of the larger cattle producers in Texas have put on auction sales in the Corn Belt feeding areas; others assemble the feeder cattle at some easily accessible point on the range area.

In some sections of the Corn Belt cattle feeders have organized an association and sent a buyer to the range area or to the market centers. All methods have their advantages and the most desirable method one year might be the least so another.

In some areas, particularly where the producing and feeding sections are comparatively close together, cattle are fed on contract. A system that has been used in Utah is as follows: For cattle that are fed 120 days, the feeder gets 45 per cent of the total proceeds of the finished cattle and the grower 55 per cent; for cattle fed 100 days the feeder gets 42 per cent and the grower 58 per cent; for an 80-day feed the feeder gets 38 per cent and the grower 62 per cent; and for a short feed of 60 days the feeder gets 33 per cent and the grower 67 per cent.

This cooperative method of buying feeder cattle is particularly likely to be successful and popular in the Eastern States, as they are far from the markets where such cattle are sent and the local supply is extremely limited.

FOREST SERVICE ACQUIRES NEW LAND.

A land exchange has just been concluded between the Stoddard Lumber Co. and the Forest Service. Under this exchange the company has deeded title to 2,750 acres of cut-over lands in Baker and Grant Counties, Oreg., inside the Whitman National Forest, and has received in exchange a timber-cutting right on 720 acres of land lying near the Whitman Forest.

The lands received by the Government are largely in a cut-over condition, bearing a good stand of young trees, and are reported to be suitable for timber-growing purposes. The company receives a cutting right for the removal of an equal value in timber, which is to be removed under the supervision of forest officers in accordance with forestry methods. This exchange is one of many now in process of negotiation between local officers of the Forest Service and various private owners inside the national forests.



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OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary.

Designation of Director of Regulatory Work.

MEMORANDUM No. 449.—September 1, 1923.—Effective October 1, 1923, Walter G. Campbell, at present Acting Chief of the Bureau of Chemistry, will become director of regulatory work of the department. The director of regulatory work will have general supervision of the regulatory work of the department, with such other activities as may be assigned, and will advise with the Secretary, chiefs of bureaus, and others, with regard to—

(1) The formulation, consideration, and establishment of plans and policies affecting regulatory activities;

(2) The coordination and correlation of such activities in the bureaus and offices of the department, and the arrangement of cooperation with other departments or branches of the Government, State agencies, etc.;

(3) The review, preparation, and approval for issuance or publication of statements, notices, instructions, orders, regulations, decisions, etc., covering regulatory matters;

(4) Matters affecting the personnel engaged in regulatory work; and

(5) Such other duties as later may be determined.

L. J. Haynes Acting in Charge of Publications.

MEMORANDUM No. 450.—September 5, 1923.—Mr. L. J. Haynes is hereby designated as acting in charge of the Office of Publications, comprising, with the exception of the Press Service, the units referred to in paragraph 2 of Department Memorandum 436, issued June 8, 1923. In this capacity Mr. Haynes, in addition to continuing his present work in connection with the examination of manuscript, will, until further order, have general direction of the editorial and publication work of the department, including the personnel engaged therein, and immediate supervision of the departmental offices of editorial, illustration, and distribution work and the central addressing, duplicating, and mailing section.

THE ART OF LETTER WRITING.

Our attention has been called to a letter sent by a department worker to a high official of a large commercial concern. This department man wanted to get across a definite message to this

official. With a little care in framing the letter he was able to do it. Otherwise it is quite possible that the thing he had in mind would not have been given serious consideration. It was a good example of the results which come when care is used in the writing of letters.

Perhaps you have a plan to place before an individual. A great deal depends upon the success of your venture. As you go to see this individual you give some attention to your personal appearance. You get in mind your opening statement, cutting out superfluous ideas and including important details. This statement is rehearsed in your mind over and over. Then you attempt to foresee certain questions which will be asked and direct oral answers are prepared. To close the interview you work out a terse and convincing closing statement.

In making this visit you may be taking the valuable time of some official. If so, brevity without sacrifice of completeness and clearness is essential. Then there is your own time to consider. It may take time and money to get to the place

A MESSAGE FOR YOU.

What general plan do you have in writing letters? We believe you have a thought or two which would be of help to department workers. Let us have them.

of the interview. All of these things count and are given proper consideration.

If you are not making a personal call it is all the more important that extreme care be used in the preparation of your special messenger—the letter. Think what a letter must do when you are not there to answer questions and give further information desired. It is sent to an individual whose interest is not held by your personality or even your presence; to a person who is busy with many routine duties and scores of other letters. Proper consideration to your proposition may hinge entirely on the letter and perhaps on the manner in which the letter is written.

Too much thought can not be placed on important letters. They must be as convincing and as well arranged as the opening statement of an argument. They must foresee questions and have them answered. They must be complete but brief and terse.

Letter writing is an art and few of us have it. Some of us look upon it as a disagreeable task. We are prone to shift it off on some one else who may not be in a position to do it properly. And it might be well to bear in mind that the first and sometimes lasting impression is

gained from letters and perhaps only one at that.

Here is a thought to challenge the attention of all department workers.

PROF. DEAN COMES TO DEPARTMENT.

Prof. George A. Dean, professor of entomology in the Kansas Agricultural College and entomologist of the Agricultural Experiment Station, has been appointed entomologist in charge of cereal and forage insect investigations. He assumed his duties in the bureau on September 1. W. R. Walton, who has been in charge of this division until the present time, found it necessary to give up the heavy work connected with the administration of this office, and acting on the advice of his physicians has taken leave in order to recuperate in health.

Professor Dean will devote considerable time this fall to visiting the various field laboratories engaged in cereal and forage insect investigations and will give special attention to corn borer operations, the grasshopper situation, Hessian fly work, and other important pests.

MR. TENNY RETURNS FROM ABROAD.

Lloyd S. Tenny, assistant chief of the Bureau of Agricultural Economics, sailed from England for the United States on the S. S. *President Harding* September 6. Mr. Tenny, accompanied by G. T. Willingmyre and A. W. Palmer, has been in England and on the Continent since early August conferring with members of the wool and cotton trade, and, as the representative of this department, has entered into agreements with European cotton associations for the adoption of the official cotton standards of the United States as the universal standards for American cotton. As a result of the study by Messrs. Tenny and Willingmyre of the commercial classes and grades of wool used in the countries visited, the Bureau of Agricultural Economics hopes to correlate the United States official grades for wool with those of other countries with a view to facilitating trading.

The office of white pine blister rust control has just received a large photograph of the base of the historical western white pine tree from which Fourth of July Canyon on Coeur d'Alene-Wallace Road, Idaho-Yellowstone trail, was named. The Forest Service has made a public park of 160 acres around this tree. The photo shows the mark July 4, 1861, on the blaze, undoubtedly marked when the trail was being constructed.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What is the annual damage done by forest fires in this country?

Answer. An average of 33,500 fires annually during the past six years has burned an average area of 7,088,000 acres to the annual immediate property loss of \$16,424,000.

Question. What percentage of farms in the United States grow corn?

Answer. Of the 6,448,343 farms in the United States in 1919, 4,936,692, or more than three-fourths, are reported by the 1920 census as producing corn. With a corn acreage (not including corn cut for forage or silage) of 87,771,699 acres, this is an average of about 18 acres of corn on each farm producing it.

Question. We hear a great deal about the necessity of a diet that has lots of vitamins in it, but how are we to know whether the foods we eat contain sufficient amounts of them?

Answer. It is impossible, under present methods, to determine definitely just how much vitamin content a food has, but with a diet of varied foodstuffs, such as cereals, milk and dairy products, eggs, meats, salads, and a liberal amount of fresh vegetables and fruits, there need not be much fear of a vitamin deficiency. The more varied the diet, the greater the assurance that all of the nutritionally essential factors are supplied.

Question. Please state whether it is unlawful to shoot wild ducks from a motor boat, and if so, what is construed as a motor boat?

Answer. Regulation 3 of the migratory bird treaty act regulations prohibits the taking of migratory game birds from a power boat, sailboat, any boat under sail, or any floating device towed by a power boat or sailboat. In the administration of the law, it has been held that any boat equipped with an engine is a power boat under the meaning of the law, whether the engine is running or stationary. Even though the engine is broken down and can not be used but is attached to the boat, such boat is considered a power boat in the administration of the law. In the case of a detachable outboard motor, if such motor is detached from the boat and deposited in the bottom of same, the boat is not construed as a power boat, and waterfowl may be taken there-

from. However, the outboard motor must be entirely removed from the water and detached from the boat.

Lake States Now Assured Forest Experiment Station

A new forest experiment station has just been added to those already established by the Forest Service. This new station will be called the Lake States Forest Experiment Station and will have its headquarters at St. Paul, Minn., under a cooperative agreement with the Minnesota Agricultural College, which will furnish it with suitable laboratory and office space.

This station makes the fourth of the forest experiment stations under the department to be furnished the forest regions of the eastern United States, the other stations being known as the Appalachian at Asheville N. C., the Southern at New Orleans, and the Northeastern at Amherst, Mass.

The importance of the Lake States station can not be emphasized too strongly, says the department, for the forestry problems in this region are exceedingly great, and it is expected that the forest experiment stations will aid the progress of forestry as much as the agricultural experiment stations have aided the progress of agriculture. Few farmers would expect to make a profit from wheat, corn, hay, or orchards if they gave no care or attention to the growing of the crop. Certainly the farmers do not attempt to raise crops merely by harvesting what nature provides in the way of volunteer growth without any preparation of the soil, without fertilizer, with no selection of varieties, with no cultivation or weeding, no protection against fires, insects, or diseases. Yet this is the way that we have so far treated our forest lands, and the conditions in Minnesota, Wisconsin, and Michigan show it at the present time.

For example, the Michigan timberland area amounts to approximately 19,000,000 acres, of which 12,000,000, or more than three-fourths of the total, have been cut over and are generally nonproductive. Similar conditions exist in both Wisconsin and Minnesota, and this region, which once led the United States in lumber production, is now so badly depleted of its timber resources that its place is being taken by Western States. The money once poured into the region by the consuming lumber centers now is being used to pay the freight on lumber which has to be shipped for long distances.

One of the primary objects of the Lake States Forest Experiment Station

will be to develop ways and means of making the cut-over and nonagricultural lands once again productive. The station will gather basic facts about forest renewal and forest growth so that it will be possible for the region to maintain the various lumber and paper industries on a permanent and sustained basis.

Dr. Raphael Zon, forest economist of international reputation, will be the director of this station. He brings to this new work a breadth of knowledge and an understanding of forest problems not only for this region but for the whole country. He is very familiar with the Lake States region and has written several bulletins on the various native species.

Assisting Doctor Zon will be J. Kittredge, who has been in charge of the office of forest investigations of the Forest Service for several years; J. A. Mitchell, formerly of the California Forest Experiment Station; H. J. A. Grossman, from Montana; and A. E. Wackerman.

CIVIL-SERVICE EXAMINATIONS.

Assistant cytologist, \$2,040-\$2,500.—A vacancy in the Bureau of Plant Industry, Washington, D. C., and vacancies in positions requiring similar qualifications will be filled from this examination. The duties of this position will be to investigate the behavior and size of chromosomes in maize and maize relatives. Applicants must have graduated from a college or university of recognized standing and have had at least two years' experience in investigating some phase of chromosome behavior in plants. If interested, apply for Form 2118, stating the title of the examination desired. Applicants must submit with their applications a thesis or discussion dealing with some phase of chromosome investigation. Receipt of applications closes October 9.

Junior chemist, at \$1,200 to \$1,800 a year (plus bonus). Examination will be given for this position beginning on December 12, 1923, for vacancy in the Departmental Service. Competitors will be rated on general chemistry, elementary physics, education, training, and experience. Applicants should apply at once for form 1312, stating the title of the examination desired to the Civil Service Commission, Washington, D. C.

Counting Atmospheric Dust New Work of Weather Bureau

(Continued from page 1.)

posits it on a small and very thin glass disk, where by means of a powerful microscope the particles can be counted and their character determined. Tests have shown about 90 dust particles per cubic centimeter on a very clear, dry day, and as high as 933 per cubic centimeter on one day of limited visibility, but with the same dry condition of the air which prevailed on the former occasion.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

DEVELOPS BEET-SUGAR INDUSTRY.

When the housewife of to-day makes a purchase of sugar from the corner grocery store she rarely inquires, or is concerned, as to the origin of the sugar. Whether it was made from sugar cane or from sugar beets does not matter, for either source is equally desirable. Sugar, or sucrose, from beets or from cane is identical in chemical composition, and in its refined state it is impossible to determine which is which. A few years ago such was not the case. Cane sugar was much preferred because of its superior quality. Beet sugar was not to be had in the perfected state in which it is now marketed. It contained impurities that gave it a characteristic color and flavor.

Developing the beet-sugar industry to a point where it now supplies almost half the sugar produced in the United States and its possessions is one of the big achievements of the Bureau of Chemistry and one with which it has been concerned for more than a half century. The development of the industry is a contribution of prime economic importance to the country, not only as a means of supplying a proportionate part of the sugar consumption of 84 pounds per capita but also through enlarging the agricultural industry by the addition of an important cash crop.

Under an appropriation made in 1889 the Division of Chemistry took up the whole question of sugar production. The success of the beet-sugar industry in Europe at that time stimulated investors to undertake the establishment of the industry in the United States. Experimental work was undertaken and a number of factories started. Specialists were sent to Europe to study the methods of beet culture and beet-sugar manufacture used in France, Belgium, and Germany, where the industry was already established. It soon became apparent that the beet-sugar industry could be successfully carried on in this country if scientific methods in the production of the beets and in the manufacture of the sugar were followed. Many of the European methods, with such modifications as were necessary to meet domestic conditions, were introduced into the industry, with the result that much time and expensive experimental work was saved to the pioneers in this country.

It was early realized that the production of sugar is as much an agricultural

problem as a manufacturing one, although from 1890 to 1900 the Division of Chemistry did all the work done by the department on the production of sugar beets and other sugar-producing plants. Studies were made of the effect of the composition of the soil, climate, fertilizers, and other conditions of environment on the composition of the plants. In later years this work was done by the Bureau of Plant Industry.

Areas with soil and climate suitable for growing sugar beets were located. Varieties of beets having a high sugar content were developed. In the early years of the industry as many as 18 tons of beets were required to make a ton of sugar. Through perfected methods of sugar extraction and the use of varieties of high sugar content less than half as many tons are required for the production of a ton of sugar under present conditions.

Continued effort by the Bureau of Chemistry has been exerted to improve methods of extracting sugar from the beets, which, with the perfecting of the methods of manufacturing and refining, has extended the industry to its present size and spread over a wide territory. There are to-day 106 beet-sugar mills located in 17 States. Beet growers, according to the latest available figures—the 1920 census—received for their crop in 1920 practically \$100,000,000, an average of \$11.63 per ton.

WITH EXTENSION FORCES

CLUB WORK IN THE WILDERNESS.

In the East, where railroads are numerous, it is hard to realize that Catron County, N. Mex., although practically as large as the State of Massachusetts, has no railroads, and its county seat, Reserve, is 107 miles from the nearest railroad town.

Yet in this town there is one of the most wideawake millinery clubs in the country. It holds regular meetings and has aroused so much interest that it practically leads the social life of the community.

Last year two girls from this club were sent to represent the club at the State club contests. These girls made a very creditable showing. One of them had never before seen a railroad train although she was 18 years old. Both went home with such thrilling stories to tell that all of the girls decided to go to the college next fall for a visit, even though they can not all compete in the contests. For some time they have been holding dances, plays, sales, and entertainments to help raise the necessary

funds. The county agent says that it keeps him busy trying to think of new things for the girls to do.

When the agent first went to work there was not a single pure-bred hog or chicken in the county. Now he is getting a good start, and with the enthusiasm which this and other clubs are imparting to the older folks, he is going to be able to revolutionize agricultural practices and not only make them better, but make home life more pleasant and enjoyable.

WASTE LIME IS USED TO ADVANTAGE.

One day recently farmers hauled 104 tons of air-slacked lime from a near-by bluff in Marquette County, Wis., into Lincoln Township, in Adams County, to be used as fertilizer on land, at a total cost of \$34.50. Ground limestone on the cars at Grand Marsh, the nearest railroad station, would have cost them \$260 for the same amount.

The farmers credit this big haul to the fact that their county agent, E. V. Ryall, was not satisfied with telling them that lime would help their land but scouted around for a near-by supply, sampled the waste from limekilns on the bluff, had it analyzed, and then tried it out on demonstration plots. His discovery and advice have saved Adams County farmers thousands of dollars in this one instance alone. One farmer has hauled a total of 150 tons at various times at a saving of over \$300.

In other parts of the county Ryall is developing marl deposits which are being dredged out and used like lime on the land. He claims, however, that his greatest satisfaction comes not from savings to farmers in buying lime but in the crops of alfalfa which the lime and marl make it possible to grow. Alfalfa will produce at least 1 ton more of hay per acre than mixed hay; the 104 tons of lime mentioned above at 2½ tons per acre will grow 40 acres of alfalfa, or 40 tons extra hay a year. This extra hay is worth at least \$20 a ton, or \$800 a year, a nice extra income for one day's work in Lincoln Township.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week September 3-8, 1923. These publications can be obtained only from the stations issuing them.

Ninth Annual Report of the Dairy Department Creamery License Division. R. L. Hammond. (Indiana Sta. Circ. 111, pp. 19, figs. 2, June, 1923.)

Michikoff Wheat, a Hard Red Winter Wheat for Indiana. A. T. Wiancko. (Indiana Sta. Circ. 112, pp. 4, figs. 2, June, 1923.)

Meteorological Observations at the Massachusetts Station. J. E. Ostrander and H. H. Shepard. (Massachusetts Sta. Met. Bul. 416, pp. 4, Aug., 1923.)

Bi-monthly Bulletin. (Western Washington Sta. Bimo. Bul. 11 (1923), No. 3, pp. 50-64, Sept., 1923.)

BRIEF REVIEWS OF NEW BULLETINS.

Wearing Qualities of Shoe Leathers. By F. P. Veitch, R. W. Frey, and I. D. Clarke, leather and paper laboratory, Bureau of Chemistry. Pp. 25, pls. 2, figs. 2. September 5, 1923. (*Department Bulletin 1168.*) Price, — cents.

The entrance of the United States into the World War offered an excellent opportunity to study on a large scale the wearing qualities of different leathers. The Army training camps provided large numbers of men using shoes under fairly uniform conditions. Experiments begun at various training camps in 1919 furnish the basis for this new bulletin. It was evident from these experiments that shoe uppers made from the better portions of cow grain leathers of good quality will outwear two or more soles, none of the upper leathers showing signs of being nearly worn out at the close of the experiments. Fiber soles of the kinds used were not suitable for the conditions of wear, owing principally to the fact that as soon as the soles had worn down through the stitches they frequently ripped and broke off. Imperfections such as ripping, bulging, chipping, and breaking were numerous in the fiber soles. When these failures did not develop, however, the fiber soles wore well, being rated second in wear. Such imperfections were negligible in the leather soles. Wearers of shoes need definite information on the wearing quality of leather to enable them to buy shoes economically; tanners need such knowledge to enable them to make high-grade leather and to use their raw material to the best advantage and at the lowest cost. These experiments and the bulletin is an effort to supply this information.

Effects of Different Systems and Intensities of Grazing Upon the Native Vegetation at the Northern Great Plains Field Station. By J. T. Sarvis, assistant agronomist, office of dry-land agriculture investigations, Bureau of Plant Industry. Pp. 46, pls. 9, figs. 11. July, 1923. (*Department Bulletin 1170.*) Price, 15 cents.

Pasturing range land so that the best results may be obtained both from the standpoint of the animal and the development of the pasture is as much of an art as many other branches of dry-land farming, according to this bulletin. During the period when the beef-cattle industry was in a thriving condition, meager authentic information regarding the best utilization of the native vegetation was recorded. This information is lacking because there was little demand at that time for the investigation of the subject through a systematic study of grazing problems. The range was looked upon as an inexhaustible supply of forage for all classes of stock. If the range became short in one place, it was only necessary to move to a new area. With changing conditions in farming this is changed. Grazing has become more intensified and there is a demand for information regarding pasture management. Careful experimental work was begun in 1915 in an effort to supply this demand. This bulletin gives the details of the experimental work, the results and conclusions, and presents some very helpful information to the ranchman.

Cereal Experiments at Chico, Calif. By Victor H. Florell, assistant agronomist, office of cereal investigations, Bureau of Plant Industry. Pp. 34, figs. 5. August, 1923. (*Department Bulletin 1172.*) Price 10 cents.

Cereal experiments have been conducted at the plant introduction station, Chico,

Calif., in the 12 years 1910 to 1921, inclusive. The principal lines of investigation have been varietal experiments with wheat, barley, and oats and breeding and classification studies with wheat. The most important cereals in the Sacramento Valley are barley and wheat. The results of these experiments are reviewed and discussed in this bulletin. Milling and baking data of 33 varieties of wheat show that Hard Federation is superior in most baking factors. Baart excels in loaf volume. White Federation has a milling and baking value almost equal to that of Hard Federation. Extensive wheat-breeding experiments have been conducted to produce new productive adapted varieties, resistant to disease, and with other desirable characters. These are also included in the bulletin.

Live-Stock Poisoning by Cocklebur. By C. Dwight Marsh, physiologist in charge, G. C. Roe, assistant, and A. B. Clawson, physiologist, investigations of stock poisoning by plants, Pathological Division, Bureau of Animal Industry. Pp. 4, figs. 2. August, 1923. (*Department Circular 283.*) Price, 5 cents.

The cocklebur, variously thought to have been troublesome only as a weed and because of its stiffly armed burs, has been demonstrated definitely to be poisonous to live stock in the early stages of its growth, as was reported by other observers. The report on this demonstration is made in this bulletin. Only the very young plants, before leaves have formed, produce poisoning, and the dose which produces sickness or death is about 1½ pounds to a 100-pound animal. This means that young pigs up to 50 pounds in weight, which have been found the most susceptible, are poisoned by 12 ounces or less of the small cocklebur plants. Cattle or sheep also may be poisoned if they eat enough of the plants in proportion to their weight. Little can be said so far about medical treatment for this kind of poisoning. Feeding of whole milk was found to prevent pigs feeding on the cocklebur plants from being poisoned. Salted bacon grease, lard, and raw linseed oil also gave good results. The best method, says the circular, is to keep pigs off pastures infested with cockleburs until the plants are large enough to be harmless, or to kill out the plants by mowing them before they seed. It must be remembered in this connection that each bur contains two seeds and that ordinarily only one of them will grow the first year after ripening, consequently it is not possible to kill out a patch of the plants the first year.

ADDITIONAL PUBLICATIONS.

Journal of Agricultural Research. Vol. 24, No. 9. June 2, 1923. Contents: Control of snow molding in coniferous nursery stock. (F-9.) By C. F. Korstian.—An influence of moisture on bean wilt. (G-307.) By L. T. Leonard.—The pseudo-antagonism of sodium and calcium in dilute solutions. (Calif.-34.) By H. S. Reed and A. R. C. Haas.—Influence of the hydrogen-ion concentration on the growth and fixation of nitrogen by cultures of azotobacter. (Kans.-35.) By P. L. Gainey and H. W. Batchelor.—Sunflower investigations. (Idaho-6.) By Ray E. Neidig and Robert S. Snyder.—Effect of different concentrations of manganese sulphate on the growth of plants in acid and neutral soils and the necessity of manganese as a plant nutrient. (Ky.-12.)

By J. S. McHargue.—Sweet clover investigations. (Idaho-7.) By Ray E. Neidig and Robert S. Snyder.—Growth and composition of orange trees in sand and soil cultures. (Calif.-35.) By H. S. Reed and A. R. C. Haas. Pp. 741-814, pls. 14, fig. 1. Price, 10 cents.

Journal of Agricultural Research. Vol. 24, No. 10. June 9, 1923. Contents: Further studies on the inheritance of "Rogue" types in garden peas (*Pisum sativum* L.). (G-308.) By Wilber Brotherton, jr.—A method of treating maize seed to destroy adherent spores of downy mildew. (G-309.) By William H. Weston, jr.—Influence of the substrate and its hydrogen-ion concentration on pectinase production. (G-310.) By L. L. Harter and J. L. Weimer.—The microscopic estimation of colloids in soil separates. (H-7.) By William H. Fry. Pp. 815-885, pls. 8, figs. 4. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the *Journal of Agricultural Research* were published monthly, volumes 5 to 16 weekly, and volume 17 monthly. Beginning with volume 18, the issue is semimonthly. The publication of the *Journal* was suspended December 1, 1921, and no parts were issued for 1922. The *Journal* is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The *Journal* is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year, and the foreign price \$5.25 per year.

Monthly Weather Review. Vol. 51, No. 6. June, 1923. Pp. 291-344, pls. 2, figs. 11, charts 10. Price, 15 cents a copy, \$1.50 a year, payable to the Superintendent of Documents.

Special articles: Rainfall interpolation. By R. E. Horton.—Concerning the relation between the duration, intensity, and the periodicity of rainfall. By P. P. Gorbatychev.—City planning and the prevailing winds. By C. J. Root.—Stimulus and conservation of energy as bases of medical climatology. By F. Baur.—Fata Morgana on the Nagyhortobagy. By A. Rethly.—Mirage in Lower California. By J. H. Gordon.—Small tornadoes near Cheyenne, Wyo. By G. W. Pitman.—Tornadoes in New Mexico, June, 1923. By C. E. Linney.—Tornado at Roswell, N. Mex. By C. Halleubeck.—Dust fall at Ludington, Mich., March 25, 1923. By C. H. Eshleman.—Heavy rains in southern Kansas June, 1923. By A. J. Henry.

NOTE.—The *Monthly Weather Review* is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government.

Single numbers will be supplied free so long as the bureau's supply lasts, and the *Review* can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Service and Regulatory Announcements. Bureau of Agricultural Economics. No. 78. Rules and Regulations of the Secretary of Agriculture Governing the Inspection and Certification of Fruits, Vegetables, and Other Products. February 26, 1923. Pp. 6. September, 1923. Price, 5 cents.

Cold-Storage Holdings. Year Ending January, 1923, With Comparable Data for Earlier Years. Prepared by the Bureau of Agricultural Economics. Pp. 32. September, 1923. (*Statistical Bulletin 1.*) Price, 5 cents.

The Manufacture of Camembert Cheese. By Kenneth J. Matheson, dairy manufacturing specialist, and S. A. Hall, scientific assistant in dairying, Dairy Division, Bureau of Animal Industry. Pp. 28, figs. 9. August 30, 1923. (*Department Bulletin 1171.*) Price, 5 cents.

Work and Expenditures of the Agricultural Experiment Stations, 1921. Prepared by the Office of Experiment Stations, States Relations Service. Pp. 138. Price, 5 cents.

Importation and Inspection of Tea. Pp. 12. August, 1923. (*Miscellaneous Circular 9.*) Price, 5 cents.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Beispiele zur mikroskopischen untersuchung von pflanzenkrankheiten. 3. aufl. Von Otto Appel. Berlin, J. Springer, 1922.
- Beitrag zur bestimmung und bewertung der kolloide im boden. Von Robert Wache. Berlin, 1921. (Prussia. Preussische geologische landesanstalt. Mitteilungen aus den laboratorien. hft. 2.)
- Best books. v. 3. 3d ed. By W. S. Sonnenschein. London, G. Routledge & sons, Ltd., 1923.
- Clearing logged-off lands. E. I. Du Pont de Nemours powder co. Wilmington, Del., 1923.
- Congress of chambers of commerce of the British Empire. 9th. Toronto, 1920. Official report of the proceedings. London. British imperial council of commerce, 1920.
- Economic survey of a rural parish. By J. P. Howell. London, Oxford university press, 1923.
- Evolution of breeds. By D. F. Mallin. Des Moines, Wallace publishing co., 1923.
- Farbstofftabellen. v. 1. G. aufl. Von G. T. A. O. Schultz. Berlin, Weidmann, 1923.
- Future of agriculture. By the agricultural correspondent of "The Times." [London, 1923?]
- Genetic studies on *Drosophila virilis*. By C. W. Metz, M. S. Moses and E. D. Mason. Washington, 1923. (Carnegie institution of Washington. Publication no. 328.)
- Geology and mineral resources of Bexar county. By E. H. Sellards. Austin, 1919. (University of Texas bulletin no. 1932.)
- Geology of Dallas County. By E. W. Shuler. Austin, 1918. (University of Texas bulletin no. 1818.)
- Geology of Johnson County. By W. M. Winton and Gayle Scott. Austin, 1922. (University of Texas bulletin no. 2229.)
- Handbook of commercial geography. New ed. By G. G. Chisholm. London, Longmans, Green & co., 1922.
- Manual in agriculture; material and suggestions for use in the schools of South Dakota. By F. L. Bennett. Pierre, S. D., J. F. Olander co., 1922.
- Motion pictures in education. By D. C. Ellis and Laura Thornborough. New York, T. Y. Crowell co., 1923.
- New system of electrical cultivation. By N. Forssblad. Västerås, Västmanlands allhandas aktiebolags tryckeri, 1923.
- Phylogenetic method in taxonomy. The North American species of *Artemisia*, *Chrysothamnus*, and *Atriplex*. By H. M. Hall and F. B. Clements. Washington, 1923. (Carnegie institution of Washington. Publication no. 326.)
- Plain economics. By John Lee. London, Sir Isaac Pitman & sons, Ltd., 1921.
- Les plantes en médecine; les bles. Par Albert Garrigues. Paris, O. Doin, 1921.
- Potato growing in New York state. New York (State) Dept. of farms and markets. Division of agriculture. Albany, N. Y., 1920. (Bulletin 135.)
- Die polysaccharide. 2. aufl. Von Hans Pringsheim. Berlin, J. Springer, 1923.
- Répertoire des organisations internationales (associations, bureaux, commissions, etc.) League of nations. Genève, 1921.
- Road building materials in Texas. By J. P. Nash. Austin, 1918. (University of Texas bulletin no. 1839)
- Le sapin de douglas (*Pseudotsuga douglasii*) Par Robert Hückel. Versailles, 1923.

OLD BOOKS.

- Catalogue of plants to be found within fifteen miles of Hanover, N. H. By H. G. Jesup. Concord, 1890.
- Catalogue of the more common plants to be found within twelve miles of Hanover, N. H. By A. G. Jesup. Hanover, N. H., 1879.
- Catalogus plantarum omnium. . . in usum hort. botanici Pragenses. A. J. G. Mikan. Prague, 1776.
- Flora Silesiaca. v. 3-4. A. A. J. Krockner. Vratislaviae, 1787-1823.
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THESES.

- Beiträge zur anreicherung der parasiteneier im kot der haustiere. Von Otto Jaeger. Rastatt, 1921.

Recherches sur les bois de la Guyane. Par E. Martiu-Lavigne. Lons-le-Saunier, 1909.

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- Agronomía. [bi-monthly?] Tartu, 1921.
- Journal of helminthology [bi-monthly] London, 1923.
- Maryland academy of sciences. Bulletin [monthly] Baltimore, 1921.
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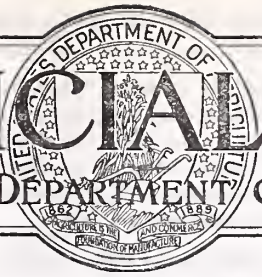
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- Shipping farm products to market. *Breeders' Gazette*, August 9, 1923.
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- Carrier, Lyman (Plant Industry). Seeding fairways and rough. *Bulletin Green Section United States Golf Association*, vol. 3, p. 215-217. August 21, 1923.
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- Dorset, M. (Animal Industry). Swine fever. Swine plague. Swine erysipelas. Pub. in *Enc. of vet. med., surgery and obstetrics*. George H. Woodriddle, v. 1, 1923.
- Forbes, R. D. (Forest Service). Possibilities of second-growth tupelo. *Southern Lumberman*, June 2, 1923.
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- Gerry, Eloise (Forest Service). The goose and the golden eggs, or naval stores production a la Aesop. *Southern Lumberman*, Aug. 25, 1923.
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No. 39.

H. M. GORE APPOINTED ASSISTANT SECRETARY

New Assistant Secretary Well Informed with Agriculture in All Parts of the Country.

Howard M. Gore, of West Virginia, was appointed Assistant Secretary of Agriculture on September 17 by President Coolidge, upon recommendation of Secretary Wallace to fill the vacancy left by C. W. Pugsley. Since the passage of the packers and stockyards act Mr. Gore has been in charge of the Division of Trade Practices. He takes up his new duties with a broad knowledge of agriculture in all parts of the country.

The agricultural experience of Mr. Gore has been complex and intensive. It was back in 1778 that his mother's people came to the blue-grass section of West Virginia. His father's family settled there somewhat later, in 1842. Born on a West Virginia farm, Mr. Gore has been intimately identified with the agricultural welfare of his State ever since. At the present time he owns a 500-acre farm, and, with his brothers, is joint owner of two other large farms in West Virginia.

For years Mr. Gore and members of his family have been prominently identified with the live-stock industry of their State. During the past 20 years the new Assistant Secretary has been a producer of cattle, hogs, sheep, and horses. Until beef exports from this country fell off, much of his finished stock was shipped to foreign countries, where it sold at a premium. Quite frequently his fat lamb sold for the year's highest price on the New York market.

Extensive Live-stock Breeder.

Before Mr. Gore left the farm he and his brothers were extensive breeders of Jersey, Hereford, and Shorthorn cattle, Berkshire hogs, and horses. Shorthorns have been raised by the family for two

generations. Breeding operations on a comparatively large scale are still being conducted by the brothers of Mr. Gore and he has always had a keen interest in their work.

Besides showing pure-bred live stock at county and State fairs, Mr. Gore has had entries in competition with the best live stock in the country at the International Live-stock Exhibition and the National Dairy Show. As a recognition for his work and interest in the welfare of the live-stock industry from a national standpoint, he was made a life member of the International Live-stock Association and has taken an active part in its program for several years. He also has acted as a judge of live stock on many occasions and has served terms as president of the West Virginia Hereford Breeders' Association and the West Virginia Live-stock Association.

Has Broad Acquaintance.

Few men in this country have a wider acquaintance in the live-stock and agricultural world than Mr. Gore. He has come in contact with agricultural college people in his intense interest in their work, particularly extension activities, and boys' and girls' club work, to the latter of which he has given a great deal of time and personal support. He has been an active worker with State and National farm organizations. He was a member of the committee of 15 named by the American Farm Bureau Federation to study live-stock marketing conditions. He has a wide acquaintance with range and market cattlemen extending over a period of years, during which time he has been a buyer at the middle western markets and from the West.

Although Mr. Gore has been known for years for his work in the interest of agriculture, he has been exceptionally active as a member of the Packers and Stockyards Administration since the passage of the act. In his official capacity he has frequently been called upon to act as arbitrator in cases between the depart-

(Continued on page 3.)

DR. STANLEY ISSUES PROGRAM FOR BUREAU

Preliminary Plans Call for Research Work in Home Economics Subjects.

Preliminary plans for the future work of the Bureau of Home Economics have been approved by Secretary Wallace and will be of interest to every department worker. Dr. Louise Stanley, chief of the new bureau, when asked about the program to be carried on under her direction, said:

"It will not be possible to put all of the plans into effect until the beginning of the next fiscal year, July 1, 1924. For the remaining months of the present fiscal year studies in nutrition, food preparation, and other household problems that have been started by the former Office of Home Economics will be continued. The entire staff of that office has been transferred to this bureau.

"Reorganization takes time, and any changes that are made in our program must come slowly. Problems will be undertaken according to their relative importance to home makers as far as we are able to determine them. Certain phases of home management have had less attention in the past than others, and the new bureau proposes to institute such investigations as will result in available information where little reliable material exists at present.

Numerous Subjects Included.

"The opinion was expressed and agreed upon in the conference of home-economics specialists called by Secretary Wallace on June 12 and 13, that the new bureau should, if possible, undertake research work in the following subjects: Food and nutrition, clothing and textiles, economics (including household management), equipment, eugenics (heredity and environment, including child care), art in the home (including the physical and psychological laws of color, line, and form).

"Among these recommended subjects we hope to stress particularly economic studies, experiments in the field of textiles and clothing, and equipment studies. Under economic studies, standard of living studies appear to be greatly needed to furnish information of fundamental importance to all the lines of work of the bureau. To establish standards for home consumption we must know the distribution of the family income under real conditions, and how it is being spent within different specific lines. This information will be useful to other divisions of the department in working out the consumption demands of the homemaker and to serve as a basis in guiding production. It would also prevent overproduction and bring about better distribution of products for home use.

"Another economic study will be concerned with the wage equivalent of woman's work in the home. While much of a woman's contribution to the home is intangible and can not be given a monetary value, it is desirable to know on a wage basis the contribution that she makes to the family income in performing various kinds of home duties. These figures will indicate the real income of the family, will serve to make woman's household work better appreciated, and will enable the woman to use her time to best advantage where there is a choice of tasks. Whether it is more profitable for her to make or buy rompers, to hire a laundress or buy a washing machine, to bake her bread or purchase it, will be revealed by studies of this kind. If the work of the home is to be established on a business basis, figures for the different lines of household activity are necessary.

Will Study Clothing Costs.

"The factors entering into clothing costs are not sufficiently established, and detailed study along this line is highly important. In addition to guiding women in their clothing expenditures, a better knowledge of clothing costs on the part of the women who buy should help stabilize and standardize the clothing industry.

"In connection with the Division of Foods and Nutrition there should be a continuation and expansion of the studies of the economic uses of food. The housewife is urged from all sides, through advertising and merchants, to increase food consumption along various lines. She needs standards which will guide her in selecting the family food wisely in spite of conflicting statements.

"Studies of the cost of housing are at present acutely needed. The cost of housing has increased to a relatively

greater extent than any other element in the household budget. Estimates must be readjusted and more definite information as to the relation of this cost to running expenses must be obtained in terms of materials and labor.

Materials and Clothing Included.

"Very little information is now available to the housewife to help her in choosing textile materials and clothing which will give the greatest amount of service. It is hoped that laboratory experiments, supplemented by properly directed field tests will be made. There is also need for a detailed study of the relation of clothing to the regulation of body heat.

"Looking at problems involved in the selection of household equipment from the point of view of the enormous investment each year in such equipment, it seems very urgent that something should be done to furnish the housewife with reliable guidance in her purchases. Particular phases of these problems which need immediate study are the efficient heating of the house, the installation of hot-water heaters, the comparative economy of various types of stoves and refrigerators, and the best arrangement of equipment in the kitchen. There should be a special study directed toward the planning of better kitchens in new homes to be built in the near future, for no one element in any better-homes program can do more to eliminate useless labor than well-planned kitchens. Laundry equipment also needs studying from the point of view of efficiency in cleansing and effect on the wear of clothing."

HEARING ON EELWORMS IS CALLED.

A public hearing to consider the advisability of quarantining Oregon, California, Colorado, Washington, and Idaho to prevent the spread of eelworms to other States will be held by the department in Washington on October 2. All persons interested in the proposed quarantine have been invited to attend and be heard either in person or by attorney. Related nematodes or other pests probably will come up for discussion.

Horace S. Dean, a graduate of the University of Tennessee, was recently appointed plant quarantine inspector, with headquarters at Washington, D. C., for the purpose of assisting in the pathological inspection of imported plants and plant products. He will also assist in the sterilization studies now being conducted for the purpose of determining a satisfactory treatment of infected plant material,

UNIVERSAL STANDARDS FOR COTTON ADOPTED

Marks Successful End of Years of Work on Part of Department.

Agreements with European cotton associations for the establishment of universal standards for American cotton have been signed by Secretary Wallace. This act marks the culmination of ten years of effort on the part of the department to secure universal adoption of American cotton standards.

The European associations party to the agreements are the Liverpool Cotton Association; Manchester Cotton Association; Association of Cotton, Havre; Bremen Cotton Association; Barcelona Cotton Association; and the Rotterdam Cotton Association. Similar agreements with the Manchester Spinners' Association, Milan Cotton Association, and the Ghent Cotton Association are to be approved later.

The establishment of universal cotton standards is the direct result of the passage of the Fulmer Cotton Standards Act by the last Congress. The main feature of the act is the prohibition of the use of other than American cotton standards in interstate and international trade. Other provisions relate to classification of cotton by the Department of Agriculture to provide a basis for arbitration of disputes over cotton transactions.

A series of public hearings was held last spring by the department at the principal spot cotton markets of the South to obtain the views of the American cotton industry with regard to the department's rules and regulations under the act. These hearings were conducted by Lloyd S. Tenny, assistant chief of the Bureau of Agricultural Economics, assisted by F. W. Knight and Arthur W. Palmer, specialists in cotton classing and marketing.

Different Interests Confer.

Following the hearings, requests were received by Secretary Wallace from the Liverpool Cotton Association that the European associations be given an opportunity to be heard regarding the administration of the act and a conference was arranged to be attended by representatives of the Department of Agriculture, of the various European associations, and of the American cotton industry. Dr. Henry C. Taylor, Chief of the Bureau of Agricultural Economics, was appointed chairman at this conference, the outcome of which was recommendations by the foreign delegates to their

respective associations that the American cotton standards for grade and color be adopted as universal standards for American cotton.

The department agreed to provide for final arbitration in Europe of disputes between sellers and buyers of cotton sold under contracts prescribed by the foreign exchanges. The appeal boards of the foreign associations have been designated as representatives of the department for that purpose. Details of the agreements were finally arranged and in July Mr. Tenny and Mr. Palmer went to Europe to obtain the signatures of the European parties. Mr. Tenny returned with the signed agreements September 15, and Secretary Wallace affixed his signature to them the same day.

Idea Brought Up in 1907.

The idea of universal standards for American cotton was first brought out at the International Cotton Congress at Atlanta, Ga., in 1907. Nothing further was done, however, until 1913, when representatives of the Liverpool, Havre, and Bremen associations, of the leading American exchanges, and of spinners' associations met in Liverpool and agreed upon so-called international standards which were a modification of the Liverpool standards for upland cotton. The department subsequently found it inadvisable to adopt the international standards because they were not truly representative of all growths of American cotton.

Prior to the establishment of official cotton standards as provided in the cotton futures act passed in August, 1914, W. R. Meadows, in charge of the Cotton Marketing Division, and Wingate P. Barbot went to Liverpool, Bremen, and Havre to explain the proposed American standards for grade and to urge their adoption by the European associations. The appeal committee of the Liverpool association reported unanimously in favor of adopting the American standards, but the association failed to ratify the action of its committee.

War Interrupted Negotiations.

The European war interrupted further negotiations regarding universal cotton standards, and nothing more was done until October, 1919, when D. W. Murph, then in charge of the Cotton Marketing Division, presented a paper on the uniform classification of cotton at the world cotton conference at New Orleans. D. E. Earle, specialist in cotton classing, also attended the conference as a department representative. Another world cotton conference was held at Liverpool in June, 1921, when papers on universal stand-

ards for American cotton were presented by Messrs. Meadows and Morrill. The Liverpool Cotton Association adopted revised standards which continued the general distinction between Upland, Gulf, and Texas cotton.

Following the Liverpool conference the department's representatives, together with representatives of the American cotton trade, visited Milan (Italy), Bremen, and Havre and discussed uniform standards with members of the cotton associations there. These associations officially indicated their approval of the general idea of a universal standard.

According to Mr. Tenny the universal standards are now meeting with unanimous approval of the European cotton trade. The trade is particularly gratified over the agreement to permit foreign arbitration of disputes.

COTTON STANDARDS IN DEMAND.

Orders for cotton standards have been unusually heavy since the enactment of the cotton standards act on March 4, 1923. Since the repromulgation of the standards for grade and color by the Secretary's order of July 26, 1922, 1,125 orders for the standards have been received by the Bureau of Agricultural Economics in addition to orders for staple standards.

Every effort is being made by the Bureau of Agricultural Economics to provide the necessary additional space and workers to fill the orders for standards which continue to come in, not only from domestic firms, but from abroad. The reviewing committee is now composed of 6 specialists in cotton classing and is aided by 10 assistants. The standards receive their preliminary preparation at the hands of 8 assistants.

To July 31, 7,300 boxes representing copies of individual grades had been prepared. Of this number 4,700 boxes had been shipped.

MOVIES FORM PART OF CLUB WORK.

Department "movies" have been a regular part of the program of the Lausda Club meetings during the last year, according to a report from Lionel L. Janes, president of the New Orleans organization, and have played a large part in familiarizing members of the department and others with the work being done by the different bureaus. The general plan is for the head of each bureau office to take charge of a meeting, making the picture selections, and being on hand to make any explanations necessary about the work portrayed. At one such meeting Dr. Dowling, president of

the Louisiana State Board of Health, was so impressed with the film, "Out of the Shadows," which is used in the campaign against animal tuberculosis, that he secured a copy for exhibition throughout the State.

The Lausda Club is in its third year, having been organized March 3, 1921, and thus far this season has held four regular meetings and one banquet. The regular monthly meetings are always open to the public and advance announcements are made through the newspapers. A fair audience of nondepartment people usually attend the meetings, Mr. Janes says, many prominent people grasping the chance to learn more about the activities of the department.

EXHIBIT FOR DAIRY SHOW EN ROUTE.

The exhibit of the department for the National Dairy Show to be held in Syracuse, N. Y., October 5 to 13, was shipped September 25 and will be followed later by a corps of specialists who will install it and discuss the various displays with the visiting public. It will occupy space 400 feet long by 16 feet wide in the main building.

Though for many years the department has sent an exhibit to the National Dairy Show, the one just completed is considered to be unique in several respects. It has more mechanical and other novel features than any other dairy exhibit in the past, and also represents more branches of the department's work. The 30 booths deal largely with activities of the Dairy Division, Bureau of Animal Industry, but they also relate to work of the Bureaus of Plant Industry, Agricultural Economics, Public Roads, and the Weather Bureau. A striking feature of the exhibit is a panorama 100 feet long showing in three sections the development of the dairy industry from a primitive stage to the present time.

H. M. GORE APPOINTED ASSISTANT SECRETARY

(Continued from page 1.)

ment and agencies coming under the provisions of the law. One of his last pieces of work before taking up his new duties was to act as one of the arbitrators in the case involving rates for selling live stock at four of the principal markets.

When Mr. Gore was sworn in as Assistant Secretary, Secretary Wallace held an informal reception for him in his office. It was attended by chiefs of the different bureaus, heads of department offices, and personal friends of Mr. Gore.



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Motion Pictures are Made Successfully from Airplane

Two thousand feet of film were made recently by the motion-picture laboratory showing the method of spreading calcium arsenate dust over fields of cotton for control of the boll weevil. The pictures were taken at Tallulah, La., where the experiments in cotton dusting by airplane are being conducted under the direction of B. R. Coad, in charge of the Delta laboratory. Results obtained from spreading the poison in this manner have been sufficiently satisfactory to give promise of commercial use of this method in fighting the boll weevil, and the film was made largely for the purpose of creating an interest in further development of detail and to show the progress already made. It will be shown first before officials of the department and before officials of the War Department which is cooperating in the tests by supplying the air machinery and personnel.

Two De Haviland bombers were used in making the film, one carrying the dusting apparatus and the other a special airplane camera which has recently been secured by the motion-picture laboratory and which is of the latest type. In spreading the dust best results are to be had when the plane flies as close to the earth as 10 feet. With the available planes, which have a normal speed of 90 to 100 miles an hour, good results are more difficult than with planes that can be operated at a slower rate. It is expected that the Army Air Service will be able to supply a slower plane for the work soon.

Three days were taken to complete the making of this negative and 10 flights of from 10 to 30 minutes each were made. The best results to be obtained from spreading the poison in this manner are to be had by early morning flights when the air is still and there are no air pockets to make low flying more dangerous.

The dusting plane was piloted by Lieut. William McDonald, of the Army Air Service. F. W. Perkins, in charge of motion pictures, personally turned the crank of the camera, and although this was his initial attempt at photography from an airplane he secured some excellent and spectacular pictures.

A NOTE OF APPRECIATION.

A reader of the OFFICIAL RECORD has written in as follows:

"I think that it is due the Department of Agriculture to let you know that I appreciate the service I have been getting from different members, especially those connected with the Bureau of Plant Industry. Just recently I had occasion to write R. A. Oakley in regard to an alfalfa and sweet-clover problem, and besides Mr. Oakley's reply I speedily received letters from two other members of the department located in Washington, both giving me valuable information on the subject."

It is estimated that the department averages about 4,000 letters a day. These are received from all classes of people, asking for information on a variety of subjects. Some of the requests can be answered by a department publication on hand, but many of them must be given the most careful attention and consideration, sometimes by several people.

Scores of letters are received in appreciation for the manner in which requests are handled by the department. The one mentioned above is only an example of many others which could be cited. It shows the respect people hold toward the department for its system of giving the most thorough attention to each and every request.

Furthermore, this example again shows the value of being prompt, courteous, and complete in the handling of department correspondence. If the informant is pleased with his treatment, he will let it be known. On the other hand, an unsatisfactory reply to his request may bring adverse criticism to the department.

As a general thing the system worked out by the department to handle individual requests is efficient. It works well. But it must be remembered that every worker is a necessary part of this well-organized machine. Poor work on the part of one individual may throw it out of order.

According to data recently compiled by the department, an increase in domestic consumption of pork estimated at more than eight hundred million pounds has occurred during the past few months.

Department Men to Address The World's Dairy Congress

Representatives of the many branches of the dairy industry from many parts of the world will assemble in Washington on October 2 to attend the World's Dairy Congress. After three brief sessions and a hurried glance at the National Capital on October 2 and 3, the delegates will go en masse to Philadelphia, Pa., where they will remain for a day and then go to Syracuse, N. Y., where 23 sessions and the National Dairy Exposition will be held.

The Washington sessions will be held at the Continental Memorial Hall, where meetings of the disarmament conference were held. President Coolidge is scheduled to deliver the address of welcome. Secretary Wallace will be one of the speakers at the first session. Other speakers from the department who will talk before the assemblage at some session are Dr. H. C. Taylor, Dr. J. R. Mohler, and Dr. A. C. True. B. H. Rawl, former chief of the Dairy Division, will also address the convention.

The topics to be discussed at the sessions in Washington will be those of international, scientific, and economic importance to the whole industry and will underlie the detailed consideration to be given at subsequent group sessions at Syracuse. The speakers of the local sessions will represent the larger and more important relationships of the industry in science, in public health, and in international affairs and will not be heard later in any general sessions of the congress.

Not only have 40 foreign governments accepted the invitation of the United States Department of State to send officials to the World's Dairy Congress, but similar invitations from the congress association have been accepted by many foreign Provinces, States, cities, institutions of learning, business firms, and agricultural and health associations. In this country invitations have gone out to 1,300 local, State, and national associations interested in dairying.

From the National Capital the delegates will go to Philadelphia to spend October 4, observing the methods employed by the National Dairy Council in improving public health through encouraging a wiser use of milk and dairy products. On the morning of October 5 the delegates will reach Syracuse, N. Y., in time to hold sessions and attend the opening of the seventeenth annual National Dairy Exposition. Until October 10 they will devote the mornings to sessions of the congress and the afternoons to the exposition.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Do soy beans make a satisfactory substitute for meat scrap in poultry feeding?

Answer. Soy-bean meal is not so good as meat scrap in a poultry feed, but in sections where soy-bean meal is raised extensively and where the price is considerably under the price of meat scrap it may be used to advantage and will give good egg production, but not quite so high as is generally secured with the meat scrap.

Soy-bean meal must be supplemented with a mineral feed to give satisfactory results, using 4 per cent of a mineral mixture in a mash. A good mineral mixture for this purpose may be made of 3 parts bone phosphate or ground bone, 1 part calcium carbonate or ground limestone, and 1 part common salt. The mash should contain about 22 per cent, or approximately one-fifth of soy-bean meal by weight, mixed with corn meal, wheat bran, and wheat middlings, or ground wheat can be used in place of the bran and middlings. This is fed to best advantage as a moist mash, which renders it more palatable than the dry mash form, or it may be fed as a dry mash supplemented with a light feed of moist mash.

Soy beans do not make a good poultry feed in their whole form and should be ground to give the best results.

Question. Does Alaska produce any of its own foodstuffs or are they all imported?

Answer. Alaska produces a large amount of food for home consumption. Department experiment stations there have been investigating suitable farm crops and have introduced a number of important grains, such as wheat, oats, barley, and rye, that have been grown successfully. Some of the fruits and practically all of the vegetables that we raise in the United States may be grown there.

Question. Can homestead entries be filed within the national forests?

Answer. Lands found by the Secretary of Agriculture to be chiefly valuable for the production of agricultural crops and whose private ownership will not be detrimental to the best use and administration of surrounding national-forest lands are listed with the Secretary of the

Interior for entry under the act of June 11, 1906, and are thereafter subject to entry for homestead purposes. To date something over 20,000 tracts, embracing over 2,225,000 acres of land, have thus been opened to entry within the national forests.

Question. How is the tuberculosis eradication work being conducted at the present time.

Answer. Tuberculosis eradication work is under a cooperative plan between the United States Bureau of Animal Industry, the State live stock sanitary officials, county officials, and the live-stock owners. Other agencies not directly responsible for the work also lend assistance in furthering the project.

The State, county, and bureau officials detail inspectors to test individual herds at the request of the owners, or to test all the cattle in definite areas such as counties when the owners are ready for such a progressive step. The area movement is the predominating project. The Federal and State Governments cooperate in paying limited amounts of money as indemnity for animals reacting to the tuberculin test.

Question. What are the duties of the solicitor?

Answer. The office of the solicitor conducts the legal business of the department. Congress has enacted about 50 general agricultural laws which are enforced by the department through its various bureaus. Among these laws are those for the administration of the national forests, the packers and stockyards act, the grain futures act, the Federal aid road act, the food and drugs act, the plant quarantine act, the migratory bird treaty act, the Federal meat inspection act, the United States warehouse act, the Federal agricultural school endowment laws, and many others of similar character. Last year 4,864 cases of violations of statutes were reported to the Department of Justice for prosecution, 653 written legal opinions were given, and several thousand legal papers prepared.

Question. Can radio be made of practical use by a county agent?

Answer. "Yes" is the answer of County Agent Charles F. Class, of Lebanon, Ohio. Mr. Class, who has a radio receiving outfit in his office, writes: "Will say that after several months' use we find the service entirely satisfactory. As a general rule, I can pick up market reports from Ohio State University at noon, and can usually get evening reports from Pittsburgh. I have never failed to hear the reports from Cincinnati satisfactorily."

FOURTH ANNIVERSARY OF CAMPAIGN.

Speaking in live-stock terms, the "Better sires—better stock" movement to improve domestic live stock by the use of pure-bred sires is now a "4-year-old." Beginning October 1, 1919, it made a satisfactory growth year by year and reached very healthy proportions during the last year, when the number of persons participating in the drive reached a total of 12,000. These persons own more than a million and a quarter head of live stock.

During the four years the department and cooperating States have gathered new information on methods of reducing the number of runty live stock, on the efficiency of pure-bred animals over common stock from the utility standpoint, and have given wide distribution to successful methods for improving live stock most rapidly and effectively. In addition to the specific results shown by the department's records there is evidence also of indirect results. The work is being continued and is now supplemented by a companion drive for improved methods of feeding and care.

CANADA LEADING MEAT IMPORTER.

Imports of meat and meat food products for the fiscal year ending June 30 totaled 49,847,714 pounds, according to the Bureau of Animal Industry. Canada was the chief source of supply, furnishing this country with 20,760,362 pounds of fresh and refrigerated and other products during the year. Argentina ranks second with 18,069,159 pounds and Uruguay third with 9,192,414 pounds. Brazil, Australia, New Zealand, and other countries sent lesser amounts.

Lantern-slide series 121, "Better Sires—Better Stock," prepared several years ago by the department, has just been revised. The new set of slides has been brought up to date and includes new material. It contains 49 slides dealing with all classes of live stock and is accompanied by a mimeographed outline suitable for use by lecturers. Applications for the use of this slide should be addressed to United States Department of Agriculture, Washington, D. C.

Export statistics of the United States and Canada, with special reference to the exports of wheat and flour, is the title of a recent report prepared by C. L. Luedtke, specialist in foreign marketing, Bureau of Agricultural Economics.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

DEPARTMENT ENFORCES TEA ACT.

In 1920, the tea-inspection service, formerly part of the United States Treasury Department, was transferred to this department, upon the joint recommendation of the Secretary of the Treasury and the Secretary of Agriculture. As no duty is imposed on tea, and as the Bureau of Chemistry, under the food and drugs act, is charged with the examination of all imported foods and drugs, it was thought that the tea-inspection work was more closely related to the Department of Agriculture than to the Treasury Department.

The act to prevent the importation of impure or unwholesome tea, commonly known as the tea act, which was passed by Congress in 1897, and later amended, provides that the Secretary of Agriculture shall appoint each year a board of seven tea experts who shall select standards for tea. Such standards are distributed among the officials enforcing the law, and may be bought at cost by the tea trade and others interested.

It is the duty of the supervising tea examiner, stationed in Washington, with the assistance of seven tea examiners and their assistants stationed in various ports of entry, to see to it that no tea which falls below the standards fixed by the Secretary is permitted entry into the United States. The importer of any tea which is rejected is given 30 days in which to appeal his case to the United States Board of Tea Appeals, composed of three employees of the Department of Agriculture, stationed in the city of New York. If the tea is rejected for quality, the Board of Tea Appeals summons witnesses from the trade, while if it is rejected for impurities the chemist's report, upon which the rejection was originally based, usually is accepted. No appeal may be made from the decision of the Board of Tea Appeals.

The law allows the importer six months in which to remove his rejected tea from the country. If not outside the limits of the United States by that time it must be destroyed. Tea waste, tea siftings, tea sweepings, and low-grade tea may be brought into the United States if they are to be used solely for technical manufacturing purposes. The importer of such products, however, must

give bond to the collector of customs that their identity will be destroyed in the process of manufacture.

NEW LEASED WIRE IS CONNECTED.

Operation of the leased telegraph-wire system of the department to southeastern States began September 4. Telegraph stations on the circuit for the reception of news put out by the Bureau of Agricultural Economics are functioning at Richmond, Va., and Atlanta, Ga., as well as Raleigh, N. C., and Columbia, S. C. On November 1 it is planned to open a station at Jacksonville, Fla. The extension of this wire is in response to a need in the Southeast for current market news from the leading markets in the North and West.

WITH EXTENSION FORCES

WHEAT ONE MAN DID WITH TOMATOES.

When A. D. Radebaugh became county agent of Cecil County, Md., he found that the growing of tomatoes had almost ceased, due to the low yields and the chaotic condition of the canning industry. Because his personal experience had given him considerable knowledge about the crop and because some years prior to his coming to the county tomatoes had been a good commercial crop there, he felt that here was a real opportunity to help the farmers.

In a series of meetings called to bring the grower and the buyer together, it was found that few farmers could grow large enough yields to make the crop profitable, and therefore they wanted a price per ton sufficient to pay the cost of production plus a profit on what can safely be called insufficient farming and tomato growing. It was soon discovered that the cause of low yields in many instances was due to the use of poor seed, failure to spray for diseases and insect injury, failure to plant seed early enough to get plants into the field so that the entire crop could be gathered before frost, the lack of sufficient or proper fertilizer, and very poor cultural practices. He set about to remedy these factors.

As a means of getting the growers and buyers together the county agent decided to put on a real "tomato plant bed demonstration." In other words, he offered to grow sufficient plants to plant 225 acres. At first the suggestion met with little approval, for many of them

felt they could grow their own plants better than some one else. One man, however, having promised to furnish a suitable piece of land in the largest tomato-growing community in the county, the agent, failing to get financial help from any other source, decided to finance the proposition himself rather than drop it.

He purchased 50 pounds of certified seed, a spraying machine, a seeder and cultivator, several rakes, and other implements. One-half ton of fertilizer was donated by a local dealer, and \$75 was donated by a canners' association. These donations were encouraging and a real help. Publicity in the local papers also aided in furthering the success of the demonstration, which soon gathered interest throughout the county so that farmers traveled for miles to see the "Plant bed." After the plants were well under way and farmers saw how superior the plants were to those they had been growing it was very amusing to note the large number who had very suddenly depended on the demonstration plant bed for plants.

One million and fifty thousand plants were distributed throughout the county at 40 cents per thousand—actual cost of growing—and every grower securing plants stated they were the best he had ever seen. This was borne out by the results obtained at the end of the year when the total production of the 225 acres was estimated. The average yield per acre was 5 tons, while the average for the rest of the county was but 4 tons to the acre.

The demonstration proved to be so practical and showed such definite results that 34 such plant beds in 13 counties in the State will be planted this year. The plan of having tomato plants grown in a single bed for a group of farmers has appealed to them because it involved no complicated or costly methods of procedure, and because of the fact that most farmers do not have the time or equipment to raise plants of the best quality.

IMPORTS OF LIVE STOCK INCREASE.

Imports to the United States of cattle, swine, sheep, and goats, totaled 359,996 head during the 12 months ending June 30, as compared with 278,031 head for the same period last year, according to the Bureau of Animal Industry. More than half of the imported animals were from Canada with most of the remainder coming from Mexico and a small number from Great Britain. Cattle made up the greatest part of the shipments, with sheep second, goats third, and swine last.

BRIEF REVIEWS OF NEW BULLETINS.

Kota Wheat. By J. Allen Clark, agronomist in charge of western wheat investigations, Bureau of Plant Industry, and L. R. Waldron, plant breeder, North Dakota Agricultural Experiment Station. Pp. 16, figs. 6. August, 1923. (Department Circular 280.) Price, 5 cents.

This circular gives the history of the development of Kota wheat from seed brought to this country from Russia in 1903, and discusses the results obtained with this new variety at a number of experiment stations in the stem-rust area. Kota wheat is of particular value because of its resistance to black stem rust, its high yielding ability, and because with these characteristics it also combines the very necessary one—good milling and baking quality.

Kota wheat is particularly well adapted to North Dakota and can be grown successfully in adjacent portions of neighboring States. The variety is finding favor with the wheat farmers in the areas where rust is particularly damaging, and in 1922 was grown on 6,000 acres.

Results of the tests of this variety on rust resistance and yield were made at the different stations and are included in the circular. Milling and baking tests made independently at the North Dakota Experiment Station and by the department in the Washington laboratory show Kota wheat to be nearly equal in these qualities to those of Marquis wheat.

A Study of Decay in Douglas Fir in the Pacific Northwest. By J. S. Boyce, pathologist, office of investigations in forest pathology, Bureau of Plant Industry. Pp. 20, pls. 8. July 21, 1923. (Department Bulletin 1163.) Price, 10 cents.

Douglas fir comprises nearly one-fourth of the merchantable timber of the United States, and is therefore the most important timber tree in the Pacific Northwest. As it is very susceptible to disease caused by four fungi, the department has recently made preliminary investigations to determine the extent of such damage and to formulate methods for possible prevention. Mechanical injuries are of little importance in relation to the entrance of decay. Knots were responsible for nearly 90 per cent of the volume of all decay in the trees inspected. Fire scars were the entrance point for 4 per cent, and the remaining 6 per cent came in through other scars. Young stands or second growth are relatively immune from decay, but it is not yet determined at what age this immunity ceases. Establishing this age will enable timbermen in the future to cut stands before there is any real loss and at the same time permit the trees to attain the maximum size.

ADDITIONAL PUBLICATIONS.

Experiment Station Record. Vol. 49, No. 1. July, 1923. Pp. 1-100. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Service and Regulatory Announcements. Bureau of Biological Survey. No. 56. Regulations for the Protection of Land Fur-Bearing Animals in Alaska. Pp. 4. September 1, 1923. Price, 5 cents.

Soil Survey of Smith County, Miss. By W. E. Tharp and William De Young. Pp. 48, fig. 1, map. (From F. O. Soils, 1920.) Price, — cents.

Soil Survey of Wayne County, N. Y. By Cornelius Van Duyn and N. M. Kirk, of the U. S. Department of Agriculture, and William Seltzer, John P. Gum, and H. W. Erde, of the New York State College of Agriculture. Pp. 76, fig. 1, map. (From F. O. Soils, 1919.) Price, — cents.

EXPERIMENT STATION PUBLICATIONS.

The office of experiment stations received for its library files copies of the following publications of the State experiment stations during the week September 10-15, 1923. These publications can be obtained only from the stations issuing them.

Report of the seed commissioner for the biennium 1921-22. C. B. Ahleson. (Idaho Sta., Moscow, Idaho. Rept. 1921-22, pp. 16, figs. 2, Jan., 1923.)

Hessian fly control in Iowa. C. J. Drake, F. A. Fenton, and F. D. Butcher. (Iowa Sta., Ames, Iowa, Circ. 86, pp. 11, figs. 5, July, 1923.)

The quarterly bulletin. Michigan Sta., East Lansing, Mich., Quart. Bul. 6 (1923), No. 1, pp. 38, figs. 14, Aug., 1923.)

Articles in Current Publications By Department Workers

Aldrich, J. M. (Entomology). Descriptions of lantana gall-fly and lantana seed-fly. Hawaiian Entomological Society proceedings, vol. 5, No. 2, pp. 261-263. September, 1923.

Ayers, S. Henry, and Mudge, Courtland S. (Animal Industry). Streptococci of feces and mouth of cows. V. Studies of the streptococci. Jour. of Infect. Diseases, vol. 33, No. 2, pp. 155-160. August, 1923.

Barber, G. W. (Entomology). Notes on a New England aradid. Psyche, vol. 30, Nos. 3-4, pp. 120-122, 2 fig. June-August, 1923.

Couch, James F. (Animal Industry). The evolution of chemical terminology. VI. Hydroxide. Am. Jour. of Pharmacy, vol. 95, No. 7, pp. 533-554. July, 1923.

Hall, Maurice C. (Animal Industry). Treatment for lungworm infestations. Veterinary Medicine, vol. 18, No. 9, pp. 823-824. September, 1923.

Jamieson, G. S., and Baughman, W. F. (Chemistry). A Report on some of the nonglyceride constituents in crude cottonseed oil. The Cotton Oil Press, vol. 8, No. 5. September, 1923.

Kiernan, J. A. (Animal Industry). The future place of the accredited veterinarian in the accredited-herd plan. Am. Vet. Med. Assoc. Jour., vol. 63, No. 6, pp. 692-705. September, 1923.

Mohler, J. R. (Animal Industry). Immunization against hemorrhagic septicemia. Am. Vet. Med. Assoc. Jour., vol. 63, No. 6, pp. 764-766. September, 1923.

Neil, W. N. (Animal Industry). The organization and work of the Federal Bureau of Animal Industry. Am. Vet. Med. Assoc. Jour., vol. 63, No. 6, pp. 743-748. September, 1923.

Nelson, E. K., and Dawson, L. E. (Chemistry). The constitution of capsaicin, the pungent principle of capsicum, III. J. Am. Chem. Soc., vol. 45, No. 9. September, 1923.

Ranson, B. H. (Animal Industry). McLean County, Ill., system of swine sanitation effective. Poland China Jour., vol. 9, No. 24, pp. 10-11. August 10, 1923.

Rogers, L. A. (Animal Industry). The program of the World's Dairy Congress. Butter, Cheese, and Egg. Jour., vol. 14, No. 32, pp. 22-24. August 8, 1923.

Sherman, Caroline B. (Agricultural Economics). Federal warehouse receipts. Journal American Bankers' Association. September, 1923.

Taylor, H. C. (Agricultural Economics). Government cotton reports. Commerce and Finance. September 12, 1923.

STRESS USE OF LOCAL MATERIALS.

Home beautification and home industries were the subjects around which was centered the program for the county home demonstration agents' meeting and short course at Arkansas College of Agriculture, recently attended by Ola Powell, office of cooperative extension work. It was planned by the Arkansas extension service to give the agents at this time special training in work which farm women could do during the winter months when their outdoor activities are lessened. Stress was laid on the possibilities of utilizing local materials. Home dyeing, including the standardization of several shades in a number of colors, the designing and weaving of baskets and similar objects from native honeysuckle and buckbush, the making of "hooked," braided, and woven rugs from materials dyed in the standardized shades, and the designing and making of other textile features essential in the home and salable, were given particular attention. Standardization of all products and proper preparation and packing for market are to be made important features of the work.

The Federal Horticultural Board will shortly open the port of Astoria, Oreg., for the entry of agricultural products under permit. The work at that port will be in charge of W. H. Freeman, who has had many years' experience in plant quarantine work.

Dr. J. R. Mohler, Chief of the Bureau of Animal Industry, addressed the convention of the Institute of American Meat Packers, at Atlantic City, N. J., September 18, on the subject "Helpful cooperation." Doctor Mohler discussed, from a meat standpoint, problems in Federal meat inspection, eradication of animal diseases, the humane handling of live stock, and the improvement of domestic animals through modern methods of breeding and feeding. Current research activities having a bearing on regulatory and educational work were also outlined.

The following figures will show that white pine owners in Maine are taking blister rust seriously and are cooperating with the State and Federal Governments in control measures. During the month of June 247 private owners spent \$1,846.64 on eradication work in 20 towns where \$1,414.03 of town money was expended in the hire of foremen, a total of \$3,159.67. For this amount of money 13,774 acres were eradicated at a cost of 23 cents per acre, and 239,933 wild ribes (currant and gooseberry bushes) and 2,168 cultivated ribes were destroyed.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Acta phytochimica. v. 1, no. 1-2; Mar. 1922-Jan. 1923. Tokyo, 1922-23.
- Apiculture intensive. Par A. Perret-Maison-neuve. Paris, Maurice-Mendel, 1923.
- Bureau of public roads. By W. S. Stull. Baltimore, Johns Hopkins press, 1923. (Institute for government research. Service monographs of the United States government. no. 26)
- California. Dept. of public works. Report of highway research at Pittsburg, Cal. 1921 and 1922. Sacramento, 1923.
- Cassell's guide to gardening. By H. H. Thomas. London, Cassell & co., 1923.
- Cocobolo. By S. J. Record and G. A. Garratt. New Haven, 1923. (Yale university. School of forestry. Bulletin no. 8)
- Congrès international d'agriculture. 11th, Paris, 1923. [Rapports] Paris, 1923.
- Economic science and the common welfare. By H. G. Brown. Columbia, Mo., Missouri book co., 1923.
- Éléments de chimie horticole. Par Arnold Furst. Paris, Impr. E. Dubois, 1922.
- Federal reserve system. By H. P. Willis. New York, Ronald press co., 1923.
- Field crops in South Africa. By H. D. Leppan and G. J. Bosman. Johannesburg, Central news agency, 1923.
- Fodder crops for Australia. By L. H. Brunning. Melbourne, F. H. Brunning pty. ltd., 1922.
- Fontes, chuvas e florestas. Por A. A. da Silveira. Belo Horizonte, Imprensa official do Estado de Minas Geraes, 1923.
- Las frutas de Cuba. Por Julio de Dardenas y Eduardo Moreno. Cuba. Secretaría de agricultura, comercio y trabajo. Dirección de agricultura. Laboratorio químico agrícola. Habana, 1923.
- Furs and the fur trade. By J. C. Sachs. London, Sir I. Pitman & sons. [1923?]
- Icones florae alpinæ plantarum. ser. 1-2. Par Léon Marret. Paris, Société d'édition des sciences naturelles, 1911-14.
- Journal of John Work. By W. S. Lewis. Cleveland, A. H. Clark co., 1923.
- List of publications on Indian entomology, 1920-21. Calcutta, 1922. (Pusa. Agricultural research institute. Bulletin no. 139.)
- Manual of methods for pure culture study of bacteria. Society of American bacteriologists. Committee on bacteriological technique. Geneva, N. Y., 1923.
- Méthodes actuelles d'expertises employées au Laboratoire municipal de Paris. v. 3. Ed. par André Kling. Paris, 1923.
- Oleaginous products and vegetable oils. International institute of agriculture. Bureau of statistics. Rome, 1923.
- Plant and flower forms. By E. J. G. Kirkwood. London, Sidgwick & Jackson, 1923.
- Principes de statistique théorique et appliquée. v. 1. Par Armand Julin. Paris, M. Rivière, 1921.
- Trees: a simple guide for quick identification of forest trees. By O. L. Sponsler. Ann Arbor, Mich., G. Wahr, 1923.

OLD BOOKS.

- Guide de la culture des bois. Par J. B. Duchesne. Paris, 1826.
- Joffings in Australia. By Samuel Hannaford. Melbourne, 1856.
- Natural history of man, the globe, and of quadrupeds. By Count de Buffon. New York, 1853.
- Le phylloxera du chêne et le phylloxera de la vigne. Par E. G. Babbiani. Paris, 1884.
- Das schönste rind. Von Adolf Kraemer. Berlin, 1894.
- Tableau élémentaire de l'histoire naturelle des animaux. Par Baron Cuvier. Paris, 1798.
- Traité des plantes médicinales indigènes. Par Antonin Bossu. Paris, 1854.

CIVIL-SERVICE ANNOUNCEMENTS.

General clerical promotion, file clerk promotion, union clerical promotion.—Examinations will be held at Washington, D. C., only, to test the qualifications of applicants for promotion in the departmental service, and will not be open to persons employed outside of Washington nor to persons in the nonapportioned service at Washington. Persons otherwise eli-

gible may enter these promotion examinations regardless of residence. Applicants must have served for at least two years, but in exceptional cases are merely required to have served the six months' probational period. The general clerical examination may be taken on October 13, 1923, the file clerk examination on October 13, 1923, the minor clerical examination on October 22, 1923, and the following examinations, which will be considered as equivalent to the general clerical examination in testing fitness for promotion, will be held on the dates indicated: Bookkeeper, October 13; stenographer, October 10; typist, October 10; stenographer and typist (combined), October 10. If interested apply for Form 372, stating title of examination.

Messenger boy, \$360 to \$480, October 6, 1923. Vacancies in the departmental service at Washington, D. C., only, will be filled from this examination. Applicants must have reached their sixteenth but not their eighteenth birthday on the date of the examination. If interested apply for Form 304, stating the title of the examination.

FORESTRY EMPHASIZED AS WORLD ISSUE.

The growth of timber in the entire world is equal to only two-thirds of the amount consumed, and the world's timber supply is steadily shrinking. The need for timber, on the other hand, especially for softwoods suitable for construction, is constantly increasing. Such is the situation as indicated in a new publication on "Forest Resources of the World," by Raphael Zon and William N. Sparhawk, forest economists of the department.

The book, which is not published by the Government, is in two volumes and contains approximately 1,000 pages, with 16 colored maps. It is full of facts and statistics about the extent and kind of forests; cut, growth, and consumption of timber; timber trade and forest and secondary industries; forest ownership and legislation—all of which give the reader a comprehensive picture of the forest situation of separate countries and of the world as a whole.

Twelve Virginia club members, on their way to represent their State in the seventh annual exhibition of junior extension work and encampment held in connection with the Eastern States Exposition, Springfield, Mass., September 16-22, spent several hours on September 15 in the department, where they were received by Secretary Wallace. These young farmers and home makers had been chosen from the 14,000 or more club members in Virginia to demonstrate methods of selecting cotton materials for various purposes, phases of poultry management, corn growing, and pig club work at the exhibition. They were accompanied by representatives of the Virginia Agricultural Extension Service.

LIVE-STOCK STANDARDS ARE PREPARED.

A complete tentative schedule of market classes and grades for cattle, calves, hogs, sheep, and lambs has been worked out by the department and is recommended for use by all branches of the live-stock industry. In the schedule worked out, an effort has been made to make it sufficiently complete to meet the needs of any live-stock market, regardless of the classes or grades of stock prevailing on such markets.

United States grades for barreled apples have recently been adopted by Illinois and South Carolina. They have been officially promulgated in Virginia and New Jersey, and have been formally approved by growers, dealers, and marketing agencies in Virginia, West Virginia, Maryland, New Jersey, Pennsylvania, and Ohio.

Federal-State inspection of apples in Delaware began September 15. H. C. Miller represents the Bureau of Agricultural Economics, while Wilmer T. Derickson, of the State Bureau of Markets, is in charge of the work for the State.

At the request of Gibbs Bros., operating the *Leviathan*, the Live Stock, Meat, and Wool Division, Bureau of Agricultural Economics, inaugurated an inspection service for quality and grade of meat, poultry, fish, and game purchased in New York for consumption on this ship.

Grades for Connecticut cigar-leaf tobacco, prepared in the Bureau of Agricultural Economics, have been approved by the Connecticut Valley Tobacco Association.

Rupert Peters, director of the department of visual instruction, board of education, Kansas City, Mo., was a visitor in the department a few days ago. The department's work relating to the preparation of material for the use of teachers and pupils in the public schools, especially methods of presenting agricultural practices visually, were studied, and photographs and lantern slides of agricultural activities having particular interest for city children were obtained.

Condition of the almond crop in Italy and Sicily is the title of a preliminary mimeographed report prepared by Edward A. Foley, Agricultural Commissioner, London, and edited in the Division of Statistical and Historical Research. Copies may be obtained from Doctor Stine's office, Bureau of Agricultural Economics, where it is stated a full report will be available later.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 40.

WAREHOUSE ACT AND BENEFITS EXPLAINED

Provisions of Act and Answers to Pertinent Questions Included in Pamphlet.

A thorough explanation of the advantages to farmers of the warehousing of their products in federally licensed warehouses and detailed information regarding the operation of the United States warehouse act are contained in a pamphlet, *Warehousing Farm Products Under the United States Warehouse Act*, recently prepared by the department.

This warehouse act is the law passed by Congress in 1916 and amended February 23, 1923, and July 24, 1923, providing for licensing, by the Secretary of Agriculture, of any warehouseman engaged in the business of storing agricultural products moving in interstate or foreign commerce. It is designed to provide a uniform national system for the storage of staple farm products, to encourage such storage, and to facilitate the financing of stored products so as to make possible more orderly marketing.

Important Questions Answered.

The law as first enacted provided for licensing warehouses for the storage of cotton, grain, tobacco, and wool, but an amendment has made it possible to license warehouses for storing such agricultural products as the Secretary may consider storable under the act. Other products will be added as soon as the department can make the investigations on which to base regulations.

The pamphlet answers the frequently repeated question concerning the use of farm cribs and granaries as warehouses under the meaning of the act. An individual farmer can not do this when the cribs and granaries are under his own control, but if a group of farmers should organize a warehouse company and should transfer control of these storage buildings to the corporation, by sale or

lease, it should be possible for a Federal license to be issued if all of the requirements have been met. The department will advise with groups of farmers contemplating any such action.

The principal advantage to farmers in this act, of course, is that they are enabled to borrow money on the warehouse receipts representing the products stored in these federally licensed warehouses. The loan value of the receipts depends

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Chestnut Blight Spreading Rapidly in the South

The chestnut blight, a destructive fungous disease, has been rapidly spreading southward as well as northward and westward since its introduction into this country from Asia. Although the Bureau of Plant Industry has given most exhaustive study to the question of control of the disease, its character is such that all efforts to stop its spread have failed.

A new infected area was recently found covering parts of Greenville County, S. C., and Henderson and Polk Counties, N. C. This large infection of unknown duration is many miles ahead of the main line of advance of the disease. This advance infection is rapidly spreading, and the indications are that the chestnut growth of the southwestern part of North Carolina, northern Georgia, and the southeastern part of Tennessee will be killed sooner than previously estimated. The zone of heavy infection has been advancing in the South on an average of between 15 and 30 miles each year.

Owners of chestnut trees in these regions should make plans in advance for utilization of their trees. If the stand is growing rapidly and increasing in value, it may not be advisable to cut the trees until they become infected. In other cases where the area is too large to be cut over quickly, it will probably pay to start cutting before the blight becomes prevalent.

WARBURTON TO HEAD EXTENSION SERVICE

Will Work for Closest Cooperation Between Research and Extension Workers.

Clyde W. Warburton, recently appointed director of extension work by Secretary Wallace, has taken up his new duties. This office was created by Congress in the reorganization plan of the department for the purpose of coordinating all of the extension activities now being carried on. As director of extension Mr. Warburton will supervise the work of the offices of cooperative extension work, motion pictures, and exhibits.

In commenting on the work Mr. Warburton said:

"The Extension Service is doing a great work in carrying the message of better homes and more efficient farming to the people. Many research workers do not realize fully the opportunity it offers them to present the results of their studies to the public. It will be my aim to effect the closest cooperation between extension and research workers, both in the department and in the States."

Has Wide Acquaintance.

At the time of his appointment to the new position Mr. Warburton was engaged in supervising agronomic experiments with cereals in the office of cereal investigations, where his work involved cooperation between the many State experiment stations, agricultural colleges, and the department. This work gave him a wide acquaintance with agricultural conditions throughout the States and with the teaching, research, and extension people of most of the agricultural colleges as well as the scientific staff.

Mr. Warburton was raised on an Iowa farm near Independence, and graduated from Iowa State College in 1902. He came to the department in 1903, and has been in continuous service here since that time with the exception of two

years, in 1911 and 1912, when he was engaged in editorial work with the Webb Publishing Co., at St. Paul, Minn. While there he wrote for the farm press and was the co-author with A. D. Wilson, director of extension, University of Minnesota, of a textbook on field crops.

During the time he has been in the department service he has held many important positions and has been assigned special tasks which have taken him afield and broadened his experience with field conditions. In 1904-1906 he had supervision of demonstration farms in Texas for the Office of Farm Management and at that time traveled extensively in Southern States. His work in this connection was a form of extension activity.

Detailed on Special Tasks.

On several occasions during the past few years Mr. Warburton was detailed by the department to administer Federal seed-grain loans in the Dakotas, Montana, and other Western States, and met with unusual success. In 1918 he was the department representative of the Federal seed stocks committee in the purchase and resale of oats and barley to meet the emergency conditions obtaining in North Dakota and Montana. During this detail he purchased, recleaned, and made the necessary arrangements to resell to grain dealers and others approximately 800,000 bushels of oats and 100,000 bushels of barley, involving an expenditure of about \$1,000,000.

One of the particular accomplishments of Mr. Warburton of an investigational nature was his development and establishment of selections from the 60-day and Kherson oats, which are more productive than the original varieties, and at the same time are free from the undesirable color of the latter.

In announcing the appointment Secretary Wallace said: "Mr. Warburton's agreeable and effective personality, enabling him to gain the warm support and highly effective effort of those whose work he supervises, and his executive and administrative ability, ably fit him for the duties of coordinating the extension work of the department."

The Chicago Club has resumed its activities after a cessation during the summer months. Prof. Horace Secrist, director of business research, Northwestern University, was the speaker at the regular September meeting. He gave an interesting and instructive talk on the study being made by Northwestern University on the manner in which clothing is retailed, as well as results which have been obtained in the retail meat study. There were 26 members of the club present.

Safer Lines Suggested for Developing Poultry Industry

Progress in poultry breeding has suffered somewhat from the tendency on the part of utility and standard-bred breeders to develop their stocks along somewhat different lines. Many utility breeders, in their efforts to develop heavy-laying strains, have overlooked standard-bred qualities and frequently their stocks have suffered through deterioration in constitutional vigor. The standard-bred breeder, on the other hand, sometimes has laid undue emphasis on standard points of minor importance, irrespective of the development of the egg-laying proclivities of his stock. The danger to the poultry industry because of this inclination toward two extremes is noted by Dr. Morley A. Jull, who has recently assumed charge of poultry investigations.

Doctor Jull points out that when one is breeding for standard points and egg production at the same time progress must be relatively slower than where only a single objective is sought. Some breeders are wont to develop one line to the total exclusion of the other. In this connection, two important things must always be kept in mind: First, all poultry breeders should exercise reasonable efforts to maintain breed and variety characteristics; second, standard-bred breeders naturally should be expected to give some consideration to economic qualities.

The poultry industry of the United States, which has attained a magnitude of such great value, has been developed for the most part through the extensive breeding of Brahmas, Anconas, Leghorns, Orpingtons, Plymouth Rocks, Rhode Island Reds, Wyandottes, and other breeds. It is in connection with the breeding of these breeds particularly that there must eventually be more or less common ideals as between the utility and standard-bred breeders. The safe line of development in the breeding industry would seem to be to preserve the beautiful while developing the useful.

The very keen demand for heavy laying strains has sometimes led to injudicious practices and has frequently produced harmful results. In many cases breed type and other characteristics have been neglected and constitutional vigor has been lowered. Sometimes, also, the size of the birds is below standard and there has been evidence of decreased egg size. The value of high individual egg records from a breeding standpoint has often been overemphasized. In this connection the fact should not be over-

looked that flock averages are much more significant than individual records.

If breeders were more moderate in their demands in respect to increased egg production, Doctor Jull contends that it would be possible to maintain standard qualities and to conserve constitutional vigor to a greater extent than is now being done in so many cases. The poultry industry of the United States should be developed along stable lines. Breeders should endeavor to build on a solid foundation of combined standard and utility qualities. Such seems to be the safe line of development of the poultry industry.

WAREHOUSE ACT AND BENEFITS EXPLAINED

(Continued from page 1.)

upon the commodity and its grade and upon the banker who is asked to make the loan. On grain and cotton bankers have been known to loan as much as 80 per cent of the current market value of the product, but this is a matter entirely up to their discretion.

Receipts Basis of Loans.

Federal reserve banks do not make loans to farmers on these receipts, as they do business with banks and do not deal with individuals. The member banks of the Federal reserve banks, however, generally recognize these warehouse receipts. The intermediate credit banks, organized under the farm credit act of 1923, will not make loans directly to farmers, but they will loan on these receipts to farmers' cooperative associations. They will also accept for rediscount the farmers' paper when it is indorsed by a bank.

The advantages to the farmer in storing his products in a federally licensed warehouse rather than keeping them in bins on the farm are listed in the pamphlet. The principal ones are: The product can be used as security for loans, as the warehouse receipt represents products stored under conditions watched over by Government inspectors. His credit is thus expanded. The warehouseman is presumed to know how to care for the products and to keep them from deteriorating. The insurance rate on products thus stored is less than if they were stored on the farm. Products stored in these warehouses are usually at a point from which they can be shipped at any time in the year regardless of weather conditions, which makes it possible to take advantage of desirable opportunities to sell.

Copies of the pamphlet may now be had by addressing the department.

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

CROPPER SYSTEM MOST PROFITABLE.

A special survey made on 13 cotton plantations in South Carolina shows that in 1921 the cropper system was more profitable to both the plantation operator and worker than the tenant system. The 13 plantations included 3,387 acres of land in six counties, worked by 130 croppers and tenants. Croppers produced 0.80 of a bale of cotton to the acre, as compared to 0.54 of a bale for share tenants and 0.35 in the case of standing and cash renters. The plantation operators received an average return of \$16.86 per acre and the 130 croppers and tenants an average return of \$15.73 per acre. The landlord's return per acre was \$33.31 from croppers, \$11.66 from share tenants, and \$9.01 from standing and cash renters. The average return per acre realized by 41 croppers was \$24.37, as compared with \$15.73 by share tenants and a net loss of 45 cents per acre in the case of standing and cash renters.

INCREASE IN CONSUMPTION OF PORK.

During the past few months there has been a tremendous increase in domestic consumption of pork in the United States. Consumption of carcass pork produced under Federal inspection between January 1 and August 1, 1923, is estimated at nearly 4,000,000,000 pounds, as compared with a little more than 3,000,000,000 pounds during the corresponding seven months last year. This increase is more than 800,000,000 pounds, or approximately 7 pounds for each person in the United States. Combined exports of bacon, ham, shoulders, and lard also show an increase for the seven months' period. Outbound movements of these products amounted to 462,000,000 pounds as compared with 361,000,000 pounds last year. Lard shipments were 619,000,000 pounds compared with 430,000,000 pounds a year ago.

DAIRY CATTLE LEAD IN SALES VALUE.

Reports gathered on sales of purebred animals show that dairy cattle exceeded all other kinds in price in 1922. Reports were received on a total of 7,597 dairy animals representing five breeds. Nearly half of these animals sold for more than \$150 each. Average

prices received by breeds, including all ages and sexes, at both private and auction sales were: Ayrshire, \$181.73; Brown Swiss, \$123.53; Guernsey, \$273.36; Holstein, \$187.15; and Jersey, \$186.50. All Brown Swiss reported were disposed of at private sale. The data show that differences in prices received by the two sales methods was so small that in 1922 heavy auction sale expenses were not justified. Highest prices by breeds were: Ayrshire, \$3,000; Brown Swiss, \$500; Guernsey, \$7,500; Holstein, \$5,000; Jersey, \$920.

BEEF CATTLE PRICES SHOWN IN REPORT.

The average sale prices of breeds of purebred beef cattle of both sexes and all ages in 1922 ranged from \$83 to \$129, according to a recent survey. Reports were received from breeders in 24 States representing sales of 13,108 animals. Of this number, 2,119 brought over \$150. Average prices received by breeds, including all ages and both sexes, at both private and auction sales were: Aberdeen Angus, \$104.11; Hereford (horned), \$122.56; Hereford (polled), \$129.02; Red Polled, \$83.36; Shorthorn, \$129.09; Polled Shorthorn, \$117.38. Many inquiries sent out by the department were returned with the statement that no sales were made in 1922. Other returns indicated that most of the bulls had been castrated and sent to market for beef. In some cases herds were being culled closely, and only the best animals being kept, in the belief that there will be a good demand for purebred sires in the near future.

DEPARTMENT RADIO SERVICE EXTENDED.

As a result of cooperative arrangement with the Navy Department agricultural reports are now being broadcast by radiotelegraph, as well as by radiotelephone, direct from the department through the Arlington radio station. The broadcasting of market news from the four long wave, high-powered radiotelegraph stations of the Navy Department makes it possible for radiotelegraph operators virtually anywhere in the United States to receive up-to-the-minute agricultural price quotations. Plans are being arranged with a number of these operators for the rebroadcasting of this news by radiotelephone. More than 90 radiotelephone stations throughout the country are already broadcasting crop and market reports furnished by various branches of the department. With the use of radio and wire telegraphy the department has established the most complete and efficient market news service to farmers and other agricultural interests developed anywhere in the world.

Revised Standards for Marketing of Live Stock

A complete tentative schedule of market classes and grades for cattle, calves, hogs, sheep, and lambs has been worked out by the department, and is being used by many individuals and organizations as well as numerous publications which use the Federal market reports. The present classification is an elaboration and refinement of that used during the past five years by the marketing, livestock, meats, and wool division of the Bureau of Agricultural Economics in reporting most of the larger livestock markets of the country.

In the schedule worked out an effort has been made to make it sufficiently complete to meet the needs of any livestock market, regardless of the classes or grades of stock prevailing on such markets. A unique feature of the schedule is that the major subdivisions, namely, classes and grades, are as a rule based on permanent or fixed characteristics inherent in the animals, and which can therefore be considered independently of supply, demand, trade preference, price, or other similarly fluctuating conditions.

In working out the classification no attempt was made by the department to change or modify existing trade practices. The main effort was to provide machinery for grouping in logical order the transactions actually occurring on various livestock markets and then to provide suitable nomenclature for the various groups, so that a clear picture of the market may be presented to producers and the trade. The department is planning also to publish a series of bulletins describing in detail the various classes and grades of each kind of livestock.

NAVAL STORES DEMONSTRATIONS.

The Bureau of Chemistry is carrying on naval stores demonstration work in the South. The purpose of this work is to offer to individual producers of rosin and turpentine, through visits to stills by a practical operator of good judgment, information as to the most practicable and profitable methods for the production of naval stores and to aid them in solving technical problems involved in the manufacture of these commodities. The demonstration work is being carried on by George P. Shingler, jr., a specialist in this line. It is believed that the work will aid the producers in complying with the new naval stores act passed by Congress last March.



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Change in Form and Use of Several Terms is Approved

As the result of a ruling by the Government Printing Office, several changes in the form and usage of certain terms will be adopted by the department immediately. This ruling was the direct result of recommendations made by the terminology committee, which has considered for several months the matter with the idea of establishing a uniformity of usage within the department.

The Public Printer on September 21 ruled in favor of the adoption of all one-word forms recommended by the committee. This list includes "pure-bred," "livestock," and "butterfat." His ruling also provides for the establishment of definitions and usage of the following words: "Brahman" (Zebu) instead of "Brahma"; "census"; "survey"; "count"; "estimate"; "forecast"; "thresh" instead of "thrash"; "sorghum"; "kafir" instead of "kaffir" or "kafir corn"; "milo" instead of "milo maize"; "broomcorn" instead of "broom-corn" or "broom corn"; "sorgo" instead of cane "sorghum," "saccharine sorghum" or "sweet sorghum"; "potato" instead of "white," "round," or "Irish potato"; "sweet potato."

The only recommendation which did not receive the approval of the Public Printer was for the capitalization of "national forest."

In making the recommendation to the Public Printer the Secretary said:

"Agriculture is, as you will readily appreciate, a young and rapidly growing science, and as in the case of other sciences the terminology used undergoes processes of differentiation and refinement. In studying this problem the committee found that, as a usual thing, the leading agricultural magazines and periodicals were the first to adopt these changes, followed by the bulletins of the experiment stations and the Department of Agriculture and standard textbooks.

"The dictionaries record usage as they find it and, therefore, in rapidly growing sciences are behind the best usage in these matters. In some cases, apparently, the dictionaries have not had anyone especially commissioned to look after the correction of their agricultural terminology. The committee on terminology hopes to be able to remedy this situation in future editions."

In arriving at their recommendations the committee consulted agricultural publications of various kinds, including farm papers, bulletins, etc. It also sought the advice of leading agricultural scientists and educators of the country.

A first-hand study of the situation among wheat farmers is being made by Dr. H. C. Taylor, Chief of the Bureau of Agricultural Economics, who left Washington September 22. Doctor Taylor plans to meet the agricultural statisticians of his bureau in a number of Northwestern States and with them motor through the wheat regions, interviewing farmers, elevator men, and others. His proposed itinerary includes points in the States of Minnesota, North Dakota, Washington, Oregon, California, Arizona, and Oklahoma, and a visit to the wheat region of central Kansas and central and western Nebraska.

C. W. Kitchen, who has been superintendent of Center Market since April 1, 1922, when the department took over the operation of that institution, has been named as business manager of the Bureau of Agricultural Economics. In addition to his new duties, which are implied by the title, Mr. Kitchen will remain superintendent of Center Market and will act in that capacity on all matters of policy. C. H. Walleigh has been appointed assistant superintendent of the market.

A meeting of the special committee of the Association of Southern Agricultural Workers, appointed at the Memphis, Tenn. meeting last February, to make a study of various boll-weevil control methods, was held at Madison, Fla., September 10. Following the meeting, members of the committee visited Griffin, Ga.; Florence, Hartsville, Darlington, Bennettsville, and Clemson College, S. C.; Auburn, Ala.; Tallulah, La., in connection with their study.

Location of and workers in field offices of the Bureau of Agricultural Economics are shown in a mimeographed directory just prepared by that bureau. Copies may be had upon application to the Division of Information of the bureau.

From Our Readers

TO THE EDITORS: I think that THE OFFICIAL RECORD fills a real need for department workers and cooperators whose duties require them to spend a large portion of their time in the field. There is a tendency for persons so engaged to feel out of touch with official headquarters, and I think that the RECORD does much to relieve this feeling. One of the things which field men miss is the inspiration which is derived from association with those engaged in station work and department work at Washington. I believe that THE OFFICIAL RECORD could supply this need by keeping the field men informed of the latest developments in agricultural research. Short articles dealing with the work of each bureau might be interesting.—H. V. J.

TO THE EDITOR: THE OFFICIAL RECORD is much appreciated by employees of this office. It is the only medium through which we can get general departmental news, and I believe should do much to improve the feeling of fellowship and cooperation between the different bureaus of the department.

The only criticism that I have to offer is that Weather Bureau news has been rather scarce. I feel reasonably sure that employees of the Weather Bureau are going hither and thither on important missions the same as the employees of other bureaus, but almost without exception these missions are never mentioned. I do not just know why this is the case, but no doubt the difficulty could be overcome with proper treatment.—C. D. R.

TO THE EDITOR: I think THE OFFICIAL RECORD is a splendid publication for the department workers. I find that it assists me in my work by the suggestions, recommendations, and instructions that are published in it. In general I think THE OFFICIAL RECORD improves the morale of the service, as we in the field are thus enabled to keep in touch with what the department is doing, and it also increases the efficiency of the service by reason of the many helpful suggestions it contains.—S. P. P.

W. A. Schoenfeld has been designated assistant chief of the Bureau of Agricultural Economics. This new designation gives the bureau two assistant chiefs. Mr. Schoenfeld will assist in developing research and extension work of the bureau, while Lloyd S. Tenny, assistant chief, will handle the service and regulatory work of the bureau.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. How many dairy cattle are there in the United States?

Answer. There are more than 30,000,000 dairy cattle in the United States. These animals are cared for on about 4,500,000 farms, or approximately 70 per cent of all the farms in this country. Dairy cows produce vital food products which form a large and important part of the diet of our entire population and for which consumers pay more than \$3,000,000,000 a year, or about \$30 per person.

Question. How can unfermented grape juice be made in the home?

Answer. Grapes should be crushed as soon as possible after they are picked and pressing should follow immediately. To clarify, transfer the juice into deep vessels, preferably of wood or enamel ware, and let it stand four to six hours. Then filter or strain it through cheesecloth without disturbing the sediment formed while standing, and place it in the containers in which it is to be pasteurized and stored. The top should be placed loosely upon the jar to prevent entrance of dust, yeasts, and mold spores. Pasteurization is accomplished by placing the jars in a wash boiler filled with water up to the necks of the jars, and heating the juice to a temperature of 180° F. Then seal and remove at once.

Question. Is a county agricultural extension agent permitted to mail under frank publications issued by experiment stations of his own or other States, or those of his State board of agriculture?

Answer. Yes; if the bulletin or circular is used in the furtherance of extension work in his county and such use has the approval of the State director of extension. In using penalty envelopes for mailing such bulletins or circulars, a letter signed by the agent with his official title, indicating the purpose for which they are sent, should be inclosed.

Question. How can you determine the presence and amount of vitamin in any food product?

Answer. There is no accurate laboratory method for doing this, partly because we do not know exactly what a vitamin is and partly because the vitamins in various foodstuffs seem to be unstable and may be destroyed when unduly heated, exposed to the atmosphere under certain conditions, or subjected to the action of

certain chemicals and processes. Practically the only known methods for vitamin determination consist of feeding experiments with animals. These methods are unsatisfactory, since they are long, costly, and give only relative values, but the only knowledge we have of vitamins has been gained in this way. The Bureau of Chemistry carries on a number of such tests from time to time.

Question. On what grounds is the growing of timber on the farm justified as a farm enterprise?

Answer. Timber is an essential material for successfully operating the farm—for houses, barns, fences, telephone lines, and firewood. Nearly every farm has some worn-out, washed, steep, sandy, or wet lands better adapted for timber growing than for any other purpose. A rational farm program on such farms includes growing timber for home use. There may be some in addition for sale on the market.

FOREIGN OFFICIALS VISIT DEPARTMENT.

About 25 health officials and sanitarians from Europe, South America, and Central America visited the Bureau of Chemistry on September 21 and spent several hours studying the activities of the bureau in the control of foods and drugs. Dr. P. B. Dunbar explained the requirements of the food and drugs act, and described the organization and the methods for enforcing the law. Visits were paid to laboratories in the bureau where work of especial interest to the delegates was in progress.

The visit was arranged through the United States Public Health Service at the request of the hygiene section of the League of Nations. The delegates will spend three months in the United States visiting various State and city health organizations and will reassemble in Washington in November for a final conference.

UNITE TO PROTECT COTTON CROP.

Coastal plain cotton growers are, for the first time since the coming of the boll weevil, preparing for united action to protect their crop, recent reports indicate. J. A. Evans, Office of Cooperative Extension Work, returned September 22 from a tour through North Carolina, South Carolina, and Georgia, where he spoke at meetings and conferences urging the vital importance of united use of the coastal plains' best means of defense against the boll weevil, the complete destruction of cotton stalks in the fields before frost.

Newspapers, business organizations, business men, and leading farmers are

uniting, in South Carolina particularly, Mr. Evans states, to carry on a sustained crusade to bring about a general destruction of stalks at least two or three weeks before frost, if possible. Aiken County, S. C., has set October 10 as the last date by which all stalks are to be turned under, a part of the late cotton even to be sacrificed if necessary in the effort to secure 100 per cent cooperation. In addition to meetings, newspaper publicity, and advertising, a number of farmers have volunteered to make a farm-to-farm canvass so that every farmer in the county may be solicited to take this means of protecting his own and his neighbors' crops.

By thus depriving the weevils of their only food for a period of at least 10 days before low temperature forces them into hibernation it has been found they are so weakened that few will survive until spring. This practice, supplemented by approved methods of control the following season, should greatly reduce weevil damage. By combining fall destruction of cotton stalks with the planting and turning under of legume cover crops to increase soil fertility, use of seed from improved varieties, and good cultivation, a fair yield of cotton can be produced in an area where the profitable production of cotton since the advent of the boll weevil has been regarded generally as well nigh impossible.

At the request of Commissioner Harry D. Wilson, of the Louisiana State Department of Agriculture and Immigration, a conference to discuss the present camphor-scale situation was held in New Orleans on August 6. This conference was attended by State officials of Louisiana, Mississippi, Alabama, and Texas, as well as several representatives of the Bureau of Entomology and the Federal Horticultural Board. Immediately following the conference the visitors were conducted by representatives of the Bureau of Entomology through the heavily infested portions of Audubon Park to see the work of the camphor scale and the results of experiments in its control.

Continued interest has been taken in rat-prevention and rat-proofing measures in Oregon as a result of the antirat campaigns conducted there. One of the largest owners of real estate in the public market of Portland was so favorably impressed with the work done last year under the leadership of the Biological Survey in destroying rats and in establishing rat-proof conditions that he has torn out the entire interior of two of the largest buildings and is finishing them wholly with concrete with a view to making them completely rat proof.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

RAPID ADVANCE IN BIRD BANDING WORK.

Because of the valuable information to be secured relative to the movements and life histories of our migratory birds, especially the game and insectivorous species, the Biological Survey in 1920 took over the work of the American Bird Banding Association. Interest in research by this method has been widespread and has steadily increased so that the latest report gives over 12,000 birds banded since July 1, 1923. This is an average of over 1,000 a week, although the time covers two of the least active months of the year. More than 25,000 birds were banded in the fiscal year which ended on June 30, 1923, a number which is in contrast to the less than 6,000 banded in 1922. The work is carried on by voluntary cooperators, who must show some special aptitude for handling birds in order to obtain permits for trapping and the necessary numbered metal bands prepared by the Biological Survey. Over 850 permits have been issued this year by the bureau up to September 22, 1923.

One of the most important facts to be learned from individual recaptured banded birds is the direction of migration, which is not always, as formerly supposed, from north to south. What are the highest speeds and rates per day at which birds travel while on migration? How far do birds go in continuous migratory flight, particularly over land? How often do they stop? Do they go fast and stop seldom or slow and stop often? How far apart are these stops? How much time do individuals occupy in the total journey between the breeding ground and the winter home? How long do they remain in each place? Which individuals arrive or leave earliest in spring and in autumn, residents or migrants? Do adults and young occupy the same or separate winter quarters? Do birds actually return to the site of last year's nest? What is the effect of stormy weather on the migratory movements of birds? Does any one flock continue in the van, or is the advance made by successive flocks passing one over the other in alternate periods of rest and flight? Where do the birds go that do not return to the vicinity of the original nests? How long do birds live? Bird banding is

looked to for the solution of these and many other interesting migration problems.

FARM LABOR IN MASSACHUSETTS.

A recent study of farm labor conditions in Massachusetts made by the department indicates the need of greater uniformity of business methods among private employment agencies. It was found that employment agency fees in Boston are regulated by a city licensing board, but outside of Boston agencies set their own rates, sometimes charging whatever they think the applicant for work will pay. Some of the better employment agencies require and investigate references before placing men, but where references are unavailable means should be adopted of determining the fitness of applicants for the jobs they seek.

WITH EXTENSION FORCES**BETTER POULTRY HOUSES FEATURED.**

Two events occurring almost simultaneously late in 1921 have resulted in very radical changes in the sleeping habits of the hens of McDonald County, Mo. Their roosting places up to that time had included many species of native trees and various kinds of patched-up sheds and barns whose chief advantage was ventilation. That fall, however, county agent work was established in McDonald County and the county's first modern poultry house was built. To-day 60 McDonald County flocks have been provided with modern poultry houses of the approved Missouri type, and R. L. Furry is completing his second successful year as county agent.

In conducting this poultry project Furry left no method that he had ever heard of untried. At his culling demonstrations he insisted that every person present handle the birds. That was comparatively easy after he had once persuaded a few farmers to try out the results of culling. The second year the flocks ran 25 per cent culls, as compared to 47 per cent the first year.

Culling was merely the first step, however; housing was the big problem. His opportunity presented itself in the form of 14 community school fairs, at which he was requested to be on the program. A model Missouri house that was complete in every detail and would ride on the back of his roadster was constructed. His talk, with that model for illustration, made plain the principles of an efficient poultry house to hundreds of people whom he could never have reached in

any other way. From two or three hundred to one thousand people saw the house demonstrated at each of the 14 fairs.

"We can not afford it," was the objection that arose on all sides. "We will have to get along with the old type houses." Furry was ready with a reply. "Use the material that you have, but follow these principles," he urged. They did that very thing. In some cases houses were built of native lumber and clapboard roofs. One man used an old broken-down silo; and in one case the only cost was for nails, hinges, glass, and cement. The hens are laying just as many eggs as though the finest materials had gone into the construction of the houses.

The number of modern Missouri poultry houses in the county is climbing month by month and the hens are paying the costs of construction.

Nine hundred McDonald County farmers have learned that it is possible to distinguish the laying hens in the flock from the loafers, and more than half of that number are putting that knowledge into practice.

Meat scraps, advantages of which were unknown in the county prior to the advent of the extension service, have become so widely used that three local merchants entered the field last year and sold 22 tons.

Six flocks are producing certified eggs and birds for their neighbors to use as breeding stock, and on 42 other farms special breeding pens have been selected and high-class male birds obtained for mating.

The farmer got more money as a result to spend on his home and family, say the produce dealers, who handled between 3,000 and 4,000 more cases of eggs in 1922 than in 1921. For those 90,000 dozen eggs the farmers received \$31,000 extra money. Another \$5,000 was saved in feed bills as a result of culling out unprofitable hens.

FORESTRY EXTENSION WORK GROWING.

Forestry extension work is interesting an increasing number of States, reports G. H. Collingwood, field agent in forestry extension activities, who recently returned from conferences with forestry workers in New England. The Maine extension service has practically completed plans for its first year's work in forestry, which centers about a timber estimating project, with demonstrations arranged so as to furnish a foundation for later work on thinnings and improvement cuttings. M. E. Watson, recently in charge of white pine blister rust con-

(Continued on page 8.)

BRIEF REVIEWS OF NEW BULLETINS.

Hungarian Vetch. By Roland McKee, agronomist, and H. A. Schoth, assistant agronomist, office of forage crop investigations, Bureau of Plant Industry. Pp. 12, figs. 4. August, 1923. (Department Bulletin 1174.) Price, 5 cents.

Although Hungarian vetch has done well in the Southern States, except in plantings where it has been affected by nematodes, extensive tests indicate that it is especially adapted to the Pacific Coast States. In addition to being a good plant for stock pasturage, it also makes excellent pasture for bees. The flowers and stipule glands seem to secrete an abundance of nectar, and bees visit the fields in great numbers. Hungarian vetch makes a good green-manure crop and is especially valuable on heavy wet lands where other legumes will not make a very large growth. Because of its greater hardiness it also can be used in localities having winters too severe for common vetch. Western Oregon is the only place where seed is now being grown. The department has at present none of this seed for general distribution.

Pruning Citrus Trees in the Southwest. By A. D. Shamel, physiologist, C. S. Pomeroy, pomologist, and R. E. Caryl, assistant pomologist, office of horticultural and pomological investigations, Bureau of Plant Industry. Pp. 32, figs. 24. June, 1923. (Farmers' Bulletin 1333.)

Orchardists are coming to recognize that pruning is one of the most important operations to which they have to give attention in connection with the maintenance of their orchards. Pruning is a physiological operation which may promote or interfere with the normal and efficient functioning of the different parts of the tree, including its root system. The raw-food material taken up by the roots is elaborated in the foliage, and any pruning which greatly disturbs the relationship of the leaf area to the food supply and the requirements of other parts of the tree is likely to result adversely. Observations of the behavior of citrus trees when pruned various ways have been made the basis for the information contained in this bulletin.

Feeding and Management of Dairy Calves and Young Dairy Stock. By W. K. Bralnerd and H. P. Davis, Dairy Division, Bureau of Animal Industry. Pp. 18, figs. 7. June, 1923. (Farmers' Bulletin 1336.)

This bulletin contains practical information covering all the essentials in the production of good dairy animals for breeding and milk production. It includes chapters of feeding before birth, weaning the calf, teaching to drink, cleanliness, pasteurization of milk for feeding, quantity and quality of milk fed, frequency of feeding, roughage for calves, grain feed, milk substitutes, quarters, stanchions, prevention of horns, water and salt, marking calves for identification, diseases, and several chapters on the feeding and management of young stock beyond the calf age.

Polish and Poulard Wheats. By John H. Martin, agronomist in western wheat investigations, Bureau of Plant Industry. Pp. 10, figs. 3. July, 1923. (Farmers' Bulletin 1340.)

Although Polish and poulard wheats are of no commercial value in America, both have been offered many times and are still being offered to the buying public by unscrupulous or

unknowing promoters who take advantage of their striking appearance. The one variety of Polish wheat grown in this country, White Polish, somewhat resembles rye and has sometimes been wrongly sold as a variety of "giant" rye. Four varieties of poulard wheat have been grown in the United States in recent years. Both kinds of wheat yield less than other commonly grown varieties and are unsuitable for making flour or semolina products, such as macaroni and spaghetti.

Mule Production. By J. O. Williams, senior animal husbandman, Animal Husbandry Division, Bureau of Animal Industry. Pp. 28, figs. 24. August, 1923. (Farmers' Bulletin 1341.)

The fact that mules for farm work increased from 4,209,769 in 1910 to 5,432,391 in 1920, or nearly 30 per cent, illustrates their ability to endure hardships and perform service under adverse conditions. This bulletin discusses the selection, care, and feeding of jacks and mares for the production of mules; the weaning, care, and education of mule colts; and gives a detailed description of the market classes—draft mules, farm mules, sugar mules, cotton mules, and mining mules—with illustrations of choice, good and medium, or common animals of each type.

Soil Survey of Josephine County, Oreg. By A. E. Kocber, of the United States Department of Agriculture, and E. F. Torgerson, of the Oregon Agricultural Experiment Station. Pp. 60, pls. 3, fig. 1 map. (From F. O. Soils, 1919.)

The first settlers came to Josephine County, Oreg., in mining operations. At the present time much of the county is given over to the growing of general crops for home use—fruit growing and dairying. Because of the rough topography of the county there has been comparatively little agricultural development in the last four decades. Alfalfa is the most important crop, since it forms the basis of the dairy and other live-stock industries, but it is confined to the areas where irrigation can be supplied or where the soils are naturally moist. Where irrigation has been provided the soils of this county have proved well adapted to a wide range of crops. A large, colored soil map gives the location and extent of the various soils.

ADDITIONAL PUBLICATIONS.

Game Laws for the Season 1923-24. A Summary of the Provisions of Federal, State, and Provincial Statutes. By Geo. A. Lawyer, chief United States game warden, and Frank L. Earnshaw, assistant, interstate commerce in game, Division of Migratory Bird Treaty and Lacey Acts, Bureau of Biological Survey. Pp. 70. September, 1923. (Farmers' Bulletin 1375.) Suitable for general distribution.

Journal of Agricultural Research. Vol. 24, No. 11. June 16, 1923. Contents: Morphology and host relations of *Pucciniastrum americanum*. (G-311.) By E. O. Dodge.—Watery-rot of tomato fruits. (G-312.) By Fred J. Pritchard and W. S. Porte.—Influence of the absolute reaction of a soil upon its azotobacter flora and nitrogen-fixing ability. (Kans. 36.) By P. L. Gainey.—A study of factors affecting the nitrogen content of wheat and of the changes that occur during the development of wheat. (Wash. 3.) By George A. Olson.—Relative susceptibility of citrus fruits and hybrids to *Cladosporium citri*

Massee. (Ala. 8.) By G. L. Peltier and W. J. Frederick.—An improved method for the determination of nicotine in tobacco and tobacco extracts. (Ky. 13.) By O. M. Shedd.—Nutritive value of mixtures of proteins from corn and various concentrates. (E-21.) By D. Erese Jones, A. J. Finks, and Carl O. Johns. Pp. 885-978, pls. 8, figs. 10. Price, 10 cents.

Journal of Agricultural Research. Vol. 24, No. 12. June 23, 1923. Contents: The mode of inheritance of resistance to *Puccinia graminis* with relation to seed color in crosses between varieties of durum wheat. (G-313.) By J. B. Harrington and O. S. Aamodt.—A study of rust resistance in a cross between Marquis and Kota wheats. (G-314.) By H. K. Hayes and O. S. Aamodt.—Biologic forms of *Puccinia graminis* of varieties of *Avena* spp. (G-315.) By E. C. Stackman, M. N. Levine, and D. L. Bailey.—Disease resistance of onion smudge. (G-316.) By J. C. Walker.—The effect of respiration upon the protein percentage of wheat, oats, and barley. (Minn. 47.) By F. W. McGinnis and G. S. Taylor. Pp. 979-1048, pls. 19, figs. 4. Price, 10 cents.

Journal of Agricultural Research. Vol. 25, No. 2. July 14, 1923. Contents: Transmision, variation, and control of certain degeneration diseases of Irish potatoes. (G-318.) By E. S. Schultz and Donald Folsom. Pp. 43-118, pls. 15. Price, 10 cents.

Journal of Agricultural Research. Vol. 25, No. 3. July 21, 1923. Contents: Some relations of the crown gall organism to its host tissue. (Wis. 22.) By A. J. Riker.—Oxygen-supplying power of the soil as indicated by color changes in alkaline pyrogallol solution. (G-319.) By Lee M. Hutchins and Burton E. Livingston.—Bacterial spot of lima bean. (Wis. 23.) By W. B. Tisdale and Maude Miller Williamson.—Hydrogen-ion changes induced by species of *Rhizopus* and by *Botrytis cinerea*. (G-320.) By J. L. Weimer and L. L. Harter. Pp. 119-164, pls. 9. Price, 10 cents.

Service and Regulatory Announcements. Bureau of Agricultural Economics. No. 79. Rules and Regulations of the Secretary of Agriculture Governing the Inspection and Certification of Butter, Cheese, and Eggs. February 26, 1923. Pp. 8. September, 1923. Price, 5 cents.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 196. August, 1923. Pp. 69-75. September, 1923. Price, 5 cents.

Service and Regulatory Announcements. Bureau of Biological Survey. No. 57. Hunting Migratory Game Birds on Cold Springs Reservation, Oreg. August 2, 1923. Pp. 1. September, 1923. Price, 5 cents.

Soil Survey of the Barnardville Area, New Jersey. By Austin L. Patrick and E. B. Deeter, of the United States Department of Agriculture, and C. C. Engle and L. L. Lee, of the Department of Conservation and Development of New Jersey. Pp. 60, pls. 3, fig. 1, map. (From F. O. Soils, 1919.)

Inspection of Milk Supplies. By Ernest Kelly, in charge market milk investigations, and C. S. Leete, market milk specialist, Dairy Division, Bureau of Animal Industry. Pp. 37, figs. 10. July, 1923. (Department Circular 276.) Price, 10 cents.

PUREBRED SIRES SIGN IN DEMAND.

The demand for the lithographed sign "Purebred Sires Exclusively Used on This Farm," recently issued by the department in connection with the "Better Sires—Better Stock" movement, has resulted in a noticeable extension of that work. A large number of county agents in various States have signified their intention of making better-sires activities a part of their future work. Distribution of the sign will be a feature of this activity. In Nebraska, by request of the extension director, every person already enrolled as a purebred sire user is to receive a copy of this sign as well as all who join the movement in the future.

PRINCIPAL LIBRARY ACCESSIONS

- Les aliments de France et des colonies. Paris, J.-B-Baillière et fils, 1923.
- Bergey's manual of determinative bacteriology. Society of American bacteriologists. Committee on determinative bacteriology. Baltimore, Williams & Wilkins co., 1923.
- Boll weevil problem. New ed. By B. L. Moss. Atlanta, Ga., Junior farmer co., 1919.
- Brown heart—a functional disease of apples and pears. By Franklin Kidd & Cyril West. London, 1923. (Great Britain. Food investigation board. Special report no. 12.)
- China; an economic survey. American bankers association. Commission on commerce and marine. [n. p.] 1923.
- Distribution of sex forms in the phanerogamic flora. By Cecil and Helene Yampolsky. Leipzig, Gebrüder Borntraeger, 1922. (Bibliotheca genetica. bd. 3.)
- French public finance in the Great war and today. By H. E. Fisk. New York, Bankers trust co., 1922.
- Handbuch der saccharin-fabrikation. Von Oskar Beyer. Zürich, Rascher & co., 1923.
- Handleiding voor het ouculeren van cacao. Door Gerold Stahel. Paramaribo, J. H. Oliviera, 1923.
- Helping Georgia to help herself. By Scott W. Allen. Atlanta, Ga., L. W. Rogers co., 1923.
- Der hunde-arzt. 18. auf. Von Francis Clater. Leipzig, Ernst, 1923.
- Kortfattede, praktiske anvisninger til bekampelse af haveplanternes sygdomme. 5. udgave. Af Ernst Gram og Jens Lind. København, N. C. Roms, 1921.
- Laws relating to highways and bridges. Comp. by Michigan secretary of state. Lansing, 1921.
- Mould growths upon cold-store meat. By F. T. Brooks and C. G. Hansford. London, 1923. (Great Britain. Food investigation board. Special report no. 17)
- Om vegetationsforskog med glimmermineraleerne biotit og sericit som kalkkilde. Av R. H. Cranner. Kristiania, 1922. (Norges geologiske undersøkelse. nr. 114)
- Les plantes médicinales de Tunisie. Comité régional des plantes médicinales de Tunisie. Tunis, 1920.
- Plantons des arbres. 6. éd. Par Gabriel Viaud-Bruant. Tours, Impr. Tourangelle, 1909.
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- Review of existing methods of marketing of Queensland fruit. Queensland producers' association. Council of agriculture. Brisbane, 1923.
- Studien zum domestikationsproblem unter-suchungen am hirn. Leipzig, Gebrüder Borntraeger, 1921. (Bibliotheca genetica. bd. 2)
- Studies in sweetened and unsweetened (evaporated) condensed milk. By W. G. Savage and R. F. Hunwicke. London, 1923. (Great Britain. Food investigation board. Special report no. 13)
- Svenska insekter. hft. 3. Av Albert Tullgren och Einar Wahlgren. Stockholm, P. A. Norstedt & søners förlag, 1922.
- Texas. State board for vocational education. Bulletin of information concerning vocational agriculture in Texas. Austin, 1923. (Texas, Dept. of education. Bulletin 154)
- Town lot poultry keeping. 3d ed. By D. D. Cavanaugh. Springfield, O., Poultry success press, 1922.
- Untersuchung über die forstwirtschaftliche grundregeln in der hüttenrauchgegend. Von T. Kaburake. [n. p., 191-?] In Japanese.
- El valor geográfico de España. Madrid, Sucesores de Rivadeneyra, 1921.

CURRENT PERIODICALS.

- Gartner-tidende [weekly] København, 1923.
- Institut Pasteur de Tunis. Archives [quarterly] Tunis, 1923.
- Nuestra tierra [monthly] Buenos Aires, 1921.
- League of nations. Information section. Monthly summary of the League of nations, 1921.
- A League of nations [Bimonthly] Boston, 1922.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week September 17-22, 1923. These

publications can be obtained only from the stations issuing them:

- The Marketing of Kentucky Bluegrass and Orchard Grass Seeds. D. G. Card. (Kentucky Sta. Bul. 247, pp. 33-61, figs. 6, June, 1923.)
- Forecasting the Date and Duration of the Best Canning Stage for Sweet Corn. C. O. Appleman. (Maryland Sta. Bul. 254, pp. 47-56, fig. 1, May, 1923.)
- The Fruit-Tree Leaf-Roller in the Bitter Root Valley. W. S. Regan. (Montana Sta. Bul. 154, pp. 56, figs. 8, Feb., 1923.)
- Studies in Egg Preservation. D. B. Swingle and G. E. Poole. (Montana Sta. Bul. 155, pp. 30, fig. 1, Feb., 1923.)
- Orchard Cultural Practices. H. Thornber. (Montana Sta. Bul. 156, pp. 19, figs. 5, Mar., 1923.)
- Sweet Corn in the Higher Altitudes. H. Thornber. (Montana Sta. Bul. 157, pp. 19, figs. 3, Mar., 1923.)
- Testing Agricultural Seeds. W. O. Whitcomb. (Montana Sta. Circ. 114, pp. 17, figs. 10, May, 1923.)
- Twenty-ninth Annual Report. (Montana Sta. Rpt. 29 (1922), pp. 38.)
- Observations on the Life History of *Taphrocerus gracilis* (Say) (Beetle, family Buprestidae). R. N. Chapman. (New York Cornell Sta. Memoir 67, pp. 13, figs. 10, May, 1923.)
- How and When to Prune Apple Trees. G. H. Howc. Summarized by J. D. Luckett. (New York State Sta. Bul. 500, pp. 7, figs. 3, July, 1923.)
- Commercial Fertilizers in New York Orchards. R. C. Collison and J. D. Harlan. Summarized by J. D. Luckett. (New York Sta. Bul. 503, pp. 4, July, 1923.)
- The Northern Pig—Its Breeding and Management. J. H. Shepperd. (North Dakota Sta. Bul. 167, pp. 52, figs. 12, July, 1923.)
- History of a "Swamp Fever" Virus Carrier. A. F. Schalk and L. M. Roderick. (North Dakota Sta. Bul. 168, pp. 14, pl. 1, figs. 6, Aug., 1923.)
- Winter Wheat in North Dakota. L. R. Waldron and T. E. Stoa. (North Dakota Sta. Bul. 169, pp. 12, Aug., 1923.)
- "Active" Aluminum as a Factor Detrimental to Crop Production in Many Acid Soils. P. S. Burgess and F. R. Pemher. (Rhode Island Sta. Bul. 194, pp. 40, figs. 6, June, 1923.)

Articles in Current Publications By Department Workers

- Ainslie, G. G. (Entomology). The Crambinae of Florida. The Florida Entomologist, vol. 6, No. 4, pp. 49-55, April, 1923.
- Birdseye, Miriam (Extension Service). Rice, a time saver. The Delinicator, vol. 103, No. 4, October, 1923.
- Day, Albert M. (Biological Survey). Common rodent pests of Wyoming. Wyoming Farm Bulletin, vol. 11, No. 4, pp. 27, illus., July, 1923.
- Fealy, N. E. (Plant Industry). Sugar-producing palms, their history, description, habitat, sugar, and products other than sugar. Facts about Sugar, vol. 17, pp. 58-61, 134-136, 155-157, 184-185, 187, 252-253, 256-258, 1923.
- Ferris, L. W. (Chemistry). Some determinations on the soluble nitrogen compounds of cream and butter. In J. Dairy Science, vol. 6, No. 4, July, 1923.
- Frey, R. W., Clarke, I. D., and Veitch, F. P. (Chemistry). Home tanning of leather and small fur skins. Published as Farmers' Bulletin 1334, September, 1923.
- Hunt, N. R. (Plant Industry). Notes on the occurrence and growth of cankers of *Endothia parasitica*. Phytopathology, vol. 13, pp. 366-371, August, 1923. (S.)
- Johns, C. O., Finks, A. J., and Jones, D. B. (Chemistry). Making a nutritionally balanced bread. In Am. Food J., vol. 18, No. 8, August, 1923.
- Nelson, E. W. (Biological Survey). Community protection of migratory wild fowl in Florida. American Forestry, pp. 523-526, September, 1923.
- Rankin, J. O. (Agricultural Economics). Agricultural insurance. Journal of Insurance and Financial Statistics, vol. 3, No. 2, August, 1923.
- Rose, Albert C. (Public Roads). Road building in Alaska. Highway Engineer and Contractors, vol. 9, p. 44, September, 1923.
- Sherman, Caroline B. (Agricultural Economics). Possibilities of a market as a service institution. The Nation's Health, September, 1923.
- Smith, C. E. (Entomology). The sweet-potato weevil in Louisiana and its control. Louisiana Expt. Sta. Bulletin, No. 188, 24 p., 5 figs., August, 1923.

- Scott, L. B. (Plant Industry). Nursery stock investigations. American Florist, vol. 61, pp. 469-471, September 15, 1923.
- Shantz, H. L. (Plant Industry). The natural vegetation of the Great Plains region. Annals Association American Geographers, vol. 13, pp. 81-107, June, 1923.
- Veitch, F. P., Frey, R. W., and Clarke, I. D. (Chemistry). Wearing quality of shoe leathers. Published as Dept. Bulletin 1168, September 5, 1923.

FORESTRY EXTENSION WORK GROWING.

(Continued from page 6.)

trol in York County, Me., was appointed forestry specialist for the Maine extension service in July.

Seven States now include forestry as a major project in their extension programs. Texas bringing the total up to this number with the appointment of W. E. Bond as a forestry extension specialist October 1. The other States are North Carolina, Louisiana, Pennsylvania, New York, Maine, and Iowa.

Hon. Daniel E. Garrett, Congressman from the Houston district, Tex., was the guest of honor at the August meeting of the Houston USDA Club held at the Rice Hotel. The heads of each branch office of the department, after being introduced by the acting president, W. L. Stallings, made brief addresses explaining the various projects receiving attention from the several department officials. Congressman Garrett was so favorably impressed with the work of the department in coming in contact with the public that he requested several bureaus of the department represented in Houston to supply him with outlines of the work they are doing.

BOSTON OFFICE ISSUES WOOL REPORTS.

Market news reports on wool are now being issued by the Bureau of Agricultural Economics from its Boston office. The first report was released for the week ending September 20. Weekly reports will be issued, and these will include timely market comment, detailed quotations on important grades of domestic and foreign wool, tops, noils, and mohair, and tabulations of the imports of wool at the ports of Boston and Philadelphia.

W. E. Doble is reporting the Boston market and is in immediate charge of the issuance of the reviews. Copies may be had upon application to the Boston office of the Bureau of Agricultural Economics, room 703, Appraisers Stores Building.

On August 5 a passenger arrived at New Orleans from Antwerp, Belgium, having in his baggage 10 cotton samples collected from various sections of South Africa, China, and Brazil. The owner proposed to take them to Dallas, Tex., and Atlanta, Ga. Upon examination the samples were found to contain some 250 seeds. After a full explanation of the pink bollworm quarantine was made the passenger willingly consented to the destruction of the entire lot of samples.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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WASHINGTON, D. C., OCTOBER 10, 1923.

No. 41.

STATES WILL RECEIVE MONEY FROM FORESTS

Receipts from National Forest Resources Higher Than Any Previous Fiscal Year.

A record for receipts from our national-forest resources was made during the fiscal year 1923, according to the final tabulation just completed. Total receipts amounted to \$5,335,818. This is the largest amount ever received for any fiscal year and is about \$1,000,000 larger than the average receipts of the preceding five years.

Sales of timber and livestock grazing permits were responsible for most of the money received, although permits for the use of forest lands for summer homes and hotels and for other recreational uses figured in the total to a greater extent than ever before.

Money for Roads and Schools.

An act of Congress governs the disposition of these receipts and provides that the sum of \$1,321,423 be paid to the States containing national forests for the use of schools and roads in the counties embracing these lands. Additional sums of \$48,750 and \$1,378 will be turned over to the school funds of Arizona and New Mexico, respectively, because of special provisions made by Congress relating to school lands at the time these States were admitted to the Union.

In addition to the sums mentioned, \$528,569 will be used for building roads and trails within the national forests. The balance of the receipts—\$3,435,698—will be paid into the general fund of the United States Treasury.

The amounts the States will receive for county school and road funds are calculated on the basis of one-fourth of the total receipts from the forest resources within each separate State. The funds for roads and trails within the forests are computed on a one-tenth basis. However, because of the special

laws applicable to Arizona and New Mexico, the percentages available for these States are computed after setting aside their special school funds.

List of States and Amounts.

Twenty-seven States and Alaska shared in the distribution of the two funds. Including both the sums to be spent on roads in the forests and the sums payable to the various counties for school and road funds, California will receive \$445,675, Oregon \$235,357, Idaho \$208,188, Colorado \$162,738, Arizona \$196,909, Washington \$120,741, Montana \$105,838, Wyoming \$99,067, Utah \$94,710, New Mexico \$64,009, Nevada \$39,662, and South Dakota \$34,719.

Alaska will receive \$22,090, Arkansas \$13,324, North Carolina \$11,774, New Hampshire \$8,895, Virginia \$8,760, Florida \$6,385, Nebraska \$6,062, Tennessee \$4,533, Minnesota \$3,764, Georgia \$2,471, Oklahoma \$2,290, West Virginia \$729, Maine \$709, Alabama \$301, South Carolina \$247, and Michigan \$173.

General Agriculture Shows A Continued Improvement

Continued improvement in agriculture outside the Wheat Belt is recorded by the department in its monthly agricultural review for October.

A significant development is the strengthened demand for cotton and pork, the review says. Consumption of cotton in American mills and export movement have both increased, although the South has had to scale down its expectations on the size of the new crop. The domestic and export demand for pork has absorbed a record run of hogs at better prices than were prophesied by the most optimistic earlier in the season.

In the Wheat Belt the situation is different, the department says. More than a hundred thousand homes in the wheat country are in distress. Debts which have been accumulating for five years are now coming due and farmers are unable to meet their obligations. This has

(Continued on page 2.)

DEPARTMENT BROADENS FOREIGN MEAT OUTLET

Netherlands Accepts American Fresh Pork—English Shipments Heavy.

Through efforts of the department and the Department of State a wider market for United States meat, particularly pork, has been made available, the most recent evidence of it being the opening of the Netherlands to shipments of fresh pork. This new market with the English market, which was opened to the same products about 18 months ago, now gives hog raisers a considerable additional outlet at a time when production is at a high point. The effort to broaden the foreign outlet for meats has been pushed vigorously by Secretary Wallace and Dr. J. R. Mohler, chief of the Bureau of Animal Industry.

Modifications to Meet New Conditions.

The Government of the Netherlands requires that fresh pork shipped to that country shall be handled under certain specified conditions which can now be met as a result of modifications agreed upon after suggestions were made by the department. It is expected that this new arrangement will result in a great deal of new business, just as resulted from arrangements made with England, which removed any doubts regarding the wholesomeness of American fresh pork. Up to 18 months ago there has been no fresh-pork trade between this country and England, but during the last fiscal year, ending June 30, 1923, this trade amounted to practically 20,000,000 pounds, the equivalent of more than 100,000 mature hogs. This problem had been approached without success for many years, but seems to have been settled in a manner which should prove very satisfactory to the entire meat industry. Efforts are still being made to open the way for these same products into France, which still keeps up the bars

against their importation. That there is keen appreciation of the results obtained in widening the market for our meats is shown by telegrams received as soon as the negotiations with the Netherlands were completed. The following message was received by Secretary of Agriculture Wallace from Charles E. Herrick, president of the Institute of American Meat Packers:

"Permit me, as president of the Institute of American Meat Packers, on the occasion of completion of arrangements with the Government of the Netherlands to permit importation into Holland of fresh pork from the United States, to express appreciation of the entire packing industry for Department of Agriculture's effective efforts to help widen the foreign market for American pork products. Similar arrangements by the department made about a year ago with the English Government has resulted since in marketing in the British Isles of 20,000,000 pounds of fresh American pork. This really means that exporting American packers were able to find a new market for this considerable quantity."

Individual packers also have expressed to the Secretary their appreciation of the results obtained in these negotiations and the hope that it may soon be possible to achieve the same results with France.

General Agriculture Shows

A Continued Improvement

(Continued from page 1.)

been one of the main factors that have brought to a head the acute situation in the farming, banking, and business community.

A serious phase of the situation is that exports of wheat have fallen off 36,000,000 bushels during the first eight months of 1923, as compared with the same period in 1922, the review points out. Exports during the 1923 period were 105,664,000 bushels, as compared with 141,380,000 bushels in 1922.

The general index of purchasing power of farm products in terms of other commodities advanced 1 point during the month to 73. The index of farm prices was unchanged, while the index of industrial prices dropped slightly. The agricultural index, now 73, is at the highest point it has been since June, 1922.

United States grades for milled rice, prepared in the Bureau of Agricultural Economics, were adopted by the Rice Millers' Association as the official grades of that organization.

ANNOUNCE NEW COURSES FOR GRADUATE SCHOOL

Preparation Made to Give Larger
Number—Opens Week of
October 15.

The graduate school of the department commences its third year the week beginning October 15. Preparations have been made to give a larger number of courses and of a broader variety than last year. Last year 285 Government workers registered in the school, and it is anticipated that an even greater number will enroll this year. All courses are given at 4.30 p. m. in the different department buildings. The tuition will be the same as last year—\$15 a semester or \$25 for the year.

The courses this year will be divided into two groups: 1. General and review courses. 2. Graduate courses.

Several new instructors are on the faculty. Those in the first group are all workers in the department. In the second group Doctor Cole and Professor Dean are new men in the department, but both have had years of experience in teaching graduate work.

General Courses.

Accounting principles (yr.), K. B. Gardner; elements of statistical methods (yr.), G. C. Haas; advanced statistical methods (first hf.), H. R. Tolley; library science (yr.), Miss Ellen Hedrick; cataloging and reference (yr.), Miss Ellen Hedrick; botany in relation to plant culture (yr.), Prof. C. V. Piper; glass-blowing technique (yr.), Dr. S. Karrar.

Graduate Courses.

Credit currency and prices with special reference to the influence of the Federal reserve system (first hf.), Dr. E. A. Goldenweiser, of the Federal Reserve Board; economic cycles (second hf.), Dr. W. W. Stewart; the principles of animal breeding (yr.), Dr. L. J. Cole, Dr. Sewall Wright, and Dr. H. C. McPhee; the principles of economic entomology (yr.), Prof. George A. Dean and others; the principles of animal pathology (yr.), Dr. Robert J. Formad; the principles of plant geography (yr.), Dr. H. L. Shantz; physics of the air, in cooperation with George Washington University (yr.), Dr. W. J. Humphreys; the theory of analytical chemistry (yr.), Dr. J. E. Zanetti, of Columbia University; advanced physical chemistry (yr.), Dr. E. W. Washburn, of the University of Illinois; rural sanitation (hf. yr.), Dr. Charles

Wardell Stiles and Dr. L. L. Lumsden, of the Public Health Service; plant cytology (yr.), Dr. B. O. Dodge, of Columbia University; bacteriology (yr.), Dr. F. V. Rand, plant physiology (yr.), Dr. Burton Livingston, of Johns Hopkins University.

The final announcement giving details of the courses, room, etc., will be issued October 10.

British Wool Interests Agree On Sample for Wool Grades

Progress in the establishment of universal wool grades has been made, according to George T. Willingmyre, with the arranging for cooperation between the department of industries and manufactures of Great Britain and American Government and trade representatives. Mr. Willingmyre, who represented the department in the negotiations at Bradford, England, brought back with him a set of sample wool grades that represent the composite ideas of the English trade as to the diameter of the fiber of the average Bradford quality, based on the English count system.

Several sets of grades based on the samples approved by the British wool authorities are to be prepared, and a conference of American Government and wool industry representatives then called to pass upon the sets. The next move will be to distribute the sets among the American and English trade.

"This is the first step in a series of negotiations that, it is hoped, will result in the establishment of a uniform standard applicable everywhere throughout the world," Mr. Willingmyre said. "Although at the present time the standards used by many of the Bradford mills do not agree, leading wool men in England are convinced of the need of universal standards, and a sincere effort will be made first to induce the trade to deal on the basis of a single set of grades that represents their composite ideas. It will then be comparatively simple to correlate the American grades with the English grades, so that when an American buyer orders wool from an English house he can know precisely the kind of wool that will be delivered."

Mr. Willingmyre pointed out to the Bradford committee that the set of grades prepared are to be used merely as a basis for further research work. The committee was agreed as to the need for such work and indorsed the general idea of universal standards. In view of the cooperation of the Bradford mill interests Mr. Willingmyre feels that a good start has been made toward developing universal standards for wool.

A DIGEST OF THE NEWS

Brief bits of News Digested From
Material Issued by Department During
the Past Week.

DEPARTMENT MAN GOES TO JAPAN.

At the request of the Japanese Government Dr. T. A. Jaggard, volcanologist of the Weather Bureau stationed in Hawaii, has been authorized to proceed to Japan to assist Doctor Omori, the Japanese authority, in an investigation of the earthquakes which caused the recent catastrophe. The seismological records in the offices of the Weather Bureau on September 1 and 2, showed very plainly that earthquakes occurred on these dates at some point at least 6,000 miles from Washington. By computation they were located at the time and place of the Japanese quakes.

THREE BUFFALOES GIVEN TO MEXICO.

Three American bison have been given by the department and the New York Zoological Society to the zoological park maintained by the Government of Mexico. The gift, intended to be a practical manifestation of good will between the two nations, was tendered upon resumption of full diplomatic relations between the two countries. The bison were to be shipped from the herd maintained by the department on the Wichita National Forest in Oklahoma.

RADIO IS USED WIDELY ON FARMS.

The speed with which farmers have taken up radio for practical and social purposes is shown in a recent survey made by the department. County agents estimate that there are approximately 40,000 radio sets on farms in 780 counties. This is an average of 51 sets per county. Applying the average to 2,850 agricultural counties, a total of more than 145,000 sets on farms throughout the country is estimated. The estimates covered every State. New York was the leading State.

REPRESENTED AT BOMBING TESTS.

By invitation of the War Department, department representatives officially attended the series of bombing tests conducted by the Army Air Service off Cape Hatteras recently. Special arrangements were made to furnish frequent weather reports and forecasts in connection with these maneuvers. It was

necessary to place a part of the weather telegraph line in an underground cable in order to accommodate the airplanes.

NO QUARANTINE AGAINST EELWORMS.

Scattered occurrence of the stem and bulb eelworm, a serious pest of alfalfa and clover, in the United States as well as its prevalence in foreign countries, makes control of this pest by Federal quarantine impracticable. This conclusion was reached at a recent hearing before the Federal Horticultural Board. As a result no quarantine will be recommended. It was brought out that the pest occurred only in moist sections or under irrigation conditions, and there was little evidence that it would become a menace under other conditions.

Leaders of Paper Industry To Aid in Forestry Policy

An advisory committee has been selected by Secretary Wallace to help in formulating and carrying out the department's forest policies which relate to the supply and use of timber in making paper and kindred products. The committee is composed of 20 men who are prominent in the pulp and paper industry of the United States.

Secretary Wallace states that the creation of this advisory committee, composed of men who are intimately concerned with the industry, will, in his opinion, insure thorough consideration of requests for advice as well as bring forth advice itself which would deal in a searching and practical way with the fundamental problems of the industry.

"The members of the committee, and through them the entire pulp and paper industry, should become more directly concerned in the development of forestry policies and in the conduct of our research work, whether that of the forest-products laboratory, of the forest experiment stations, or along economic lines," said Secretary Wallace.

"Furthermore, I believe that in the long run such a committee ought to help materially in the department's relationships with the public in all matters concerning forestry practices and the utilization of timber and its products. In short, through the appointment of such an advisory committee I can see a splendid opportunity for an increasingly effective contact and cooperation."

Hugh P. Baker, secretary of the American Pulp and Paper Association, has been active in the formation of the advisory committee and has conferred concerning the matter with Chief Forester

Greeley and E. H. Clapp, director of research for the Forest Service.

Those who have been asked by Secretary Wallace to serve on the advisory committee include George W. Sisson, jr., president of the Racquette River Paper Co., Potsdam, N. Y.; Col. W. E. Haskell, vice president International Paper Co., New York; Stanley C. Bayless, secretary-treasurer Bayless Manufacturing Co., Austin, Pa.; E. B. Murray, vice president Union Bag & Paper Corporation, New York; L. M. Alexander, president Nekoosa-Edwards Paper Co., Port Edwards, Wis.; D. C. Everest, vice president Marathon Paper Mills Co., Rothschild, Wis.; C. A. Gordon, vice president Oxford Paper Co., New York; Norman W. Willson, vice president Hammernill Paper Co., Erie, Pa.; W. B. Nye, vice president S. D. Warren Co., Boston, Mass.; George W. Ostrander, director of Finch, Pruyn & Co., Glens Falls, N. Y.; H. E. Fletcher, vice president Fletcher Paper Co., Alpena, Mich.; F. E. Bragg, president Orono Pulp & Paper Co., Bangor, Me.; F. C. Clark, vice president Pejepscot Paper Co., Brunswick, Me.; David L. Luke, president West Virginia Pulp & Paper Co., New York; A. C. Goodyear, president Bogalusa Paper Co., Buffalo, N. Y.; Louis Bloch, vice president Crown Willamette Paper Co., San Francisco, Calif.; Grellet Collins, president Dill & Collins Co., Philadelphia; O. Bache-Wiig, vice president Wausau Sulphate Fiber Co., Mosinee, Wis.; Henry W. Stokes, president York Haven Paper Co., Philadelphia; Hugh P. Baker, executive secretary American Paper & Pulp Association, New York.

Among the activities of the department closely concerned with the pulp and paper industry are the research in pulp and paper making conducted at the forest products laboratory at Madison, Wis., forest research in the growing of timber crops now under way at the various forest experiment stations, and the development of Federal and State policies for the production of timber upon the country's forest lands.

Representatives of various foreign Governments who are in the United States to study health systems visited the Bureau of Chemistry on September 21 to learn how the Federal food and drugs act is enforced. The requirements of the law were explained and the organization and the methods for enforcing it described. The laboratories of the Bureau of Chemistry were visited. Following the close of the course of study of the national health agency the delegation of visitors will separate into three groups for the purpose of studying State and local health departments.



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OFFICIAL ANNOUNCEMENTS.

Memorandum of the Secretary.

Designation of Director of Extension Work.

MEMORANDUM No. 451—September 24, 1923.—Effective September 24, 1923, Clyde W. Warburton will become Director of Extension Work of the Department. The Director of Extension Work will have general direction and supervision of all extension activities of the department and such other activities as may be assigned, and will advise with the Secretary, chiefs of bureaus, and others with regard to:

(1) The formulation, consideration, and establishment of plans and policies affecting extension work;

(2) The coordination and correlation of such activities in the bureaus and offices of the department and the arrangement of co-operation with other departments or branches of the Government, State agencies, etc.;

(3) The review, preparation, and approval for issuance or publication of statements, orders, circulars, and bulletins concerning extension activities;

(4) Matters affecting the personnel engaged in extension activities; and

(5) Such other duties as later may be determined.

By Department Memorandum 436, issued June 8, 1923, the offices of extension work, exhibits, and motion pictures were transferred to the office of the Director of Extension Work.

ON THE SUBJECT OF LETTER WRITING.

A department man connected with an office in Topeka, Kans., has something to say about letter writing in connection with an article recently published in the RECORD. He makes some good suggestions. We are waiting to know what you have to say. Here is what this reader offers:

"Official letters should be worded in such a way that the recipient may gather from the opening paragraph the idea the writer has to convey. If a request is to be made or information is to be furnished the opening paragraph should introduce the subject.

"It is impossible to prepare a satisfactory letter unless the writer has the

subject matter well in hand before the final draft is made and it is better to make several drafts than mail a letter that does not convey the exact impression the writer wishes to make.

"A stilted style in official correspondence is to be avoided. There is no reason why such may not follow the easy, conversational style that obtains in the better class of business correspondence and still carry with it the dignity that should prevail in all communications from an official of the department.

"Promptness and the usual rules of courtesy should prevail in official correspondence to the same extent that they do in private letters. A company that has merchandise or service for sale must be prompt if it wishes to build up a good business. Observance of this rule will increase the usefulness of the service represented by a department official and help greatly in securing the good will of the persons with whom he comes in contact.

"As clothes make the man, so the general appearance of a letter helps make the impression the writer wishes to convey, hence such matters as spelling, capitalization, spacing, and punctuating are not to be overlooked."

DRAFTING AND PHOTOGRAPHIC WORK.

Effective August 23 all requests for drafting and photographic work will be forwarded to the chief clerk's office for a bureau number. The various branches of the Secretary's office should indicate the symbol of their office on the line in the upper left-hand corner of the drafting and photographic request. The identifying symbols for the various divisions of the office are as follows:

- Office of the Secretary (SEC).
- Office of cooperative extension work (E).
- Office of experiment stations (OES).
- Office of editorial and distribution work (ED).
- Office of exhibits (X).

Women in marketing work are discussed by Miss Caroline Baldwin Sherman in the October issue of the Business Woman. In the article the author points out the distinguishing and more unique phases of the work of six women, all of the Bureau of Agricultural Economics. Mention is made of the fact that these are merely representative of the women who are rendering effective service in marketing studies and the practical application of results.

From Our Readers

TO THE EDITOR: THE OFFICIAL RECORD is eagerly looked for by those in the field because it brings much valuable up-to-date information which was never received before except in the Yearbook. Newspapers often query us relative to publications. Farmers are ever on the alert for the same, and by referring to the RECORD we can give them information of a late issue. I would like to see used in the RECORD material on office system and methods—anything of a general nature which would be beneficial for the proper conduct of business, also that which has been adopted by the department and can be of use in the field.—C. J. D.

TO THE EDITOR: I find THE OFFICIAL RECORD a concise, easy way of educating my club members along official lines. We sometimes use the RECORD in our club meetings and find it quite helpful, but would like to see more of our home demonstration work and workers on its pages.—M. L. P.

TO THE EDITOR: I find that THE OFFICIAL RECORD includes from time to time many articles of extreme interest and believe that it is a valuable source of information to employees in the field. I am an interested reader of its contents, which enable me to keep informed on various departmental activities. I have every number on file in the office and frequently have occasion to consult same. Frankly I think it is well balanced and do not know of any class of material that could be substituted to advantage for the departments now being conducted.—E. K. H.

TO THE EDITOR: Owing to the fact that THE OFFICIAL RECORD publishes some of the activities of the different bureaus of the department, including that in which I am employed, I am encouraged and inspired to make greater effort to add to my efficiency. The two items, "Experiment station publications" and "Principal library accessions," do not interest me particularly, but others might be vitally interested in them.—G. W. B.

In THE OFFICIAL RECORD for September 26 a sentence in the story headed "What one man did with tomatoes" said "The average yield per acre was 5 tons, while the average for the rest of the county was but 4 tons to the acre." It should have read "The average yield per acre was 8 tons, while the average in the county was about 3.5 tons."

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. How much annual damage is done by lightning fires in this country?

Answer. The annual destruction due to lightning fires in the United States is estimated to be as much as \$20,000,000. In one State alone, Iowa, during the four years ending with 1922, the loss, as given by the State fire marshal, was \$1,363,704, of which 61 per cent was due to fires in farm barns. Very nearly all of such loss is preventable by proper rodding.

Question. Is it possible to secure the privilege of occupying national forest lands for residential, commercial, or industrial purposes under permit?

Answer. Yes. Practically every form of residential, commercial, or industrial use not inconsistent with the purposes for which the national forests were created is authorized under special-use permit. Many of the permits are issued without charge and the others upon payment of very nominal annual rentals or fees.

Question. Has the department any publication showing how to build an ice house on the farm?

Answer. Farmers' Bulletin 1098, Harvesting and Storing Ice on the Farm, gives complete directions for building six different types of ice houses ranging from a simple structure made of posts to a small concrete building. Directions are given for cutting and hauling the ice in the easiest way. Emphasis is laid on securing a supply of ice from clean, uncontaminated water. The space for storing ice should accommodate about 50 per cent more than is actually needed, to allow for shrinkage.

Question. Is the hog an efficient user of feeds?

Answer. The hog is an efficient user of foods fit and unfit for man. It takes about 6 pounds of grain and 6 pounds of hay to produce a pound of lamb (live weight), 10 pounds of hay and 10 pounds of corn to make a pound of beef, and 5.6 pounds of corn for a pound of pork.

Question. What is the tuberculin which is used in cattle tuberculosis eradication?

Answer. Tuberculin is a sterilized extract of the germs (tubercle bacilli) which cause tuberculosis. These germs are isolated from bodies of diseased ani-

mals by bacteriological methods and put in flasks which contain a specially prepared broth. After the flasks have been seeded with a small amount of these bacilli the latter grow on the broth for a couple of months. The flasks are then heated in steam sterilizers to kill the germs, after which the germs are filtered out. The remaining sterile fluid extract constitutes the tuberculin, which may be prepared in different forms for the use of the veterinarian.

CROP REPORTING BY AIRPLANE.

The practicability of measuring crop acreages by means of airplane photography is being determined by the department in an effort to remove so far as possible the hazard of errors in crop reporting.

In recent experiments at Tallulah, La., in cooperation with the Army Air Service, photographs of fields of cotton, corn, and hay were made at heights ranging from 2,500 to 7,000 feet with the plane traveling at the rate of 80 to 90 miles an hour. In photographs taken at 7,000 feet it is possible to distinguish the fields planted to the various crops. With the use of a "planimeter" it is then possible to measure the exact acreage in the different fields shown in the photographs. The camera used is automatically operated and takes a picture 7 by 9 inches in size, each exposure at an elevation of 7,000 feet showing an area of approximately 1 square mile. In a 3-hour flight it is possible to make a continuous record of more than 250 square miles.

Further experiments are to be made next year, and should the new method of measuring acreages prove practicable it may be used as an adjunct to present crop-reporting methods. Flying at a height of from 500 to 1,500 feet, the crop estimators making the flights can also satisfactorily observe the condition of the plants.

VALUE OF SEISMOLOGICAL RECORDS.

Many people wonder what practical value can attach to the records of earthquakes as made by the seismograph. These records can not, of course, be used directly in predicting the quake, though when collected and studied they throw a great deal of light upon the nature of earthquakes that may conceivably lead at some future time to successful methods of prediction.

There is, however, another way in which seismological records may be of immediate practical utility. This is il-

lustrated in the practice of the Hawaiian volcano observatory, which is conducted by the Weather Bureau. Severe earthquakes are commonly attended by so-called tidal waves, and there may be an interval of many hours between the occurrence of the quake and the arrival of the destructive oceanic wave at any given place. When a violent earthquake occurring in any part of the world is registered at the Hawaiian observatory, the officials send out warnings by cable or otherwise to the regions likely to be affected by the accompanying tidal waves, so that the people may not be caught unprepared. This service is said to have resulted in a great saving of life and property.

Livestock Feeders Will Be Aided by Problem Sheet

A new feeding-problem sheet has been designed for the convenience of livestock feeders who desire expert assistance in feeding problems. It is now being distributed to county agents and extension workers of cooperating States in connection with a plan for the better feeding of livestock, conducted by various States and the department. The problem is briefly outlined and there is a space for comments and recommendations of the county agents. The information desired is then furnished by the State agricultural college to which the blank is sent or, at the option of the State extension director, by the department. The State will, in most cases, answer questions relating to conditions in the State, while the department will give information on problems of a more general character or those on which the department is conducting special investigations.

The better-feeding-of-livestock service has been developed in response to a popular demand and, it is believed, will not only facilitate correspondence on feeding questions, but will make possible more explicit replies by State and Federal experts because of the information contained on the feeding-problem sheet.

With each reply to feeding problems answered by the department there goes a return post card on which a person given information is asked to report the results obtained. Replies received thus far have all indicated either entire success or improvement. The follow-up system thus leaves nothing to chance and places the future development of the service on a substantial basis.

The department is already analyzing the various problems submitted and will issue from time to time statements on results.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

SWEET CREAM BEST FOR MAKING BUTTER.

Everyone is familiar with the fact that even under the best of storage conditions butter often develops off flavors, becomes rancid, and in general deteriorates so that it must be graded much lower than when freshly made. Recognizing this difficulty, the department some years ago set about finding a way to make butter which would have exceptionally good keeping qualities. This was accomplished by using the best quality of sweet cream for butter making instead of using sour cream as was customary previously.

The Navy Department uses a great deal of butter, which must be of such quality that it can be carried on board ship for long cruises and into all climes without losing its reputation with the midshipmen for "good behavior." The butter made from sweet cream meets this requirement. This method of manufacture also makes it possible for the housewife to serve on New Year's Day a butter which is nearly as good as it was on the day it was made in early summer.

Previous to the time the Navy came to the department for help in solving its butter problem, L. A. Rogers, then as now in charge of the dairy laboratories in the Dairy Division, had been studying the factors which influence the keeping quality of butter. In his investigations he found that butter made from pasteurized unripened sweet cream kept much better than butter made from pasteurized ripened cream or even unpasteurized unripened cream. The request from the Navy furnished the opportunity to try the making of butter from sweet cream on a large scale and the proposition met with immediate success.

Beginning in 1909 all butter made for the Navy under the direction of the department was made from sweet cream. Now, each year in the summer months when the price of butter is low the Navy orders butter from a number of creameries which agree to make the product under the supervision and inspection of department officials. Consequently it is assured of butter made according to the specifications which have been outlined for the making of sweet-cream butter for the Navy. These specifications require that the cream be pasteurized at a temperature of not less than 145° F. for 25 minutes or at 176° F. for an instant. None of the cream shall contain more

than 0.234 per cent of acid. The finished butter must not contain more than 13½ per cent moisture and the salt content must be between 2½ and 3¼ per cent.

In order to note the keeping quality of the butter, samples are set aside and held for nine months at a temperature of 0° F., when they are scored to determine any change or deterioration in quality. Butter made and kept in this way has consistently scored an average of 93 points, after being in storage for nine months. Very little butter on the New York market scores over 92 points. Some of the butter made for the Navy is put up in sealed tins for use on ships that have no extra refrigeration space. Sweet-cream butter put up in sealed tins may melt and solidify and be subject to tropical temperatures and yet not develop serious off-flavors.

In 1910 butter was made for the Navy from sweet cream to the extent of 640,000 pounds and in 1918 as much as 9,326,204 pounds. This large use of sweet-cream butter by the Navy has finally interested commercial butter dealers, and this class of butter has come to be appreciated by the general public and the butter trade.

The development of the process of making butter from sweet cream has given the public a good product and one which can be stored in great quantities and for some length of time without the danger of loss from deterioration in quality during the time it is in transit or storage. While fresh sweet-cream butter is not easily distinguishable to the taste of the general public, it has a different flavor than sour-cream butter. The proof of sweet-cream butter, however, is not so much in the eating while fresh as in its keeping qualities.

WITH EXTENSION FORCES

NEVADA CLIMATE PRESENTS PROBLEMS.

One workman for an area of 27,351 square miles is a situation requiring some thought. Add to this a variation in climate, which includes summer temperatures too hot for any but the most necessary work in the southern desert portion and winters too severe to permit travel in the northern mining district; a variation in altitude of about 3,000 feet in the habitable areas; a widely scattered population averaging less than one person to each one and a half square miles; no way to go from one community to the next but to travel the lonely mountain or desert road, 25, 40, 70 miles long; occasional

daily mail service, but more frequently triweekly or biweekly, and you have some of the physical problems that the territory of Clark, Lincoln, and White Pine Counties, Nev., presented to its first home demonstration agent, Leah Barker, May, 1921. Even to contemplate making a plan of organization, with one end of one's territory 360 miles distant from the other, is somewhat discouraging.

Miss Barker first divided her year according to climatic conditions; winter months for Clark County where the intense heat of their desert summers make any summer meetings or extra home work difficult for the local women; spring and fall months for moderate Lincoln County; and June to October in northern White Pine County. A preliminary survey of the territory was then made. Undernourishment she found very prevalent, examinations of school children made later showing in some cases as high as 55 per cent seriously under weight. The extreme heat in some sections, the nervously stimulating high altitudes in others, doubtless are contributing causes, but the agent found the old mining-camp, cattle-range diet of meat, potatoes, pastry, and coffee almost universal, with fresh milk and green vegetables seldom seen and but few gardens grown. Nutrition work, therefore, was placed on the extension program. Home sanitation and hygiene work was felt a necessary project because of lack of safe water supply and need for screening and combative measures against the flies which warm climate and corrals make a menace to health and comfort. Clothing work, community recreation, and the development of home industries for women and girls completed the list. In the past year sanitation and nutrition demonstrations were carried on by 8 of the organized communities, clothing projects in 18 communities, home industry work by 6 communities, and home and community recreation very generally combined with other community projects. Miss Barker has found that best results are obtained, under the conditions prevailing in her territory, where it is possible for the agent to visit a community not more than three or four times a year by limiting the number of projects in the community to one or two.

Women's and girls' clubs, supervised by local leaders, have been used, mainly, to carry the work as far as possible in the communities. Taking into account the great physical handicaps the country presents and the fact that ranch women are very busy just keeping up their end of the ranch-home industry with little leisure to devote to this form of community work, much as they would like to, the results have been gratifying.

BRIEF REVIEWS OF NEW BULLETINS.

Fumigation of Citrus Trees for Control of Insect Pests. By R. S. Woglum, formerly entomologist, tropical and subtropical fruit insect investigations, Bureau of Entomology. Pp. 59, figs. 33. July, 1923. (Farmers' Bulletin 1321.) Supersedes Farmers' Bulletin 923, Fumigation of Citrus Trees.

For the last 30 years growers of citrus fruits in California have depended upon fumigation of trees with hydrocyanic-acid gas for the control of insect pests. A tent is drawn over the tree and the gas is produced or liberated within the tent. With proper dosage and under proper conditions the scales are killed and the tree is seldom injured. Three methods of producing and applying the gas are described and details of these methods, with dosage tables and some necessary cautions, are given; also information with regard to the most prevalent scale pests.

Controlling the Gipsy Moth and the Brown-Tail Moth. By A. F. Burgess, entomologist in charge of gipsy-moth and brown-tail moth investigations, Bureau of Entomology. Pp. 28, figs. 15. July, 1923. (Farmers' Bulletin 1335.)

The gipsy moth is most effectively controlled by hand methods, such as applying cresote to the egg clusters in fall or winter, using in the spring a special tree-banding material developed by the Bureau of Entomology in cooperation with the Bureau of Chemistry, or spraying with arsenate of lead after the caterpillars hatch. In woodlands thinning out should be practiced, leaving only those species of trees least affected by the insect. The brown-tail moth can be controlled by cutting off the winter webs and burning them before the caterpillars begin to emerge in April. The Bureau of Entomology has made a study of parasites of both insects, and many of these natural enemies have been introduced throughout the infested area in New England. A Federal quarantine prevents the shipment out of the infested territory of products liable to infestation, except after strict inspection under regulations of the Federal Horticultural Board.

Standard Varieties of Chickens: The American Class. By Rob R. Slocum, formerly of the Animal Husbandry Division, Bureau of Animal Industry. (Revised by Alfred R. Lee, poultryman, Animal Husbandry Division.) Pp. 18, figs. 17. July, 1923. (Farmers' Bulletin 1347.) This bulletin is a revision of and supersedes Farmers' Bulletin 806 of the same title.

The breeds now classed as American are the Plymouth Rock, Wyandotte, Java, Dominique, Rhode Island Red, Rhode Island White, Buckeye, Jersey Black Giant, and Chantecler. The chickens of the American breeds are commonly called general-purpose fowls, as they are usually good egg producers and yield carcasses well suited to the table. They are especially well suited for farm flock and are in great favor with poultry packers. They are less active than the strictly egg breeds, but more active than the heavy kinds and are good foragers.

Cultivation of the True Yams in the Gulf Region. By Robert A. Young, plant introducer, office of foreign seed and plant introduction, Bureau of Plant Industry. Pp. 16, pls. 10. August, 1923. (Department Bulletin 1167.) Price, 10 cents.

Since it has been demonstrated by the department that yams can be successfully grown in the Gulf region, and as quarantine regula-

tions prevent the further shipment into this country of yams because of the danger of introducing and further spreading certain insect pests, truck growers in that region are interested in cultivating this crop to supply an established market for it. True yams are entirely distinct from the sweet potato, to certain moist varieties of which the name yam has been erroneously applied. They are much like the white (Irish) potato in composition and food value, and many of them when prepared for the table are equal or superior to it in appearance and taste. As yams mature in the late fall or early winter, they can be grown to supplement the fall potato crop.

Soil Survey of Erath County, Tex. By T. M. Bushnell, of the Texas Agricultural Experiment Station, and H. W. Hawker and D. B. Pratapas, of the Department of Agriculture. Pp. 38, fig. 1, map. (From F. O. Soils, 1923.)

Soil differences, especially variations in depth, texture, and structure of the surface material, combine with weather conditions to determine crop adaptation and yields. Sandy soils are adapted to peanuts and fruits. Heavy soils are better suited to small grains and produce corn and cotton well in favorable or wet seasons when the deeper sandy soils are too cold and moist. If the spring is wet the crops start better on heavy land than on sandy land, but in case of subsequent summer drought they may fail on the heavy land but make a crop on the moisture stored in the sandy land. Over two-thirds of the area is pasture land.

The Work of the Huntley Reclamation Project Experiment Farm in 1921. By Dan Hansen, farm superintendent, office of western irrigation agriculture, Bureau of Plant Industry. Pp. 27, figs. 2. August, 1923. (Department Circular 275.)

This circular contains the direct result of investigations conducted on the experiment farm and of observations concerning agricultural conditions on the Huntley reclamation project, discussing this project in the light of detailed crop and livestock statistics collected by the Reclamation Service. The work included experiments in the production of both irrigated and dry-land field crops and also experiments in crop utilization through the use of livestock. The report is of special interest and value to people located on irrigated lands in the northern Great Plains.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week September 24-29, 1923. These publications can be obtained only from the stations issuing them.

The soils of Arkansas. N. Nelson, W. H. Sachs, and R. H. Austin. (Arkansas Sta. Bul. 187, pp. 83, pl. 1, figs. 24. June, 1923.) Table service and etiquette for the home. C. H. Plunkett. (Arkansas Sta. Bul. 188, pp. 21, figs. 5. July, 1923.) Relation between percentage fat content and yield of milk.—Correction of milk yield for fat content. W. L. Gaines and F. A. Davidson. (Illinois Sta. Bul. 245, pp. 577-621, figs. 11. June, 1923.) Feeding and management of the dairy herd. W. B. Nevens. (Illinois Sta. Circ. 272, pp. 47, figs. 11. Aug., 1923.) Bacillary white diarrhea of chicks. (Illinois Sta. Circ. 273, pp. 4, figs. 5. Sept., 1923.)

Soil survey of Iowa.—Marshall County. W. H. Stevenson, P. E. Brown, et al. (Iowa Sta. Soil Survey Rept. 23, pp. 64, pl. 1, figs. 14. July, 1922.)
Soil survey of Iowa.—Madison County. W. H. Stevenson, P. E. Brown, et al. (Iowa Sta. Soil Survey Rept. 26, pp. 56, pl. 1, figs. 11. June, 1922.)
Soil survey of Iowa.—Adair County. W. H. Stevenson, P. E. Brown, et al. (Iowa Sta. Soil Survey Rept. 27, pp. 62, pl. 1, figs. 18. July, 1922.)
Soil Survey of Iowa.—Cedar County. W. H. Stevenson, P. E. Brown, et al. (Iowa Sta. Soil Survey Rept. 28, pp. 63, pl. 1, figs. 14. June, 1922.)
The sweet potato weevil in Louisiana and its control. C. E. Smith. (Louisiana Sta. Bul. 188, pp. 24, figs. 5. Aug., 1923.)
The cause and permanence of size differences in apple trees. K. Sax and J. W. Gowen. (Maine Sta. Bul. 310, pp. 8, pl. 1, fig. 1. Feb., 1923.)
Soil experiments on the gravelly Ozark upland. M. F. Miller and F. L. Duley. (Missouri Sta. Bul. 202, pp. 22, figs. 13. Mar., 1923.)
Soil experiments on the brown silt loam of the Ozark border region. M. F. Miller and F. L. Duley. (Missouri Sta. Bul. 203, pp. 24, figs. 7. Apr., 1923.)
Controlling soil moisture for vegetable crops in Missouri. J. T. Rosa. (Missouri Sta. Bul. 204, pp. 8, figs. 3. June, 1923.)
Surface treatments for the cabbage maggot. W. C. O'Kane, C. R. Cleveland, and C. H. Hadley. (New Hampshire Sta. Tech. Bul. 24, pp. 42. June, 1923.)
Inheritance of size and conformation in sheep. E. G. Ritzman. (New Hampshire Sta. Tech. Bul. 25, pp. 36, figs. 4. June, 1923.)
A study of alkali and plant food under irrigation and drainage. C. W. Botkin. (New Mexico Sta. Bul. 136, pp. 44, figs. 11. Apr., 1923.)
A chemical study of legumes and other forage crops of western Oregon. J. S. Jones and D. E. Bullis. (Oregon Sta. Bul. 197, pp. 24. July, 1923.)
Fattening lambs on alfalfa. E. L. Potter and H. K. Dean. (Oregon Sta. Bul. 198, pp. 16, figs. 4. Aug., 1923.)
Control of the western peach and prune root-borer. D. C. Mote. (Oregon Sta. Circ. 50, pp. 4, figs. 3. Aug., 1923.)

ADDITIONAL PUBLICATIONS.

Monthly Weather Review. Vol. 51, No. 7. July, 1923. Pp. 345-381, figs. 7, charts 8. Price, 15 cents a copy, \$1.50 a year, payable to the Superintendent of Documents.
Special articles: Influence of Gulf water surface temperatures on Texas weather. By I. R. Tannehill.—Accuracy of areal rainfall estimates. By R. E. Horton.—Rainfall duration and intensity in India. By R. E. Horton.—Are we having less snowfall? By C. J. Root.—The National elimination balloon race from Indianapolis, Ind., July 4, 1923. By L. T. Samuels.—Lightning fatality. By E. R. Miller.
Service and Regulatory Announcements. Federal Horticultural Board. No. 75. April-June, 1923. Pp. 57-98. September, 1923. Price, 10 cents.

A report just issued by the department summarizing the status of tuberculosis-eradication work at the beginning of September shows nearly 5,000,000 cattle under supervision for the eradication of the disease.

A total of 661,260 cattle, including both beef and dairy breeds, are in fully accredited herds. Nearly 3,000,000 cattle are in herds which have successfully passed the first test in process of becoming accredited. The remainder are in herds which are not yet free from tuberculosis and which are under supervision of varying stages.

The popularity of the tuberculin test is indicated by a waiting list of more than 145,000 herds which will be tested as soon as Federal and State veterinary inspectors can get to them.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Agricultural conference, Harrisburg, Pa. 1923. Report (Pennsylvania). Dept. of agriculture. Bulletin v. 6, no. 2).
- A. L. A. catalog, 1912-1921. Chicago, American library association, 1922.
- Anglo-American year book and international directory 1923. London, 1923.
- Basarabia. Considerațiuni de C. Filipescu și E. N. Giurgea. Chișinău, Institutul de arte grafice "Romania Nouă," 1919.
- Birds of our country. v. 1. By Frank Finn and E. K. Robinson. London, Hutchinson & co. [1923?]
- Book of butter. Rev. ed. By E. S. Guthrie. New York, Macmillan co., 1923.
- Botany, principles and problems. By E. W. Sinnott. New York, McGraw-Hill book company, inc., 1923.
- Cook book. By Cecelia Leonard. Grand Rapids, Mich., Grand Rapids refrigerator company, 1923.
- Coöperative marketing of farm products. By O. B. Jesness. Philadelphia, J. B. Lippincott company, 1923.
- Course of instruction in the qualitative chemical analysis of inorganic substances. 7th ed. By A. A. Noyes. New York, Macmillan company, 1918.
- Cruciferae-Brassicaceae. Pars. 2. Von O. E. Schulz. Leipzig, W. Engelmann, 1923. (In Das pflanzenreich 84. hft.)
- Dic cultuur van het suikerriet op Java. Door W. van Deventer, Amsterdam, J. H. de Bussy, 1915. (Java, West. Proefstation voor suikerriet in West-Java "Kagok" te Pekalongan. Handboek ten dienste van de suikerriet-cultuur. 5. deel)
- Dairy farming projects. By C. E. Ladd. New York, Macmillan company, 1923.
- Diabetic metabolism with high and low diets. By E. P. Joslin. Washington, 1923. (Carnegie institution of Washington. Publication no. 323.)
- Factors affecting the control of the tea mosquito bug (*Helopeltis theivora*-Waterh.) By E. A. Andrews. London, Indian tea association [192-]
- Farm live stock of Great Britain. 5th ed. By Robert Wallace. Edinburgh, Oliver and Boyd, 1923.
- Gardening for the twentieth century. By Charles Eley. London, J. Murray, 1923.
- Gipsy moth, a conference held in Albany, November 16, 1922. Comp. by Bureau of plant industry. New York (State) Dept. of farms and markets. Division of agriculture. Albany, 1922. (Bulletin 148)
- Gt. Brit. Ministry of agriculture. Departmental committee on agricultural machinery. Report. London, 1920.
- Growing vegetables. By R. L. Watts. New York, Harper & brothers, 1923.
- Handboek der menschenvoedingsleer. Door A. J. J. Vandevelde. Brussel, J. De Lannoy, 1923.
- Hymenoptera, Fam. Apidae, subfam. Prosopeidinae. By Geoffrey Meade-Waldo. Bruxelles, L. Desmet-Verteul, 1923. (Wytzman, P. Genera insectorum. fasc. 181)
- Industrial organization. By R. M. Keir. New York. Ronald press company, 1923.
- Irish free state. Commission on resources and industries of Ireland. Report on dairying and the dairy industry. Dublin, 1922.
- Kinks for contractors. Engineering news-record. New York, 1922.
- Manual of entomology. By Harold Maxwell Lefroy. London, E. Arnold & co., 1923.
- Minimizing taxes. By J. H. Sears. Kansas City, Vernon law book co., 1922.
- Monographia das asclepiadaceas brasileiras. fasc. 1-2. Por F. C. Hoehne. Rio de Janeiro, 1916.
- Monographie der mistel. Von Karl freiherr von Tubeuf. München, R. Oldenbourg, 1923.
- Morphologie und biologie der algen. 2. auf. Von Friedrich Oltmanns. Jena, G. Fischer, 1922.
- New York cotton exchange, 1871-1923. New York, 1923.
- Orchidaceae — Monandrae — Pseudomonopodiales. Von F. W. L. Kränzl. Leipzig, W. Engelmann, 1923. (In Das pflanzenreich. 83. hft)
- Our food combinations. By Leila Pennoek. Pasadena, Cal., 1923.
- Principles of advertising. By Daniel Starch. Chicago, A. W. Shaw company, 1923.
- Scientific thought. By C. D. Broad. New York, Harcourt, Brace & co., inc., 1923.
- Select bibliography for the study, sources and literature of English medieval economic history. By Hubert Hall. London, P. S. King & son, 1914.

Singapore naturalist, no. 1-2; July 1922-April 1923. Singapore, 1922-23.

Switzerland. Eidgenössisches departement des innern. Statistisches bureau. XII. recensement du bétail de la Suisse, 1921. Berne, 1922.

Undernutrition in steers. By F. G. Benedict and E. G. Ritzman. Washington, 1923. (Carnegie institution of Washington. Publication no. 324)

Wage changes in various countries 1914 to 1922. International labor office. Geneva, 1923.

Warehousing general merchandise; an encyclopedia. American warehousemen's association. Pittsburgh, 1923.

OLD BOOKS.

Beiträge zur lebens- und entwickelungsgeschichte der räusselkäfer. 1. abt. Der trichterwickler. Von M. H. Debey. Bonn, 1846.

Description, vertus et usages de sept cents dix-neuf plantes. Par E. F. Geoffroy. Paris, 1767.

Deutschlands forstculturrpflanzen in getreuen abbildungen. Von Ferdinand Fiscali. Olmütz, 1856.

Elemente der phytonomie. 1. th. Phototomie. Von L. G. Kicser. Jena, 1815.

Essai de phytomorphie. t. 1. Par Charles Fermond. Paris, 1864.

Gentleman gard'ner instructed. 3d ed. By Henry Stevenson. London, 1748.

Huishoudkundig handboek. Door Noel Chomel. Amsterdam, 1800-1803.

Plantae Banatus rariores. [By] Anton Rochel. Pestini, 1828.

Praedium rusticum. Nova ed. [By] Jacques de Vanière. Tolosae, 1730.

Ten acres enough. Ed. 8. By Edmund Morris. New York, 1867.

Articles in Current Publications By Department Workers

- Ashbrook, Frank G. (Biological Survey.) The relation of fur men to their organization. Fur Trade Review, vol. 51, pp. 114-117, October, 1923.
- Bailey, Vernon (Biological Survey.) Maximilian's travels in the interior of North America. Natural History, vol. 23, no. 4, pp. 337-343, July-August, 1923.
- The Virginia opossum and its ways. Nature Magazine, vol. 2, no. 1, pp. 5-7, July, 1923.
- Dachnowski, Alfred P. (Plant Industry.) Contribution of peat investigations to the cranberry grower. Journal American Peat Society, vol. 16, no. 3, pp. 96-106. July, 1923.
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CIVIL SERVICE ANNOUNCEMENTS.

Plant propagator, \$1,500-\$1,800, November 7.—A vacancy under the Bureau of Plant Industry, for duty at the plant-introduction gardens, Glenn Dale, Md., and vacancies occurring in positions requiring similar qualifications throughout the United States, will be filled from this examination. The duties of this position will include general nursery work, such as greenhouse management, field propagation of hardy plants, packing and

shipping the plants, and the preparation of the necessary records incident thereto. Applicants must show that they have had at least five years of practical field and greenhouse experience in the propagation, cultivation, and handling of new and rare plants. If interested apply for Form 1312.

Telegraph operator, \$1,400.—Vacancies in the Bureau of Agricultural Economics, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Applicants must have had at least two years' recent experience as telegraph operators and must have attained a first-class rating. If interested apply for Forms 1312 and 1140, stating the title of the examination desired. Applications will be rated as received until December 28, 1923.

NEW POULTRY BREEDS EXPLAINED.

Frequent requests for information concerning two so-called new breeds of poultry, the "Turken" and the "Kiwi," have prompted the office of poultry investigations to issue an explanatory statement in regard to these "new and novel breeds," with the idea of safeguarding the interests of the public.

The statements in the advertisements and literature claim that the "Turken" was originally produced by crossing a male turkey with a female chicken, and that the "Kiwi" was produced by crossing a male ostrich with a female chicken. These statements, say the poultry investigators, are in all probability not founded on fact. The department believes that the so-called "Turken" is nothing else than the Transylvania naked-neck chicken, which apparently possesses no qualities superior to the more important standard breeds and varieties and has not been shown to be particularly well adapted to conditions in many parts of the country.

The members of the Birmingham Club held a field day on September 15 in lieu of regular meeting. After visiting the experiment farm of the Bureau of Entomology, where they were shown the activities of that bureau by Neale F. Howard and his assistants, an excursion was made through a portion of the mineral districts around Birmingham. This part of the trip was under the direction of Dr. W. R. Crane, district representative of the United States Bureau of Mines. Doctor Crane led the party through some of the most interesting geological formations of the district and pointed out the location of the principal iron, coal, limestone, and sandstone deposits.

Dr. Charles A. Browne, who was appointed by the Secretary of Agriculture to direct the work of the Bureau of Chemistry, entered upon his duties on October 1.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., OCTOBER 17, 1923.

No. 42.

INTERNATIONAL DAIRY PROBLEMS DISCUSSED

Various Department Activities Represented at World's Dairy Congress.

Several representatives of the various offices of the department interested in the dairy industry took a prominent part on the eight-day program of the World's Dairy Congress which opened here October 2 and closed at Syracuse, N. Y., after a five-day session there, held in connection with the seventeenth annual National Dairy Show.

Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics, addressed the Congress on international trade in dairy products and the significance of trends in supply, demand, and price.

"International trade in dairy products," he said, "is steadily increasing and the prices at which they are marketed are increasingly influenced by world conditions. Recent economic developments and certain outstanding changes in the dairy industry for the world are affecting directly or indirectly all markets for dairy products. Eventually, this must further influence the development of the dairy industry in any particular country. Dairy production has now become thoroughly established in both the Northern and Southern Hemispheres; as a consequence, mutually advantageous seasonal trade between countries becomes a possibility, to replace to some degree the system of seasonal storage that grows out of a local or national economy."

International Regulations Needed.

The relation of the livestock industry to agriculture, with special reference to the dairy industry and touching on the points affecting international trade in dairy cattle, was discussed by Dr. J. R. Mohler, chief of the Bureau of Animal Industry. He spoke particularly on the dangers which attend the movement of livestock between different sections of

a country and between countries and the need for protecting the livestock industry against these dangers. He commented on the desirability of uniformity in international regulations, and gave some suggestions in regard to fundamental provisions of regulations which would seem generally applicable to countries engaged in exporting and importing livestock for breeding and other purposes.

The part the Government is taking in promoting the dairy industry through research and education, through various mediums, was the subject of a talk by D. A. C. True, of the extension service. Higher education in agriculture, including dairying, he said, is conducted through colleges of agriculture in 48 States, employing about 150 instructors in dairying. Of the 2,100 workers employed in the 50 State experiment stations in the United States, about 120 are engaged in investigations in dairying or dairy husbandry; 150 projects on dairy cattle and 118 on dairy products are being carried on by these institutions. In the 2,650 agricultural counties of the United States, 2,100 agricultural agents are employed. Extension work in dairying and in the handling and utilization of dairy products is an important feature of the work of these agents.

Breeding Problems Vital.

R. R. Graves, Dairy Division, discussed the problem of breeding for production and commented on the several methods of selecting breeding animals now in general practice. Selection on the basis of production records of dams alone, he said, does not lead to the rapid progress we would like, because the production record of a cow probably does not indicate fully what her germinal make-up in respect to producing ability may be. The Dairy Division is now working on the problem of the relation between the outward measurements of animals and the size of the corresponding organs and the relation of the size of these vital organs to producing ability. If there is a definite relationship between the outward development of an animal and the

(Continued on page 5.)

GRADUATE SCHOOL TO OFFER VARIOUS WORK

In Addition to Graduate Work General Courses are Scheduled.

Special instruction in the various sciences relating to the work of the department is offered in the graduate school scheduled to open the week of October 15. The teachers selected are leading specialists along the various lines, so that information offered will be the latest word on the subject. In many cases much as yet unpublished information will be used.

Department workers can, by selecting courses from year to year, obtain a broad foundation on subjects related to agriculture and obtain sufficient credits so that after a period of years they can obtain advanced degrees from standard graduate institutions. Such a course of training will enable them to advance from grade to grade in the classified service and will provide the department with a constant supply of well-equipped men and women for the advanced positions of trust and responsibility.

In addition to the special courses of instruction offered, any research worker in the department may make arrangements to carry on some definite research problem under direct supervision of some one appointed by the graduate committee, and this work can then be submitted for graduate credit.

General Courses Offered.

In addition to graduate courses a number of more general courses are offered, partly as review subjects and partly to give the opportunity to acquire the latest information on subjects that are rapidly advancing in knowledge. Many times workers that have had similar graduate work in the past take the graduate courses as a review and to get the latest information on the subject. In this way a group of highly trained scientists are brought together and the courses become

in reality seminars of research workers in related lines.

The courses finally selected this year are given below. They form an exceptionally strong group, and the early registration indicates that they are being appreciated by the workers.

Courses will start on the designated days in the week beginning Monday, October 15, 1923. Year courses will run for 30 weeks; half-year courses for 15 weeks.

Registration will be at the office of the Director of Scientific Work. Tuition for one full-year course or two half-year courses taken in the same year will be \$25, of which \$15 is payable at time of registration and \$10 at the beginning of the second half year. For a half-year course the tuition will be \$15, payable in advance. Shorter courses in proportion.

Credit toward graduate degrees has been allowed for last year's courses by a number of standard graduate institutions, and many others have signified their willingness to accept them when offered. Students desiring graduate credit should file a statement of their educational training and experience.

All classes meet at 4.30 p. m. The east and west wings and entomology building are on the department grounds. Thirteenth and B Streets SW. Cereal-investigations building is located at 1306 B Street; Bieber Building, 1358 B Street; motion-picture laboratory, 1363 C Street; crop estimates, 200 Fourteenth Street; and extension, 220 Fourteenth Street, all southwest.

General Courses.

1. *Accounting principles* (yr.).—Mr. K. B. Gardiner. Monday and Friday, 411 Bieber Building. The principles of accounting. The distinction between capital and revenue, principles of depreciation, interpretation of balance sheets, principles of cost accounting, statistics in accounting, trust and insurance accounting and auditing. Prerequisites: A practical working knowledge of bookkeeping and accounting up to and including the preparation of income statements.

2. *Elements of statistical methods* (yr.).—Mr. G. C. Haas. Tuesday and Thursday, 411 Bieber Building. Statistical units of measurement, variables, frequency distribution, classification and tabulation, types of averages, dispersion, accuracy and interpolation, sampling, index numbers, graphic presentation and analysis, logarithmic curves, and correlation.

3. *Library science* (yr.).—Miss Ellen Hedrick. Tuesday and Friday, library, Bieber Building. Cataloging and classification, bibliography and reference work. American Library Association catalog rules, the Library of Congress classification, the Dewey decimal, and other classifications. National, trade, and subject bibliographies, public documents. Open to college graduates or those having library or related training.

5. *Glass-blowing technique* (about 6 weeks).—Dr. S. Karrer. Will arrange a short course of practical instruction in glass-blowing suitable for laboratory workers. Fee according to length of course.

Advanced Courses.

1. *Credit, currency, and prices, with special reference to the influence of the Federal re-*

serve system (1st hf.).—Dr. E. A. Goldenweiser. Monday and Friday, Room 305, crop estimates. The relationship between the volume of member bank and reserve bank credit in use and the level of production, interest rates, and prices; the services of the reserve banks to the business of the country; the effect of the recent influx of gold on the domestic credit situation. (To be followed second half by "Economic cycles," by Dr. W. W. Stewart.)

2. *The principles of animal breeding* (Yr.).—Dr. L. J. Cole and Dr. Sewall Wright, assisted by Dr. H. C. McPhee. Wednesdays and Fridays, room 224, east wing. A review of the hereditary principles involved in breeding followed (second half) by a special consideration of their relation to practical problems in animal husbandry. Special lectures by outside authorities in the subject whenever opportunity offers.

3. *The principles of animal pathology* (Yr.).—Dr. Robert J. Formad. Tuesdays and Thursdays, room 224, east wing. An advanced course presenting (first half) the basic principles of pathology, disorders of nutrition, disturbances of the circulation, retrogressive and progressive tissue changes, inflammation, tumors, and changes caused by animal and plant parasites. (Second half:) Special pathology of the blood and the various organs and tissues of the body, pathological aspects of tuberculosis, glanders, anthrax, and other infectious diseases of animals. Reference text recommended but not required: A Text-book of Pathology, by Delafield & Prudden.

5. *Advanced economic entomology* (Yr.).—Prof. George A. Dean (and special lecturers). Tuesdays and Fridays, third floor, entomology building. The fundamental principles of biology in their relations to economic entomology. Natural and artificial control of injurious species, special methods, insect ecology, disease transmission, plant immunity, biometrics.

6. *Plant physiology* (Yr.).—Dr. Burton E. Livingston. Tuesdays and Saturdays, motion-picture laboratory. An advanced course discussing the plant body with reference to retention of form, entrance movement and exit of material, material changes within the body, growth under symmetrical and unsymmetrical conditions (bending). The environmental control of plant activity and the application to agricultural operations will be considered. Reference texts: Coulter, Barnes and Cowles' Text-book of Botany, volume 1, part 11. Physiology (sold separately); Paladine's Plant Physiology.

8. *Plant geography* (Yr.).—Dr. H. L. Shantz. Mondays and Wednesdays, room 325, extension building. Floristic and ecological methods. The ecological classification of plant communities. Methods of measuring factors. The natural vegetation of the world as a whole, its economic value, and its correlation with climatic conditions. The plant communities of the United States and their differentiation, distribution, relation to physiographic regions and to soil and climatic provinces. What plant communities indicate in reference to agricultural potentiality.

12. *Advanced physical chemistry* (Yr.).—(One lecture per week.) Dr. E. W. Washburn. Mondays, motion-picture laboratory. Doctor Washburn is one of the leading physical chemists, and this will be an exceptional opportunity for department workers to get the latest discussions in this field. It is expected that this course will be continued next year. Fee will be for a half-year course. A complete outline of the course can be seen in the director's office.

13. *Advanced statistical methods* (Yr.).—(First half:) Mr. H. R. Tolley. Tuesdays and Thursdays, room 305, crop estimates.

Frequency distribution, sampling, and gross correlation. Prerequisites: Elementary statistical methods or its equivalent, algebra, geometry, and preferably calculus.

(Second half:) Dr. Sewall Wright. Theories of probability and chance; interpretation of systems of correlated variables with the aid of such methods as partial correlation, multiple correlation, and path coefficients; curve fitting; analysis of time series, including index numbers.

14. *Physics of the air* (Yr.).—Dr. W. J. Humphreys. Registration for the course is through the George Washington University; time, as arranged; place, Weather Bureau; textbook, Humphrey's Physics of the Air.

15. *Special research courses.*

Weather Bureau Not Responsible for Long-Range Weather Forecasts

The attention of the Weather Bureau has been called to an item published in a Boston newspaper under the heading "Coming winter will be rough one, experts declare." The item reads as follows:

WASHINGTON, August 23.—Weather Bureau officials are predicting for New England the coldest and snowiest winter in history. It will, in their judgment, surpass the violent weather last winter.

The heat of the sun has temporarily declined and has been since September, 1922, at the lowest level ever known. This affects the weather for months ahead, and to this low "solar constant," as it is called, is due all the abrupt changes of the weather. This low "solar constant" even affects the temperature of the Gulf Stream. If it continues to set low records the weather of New England is likely to be much colder and stormier.

On learning of this publication the chief of the Weather Bureau wrote to the editor of the newspaper in question as follows:

* * * I beg to state that no prediction of this sort has been made by the Weather Bureau, nor has it given any interview to anyone which might be construed into such a forecast. On the contrary, the Weather Bureau does not attempt to issue predictions even of a general character for weeks or months in advance. The subject of forecasting for seasons or considerable periods ahead has long engaged the attention of our scientists, but thus far no laws of sequences have been discovered whereby long-range forecasts of a reliable character can be made. Reputable meteorologists throughout the world agree that the science has not advanced to the point where it can be done.

I am aware of the high standard of your newspaper in the publication of accurate news and I am sure that unwittingly it has placed the Weather Bureau in a position of responsibility for an alarming prophecy which it did not issue. May I ask that you bring the dispatch in question to the attention of the correspondent who was responsible therefor, and caution him against crediting statements and forecasts to the Weather Bureau that are not in accordance with its announcements.

A DIGEST OF THE NEWS

Brief bits of News Digested From Material Issued by Department During the Past Week.

CONSOLIDATION OF FORESTS ANNOUNCED.

Consolidation of the Fishlake National Forest and the Fillmore National Forest, both in central Utah, has been made under authority of an executive order issued by President Coolidge, according to a department announcement. The combined forest will keep the name of Fishlake National Forest. The consolidation was made to simplify and lessen the cost of administration and to expedite the handling of all matters pertaining to these forests.

CANADIAN WHEAT IMPORTS MILLED.

Nearly 50 per cent of the wheat imported into the United States from Canada since May, 1921, has been exported as flour, according to compilations made by the department. This wheat was milled in bond for export under provisions of the tariff act. Total imports of wheat from Canada since the tariff became effective were 32,567,664 bushels. The quantity of Canadian wheat milled in bond during the same period was 15,453,624 bushels, or 47 per cent of the total. Two provisions in the tariff act of 1922 relate to the milling of imported wheat.

FIRE DAMAGE ON FARMS INCREASES.

Among the most serious drains on our national resources is the appalling and rapidly mounting fire waste, according to a statement issued by Secretary Wallace during fire-prevention week. The amount of fire waste for last year has been reported as in excess of \$500,000,000. The big individual item in this sum arises from large fires in cities and towns. No complete figures are available for the annual loss of farm property by fire, according to the Secretary, but enough information is said to be on hand to show that it also is on the increase and that the sum now materially exceeds \$15,000,000. The actual figure may be nearer \$100,000,000.

PRESENT-DAY SNOWFALL NO LESS.

"No, we are not having lighter snowfalls than when grandfather was a boy," says the Weather Bureau, "nor are we having appreciably greater ones." Records made at numerous points throughout the country show that some

of the greatest snowfalls have occurred during recent years. The records at Springfield, Ill., dating from 1884, show the greatest fall on record, 43 inches, to have occurred in the winter of 1913-14. At New Haven, Conn., the heaviest record occurred in the winter of 1915-16. At other points record snowfalls occurred at different years, but nothing indicates that the fall of 50 years ago was any greater than it is during the present day.

NEW NATIONAL FOREST IS CREATED.

A new national forest, to be known as the Allegheny, has been created in Pennsylvania pursuant to a presidential proclamation. This is the first national forest to be created during President Coolidge's administration and brings the total number of forests under the supervision of the department up to 146, embracing a total net area of about 157,337,000 acres. The Allegheny forest is also the first forest under Federal control to be established in Pennsylvania, although that State has several State forests.

DESTRUCTION DUE TO LIGHTNING HEAVY.

The annual destruction due to fires by lightning in the United States is estimated to be as much as \$20,000,000, according to the Weather Bureau. In one State alone, Iowa, during the four years ending with 1922 the loss as given by the State fire marshal was \$1,363,000, of which 61 per cent was due to fires in farm barns. Nearly all of such loss is preventable by proper rodding, says the department in commenting upon this tremendous loss.

YEAR SEES FEDERAL ROADS INCREASE.

Eight thousand eight hundred and twenty miles of Federal-aid road were completed in the fiscal year which closed June 30, 1923, bringing the total of Federal-aid roads completed to 26,536 miles, according to the Bureau of Public Roads. The mileage completed during the year is classified as follows:

	Miles.
Graded and drained	1,860.1
Sand-clay	749.5
Gravel	3,815.4
Water-bound macadam	335.6
Bituminous macadam	452.9
Bituminous concrete	76.8
Concrete	1,440.3
Brick	78.8
Bridges	10.8
Total	8,820.2

The projects under construction at the close of the year amounted to 14,772

miles and were estimated as 55 per cent complete. In addition to the 26,536 miles completed and the 14,772 miles under construction there were at the close of the year a number of projects approved but not yet placed under construction, the aggregate length of which was 6,917 miles.

TUBERCULOSIS ERADICATION IN IOWA.

In accordance with a recent law enacted by the legislature of Iowa providing for the eradication of tuberculosis of livestock on a county-area basis, 26 counties have arranged to conduct tuberculosis-eradication work. These counties have obtained the required number of signatures to petitions, as set forth by the law. Petitions signed by 51 per cent of the owners of breeding cattle in Iowa counties are enough to inaugurate the work, detailed plans being handled by the respective boards of supervisors. In several Iowa counties more than 75 per cent of the cattle owners signed the petitions.

Another provision of the law requires, upon a petition signed by 15 per cent of the voters, a vote on the desirability of a county tax of not more than 3 mills on the taxable value of the county for the purpose of establishing a county area tuberculosis-eradication fund.

The largest cotton warehouse to operate under the United States warehouse act will be the public plant at New Orleans, if the application just received by the Bureau of Agricultural Economics from the Board of Commissioners of New Orleans is approved. This warehouse has a storage capacity of 188,300 bales. It is of reinforced concrete construction, is fireproof, and is considered one of the best storage plants in the country.

Three appointments to the Northeastern Forest Experiment Station at Amherst, Mass., have been announced. M. Westveld, forest examiner, has been transferred to this station from the Coconino National Forest at Flagstaff, Ariz. Mr. Westveld has been in charge of the forest management work on this forest for the past two years, and prior to that time was in the Albuquerque district office of the branch of research. Associate Professor C. E. Behre, of the forest school of the University of Idaho, has accepted a position at this station as silviculturist. Professor Behre is well known in forest work for his investigations in forest measurements and makes a welcome addition to the station staff. Mrs. Mary E. Turrell, who has been secretary to the district forester at Missoula, Mont., for a number of years, will be the senior clerk at the station.



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USE OF THE MEMORANDUM.

As a general thing use of the memorandum as a means of communication between department workers in Washington is a necessity. Most subjects thus covered must be made a matter of record and properly filed for future reference. However, a reader of the RECORD writes in that department people go to extremes in its use.

"Why do so many department people continue to take their time, the time of a stenographer, and that of a messenger in going long distances between different offices in the handling of a memorandum when a brief telephone conversation many times would be sufficient?" is the question this reader asks.

He says that "while workers are dictating letters and other routine matter, they too frequently do not discriminate between subjects which should be covered in writing and those which could be terminated immediately by a few words over the telephone."

There is merit in this suggestion. There is every defense in the world for the use of the memorandum as a general thing, but as this reader points out it takes the time of several people before a note is dictated and delivered. This time could be saved and the matter expedited on many occasions by a brief message over the telephone. Then, too, many times the first memorandum results in the exchange of several others before the subject is finally terminated.

Through the columns of the RECORD we would like to have an exchange of opinions on this subject. Perhaps you have a system of determining which subjects should be covered in writing and which should not. If you do, let us have it. It may be the means of giving suggestions to others.

ON THE SUBJECT OF ECONOMY.

During the past fiscal year department workers made an enviable record in effecting economies which, in the aggregate, saved several thousand dollars for

the Government. The Secretary frequently has called attention to the matter of economy and has expressed his appreciation for the manner in which department people have saved Government funds.

Our attention has just been called to a letter which has been circulated by one of the Government organizations having offices in the field. It says in part:

"I wish to call your attention to the necessity of exercising every possible economy in the transaction of Government business that is compatible with the effective carrying out of your work. You should try to look ahead to avoid, so far as possible, the use of telegrams when a little forethought will enable you to send the same communication by mail. You should avoid the use of express transportation, except where it is absolutely necessary for the effective transaction of business. Expenditures for furniture or supplies should be carefully considered with a view to not making purchases at the present time where they can be avoided without seriously interfering with the work. In other words, I trust you will join with the rest of the department in complying with the expressed wishes of the President and the Secretary that every possible economy be exercised in the transaction of Government business."

Many economies are being effected by department workers which are never called to the attention of others. By doing this we feel that they would act as suggestions and reminders. In order to help as it can, the RECORD is anxious to know just what you have done to save money for the Government. We will call it to the attention of other department workers. It does not matter how small the saving might be, for most workers are in a position to effect small economies. In the aggregate they count for a great deal.

A NOTE OF APPRECIATION.

The Chief of the Air Service, Gen. Mason M. Patrick, in a letter to Secretary Wallace, expressed his appreciation for the cooperation of a department worker. He wrote: "I am informed that Mr. F. H. Newsome, of your department, who is stationed at Cape Henry in connection with weather reports, rendered the Air Service communications office at Cape Hatteras many courtesies and valuable cooperation during the recent bombing maneuvers."

Farmers' Bulletin 1078, Harvesting and Storing Ice on the Farm, was numbered 1098 by mistake in the question and answer column of the RECORD for October 10.

From Our Readers

TO THE EDITOR: THE OFFICIAL RECORD is believed in this office to be a valuable and important part of the department publications. If it were not published a large amount of the material it contains, such as the list of experiment station publications and the official memoranda of the Secretary, would have to be published in other forms. The general news and agricultural articles and the personal notes are also appreciated. Personally, the undersigned is glad to have the list of library accessions, as we are basing our own orders for new library books largely on those in this list which interest us.—S. B. F.

TO THE EDITOR: THE RECORD is the only organ which gives the people in the field an opportunity to know what is going on not only in Washington but in the department in general. I do not believe that those stationed in Washington realize that sometimes too much is taken for granted and as a result sometimes we do not know what is happening in our own offices or divisions at Washington. I would like to see some department or class of material that would develop the idea of "selling the department" to the general public. I find that the ignorance of the public on the organization and functions of the department is vast. The public in general does not know how or where to find the information desired with which the department is concerned.—W. S. F.

TO THE EDITOR: It is hard to say just what THE RECORD does for the man far distant from headquarters, but he feels dreadfully lonesome without such contact. For instance, on receipt of a recent issue of THE RECORD I noted that the department earned \$8,000,000 last year, which was news to me. I knew that the forest grazing earned considerable money, but had no idea of its magnitude. This is a valuable item to me in discussing with citizens what the department does. I would suggest that you keep pounding away at informing your field force of what the department is doing, as many of the field men are not familiar with affairs at Washington, and it might be of value to the Washington office to describe in THE RECORD the work done in the field.—E. A. L.

More than 600 additional livestock breeders' associations were formed with the assistance of agricultural extension workers in 1922, and 300 communities were encouraged to purchase bulls cooperatively.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What are the five groups of food as defined by the department?

Answer. The five groups of food are: 1. Fruits and vegetables. 2. Milk, cheese, eggs, fish, meat, beans, peas, peanuts. 3. Cereals—corn meal, oatmeal, rice, rye, wheat, flour, bread. 4. Sugar, sirups, jelly, honey, candies. 5. Fats—butter, margarine, cottonseed oil, olive oil, drippings, suet, bacon, chocolate.

Question. How does the United States Department of Agriculture render service to rural teachers and rural school pupils?

Answer. Through its division of agricultural instruction, the department prepares bulletins giving information adapted to rural schools for use in connection with instruction regarding the more common agricultural crops and domestic animals. It also publishes lists of sources of illustrative material available to teachers and loans sets of lantern slides on agricultural subjects to schools having lanterns. Its work is done in cooperation with the department bureaus, Federal Board for Vocational Education, State departments of education, and the agricultural colleges.

Question. How do imports of leaf tobacco to the United States compare with exports of the same products?

Answer. At the outbreak of the World War imports averaged 60,000,000 pounds, or somewhat more than 14 per cent of the exports. At the close of the war exports were temporarily in excess of 750,000,000 pounds. The United States furnishes 41 per cent of the total export. The aggregate revenue from tobacco imported—1872-1921—was more than \$800,000,000.

Question. When does "Indian summer" occur?

Answer. "Indian summer" is the name commonly applied in this country to a period of mild weather which, according to popular belief, occurs more or less regularly every autumn, following a spell of unseasonably cold weather, known as "squaw winter."

As a matter of fact, Indian summer is not a definitely fixed season in the calendar, but is extremely variable in both date and duration. In many years, moreover, it is an intermittent phenomenon. In other words, there may be several

Indian summers in one autumn. Strictly speaking, Indian summer is not a season at all, but merely a type of mild, calm, hazy weather likely to prevail at any time in the autumn or early winter. In his notes on the meteorological conditions at Concord, Mass., during the 10 years 1851-1860, Thoreau records the occurrence of Indian-summer weather on dates all the way from September 27 to December 13, a range of 77 days.

In Europe as well as America it is popularly believed that a renewal of mild weather occurs every autumn, and the dates of its supposed occurrence are more definitely fixed than is the case in this country, owing to the association of the period with the names of certain saints who have fixed dates assigned to them in the ecclesiastical calendar. It is thus known in different parts of Europe as "St. Martin's summer," "St. Luke's summer," "St. Michael's summer," etc., and tradition assigns the occurrence of the season to various dates accordingly.

MORGAN STALLION IS CHAMPION.

"Bennington," a stallion bred by the department at the U. S. Morgan Horse Farm, Middlebury, Vt., was adjudged the champion Morgan stallion at the Eastern States Exposition recently held at Springfield, Mass. This honor was particularly significant since the exhibition of Morgans was the strongest held in a number of years, and the best specimens of the breed were shown in competition, all the leading exhibitors in eastern United States having their best animals entered.

Bennington was foaled at the U. S. Morgan Horse Farm in 1908, the product of the mare "Mrs. Culvers," and sired by the famous stallion "General Gates." His sons have twice been reserve champions at the Vermont State Fair, held annually at White River Junction, Vt., and his progeny are in demand for use as saddle horses.

Another notable achievement at the Eastern States Exposition was the winning of the ladies' saddle class and a silver loving cup by the Morgan mare "Josephine," bred at the U. S. Morgan Horse Farm, and now owned by Miss Mary Fowler, of Springfield, Mass.

C. C. Taylor, of Messrs. Patterson & Taylor, "Serpentine," Victoria, Australia, was a recent visitor to the department. He is making a tour of the United States, Argentina, and South Africa to study crops and methods of crop production. After leaving Washington Mr. Taylor expected to sail for the Argentine.

INTERNATIONAL DAIRY PROBLEMS DISCUSSED

(Continued from page 1.)

size of its corresponding organs, and between the size of these organs and the producing capacity, then it would seem that we could eliminate animals whose defects in conformation indicated that they would not be able to make use of an inheritance for large production.

Various Problems Discussed.

Other topics discussed at the several sessions of the convention by department representatives are as follows:

The use of bacterial cultures for controlling the fermentation in Emmental cheese, by Dr. J. M. Sherman, bacteriologist in the Dairy Division; new developments in the manufacture of Swiss cheese in the United States, by K. J. Matheson, dairy manufacturing specialist; the preparation of standardized mix in country ice-cream plants, by William White, dairy manufacturing specialist; factors influencing the crystallization of lactose, by Alan Leighton, physical chemist, and P. N. Peter, assistant chemist, Dairy Division; what constitutes efficiency in pasteurization and the important streptococci of milk and the relation of bovine hemolytic types to those of human origin, by S. Henry Ayers, research laboratories, Dairy Division; the coordination of Federal, State, and municipal control, by W. S. Frisbie, chemist in charge of cooperation, Bureau of Chemistry; the relation between the quantity and availability of calcium in the rations and the milk yield of dairy cows, by Edward B. Meigs, physiologist, Dairy Division; community milk-for-health programs as conducted by the United States Department of Agriculture, by Miss Jessie M. Hoover, milk utilization specialist, Dairy Division; construction of continuous-flow holders used in pasteurization, especially in regard to the time factor, from a bacteriologist's viewpoint, by C. S. Leete, market milk specialist, Dairy Division; factors influencing the heat coagulation of milk, and the thickening of condensed milk, by Alan Leighton, physical chemist, and E. F. Deysher, dairy chemist, Dairy Division; the keeping quality of butterfat, with especial reference to milk powder, by George E. Holm and George R. Greenbank, chemists, Dairy Division.

Invitations to attend the congress were accepted by 40 foreign governments as well as by many foreign provinces, States, cities, institutions of learning, business firms, and agricultural and health associations. In this country invitations went out to 1,300 local, State and national associations interested in dairying.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

FOOD SUPPLIES BEING STUDIED.

To what extent are farmers meeting the consumptive demands of adjacent towns and cities is a question the Bureau of Agricultural Economics is endeavoring to answer. One of the most important research investigations inaugurated by that bureau during the past year has been the study of the food supply of Altoona, Pa. The food-consuming capacity of the town was measured, the nature of the consumers' demands studied, and present sources of supply ascertained in order to determine a more profitable program of production to be recommended to farmers in the surrounding territory. From the survey it was learned that dairying, poultry raising, and potato growing are the most profitable enterprises for that section. Last year Blair County, in which Altoona is situated, produced over 51,000,000 pounds of whole milk, nearly 200,000 bushels of potatoes, about 20,000 crates of eggs, and 200,000 pounds of poultry. This, however, is less than 10 per cent of the eggs, less than 12 per cent of the potatoes, and less than 22 per cent of the dressed poultry used in the Altoona consuming district.

When the analysis is completed it is planned to inform producers of the extent to which they are failing to meet the demands. Producers will also be advised of the advantages, to the amount of transportation costs at least, which they have over farmers in areas which are at present called upon to produce that city's food supply. In the case of potatoes, transportation costs range from 15 to 40 cents per bushel on the carloads that were required to meet the deficit in Altoona between September, 1922, and May, 1923.

B. H. Critchfield and M. V. Carroll, who have been making the survey under the direction of W. A. Schoenfeld, assistant chief, and H. R. Tolley, in charge of the farm management division, have completed their field work and are now compiling the mass of data obtained. The bureau proposes to issue a preliminary mimeographed report on the study in the immediate future. The completed report will probably be available early next year.

A similar survey in the agricultural district adjacent to Tulsa, Okla., has been made by H. T. Crosby. Other

studies will be made in representative sections in the near future.

FARMERS COMMENT ON FEEDING.

Numerous comments on livestock feeding problems and how farmers are meeting them have been made as the result of a questionnaire study made by the department during the summer. Among them was one containing the experiences of a Kansas farmer who considered abrupt changes in feeding, poor combinations of feed, and insufficient water to be the principal mistakes commonly made in feeding. In his experience improved livestock was 25 per cent more profitable from a feeding standpoint. An eastern dairyman relates how he improved his dairy feeding methods by the better feeding of dry cows and by supplying silage during summer months. Feeding according to production and condition has likewise been beneficial.

Many other comments of which the foregoing are typical, direct attention to means of getting better results from feeds. A compilation of the material obtained by the department has been prepared and may be obtained from the Bureau of Animal Industry.

WITH EXTENSION FORCES

TREATED POTATO SEED DID THE WORK.

R. E. Vaughan, plant disease specialist, college of agriculture, University of Wisconsin, reports an interesting story on potato-seed treatment that happened at Almond, Wis., in 1922. Almond is in the heart of the central Wisconsin potato-producing area, and has been growing potatoes so long that many scabby and scurfy ones are found. Jones was a retired farmer of the old school who did not believe in such new-fangled notions as treating seed. However, his son who was operating the farm went ahead with his plans without the knowledge of his father and had half of his seed treated in the community treating vat that was in operation at the village. The idea of a community vat was fostered by Vaughan and County Agent Clark, because so many farmers found it too much trouble and bother to treat at home.

When digging time came Jones senior came out to the farm to help out with the work, and being crippled with rheumatism he drove the digger. The untreated side of the field was dug first and many scabby tubers were showing up. When the first row from the treated seed was dug the old man could scarcely

believe his eyes, the potatoes were so nice and smooth. He got off the digger, called his son over, pointed with pride to the fine crop, and wanted to know where he got the seed, what fertilizer he used, how he plowed one side differently from the other, etc. The answer. "No, dad; no difference in seed, fertilizer, or handling; just seed treatment in corrosive sublimate. You remember you opposed my having the seed treated in the spring, but I went ahead anyway and had it half treated, and this is the result." "Well, boy! if that's what treatment does, I'm for it."

NOTE.—In 1923 all the seed used on this farm was treated.

NEW CLUBS ARE BEING FORMED.

New department clubs are being organized constantly at points throughout the country where the different bureaus have representatives. The present tendency is for the clubs to designate themselves simply by the name of the city, as, for instance, "Fort Worth Club of the United States Department of Agriculture." The Atlanta Club, formerly known as the "Atusda Club," had a meeting on September 29 and changed its name to "Atlanta Club, U. S. D. A." In suggesting this change the president of the club expressed the opinion that the word "Atusda" presented a rather inharmonious combination of letters not at all expressive to anyone outside of Atlanta. If the clubs are named plainly according to the city in which they are formed it will aid materially in letting others know just what and where they are.

FIRST FALL GULF MEETING HELD.

The first fall meeting of the Gulf Coast U. S. D. A. Club was held on October 4 at Biloxi, Miss. There were present at this meeting 11 members representing the various bureaus of the department. The club had as its guest of honor Governor-elect Henry L. Whitfield, of Mississippi. A short program was carried out, which consisted of the following talks by members: "Strawberries as a successful and commercial crop for the Gulf coast," by H. H. Legett; "The Satsuma orange industry of the coast section," by S. F. O'Neal; "The pecan industry and control of pecan scab," by R. P. Barnhart. After these talks the governor was called on and he responded with a message of encouragement for the agricultural workers. He is greatly interested in all agricultural problems, and stated that he intended to do all in his power as governor to facilitate the agriculture of his State.

BRIEF REVIEWS OF NEW BULLETINS.

Marketing Main-Crop Potatoes. By Wells A. Sherman, specialist in charge Fruit and Vegetable Division; George E. Fiske, investigator in marketing fruits and vegetables; and O. D. Miller, scientific assistant in marketing, Bureau of Agricultural Economics. P. 37, figs. 16. August, 1923. (*Farmers' Bulletin 137.*)

Good marketing of potatoes is based on careful planning, good handling, grading and packing, and full use of crop and market news. The harvesting, grading, packing, loading, and shipment, with reference to the conditions and methods in the great shipping sections are described. The principal markets for nine prominent producing regions are shown, also the conditions, requirements, business methods, and special features which are found in a dozen city markets. The inspectors are told how to avoid the faults usually found in shipments of potatoes and how to save freight on inferior and unsalable stock. The course of prices is shown to depend chiefly on acreage, total supply losses from rot, diseases, or freezing, the demand, and the competition, besides occasional changes according to weather and conditions of transportation.

The Corrugation Method of Irrigation. By James C. Marr, irrigation engineer, Division of Agricultural Engineering, Bureau of Public Roads. P. 24, figs. 25. August, 1923. (*Farmers' Bulletin 1348.*)

The corrugation method of irrigation, which is used extensively in the Northwestern States for watering uncultivated crops, such as small grains and hay, is described in detail. The principle involved in this method is that of allowing small streams of water to flow through narrow, shallow furrows or corrugations long enough to permit a thorough wetting of the soil between the furrows. It is particularly adapted to regions of rather rough topography, but is not recommended for use generally, because it is wasteful of water, time, and labor.

The Tobacco Flea-Beetle in the Southern Cigar-Wrapper District. By F. S. Chamberlin, assistant entomologist, and J. N. Tenhet, junior entomologist, southern field-crop insect investigations, Bureau of Entomology. P. 10, figs. 8. July, 1923. (*Farmers' Bulletin 1352.*)

Shade-grown cigar-wrapper tobacco is sold for a higher price than any other tobacco in this country, so losses from injury by the tobacco flea-beetle are proportionately great. Growers in the southern cigar-wrapper district regard the tobacco flea-beetle with more apprehension than any other insect pest of the region. The pest is difficult to control, and serious consideration should be given to the control measures suggested in this bulletin. These apply to the plant beds, the cultivation of the crop, the after-harvest care of the fields, and spring control of overwintering flea-beetles.

Clothes Moths and Their Control. By E. A. Back, entomologist in charge of stored-products insect investigations, Bureau of Entomology. P. 29, figs. 21. July, 1923. [September, 1923.] (*Farmers' Bulletin 1333.*)

In addition to the use of various chemical agents for controlling clothes moths, too much emphasis can not be placed on the value of frequent brushing, beating, sunning, and cleaning of articles subject to clothes-moth

attack. The eggs of clothes moths are delicate and can usually be crushed or dislodged by brushing and beating. Sunning is a valuable aid in control work. In articles laid away moths are much more likely to concentrate upon soiled spots if these have not been removed. If clothing is thoroughly brushed every two weeks, it is doubtful if moths can affect it seriously. Carpets and rugs cleaned by strong vacuum cleaners and thoroughly brushed on both sides, or electrically cleaned, are freed from infestation if the work is properly done.

The Role of the Genus *Rhamnus* in the Dissemination of Crown Rust. By S. M. Dietz, assistant pathologist, office of cereal investigations, Bureau of Plant Industry. P. 19, figs. 8. September, 1923. (Department Bulletin 1162.) Price, 5 cents.

The part that these species of buckthorn, commonly grown as hedge and ornamental plants in some sections of the United States, play in the spread of this disease has been studied for several years, and the findings of the investigators are contained in this bulletin. The relative importance of the different species of buckthorn are discussed and instances of damage cited which furnish conclusive evidence of the fact that this shrub is responsible for the harboring and spread of crown-rust infection.

Soil Survey of St. Joseph County, Mich. By L. C. Wheeling and S. G. Bergquist, of the Michigan Agricultural Experiment station. P. 24, pls. 4, figs. 2, map. (*From P. O. Soils, 1921.*) Price, 15 cents.

The level and gently rolling areas include the best farming lands, while the rolling areas are not so good and the hilly areas are in most places too broken for general crop production. Fruit growing, grazing, or growing of trees for wood or lumber are best suited to the hilly areas. As evidence of the decreasing productivity of the soils what was once a great wheat-producing region now depends on rye for a cash crop, and once fine farm buildings have a run-down appearance. The prairie type of soil was the first to be farmed, while the hilly regions have been farmed the least number of years, and both regions are still very productive. The greatest number of tenantless farms occur in the Fox and Plainfield soils, which have been farmed almost as long as the prairie soils but which have been the first to suffer from long years of injudicious cropping.

ADDITIONAL PUBLICATIONS.

Experiment Station Record. Vol. 49, No. 2. August, 1923. Pp. 101-200. Price, 10 cents.
Same. Vol. 49, No. 3. Abstract number. October 6, 1923. Pp. 201-300. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions, \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.
Journal of Agricultural Research. Vol. 25, No. 1. July 7, 1923. Contents: Work and parasitism of the Mediterranean fruit fly in Hawaii during 1919 and 1920. (K-108.)

By H. F. Willard.—Acid production by *Rhizopus tritici* in decaying sweet potatoes. (G-317.) By H. A. Edson.—Temperature effects in plant metabolism. (Wis.-21.) By W. R. Tottingham.—*Platygyaster vernalis* Myers, an important parasite of the Hessian fly. (K-109.) By Charles C. Hill. Pp. 1-42, pls. 8, figs. 9. Price, 10 cents.
Same. Vol. 25, No. 4. July 28, 1923. Contents: Growth-promoting value of the proteins of the palm kernel and the vitamin content of palm-kernel meal. (E. 22.) By A. J. Finks and D. Breese Jones.—Efficiencies of phosphatic fertilizers as affected by liming and by the length of time the phosphates remained in Porto Rican soils. (E-19.) By P. L. Gile and J. O. Carreiro.—Growth of fruiting parts in cotton plants. (G-321.) By R. D. Martin, W. W. Ballard, and D. M. Simpson. Pp. 165-208, pls. 2, figs. 6. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semimonthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.
Service and Regulatory Announcements. Bureau of Chemistry. No. 159. Notices of judgment 11401-11450. September 4, 1923. Pp. 211-244. October 4, 1923. Price, 5 cents.

Same. Bureau of Chemistry. No. 160. Notices of judgment 11451-11500. September 21, 1923. Pp. 245-271. September 21, 1923. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of October 1-6, 1923. These publications can be obtained only from the stations issuing them.

Some studies on the neutralization of cream for butter making. H. C. Jackson. (New York Cornell Sta. Mem. 71, pp. 18. July, 1923.)
Farmers' Market Bulletin. (North Carolina Sta. Farmers' Market Bull., vol. 10, No. 64, pp. 8. Sept., 1923.)
North Dakota pure seed law—Interpretations and suggestions. H. L. Bolley and O. A. Stevens. (North Dakota Sta. Circ. 26 (Rev. of Spec. Seed Bul. 2), pp. 7. July, 1923.)
Seed certification and listing. H. L. Bolley and O. A. Stevens. (North Dakota Sta. Circ. 21 (Rev. of Pure Seed Circ. 10), pp. 4, figs. 2. July, 1923.)
Velvet beans for dairy cows. J. P. Lamaster and I. R. Jones. (South Carolina Sta. Bul. 216, pp. 16, figs. 4. Sept., 1923.)

CERTAIN OLD REPORTS AVAILABLE.

Below is given a list of old annual reports of the department of which there are one or two copies in stock. If any bureau, extension agent, or agricultural official wants them to fill out sets they may be had by application to the office of publications as long as the supply lasts.

Department reports 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1878, 1879, 1880, 1881-1882, 1883, 1884, 1886, 1887, 1889, 1890.

Patent Office reports 1860 and 1869.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Agrarian Indian communities of highland Bolivia. By G. M. McBride. New York, 1921. (American geographical society. Research ser. no. 5)
- American machinists' handbook and dictionary of shop terms. 3d ed. By F. H. Colvin and F. A. Stanley. New York. McGraw-Hill book company, inc., 1920.
- Die beschädigungen der vegetation durch rauchgase und fabriksexhalationen. Von Julius Stoklasa. Berlin, Urban & Schwarzenberg, 1923.
- Bud variation in Coleus and divers cultivated plants. By W. W. Witte. Philadelphia, 1923.
- Catalogue of geological maps of South America. By H. B. Sullivan. New York, 1922. (American geographical society. Research ser. no. 9)
- Depreciation and wasting assets. 4th ed. By P. D. Leake. London, Pitman & sons, Ltd., 1923.
- Handbuch der pflanzenkrankheiten. 4. aufl. v. 2. Die pflanzlichen parasiten. t. I. Von P. K. M. Sorauer. Berlin, P. Parey, 1921.
- Ireland. Dept. of agriculture and technical instruction. Committee on Irish flax-growing industry. Report. Dublin, 1911.
- Land systems of Mexico. By G. M. McBride. New York, 1923. (American geographical society. Research ser. no. 12)
- Livsmedelsförbrukningen inom mindre bemedlade hushåll. 1914-1918. Sweden. Socialstyrelsen. Stockholm, 1922.
- Das österreichische ernährungsproblem. v. 1, 3, 4. Austria. Bundesministerium für volks-ernährung. Wien, 1921-22.
- Position of geography in British universities. By J. S. Keltie. New York, 1921. (American geographical society. Research ser. no. 4)
- Principles of chemical engineering. By L. H. Walker. New York, McGraw-Hill book co., inc., 1923.
- Proposed park areas in the state of Illinois; a report with recommendations. Friends of our native landscape. Chicago [1923?]
- Rainfall of Chile. By M. S. W. Jefferson. New York, 1921. (American geographical society. Research ser. no. 7)
- Recent colonization in Chile. By M. S. W. Jefferson. New York, 1921. (American geographical society. Research ser. no. 6)
- Rubber research in Ceylon. Ceylon rubber research scheme. Colombo, 1918.
- Training for library service. By C. C. Williamson. New York, Carnegie corporation of New York, 1923.
- Use of marl in road construction. By C. H. Dow. Minneapolis, 1923. (Minnesota. University. Engineering experiment station. Bulletin no. 1)
- Vegetation and soils of Africa. By H. L. Shantz and C. F. Marbut. New York, 1923. National research council and the American geographical society, 1923. (American geographical society. Research ser. no. 13)

THESES.

- Bijdrage tot de kennis van anaplasmosis bij rund en buffel. Door J. A. Kaligis. Utrecht, 1922.
- Die entwicklung des ausführungsgangsystems der milchdrüse. Von Markus Zschokke. Bonn, 1919.

Articles in Current Publications By Department Workers

- Barker, William L., jr. (Forest Service). Canoe land supreme: Superior National Forest. See America first. May, 1923.
- Davidson, Jehiel (Bur. Chemistry). Is gaseous nitrogen a product of seedling metabolism? Botan. Gaz., vol. 76, No. 1. September, 1923.
- Fairbank, H. S. (Bur. Public Roads). The penny wisdom of overloading motor trucks. Ice Cream Trade Journal, vol. 19, p. 65. September, 1923.
- Galpin, C. J. (Agric. Economics). The country life movement in the United States. International Review of Agricultural Economics. July-September, 1923.
- Hamilton, M. (Forest Service). Help protect our forests. Durant's Standard. October, 1923.

- Kircher, Jos. C. (Forest Service). Lumber in Brazil. American Forestry. September, 1923.
- Kylie, H. R. (Forest Service). Why protect the forests? Lion's Club Magazine. September, 1923.
- LaForge, F. B., and Mains, G. H. (Bur. Chemistry). Furfural from corncobs. III—Effect of catalysis on furfural yield in the steam digestion process. Ind. Eng. Chem., vol. 15, No. 10, October, 1923.
- Leopold, Aldo. (Forest Service). Wild followers of the forest: The effect of forest fires on game and fish. American Forestry. September, 1923.
- Marshall, E. C. (Forest Service). The Minnesota National Forest. See America first. May, 1923.
- Palkin, S. (Bur. Chemistry). A method for the determination of tolidine. Ind. Eng. Chem., vol. 15, no. 10, October, 1923.
- Peters, J. G. (Forest Service). Forest fire protection an economic problem for Georgia. Forestry Club Annual, Ga. State College of Agriculture, 1923.
- Roethe, H. E. (Bur. Chemistry). Cottonseed oil mill fires. Oil Miller, vol. 18, No. 1. September, 1923.
- Scott, James E. (Forest Service). The Ruby Range. American Forestry. September, 1923.
- Skinner, W. W. (Bur. Chemistry). Principles to be observed in standardizing foodstuffs. Am. Food Journ., vol. 18, no. 9. September, 1923.
- Townsend, A. P. (Forest Service). A leap in the dark: My most exciting experience as a forest ranger. American Forestry. September, 1923.

Library Books Available for Department Workers in the Field

The department library announces that the books listed under "Principal library accessions" are available for lending to department workers in the field if they can be spared. This means, however, that most of the new and popular books could not go out of the city for several weeks and sometimes months. Books coming into the library after being catalogued are placed for a week on open shelves in the reading room, so that they may be examined by anyone interested. They are then sent out to those in the department who have asked to see them, and sometimes this list is long. If it is a recently published and important book, the editors of the Experiment Station Record see it first in order to abstract it for the Record. It is then sent to others who have asked to borrow it, either because they have seen it on the new book shelves or, as is often the case, because they have seen a notice of it before the library received it. Frequently the purchase of a book has been specially requested by some bureau to whose work it specially pertains, and this bureau is often obliged to keep it for some time before sparing it for more than short periods. For these reasons the library can not promise to fill very promptly requests from the field but will do the best it can for those who are away from Washington.

If the book is urgently needed for use in department work, the library would be glad to have the request state this, and a special effort will be made to send

the book promptly. Requests should be addressed to the Librarian, United States Department of Agriculture, and books should be returned as soon as possible. The usual time limit is one month, including time en route, but in the case of popular books a shorter limit may be set. A notice is always sent by the library, giving the time limit and requesting that the book be returned by registered mail. It is also asked that the borrower send a notice separately when the book is mailed, so that, if the package does not come, it may be promptly traced.

BETTER-SIRES SIGN IN DEMAND.

Many of the "Purebred sires exclusively used on this farm" signs are being distributed to persons who already have enrolled in the organized plan for livestock improvement through better sires, but requests are also being received from persons who have seen the sign and wish to qualify for it. According to department records, more than 12,000 livestock owners in the country are now known to be using purebred sires for all classes of livestock kept. These persons have agreed also to follow methods leading to further improvement.

CIVIL SERVICE ANNOUNCEMENT.

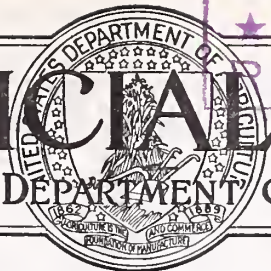
Assistant in date scale eradication, \$1,200 to \$1,500, December 5.—Vacancies in the Federal Horticultural Board, for duty in the field, and in positions requiring similar qualifications will be filled from this examination. Applicants must have a common-school education and have had at least three months' practical experience in date garden management, date scale eradication work, etc. Additional credit will be given for high-school training and for college education in botany or biology. A thesis must be submitted. If interested apply for Form 1312.

The Association of Official Agricultural Chemists will hold its thirty-ninth annual convention in Washington at the Raleigh Hotel, November 19-21, inclusive. Printed programs have been distributed to members and will be sent to anyone interested upon request to the secretary, Dr. W. W. Skinner, Assistant Chief of the Bureau of Chemistry.

Prof. Charles F. Marvin, chief of the Weather Bureau, recently visited the bureau's station at St. Louis, Mo., in connection with the first annual convention of the National Aeronautic Association of America. The purpose of the convention was to hold the annual election of officers and at the same time to participate in the Pulitzer races.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., OCTOBER 24, 1923.

No. 43.

POTATOES HAVE HIGH RANK AS WORLD CROP

World Crop Over Five Billion Bushels Last Year—1923 Crop Somewhat Less.

The position held by potatoes in world agriculture is emphasized in a special report recently completed by department workers. The world crop was estimated at more than 5,000,000,000 bushels last year, exclusive of Russia. In countries reporting to date the 1923 crop is 79 per cent of that in 1922. Figures in both years do not include the many small patches of potatoes grown in gardens for home use, the report says.

Production of potatoes in the United States in 1922 amounted to 451,185,000 bushels. These figures are subject to final revision in December. The domestic estimated production on October 1 was placed at 401,424,000 bushels, as compared with 389,674,000 on September 1. The condition of the crop on October 1 was 82 per cent, as compared with 76.8 per cent for the 10-year average. According to the latest estimate, Minnesota holds a good lead over the other States.

Europe Leads in Production.

The region of greatest potato production from an international standpoint is in northwestern Europe, where the soil and climatic conditions favor the production of potatoes and rye, rather than corn and wheat, the report says. In this region potatoes play an important part in the diet of the people, in the manufacture of alcohol, and as feed for livestock. Variations in potato production in northwestern Europe, therefore, affect the market for American wheat, rye, and corn.

Germany is the world's largest producer of potatoes. Production this year is estimated at 1,200,000,000 bushels, as compared with 1,494,181,000 bushels in 1922. Poland ranks second, with an estimated production in 1923 of 896,022,000

bushels, as compared with 1,220,576,000 last year. Production of 15 countries in the Northern Hemisphere this year is estimated at 3,089,036,000 bushels, as compared with 3,900,730,000 in 1922.

During the pre-war period annual imports of potatoes into the United States were around 3,658,000 bushels, or a little more than twice the quantity exported. Since 1920, however, there has been a marked decrease in imports, until in 1922 the quantity shipped from foreign countries was only 1,775,000 bushels. This was less than one-half the average quantity imported during 1910-1914 and more than 1,000,000 bushels less than American exports last year. More than 60 per cent of American exports go to Cuba.

Ridit, a New Winter Wheat, Resistant to Bunt or Smut

A winter wheat that is resistant to bunt or stinking smut has been developed in Washington by the Washington Agricultural Experiment Station in cooperation with the department. This wheat was bred by Dr. E. F. Gaines through crossing Turkey and Florence, the latter being a smut-resistant spring wheat introduced from Australia. The new wheat was first grown as a pure strain in 1919 and has since been tested and increased by the Washington Agricultural Experiment Station at Pullman, Wash.

It has recently been named Ridit, because it is expected to rid wheat fields of smut. So far as experiments have been conducted, it appears best adapted to the more humid portion of eastern Washington and northwestern Idaho, known as the Palouse district. Limited experiments under semiarid conditions in central Oregon do not indicate that it will be adapted to the drier wheat-growing districts. The Washington station now is distributing seed of the Ridit variety in 1-pound lots to a few hundred farmers in eastern Washington for more complete trial on the farms under those conditions. The United States Department of Agriculture has no seed for distribution.

PAPER INDUSTRY IN ALASKA INEVITABLE

Possibilities of Development in Territory Pointed Out by Secretary.

That water power, timber, and transportation conditions in Alaska make inevitable the development of an important pulp and paper industry in the southeastern part of the Territory was stressed by Secretary Wallace in writing to a paper journal relative to an editorial it recently printed.

"I am at a loss to understand the prevalence of the idea that southeastern Alaska lacks water power or that its water-power resources are unsuitable for use in the manufacture of pulp and paper," the letter said in part. "Cooperative investigations conducted by this department and by the Federal Power Commission have disclosed the presence of numerous excellent water-power sites, many of which can be developed elsewhere in the United States, in units of from 5,000 to over 30,000 horsepower. The total available horsepower in such units now known is over 325,000.

Water Power is Unlimited.

"These estimated power capacities are believed to be conservative and have been found so in those instances where the work of the engineers employed by the Government has been checked by engineers in private employ. Turbines are actually being turned by water power in southeastern Alaska and the power used directly for grinding wood at the rate of 40 tons of baled pulp a day, with less than a 15 per cent development of the particular power site used, and, furthermore, other turbines are being turned to develop electrical power for commercial and domestic use in the cities of Juneau and Ketchikan and in the mining, fish packing, and other industries near these cities.

"The 'limited area of rich timberland' is spread over a region approxi-

mately 300 miles long by 100 miles wide, larger than the spruce region of the northeastern United States or than the State of Washington west of the Cascade Mountains, and contains a present stand of timber of at least 70,000,000,000 board feet, chiefly spruce and hemlock.

Transportation by Water.

"Transportation in the region is and probably always will be almost wholly by water, which is cheaper than by rail for such long shipments as would be involved here. The coast region of southeastern Alaska is cut up by innumerable inlets and channels, giving sheltered, navigable waterways available not only for moving logs to power sites but also for transporting the products to market. Most of the water power can be developed directly on the shore line of these navigable waterways, which are open throughout the year, so that the storage sheds for pulp and paper plants can be on docks to which ocean-going steamers could tie up and from which the steamers could go to any port in the world. The pulp industry will, of itself, provide freight for such steamers. The opportunities for transportation in southeastern Alaska are the same as those available for several of the successful pulp and paper mills in British Columbia just to the south. A glance at a large-scale map of the Panhandle of Alaska will show you that the region is comparable, so far as water transportation is concerned, with the country around Puget Sound and the coast of British Columbia, with its numerous inlets, canals, and passages.

"In short, the rate of development of the pulp and paper industry in the Territory will be controlled by the economic factor of distance from present consumption centers, and by the necessity, inherent in the industry itself, for large capital investments, rather than by physical disadvantages. The physical conditions in southeastern Alaska—presence of cheaply developed power, an enormous supply of inexpensive wood, and the availability of water transportation—are the very factors which make inevitable the expansion of pulp and paper manufacturing in the Territory."

The tentative draft of the naval stores regulations for the enforcement of the naval stores act is being sent out to the trade press and to producers and users of turpentine and rosin for consideration and suggestions for amendment. These regulations will be modified if necessity for such is indicated and the draft finally agreed upon will be submitted to the Secretary of Agriculture for promulgation.

United States Grows One-Half of Flax Requirements

In view of the large wheat crop this year and the fact that this country produces less than half its flaxseed requirement, the department is now considering the possibility of increasing the acreage of the latter by shifting from wheat and other crops.

Flaxseed is essentially a pioneer crop, thriving on the frontier and moving with it. The most important flax-producing region in the United States at the present time is in the northern Great Plains area, embracing the States of Minnesota, North Dakota, South Dakota, and Montana. In 1923 the estimated production of these four States is 99 per cent of the estimated flaxseed crop of the United States.

Whether the United States can produce a sufficient quantity of flaxseed to meet its own requirements depends not only on the amount of suitable land available for the raising of flaxseed but also upon the relation between the cost of production of flaxseed and other farm products and the prices received for them, not to mention the tariff, transportation costs, and other factors which enter into the consideration of this problem.

The net requirements of flaxseed in the United States, including linseed oil converted to flaxseed, during the fiscal year ending June 30, 1923, increased 29 per cent over the preceding fiscal year. The maintenance of the immediate demand for linseed oil will, of course, depend in a large measure upon the continuance of building activities in this country.

The imports of flaxseed into the United States during the fiscal year ending June 30, 1923, increased 83 per cent over the fiscal year ending June 30, 1922. Argentina was the principal source of the flaxseed imports during the past year. During the year almost nine-tenths of the amount imported came from Argentina.

The 1923 flaxseed crop in the United States is officially estimated to be an increase of 66 per cent over the 1922 crop, and will be the largest crop since 1912. Exports from the United States are chiefly in the form of linseed oil. During the fiscal year ending June 30, 1922, the last fiscal year for which complete statistics on flaxseed are available, exports of linseed oil were over 98 per cent of the exports of linseed oil and flaxseed combined. Practically all of our exports of linseed oil go to Canada, Cuba, Mexico, and other Latin American countries.

There was also exported during the year under review, linseed-oil cake and

meal amounting to 536,555,238 pounds of oil cake and 38,057,227 pounds of meal, as compared with 469,397,376 pounds of linseed-oil cake and 14,661,467 pounds of linseed meal exported during the fiscal year ending June 30, 1922. The great bulk of the linseed cake went to the Netherlands. Belgium and the United Kingdom were the other two most important countries of destination.

Volcano Investigations Are Conducted in Hawaii

A field of activity of the Weather Bureau that is but little known is the volcano investigations conducted on the island of Hawaii under Dr. T. A. Jaggar, jr. The permanent scientific staff consists of a volcanologist, a seismologist, and a chemist. Occasionally chemists, geologists, seismologists, and physicists, both from the United States and from foreign countries, spend from a few weeks to several months at the Volcano Observatory.

The observatory is situated about 4,000 feet above sea level on the brink of Kilauea Volcano, which is continuously active. Studies are made not only of that volcano but also of Mauna Loa, nearly 10,000 feet higher, which erupts every five or six years. The eruptions of the two volcanoes are not explosive, but take the form of a rather quiet extrusion of molten lava.

The routine of the station consists in daily observation and photography of the fire pit, frequent surveys to determine the height of the lava, care of several seismographs, and interpretation of seismograms. The seismograms give the distance and direction of earthquakes—five or six occur each week—and indicate the amount of tumescence or subsidence of the entire mountain tip. From these seismographic data forecasts of volcanic activity from two or three hours to several days in advance are often made.

A meeting of the Portland U. S. D. A. Club was held on October 5 at the University Club in Portland, at which there were 24 members and 3 guests present. The guests were Congressman Elton Watkins, of Oregon, and Messrs. Robb (Washington, D. C.) and Bailey (Spokane, Wash.), of the Bureau of Agricultural Economics. The meeting was presided over by Acting Chairman F. L. Kent. It consisted of statements from representatives of each bureau covering the work of the bureau, followed by a very inspiring talk from Congressman Watkins.

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued By Department During
the Past Week.

PINK BOLLWORM QUARANTINE MODIFIED.

A modification of the Federal pink bollworm quarantine allowing direct shipment by rail to Canada of cotton grown in regulated areas has been announced by the Federal Horticultural Board. The quarantine became effective October 15. The change applies specifically to baled cotton lint and linters. The board's action was taken in response to requests from merchants who asked for permission to ship their cotton directly to Canada by rail.

GERMANY IS LOW ON BACON AND LARD.

Stocks of bacon and lard in Germany are low and the demand for these commodities is strong, says a report received by the department from its commissioner in Berlin. Although exchange fluctuations are an obstacle to increased sales of American pork products, the present outlook, the report says, is apparently favorable. All the important markets in Germany are short of American lard and butter.

CAUTION ADVISED IN BUYING SEED.

Estimates of the probable red clover seed crop indicate the possibility that considerable importations of foreign red-clover seed will be made and placed on the American market for seeding in the spring of 1924, according to the department. In this connection it seems desirable, says the Bureau of Plant Industry, to call attention to some of the results of trials made by the department in cooperation with several State agricultural experiment stations and county agents. Results of this work show clearly that as a rule Italian seed is not desirable in the United States.

CATTLE POOLING REDUCES COSTS.

The advantage of pooling cattle grazed on the national forest ranges of Colorado last year over individual handling is brought out in a cost study just completed by department workers. Three hundred and eighty-three ranchmen in 10 pools, comprising a total of 23,451 head of cattle, grazed their stock at an average cost of \$1.87 a head. Seventy-one individual breeders outside of pools grazing 18,803 head paid an average of \$2.26 a head. Under the pooling system

the members cooperate with one another and hire a rider or several riders to look after the cattle while on the reserves.

SOY BEANS GROWN ON 56,000 FARMS.

Soy beans were grown on over 56,000 farms for the first time in 1922 or the method of cultivation modified, according to reports to the department. This work was carried on through the efforts of cooperative agricultural extension workers to extend the use of this legume as a green manure for increasing soil fertility and a protein supplement for livestock feeding.

EXPLORATIONS MADE IN MEXICO.

Explorations in Mexico for the purpose of securing information regarding the existing quarantines restricting the entry of products from that country on account of the pests which they might carry to this country were conducted during the spring by the Federal Horticultural Board. The object was to determine the present status in Mexico chiefly of fruit and vegetable pests as a basis for possible amendments to American quarantines.

INCREASE IN BIRD-BANDING WORK.

Since July 1, 1923, over 12,000 birds have been banded by the Biological Survey or by its voluntary cooperators in bird-banding studies. During the fiscal year ending June 30 more than 25,000 birds were banded, which is a decided increase over the approximately 6,000 banded in 1922. At the present date about 1,200 returns from banded birds have been reported, which is considered a very good percentage.

TO SURVEY IRRIGATION PROJECT.

An agricultural and economic survey of the proposed Baker irrigation project, Baker County, Oreg., is to be made by the department at the request of the Secretary of the Interior. R. P. Teele, of the Bureau of Agricultural Economics, has been selected as chairman of a departmental committee to carry on the investigation. The Bureau of Agricultural Economics will make an economic survey, the Bureau of Soils will study the soils, and the Bureau of Public Roads will conduct an agricultural engineering survey.

NEW CALORIE CHART IS ISSUED.

Teachers, mothers, and home-economics workers will be interested in a chart just issued by the department showing

in a series of 20 pictures just how a portion of food containing 100 calories looks on a plate when compared with other familiar foods commonly appearing on the American table. The chart, which was prepared by the Bureau of Home Economics, is intended to furnish aid in the economical and correct selection of food for the family.

Housewives of to-day are learning to choose, think of, and purchase their foods in terms of calories or fuel value rather than by pounds or quarts. She will realize, of course, that she must take into consideration other factors, as well as calories, in determining the best diet for her family.

A 100-calorie portion is shown in each case for potatoes, apples, flaked or puffed cereal, milk, prunes, carrots, cheese, bread, butter, peas, roast beef, canned salmon, candy, eggs, cream, loaf sugar, tomatoes, granulated sugar, cooked bacon. School children can use the chart to make up imaginary meals which the teacher can criticize, and the housewife can consult it when planning her menus. As the edition is limited, the charts will be sold by the Government Printing Office for a few cents each when the number of free copies is exhausted.

Department Worker Has a Narrow Escape From Quake

Word has been received of the safe arrival of Prof. T. D. A. Cockerell, of the Bureau of Entomology, and his wife in Boulder, Colo. Professor and Mrs. Cockerell narrowly escaped death in connection with the earthquake in Japan. A few minutes before the earthquake they had boarded the steamship *Empress of Australia* which was due to leave Yokohama three minutes after the earthquake occurred, but she remained in the harbor for some time assisting in gathering refugees. Her propeller was slightly damaged by the earthquake. When the oil tanks of the Standard Oil Co. took fire and the oil spread over the water it looked for some time as if this steamer and all its passengers would be completely destroyed by fire, but by great effort it was removed just in time to avert this catastrophe.

Professor Cockerell and his wife later transferred to the steamship *President Jefferson* and were able to bring some of their more fragile material in their suit cases. On the *President Jefferson* they were forced to content themselves with very crowded quarters, and slept on the floor of the tea room. Both Professor Cockerell and his wife aided in the work of caring for the refugees, and he reports a very exciting trip.



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LOCATION OF BUREAUS AND OFFICES.

Several readers of the RECORD have written in asking for the location of the different bureaus and offices of the department, as the information is needed in guiding people who are contemplating visits to Washington. Due to the new plan of organization, which called for the establishment of new offices and changes in others, we feel that this information might be of sufficient value to give it somewhat in detail.

Following is a list of the different bureaus and offices in which visitors to Washington might be interested and from which they can secure information and location of other branches of work:

Secretary, Hon. Henry C. Wallace, Administration Building.

Assistant Secretary, Hon. Howard M. Gore, Administration Building.

Director of scientific work, Dr. E. D. Ball, Administration Building.

Director of regulatory work, W. G. Campbell, Administration Building.

Director of extension work, Clyde W. Warburton, room 318, 220 Fourteenth Street SW.

Weather Bureau, C. F. Marvin, chief, Twenty-fourth and M Streets NW.

Bureau of Animal Industry, Dr. John R. Mohler, chief, east wing.

Forest Service, Col. W. B. Greeley, chief, 930 F Street NW.

Bureau of Plant Industry, Dr. W. A. Taylor, chief, west wing.

Bureau of Chemistry, Dr. C. A. Browne, chief, 216 Thirteenth Street SW.

Bureau of Soils, Milton Whitney, chief, east wing.

Bureau of Entomology, Dr. L. O. Howard, chief, Entomology Building.

Bureau of Biological Survey, Dr. E. W. Nelson, chief, Bieber Building, 1358 B Street SW.

Bureau of Public Roads, Thos. H. MacDonald, chief, Willard Building, Fourteenth Street below F.

Bureau of Agricultural Economics, Dr. H. C. Taylor, chief, Bieber Building, 1358 B Street SW.

Bureau of Home Economics, Dr. Louise Stanley, chief, east wing.

Cooperative Extension Work, Dr. C. B. Smith, chief, room 109, 220 Fourteenth Street SW.

Packers and Stockyards Administration, Chester Morrill, in charge, Administration Building.

Grain Futures Administration, Chester Morrill, in charge, Administration Building.

Federal Horticultural Board, Dr. C. L. Marlatt, chairman, Entomology Building.

Insecticide and Fungicide Board, J. K. Haywood, chairman, Olive Building, 220 Thirteenth Street SW.

Fixed Nitrogen Research Laboratory, Dr. F. G. Cottrell, chief, American University, Massachusetts and Nebraska Avenues.

Editorial and distribution work, L. J. Haynes, in charge, 215 Thirteenth Street SW, Solicitor, R. W. Williams, 1316 B Street SW.

Chief clerk, R. M. Reese, Administration Building.

Department library, Miss C. R. Barnett, librarian, Bieber Building, 1358 B Street SW.

Office of Experiment Stations, Dr. E. W. Allen, chief, room 512, 220 Fourteenth Street SW.

Office of motion pictures, F. W. Perkins, in charge, 1363 C Street SW.

Office of exhibits, J. W. Hiscox, in charge, Building F, Seventh and B Streets NW.

Press service, F. M. Russell, in charge, Press Service Building.

SECRETARY APPROVES SOIL SURVEYS.

The Secretary has approved the following soil survey projects for the coming winter: Salinas Valley area and Roseville area, California; Calhoun, Lee, and Randolph Counties, Ga.; Craven, Green, Nash, and Wilson Counties, N. C.; and Hidalgo, Milam, and Nacogdoches Counties, Tex.

William J. Norton, specialist in illustrative materials, California agricultural extension service, Berkeley, Calif., recently spent a few days in the department studying the methods employed for visual instruction by the Offices of Exhibits, Motion Pictures, and Extension Work. Mr. Norton has previously visited the State agricultural colleges and fairs in Iowa, Illinois, and New York and the National Dairy Show at Syracuse.

The work on the color grading of honey, undertaken by the Bureau of Entomology in cooperation with the office of grades and standards of the Bureau of Agricultural Economics, has been completed and an effort is now being made to devise a suitable holder for the color grades. The most troublesome difficulty encountered in this work was to devise materials of the proper color which at the same time have the proper opacity and are color-permanent in solutions. In this work more than 450 samples of typical honeys have been examined for light transmission by the spectro-photometer, constituting the most extensive study of colors of honeys ever undertaken.

From Our Readers

To the EDITOR: Referring to page 4 of the RECORD for September 19, I take pleasure in stating that there are some important points in writing letters. A spirit of friendliness should be shown in addressing the party written. The body of an important letter should be made up in the rough draft, putting down all relative important data on the subject; then the rough draft should be rewritten, using the most simple and smallest number of words possible and arranging data so that the finish of the letter would be the most important.—J. B. R.

To the EDITOR: Articles printed in the RECORD of interest to the forester, whether they deal directly with forestry or not, are valuable in that they broaden one's views on the entire subject of agriculture in a systematic manner. To absorb bulletins and circulars on the subjects which you treat in the RECORD would mean exhaustive study. Your short articles giving explicit and concrete examples of department work give us all an insight into the work being done. I absorb the contents of your publication in so far as possible and believe it should be continued as a form of educational material as well as an "OFFICIAL RECORD."—F. A. W.

To the EDITOR: As a member of the field force, I find the RECORD contains much information of value to me. It is somewhat difficult for a field worker to keep in touch with the work of the department, and at the same time he is always meeting people who feels that he should at least be able to discuss intelligently and give some information on the general program of work of the department. The weekly visits of the RECORD are certainly a great help in this respect. I have no criticism to offer of the material now being included in the RECORD, and only wish that it might be enlarged so as to contain more information of the same kind.—S. B. N.

To the EDITOR: THE OFFICIAL RECORD, in my mind, is a very useful pamphlet for agricultural workers. It serves as a medium through which we are enabled to keep in close touch with your department. It is very valuable in that it catalogues sources of information upon which a man as busy as I am may draw. The bulletin reviews bring to a man's attention the bulletins particularly needed. I appreciate THE OFFICIAL RECORD very much.—M. L. H.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Is it lawful for hotels or restaurants to serve wild ducks and geese?

Answer. No. The provisions of the migratory bird treaty act and regulations make it unlawful to buy or sell wild ducks or other migratory birds or parts thereof, except under proper permits for scientific or propagating purposes. Migratory waterfowl raised in captivity under proper Federal and State permits may be bought or sold and served in hotels or restaurants, but this does not apply to any wild birds including those that have been captured under permit for propagation purposes, as birds thus captured can not be killed or sold for food purposes at any time. The serving of the flesh of wild birds with meals in hotels, restaurants, or other places is unlawful if a price is charged for the meal, and the statute can not be avoided under a pretense that no charge is being made for the flesh of wild birds.

Question. What is the source of seeds from which young trees originate on logged-over lands?

Answer. In most cases the seed is already in the ground or in the duff and litter under the trees and if not destroyed by fire following the logging, immediately germinate and produce young trees. Seed trees left are often insufficient in number to completely restock the area, but if they are sufficient the process takes place, as a rule, in a great many years. For this reason it is highly important that a method of brush disposal be adopted which destroys the duff on the least possible area.

Question. Does the department make its own tuberculin used in cattle tests?

Answer. Yes. The laboratory of the Bureau of Animal Industry at Washington manufactures more tuberculin than any other laboratory. At present there are 16,000 flasks growing the bacilli in their incubators. The flasks are changed every two months so that the laboratory grows 96,000 culture flasks a year.

Question. Will bees work in a cedar hive? Is not the worm that destroys the bees a kind of moth which a cedar hive might keep out?

Answer. Cedar wood has been used for beehives. It possesses no advantage over

other woods in being a repellent of the bee moth. Since a beehive has an open entrance and is always well ventilated by the bees, any repellent odor from the cedar wood is so minimized as to have no such action as it might have in a tightly closed cedar chest. Again, the entire interior of a beehive is covered by the bees with propolis (bee glue), which would tend also to keep out the cedar odor. Therefore cedar hives seem not to hinder the development of the wax moth in the beehive.

Question. Does the United States export a large amount of pork?

Answer. The United States has always been an important pork-exporting country and has led the nations of the world in this respect. For the five years ending 1919 pork exports averaged 1,179,000,000 pounds. Lard exports and pork products represent from 10 to 12 per cent of all our agricultural exports and from 5 to 6 per cent of the total exports of all kinds. In 1921 exports of pork and pork products increased \$138,000,000, or 128 per cent over pre-war figures.

Statisticians Consider Crop Reporting Methods

Recent improvement in crop reporting and statistical methods were considered at the special conference called by the Bureau of Agricultural Economics and held at Indianapolis October 22, 23, and 24. Leading Federal and State statisticians and crop estimators from Northern and Eastern States took part in the conference, and the whole problem of acreage measurement and crop condition reports was discussed.

Some of the main topics which came up for discussion were the development of an educational program to expand the use of crop reports, tests for accuracy, correlation of forecasting methods, the relation of weather to yield of crops, livestock estimates, methods of estimating acreages and abandonment of acreage planted, and estimates of commercial crops including apples, potatoes, broomcorn, and tobacco.

A large part of the conference was given over to discussion on the forecasting of crop and livestock production. The first attempt along this line was the making of pig surveys by the Bureau of Agricultural Economics in cooperation with the Post Office Department in which an effort was made to indicate the probable pig crop based on information collected in the field relating to breeding operations. The possibilities of doing similar work with regard to other live-

stock, crops, and wool received attention at the conference.

Among the Washington representatives of the bureau who participated in the conference were: William A. Schoenfeld, assistant chief; W. F. Callander, Joseph A. Becker, S. A. Jones, L. M. Harrison, Charles E. Gage, H. R. Tolley, B. B. Smith, O. E. Baker, and L. H. Bean.

The sessions were held in the senate chamber of the State capitol, where the conferees were welcomed by the Governor of Indiana.

Need for Universal Cotton Staple Standards Seen

The adoption of American standards for universal cotton standards for grade is meeting with general satisfaction, and has led to the hope that similar action may be taken with regard to length of staple, reports Arthur W. Palmer, cotton specialist of the department, who just returned from Europe.

"Renewed efforts are being made by the British trade to encourage the growing of cotton in other parts of the world, in view of the high price of the American product," Mr. Palmer says. "Failure of the South to produce a large crop this season and the resulting high prices have been very discouraging to the Lancashire mills, which had hoped to be able to revive their business in India and the Far East. The purchasing power of the people of these countries has been measurably reduced since 1920, while the high prices of cotton fabrics that have obtained in the past two years have brought about a lowered standard of dress. The effect of this doubly adverse situation has fallen most heavily on the Manchester group of mills. Fine-goods mills spinning for the most part Egyptian cotton appear to be operating more profitably than mills running on American cotton, whereas on the Continent the reverse is true.

"The position of the continental mills as a whole is much better by comparison. Prospects in Germany this year were for much smaller purchases of cotton than last year, but considerable improvement in conditions in Italy is noted. Owing to the uncertainties of exchange and the general resistance to increasing prices, the tendency of all Europe is to buy on a day-to-day basis."

Lumbering is the third largest industry in the country, employing 839,000 wage earners and carrying capital investment of more than \$3,000,000,000.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

CULL FRUIT BEING UTILIZED.

It not infrequently happens that some investigational work started by the department results in the development of a new American manufacturing industry. Such was the case when the Bureau of Chemistry organized a laboratory in Los Angeles, Calif., in 1914 to investigate the possibility of adapting and improving existing methods for the utilization of waste lemons, to develop new methods, and to make, if possible, new products from waste lemons, oranges, and grapefruit.

In the citrus fruit growing industry in California and Florida there is an enormous lot of fruit which is too small or too large, unsightly, or misshapen for profitable shipment as food. Minor defects, such as small bruises or punctures from thorns or gravel or rough boxes, are often the points of infection for bacterial and fungous growths which cause decay. Such fruit is unprofitable to ship. The amount of waste fruit from these and other causes averages from year to year about 3 per cent of the total crop.

At the time these investigations were begun in California there were existing methods for the manufacture of citrate of lime and citric acid, but owing to the cheapness with which these products could be manufactured in Italy, where hand labor was available at about 3 cents a day, these by-products could not be manufactured in this country in competition. There were at this time only two small and struggling by-product companies in California, and they were making no appreciable inroad into the enormous supply of cull fruit available.

Under the direction of E. M. Chace, chemist in charge of the laboratory of fruit and vegetable chemistry, the existing methods for the manufacture of citrate of lime and of citric acid were improved and adapted to California conditions. The by-product industry has since developed very rapidly until there are now a number of staple concerns manufacturing lemon by-products.

The plants of these concerns have a capacity of 50,000 pounds of lemon oil, 500,000 pounds of citrate of lime, and over 1,500,000 pounds of citric acid. Twenty concerns are producing orange by-products to the extent of 6,000,000 pounds each year. These orange by-products include marmalade, marmalade stock, jellies, orange juice, and

candied peel. Improved methods for the manufacture of orange vinegar have been developed by the experimental work.

This investigational work has not only resulted in the establishment of a new American manufacturing industry, but has created an outlet for cull and surplus oranges and lemons at a good price. Cull fruit that was sold at from \$3.50 to \$5 a ton previously has in the course of the development of this work reached a sale price of from \$25 to \$30 a ton.

WITH EXTENSION FORCES

WORKING UNDER ADVERSE CONDITIONS.

Phillips County in northern Montana, formerly thought good for only cayuses, rattlesnakes, and cactus, has distinguished itself by the development of diversified farming. Corn has proven to be a better dry-land crop than wheat, and, as it means more hogs and cows when marketed in that form, it is a more dependable cash crop. The story of five years of county agent work in Phillips County tells how these results were obtained.

The year 1918 was dry and crops had failed. Feed was scarce and farmers were forced to market their livestock in order to partially save the wreck. In 1919 the county agent's office made a survey of conditions to get information that would be of help in developing a dry-land feed crop. Although that year proved another dry one, corn began to appear as a promising crop. The county agent's office concluded that corn had great possibilities as a feed crop on those dry-land farms. The county bonded itself for \$75,000 for the purpose of staking the dry lander to seed for another year, and the county agent's office, the county commissioners, and the farm bureau got together for the purpose of laying plans for the distribution of this loan.

Seven hundred bushels of the best Northwestern Dent seed corn available were shipped in and sold directly to farmers at cost. Under the plans developed no farmer was given a seed loan unless he definitely agreed to either summer fallow a portion of his land or to plant some corn. Although this stand was criticized, the following season—a dry one again—began to place confidence in corn as a dependable feed crop that would serve as a permanent basis for diversified farming. The first annual northern Montana corn show, held in November, 1922, was considered the greatest demonstration of agricultural facts in that part of the country. As a

result there will be 35,000 acres planted to corn in Phillips County alone, with a corresponding increase in other northern Montana counties.

After confidence was established in the crop the next thing was to produce adapted varieties of seed, and this work has gone on steadily from year to year. During the last two years it has not been necessary to import a single bushel of seed corn, and 99 per cent of this year's big acreage will be planted with home-grown seed. Phillips County has developed a reputation as a source of good seed corn and during the winter just passed approximately 500 bushels have been shipped to outside points.

Other crop-improvement work conducted by the county agent's office during the last five years includes the development of adapted varieties of common farm crops through the conducting of variety tests and the production of pure and approved seed. Five seed-grain loans for drought relief have been handled in the county and a total of \$316,600 has been loaned to 1,824 farmers.

WESTERN STATES EXTENSION CONFERENCE.

The Western States Extension Conference, which is one of a series of regional conferences of extension workers held annually for some years to discuss problems pertaining especially to extension work in various sections of the country, will meet in the Armstrong Hotel at Fort Collins, Colo., November 5-9, 1923. Discussions of range management, livestock improvement, and human nutrition work will comprise the principal part of the program. Dates for the meeting of other regional conferences have not yet been determined.

Although the increase in the number of cooperative home demonstration agents was slight throughout the 33 Northern and Western States during 1921, records of the department show that practically 35,800 more women became members of extension organizations than in 1920. Also, 4,864 new communities undertook to carry on one or more features included in extension programs.

The boys' and girls' club exhibition and encampment at the Eastern States Exposition, Springfield, Mass., held this year in connection with the seventh annual exhibition, a two-weeks' training school for local leaders, beginning one week before the opening of the exposition, September 16, and closing with it September 22. Each State participating in the exhibition was allotted one representative to attend the school and to take back to his State the benefit of this intensive training.

BRIEF REVIEWS OF NEW BULLETINS.

Increasing the Potato Crop by Spraying. By F. H. Chittenden, entomologist, truck-crop insect investigations, Bureau of Entomology, and W. A. Orton, pathologist in charge of cotton, truck, and forage-crop disease investigations, Bureau of Plant Industry. Pp. 22, figs. 23. October, 1923. (Farmers' Bulletin 1349.)

Spraying potatoes as a protection against insect pests and diseases has, with few exceptions, resulted in large gains in yield. Extensive experiments conducted in New York during a 10-year period and in Vermont during a 20-year period show an average gain of 60 bushels an acre in the former and an average gain of 105 bushels an acre, or 64 per cent, over the unsprayed in the latter. Records taken from a business point of view on a series of experiments of a 9-year duration conducted by farmers under the direction of the New York State Experiment Station show the increase in yield due to spraying was 36 bushels an acre, with a net profit of \$14.43 an acre.

Cabbage Diseases. By L. L. Harter, pathologist, Office of Cotton, Truck, and Forage-Crop Disease Investigations, and L. R. Jones, collaborator of the Bureau of Plant Industry and plant pathologist of the Wisconsin Agricultural Experiment Station. Pp. 23, figs. 14. September, 1923. (Farmers' Bulletin 1351.)

Practically all the crops which belong to the cabbage family, such as cauliflower, broccoli, Brussels sprouts, kohlrabi, collards, and kale, turnips, radishes, and rape are subject to the same diseases. Such diseases are preventable in the main by simple means of plant sanitation. Rotation of crops should be practiced, avoiding crops which belong to the cabbage family and other closely related crops. Weeds which harbor cabbage pests should be kept down. Drainage water and refuse from diseased cabbage fields will carry infection. Often the seed bed is the source of infection, so it is best to locate it on new ground, if possible, or sterilize by steam the soil used. Disinfect all cabbage seed before planting.

Further Studies with Paradichlorobenzene for Peach Borer Control with Special Reference to its Use on Young Peach Trees. By Oliver I. Snapp, entomologist, and Charles H. Alden, scientific assistant fruit insect investigations, Bureau of Entomology. Pp. 19, pls. 3, fig. 1. September 13, 1923. (Department Bulletin 1169.) Price, 5 cents.

In certain cases paradichlorobenzene has injured young peach trees that have been attacked by peach borers. Recent investigations undertaken by the department, however, show how it may be used with reasonable safety by carefully following certain directions. Although experiments are not yet completed, results so far show that large doses applied for 4 to 12 days are not as effective as very small doses of the chemical exposed for 28 days or longer. Climate, temperature and moisture also have to be considered, as variations in them cause modifications in the doses.

Grain-Sorghum Experiments at the Woodward Field Station in Oklahoma. By John B. Sieglinger, assistant agronomist, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 66, pls. 7, figs. 14. September, 1923. (Department Bulletin 1175.) Price, 15 cents.

Many varieties of grain sorghums are comparatively new and little known, while others have been exploited far beyond their true worth. Experiments with five varieties of

the durra-milo group have been conducted at the Woodward (Okla.) field station, covering a period of eight years. Though the Standard Yellow milo produced an average of 1.6 bushels and 1 bushel per acre more than the Dwarf Yellow milos, the latter are to be preferred for grain production, as their shorter stalks permit easier and more economical harvesting. Production figures are given also for the Kafir, Kaoliang, and Shallu groups.

Experiments in Wheat Production on the Dry Lands of the Western United States. By David E. Stephens, superintendent Sherman County Branch Station, Moro, Oreg., and agronomist, Office of Cereal Investigations; Max A. McCall, superintendent Adams Branch Station, Lind, Wash., and formerly agent, Office of Cereal Investigations; and Aaron F. Bracken, superintendent Nephi Substation, Nephi, Utah, and formerly scientific assistant, Office of Cereal Investigations, Bureau of Plant Industry. Pp. 60, figs. 22. September, 1923. (Department Bulletin 1173.)

As wheat is the only crop commercially grown to a large extent in the dry-land section, experiments on wheat production have been undertaken by the department to furnish conclusive data on tillage methods and on rate, date, and depth of seeding. Similar tests were conducted at different stations in the region where climatic and soil conditions varied and similar methods of culture gave varying results in yield. Information concerning effective and profitable tillage methods should be of value and interest to farmer specialists, soil specialists, county agents, and other extension workers.

Irrigation District Operation and Finance. By Wells A. Hutchins, assistant in irrigation economics, Division of Agricultural Engineering, Bureau of Public Roads. Pp. 56, figs. 5. September 22, 1923. (Department Bulletin 1177.) Price, 10 cents.

A complete study of the management and financing of irrigation development in this country since its beginning has been made, and the publication sets forth important conclusions well supported by facts drawn from the past experiences of irrigation enterprises as to the methods of administration and financing likely to insure the success of such enterprises. The necessary elements for success of irrigation districts—productive land, sufficient water, reasonable capitalization, and adequate land settlement—are discussed in detail. Seventeen Western States now have legal machinery for the organization of irrigation districts and the various laws and methods of procedure are discussed.

Potato Brown-Rot. By F. C. Meier and G. K. K. Link, pathologists, office of cotton, truck, and forage crop disease investigations, Bureau of Plant Industry. Pp. 6, figs. 2. August, 1923. (Department Circular 281.) Price, 5 cents.

Potato brown-rot is world-wide in tropical countries and occurs especially on new land in some of our Southern States. Not only does it attack potatoes but also eggplant, pepper, tomato, tobacco, jimson weed, black nightshade, peanut, and other plants, and is destructive to plants in the field and to the tubers after they have been harvested. Field control is not understood. Further experiments are needed, but losses in shipping are

lessened by early harvesting of diseased fields, thorough sorting, and immediate use. Decay in transit or storage is lessened if the potatoes can be held at a temperature below 55°.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week October 8-13, 1923. These publications can be obtained only from the station issuing them.

Studies on certified seed potatoes. B. A. Brown and W. L. Slate, Jr. (Connecticut Storrs Sta. Bul. 114, pp. 285-296. May, 1923.)

Vinegar fermentation and home production of cider vinegar. A. R. Lamb and B. Wilson. (Iowa Sta. Bul. 218, pp. 14, Aug., 1923.) Drawing up the farm lease. C. L. Holmes. (Iowa Sta. Circ. 87, pp. 32, Aug., 1923.)

Pedigree, the basis of selecting breeding males for egg production. F. A. Hays and R. Sanborn. (Massachusetts Sta. Bul. 215, pp. 42-51, figs. 3, Apr., 1923.)

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and H. H. Shepard. (Massachusetts Sta. Met. Bul. 417, pp. 4. Sept., 1923.)

The abortion problem in farm livestock. L. Van Es. (Nebraska Sta. Circ. 21, pp. 46, figs. 2. Sept., 1923.)

Hybridization of *Vitis rotundifolia* inheritance of anatomical stem characters. C. F. Williams. (North Carolina Sta. Tech. Bul. 23, pp. 31, pls. 2, figs. 16. June, 1923.)

BULLETINS OF INTEREST IN WINTER.

Copies of the following Farmers' Bulletins and circulars of general interest during November may be obtained free by addressing the office of the Secretary, Publications, United States Department of Agriculture, Washington, D. C., as long as the supply lasts. Specify number and name and whether Farmers' Bulletin or department circular.

Farmers' Bulletin 754, The Bedbug; 847, Potato Storage and Storage Houses; 970, Sweet Potato Storage; 1091, Lining and Loading Cars of Potatoes for Protection from Cold; 1096, Frost and the Prevention of Damage from It; 1105, Care of Mature Fowls; 1160, Diseases of Apples in Storage; 1186, Pork on the Farm: Killing, Curing, and Canning; 1194, Operating a Home Heating Plant; 1210, Measuring and Marketing Farm Timber.

Department Circular 238, U. S. Grades for Potatoes Recommended by the United States Department of Agriculture.

The extension service in Illinois held a neighborhood auto field trip in one township and believes that they got more real work done in that half day than one person could do in a week single handed. In order to care for the ever-accumulating number of general farm visits some such type of tours is necessary, and it may be substituted in the future for the big county tours. The experience seems to indicate that it is better to work with five in a group for two hours than spend an hour with each man alone, although farm visits and individual service can not be eliminated entirely.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Analytische chemie der alkoide. Von Hugo Bauer. Berlin, Gebrüder Borntraeger, 1921.
- Aphodinae. Von Adolf Schmidt. Berlin, W. de Gruyter & co., 1922. (Das tierreich. Hg. 45.)
- Badger, afield and underground. By H. M. Batten. London, H. F. & G. Witherby, 1923.
- Betterave et sucrerie de betterave. I. 3 ed. Par Émile Saillard. Paris, J.-B. Baillière et fils, 1923.
- Catalogue des produits de l'Indochine. v. 2, fasc. 1-3. Par Ch. Crevost et Ch. Lemarié. Hanoi, Imprimerie d'Extrême-orient, 1919-20.
- Le chien. Nouv. éd. Par Joanny Pertus. Paris, J.-B. Baillière et fils, 1923.
- Common birds of India. v. 1. By Douglas Dewar. Calcutta, Thacker, Spink & co., 1923.
- Costs and profits; their relation to business cycles. By H. B. Hastings. Boston, Houghton Mifflin co., 1923. (Publications of the Pollak foundation for economic research. no. 3.)
- Deer and deer forests of Scotland. By A. I. McConnochie. London, H. F. & G. Witherby, 1923.
- Essentials of economics, especially adapted for use in Chinese middle schools and colleges. 6th ed. By Kenneth Duncan. Shanghai, Commercial press, Ltd., 1923.
- Études préliminaires sur les hlés marocains. Par E. Miège. Paris, 1922 (Morocco. Direction générale de l'agriculture, du commerce et de la colonisation. Bulletin No. 1.)
- Exploraciones botánicas y otras en la cuenca de Maracaibo. Por H. F. Pittier de Fábrega. Caracas, 1923. Extractado del "Boletín comercial e industrial"—año 4, 1923.)
- Great Britain. Ministry of agriculture and fisheries. Departmental committee on distribution and prices of agricultural produce. Interim report on meat, poultry and eggs. London. Stationery off., 1923.
- Handbuch der zoologie. bd. 1, Hfg. 1, hogen 1-12. Von Willy Kükenthal. Berlin, W. de Gruyter & co., 1923.
- Historic gardens of Virginia. 2d ed. Comp. by the James River garden club. Ed. by E. T. Sale. Richmond, Va., William Byrd press inc., 1923.
- Massachusetts. Commission on the necessities of life. Report. Boston, 1923.
- Das meerschweinchen. Von H. Raehlg. Hannover, M. & H. Schaper, 1923.
- Profitable pigeon breeding. By F. A. Hazard. Warrenton, Mo., American pigeon journal company, 1922.
- Sapropneiceae. By W. C. Coker. Chapel Hill, N. C., University of North Carolina press, 1923.
- La science du sol; Annales des laboratoires G. Truffaut. v. 1, fasc. 1; v. 2, fasc. 1. Versailles, 1922-23.
- Stellenbosch, South Africa. University. Annals. v. 1, sect. A, no. 1-2. Capetown, 1923.
- Streets, roads, and pavements. By H. G. Whyatt. London, Pitman & sons, Ltd., 1923.
- Studies of rickets in Vienna, 1919-22. London, 1923. (Medical research council (Gt. Brit.) Special report ser. no. 77.)
- Treatment of paper for special purposes. 2d English ed. By L. E. Andes. London, Scott, Greenwood & son, 1923.
- Über kapillaranalyse und ihre anwendung im pharmazeutischen laboratorum. Von Hugo Platz. Leipzig, W. Schwabe, 1922.
- Zimmermann on ocean shipping. By E. W. Zimmermann. New York, Prentice-Hall, inc., 1922.

OLD BOOKS.

- Instructions pour les arbres fruitiers. 3. éd. Par François Vautier. Rouen, 1659.
- New lands within the Arctic circle. Narrative of the discoveries of the Austrian ship "Tegethoff," 1872-1874. By Julius von Payer. London, 1876.
- Observations sur quelques plants de France. Par H. F. Soyer-Willenet. Nancy, 1828.
- Travels in Siberia. By G. A. Erman. London, 1848.

THESES.

- Beobachtungen über die folgen der futternot bei unsern haustieren während der kriegszeit. Von Ernst Möhl. Säckingen, G. Mehr, 1922.

Ein einfacher und sicherer weg zur bakterio-logischen feststellung von rotlauf durch untersuchung des knochenmarks. Von Eduard Oberländer. Berlin, 1922.

Ovarialzysten und sterilität der stuten. Von Georg Bengsch. Stuttgart, 1922.

Über die kleinem nekrotischen herde in der leber des geflügels bei geflügelcholera. Von Albrecht Rose. Hamburg, 1922.

Über die praktische bedeutung der Skar'schen keimzahlbestimmung in der milch für die sanitätspolizeiliche milchkontrolle. Berlin, 1922.

Über ein karzinom beim rothirsch. Von Gustav Meier. Hamburg, 1923.

Zur kenntnis der cholesteatome des pferdes. Von Josef Rácić. Virovitica, 1921.

CURRENT PERIODICALS.

- London and Cambridge economic service. Monthly hulletin. London, 1923.
- London and Cambridge economic service. Special memorandum. London, 1923.
- Schakels (voortzetting van meststoffen en voederstoffen). Rotterdam, 1923.
- Sixth census of Canada, 1921. Census of agriculture. Bulletin. Dominion bureau of statistics. Ottawa, 1922.

Articles in Current Publications By Department Workers

- Brauns, D. H. (Bur. Chemistry). Fluor-acetyl derivatives of sugars. II. Optical rotation and atomic dimensions. In J. Am. Chem. Soc., Vol. 45, no. 10, Oct., 1923.
- Chittenden, F. H. (Entomology). The asparagus beetles and their control. Oregon State Board of Horticulture. 17th Biennial report, 1921-22, p. 183-190, 8 fig. 1923.
- Cook, O. F. (Plant Industry). Biology in human progress. Urbanism the underlying cause of social fermentation and decay of civilization. Journal of Heredity, vol. 14, pp. 253-259, September, 1923.
- Davidson, W. M., and Nougaret, R. L. (Entomology). How the presence of phyloxera is indicated. Oregon State Board of Horticulture. 17th biennial report, 1921-22, pp. 193-195, 1923.
- Ferris, L. W. (Bur. Chemistry). The relation of the oxidizability value and the amino and ammonia nitrogen content to the quality of cream and butter. In J. Dairy Sci., vol. 6, no. 5, Sept., 1923.
- Griffiths, David (Plant Industry). Production of double-cone flowers. Journal of Heredity, vol. 14, p. 265-266. September, 1923.
- Kempton, J. H. (Plant Industry). Branched ears. Heritable characters in maize XIV. Journal of Heredity, vol. 14, pp. 243-251. September, 1923.
- Popenoe, Wilson (Plant Industry). The avocado situation. Florida Grower, vol. 28, no. 15, pp. 6-7, 16-17. October 13, 1923.
- Pratt, J. G. (Entomology). Tiny insects as seen through the magnifying eye of the camera. Camera Craft, vol. 30, no. 10, pp. 478-481, illus. October, 1923.
- Quaintance, A. L. (Entomology). The peach horer—how to prevent its ravages. The paradichlorobenzene treatment. Oregon State Board of Horticulture. 17th Biennial Report, 1921-22, pp. 142-151, 13 fig. 1923.
- Rohwer, S. A. (Entomology). Three new pemphredonine wasps (Hymenoptera). Washington Academy of Sciences. Journal, vol. 13, no. 16, pp. 369-371. Oct. 4, 1923.
- Shannon, R. C. (Entomology). The pleural sclerites of Diptera. Canadian Entomologist, vol. 55, no. 9, pp. 219-220. September, 1923.
- Smith, L. B. (Entomology). Japanese hettle. American Cranberry Growers' Association. Proceedings of the 54th Annual Convention, August 29, 1923, 5 p.

PAPAIN UNSATISFACTORY IN TESTS.

Suggestions have frequently been made to nutrition workers in the department to the effect that papaya leaves and also dried powder made from the fruit of the papaw could be used to make meats tender. Both the leaf and the fruit contain an enzyme which digests protein. A series of experiments conducted by

the Bureau of Home Economics shows, however, that papain in either of these forms can not be considered desirable for rendering tough meat tender.

A solution of the powder was applied to cuts of meat from the shoulder and round, which were then separately cooked by boiling, frying, and broiling. The enzymes acted rapidly on the connective tissues, especially when the meat was hoiled, but the muscle fibers were made powdery and pasty at the surface. The meat was dry, lacked natural meat flavor, and had a bitter taste.

When the papaya leaves were crushed to extract the juice and wrapped around the meat for periods ranging from 6 to 26 hours at both room and refrigerator temperatures, the wrapped meat was slightly more tender than the untreated sample, but tasted decidedly of the green and bitter juice of the leaves.

Additional leaves were obtained from Miami, Fla., through the Office of Foreign Seed and Plant Introduction. Results with these leaves were no more satisfactory than when papaya leaves grown in the Botanical Gardens at Washington, D. C., were used. In all cases the characteristic meat flavor tended to disappear and was replaced more or less by other flavors, particularly by a bitter flavor in some cases.

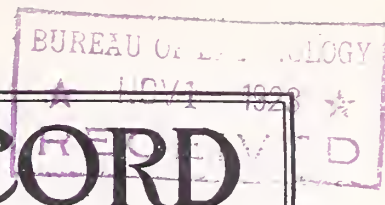
FRUIT GROWERS COOPERATE.

Through the combined efforts of the extension fruit specialist, the horticultural department of the University of New Jersey and the State horticultural society, central New Jersey, has a cooperative association of fruit growers, with 65 members, which employs a field man to do follow-up work as suggested by the extension fruit specialist. The organization, known as the New Jersey Fruit Cooperative Association, was formed early in 1923. When the fruit specialist held pruning demonstrations last spring he trained the association's field man, the orchard owners, and their pruning crews how to prune fruit trees of different ages. He also gave spraying demonstrations and advice regarding fertilizing and general care of orchards. Later he gave fruit-thinning demonstrations. The association requires every member to prune, spray, fertilize, thin fruit, and care for his orchard as recommended and demonstrated by the extension fruit specialist.

Extension workers of the department met in the Office of Extension Work October 16 for the first meeting on the 1923-24 program of weekly conferences. A brief review of developments in extension work was given by C. B. Smith, Chief, Office of Extension Work.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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No. 44.

NEW CHEMISTRY CHIEF VISITS FIELD OFFICES

Dr. C. A. Browne Surveys Work of Bureau—Present Work to Be Continued.

Dr. C. A. Browne, new chief of the Bureau of Chemistry, is making a three-weeks' trip to visit the bureau's branch laboratories and to familiarize himself with the field work and other activities of the bureau. During the few weeks that he has been in active charge of the bureau he has been endeavoring to acquaint himself with its activities here and with its personnel, and his hurried trip at this time will be to further complete this acquaintanceship.

He left for New York, October 25, where he spent a few days with W. R. M. Wharton, chief of the eastern district, before going on to Chicago to confer with Dr. R. E. Doolittle, chief of the central district. From there he will go to Minneapolis where he will give some time to the work of the bureau in connection with the milling and flour industry, then to St. Louis. His schedule is subject to change but his plans now call for his presence in New Orleans on November 5 and for the rest of that week in Louisiana, during which time he will give his attention to the sugar and sirup problems of the bureau and possibly he will go to Lufkin, Tex., where some of the most important investigations in sugar are being made. He will return about November 15, after having consulted with Colonel Rose, state food official of Florida, at Tallahassee, and having visited the food inspection laboratory in Savannah.

Doctor Browne was formerly with the Bureau of Chemistry, resigning in 1907 to accept a position with the New York Sugar Trade Laboratory (Inc.), where he has been until his return to the bureau a few weeks ago. During the few weeks that he has been in his new

position he has become particularly impressed, he said, with the growth of the whole department and of the Bureau of Chemistry in particular made during the years of his absence.

Discusses Work of Bureau.

"In 1906-7 we had only 12 laboratories," he said, "and we were then in smaller and more crowded quarters. Although we are now in much more commodious quarters and have ample room at present, it will not be long before these will be outgrown also considering the present rate of growth." Doctor Browne expressed himself as agreeably surprised to find some 15 former acquaintances still here in the bureau.

Asked about his plans for future activities of the bureau, Doctor Browne said that the work would be a natural outgrowth of what has already taken place with an endeavor to bring to a satisfactory and timely conclusion all of the various lines of investigation now under way. The work of the Bureau of Chemistry covers a wide range of investigational and research work all of which is important from the standpoint of furnishing information for solving the problems which have the more direct bearing on agriculture.

Reduction of the loss from waste and spoilage of food presents one of the important problems of the bureau which is of interest to the agricultural and commercial industries alike. Losses occur to agriculture in the deterioration of crops from the time of harvest to the time they reach the manufacturer. Losses occur in manufactured products on their way to the consumer. The work of the bureau has done much to reduce such losses.

CHRYSANTHEMUM SHOW OPENS.

The twenty-second annual Chrysanthemum show of the department opened Tuesday noon. It will be open for eight days thereafter from 9 a. m. until 9 p. m. Several new varieties are being shown for the first time.

EXHIBIT IS PLANNED FOR INTERNATIONAL

Recommendations of Committee Submitted—Work to Start Shortly.

Preliminary work has been completed on the extensive exhibit planned by the office of exhibits in cooperation with department offices to be shown at the International Livestock Exposition, held in Chicago starting the last of November and continuing through the first week in December. A subcommittee from the different bureaus was appointed by the chairman of the special committee to determine the material to be shown. From the recommendations of this committee the office of exhibits is formulating the method of presentation of facts.

The following suggested exhibits have been arranged and will probably be carried to completion when work starts in the very near future. It will be seen that the three special exhibits are to be illustrated with live animals:

Arrangement of Suggested Exhibits.

Special exhibit 1. Live beef steers, illustrating the four grades—choice, medium, common, and inferior, illustrating by market prices and values what better animals mean in dollars and cents to the farmer.

Special exhibit 2. Live hogs, illustrating the results in the live animal of proper methods of breeding and feeding. Dressed carcasses or models of carcasses to compare with the live animals.

Special exhibit 3. Pens of poultry to demonstrate some of the recent developments of the department's poultry investigations.

Exhibit 1. The farm—its organization for livestock production. Show the most important points as to layout of fields, cropping systems, equipment, livestock and management, of interest to the typical livestock farmer.

Exhibit 2. The use and maintenance of pastures. Establishment, maintenance, re-seeding, management, and utilization practices which have been most successful.

Exhibit 3. Roughages for livestock. (a) dry roughage—hays, their harvesting, grades, utilization, and comparative values for different animals; (b) succulent roughages—silage;

making and using silage and comparison with dry roughages.

Exhibit 4. Corn for livestock. Corn and cattle; corn and hog ratios; how to use corn for feeding livestock; comparative value with and without other feeds; enemies of corn and how to combat them; effect of rainfall on corn.

Exhibit 5. Profitable beef production. Give the specific essentials for success under each of the three phases of beef production—growing, fattening, and marketing.

Exhibit 6. Making money with hogs. A summary of the methods of breeding, feeding and sanitation that must be practiced to make money with hogs. The ton litter idea may be featured.

Exhibit 7. Sheep that pay. How to produce and market sheep and wool for profit, giving the essentials for each phase of the subject.

Exhibit 8. Horses on the farm. The place of the horse on the farm; how to grow, use, and market horses, and the classes which are most in demand.

Exhibit 9. Save young animals. Under the headings of exposure, predatory animals, parasites, diseases, and pests, state the most important points to be considered to bring the greatest saving, and show that saving young animals increases profits without increasing the numbers of breeding animals kept.

Exhibit 10. Better breeding pays. Tell specifically how by better breeding methods farmers may increase the returns from livestock.

Exhibit 11. Better feeding pays. Show how the farmers can feed the animals he already has in a better way and also receive greater returns.

Exhibit 12. Intelligent marketing. Show the farmer how to use market information available to the best advantage.

Exhibit 13. How to select meats. Show the housewife the actual food value of the different cuts of meat, and how to buy meats economically.

Exhibit 14. How to use meats. Show the proper use of meat in the diet, and illustrate with meat dishes.

Exhibit 15. A bulletin rack showing what is available in livestock literature in the department, with a supply of bulletins to be handed to those wishing copies.

NEW ROAD IN DEPARTMENT GROUNDS.

A new road for south-bound traffic only has been opened through the grounds parallel to the old road. Parking along the new road will be at an angle, facing southeast. Cars will park head in and on departing back out, facing south, proceed south to B Street and north on the old road.

The old road will be devoted to north-bound traffic only. Parking along this road will be reached by proceeding south on the new road into B Street and then north along the old road. Parking will be as at present, except that cars will back in for convenience in departing.

The old road is closed to south-bound through traffic, but parking in the rear of the main building along the north side of the Entomology Building and south of the big tree is not interfered with.

U. S. Produces and Consumes One-Fourth of World's Milk

The great care given in the United States to the wholesomeness of milk and other dairy products is frequently commented upon by world travelers. That the people of this country appreciate the efforts made to protect the health of cattle and to keep milk sweet and clean from the farm to the consumer is shown by the quantities of dairy products they use.

Figures compiled by the United States Department of Agriculture, and recently called to the attention of the World's Dairy Congress at Washington by Dr. John R. Mohler, Chief of the Bureau of Animal Industry, show that in this country there are approximately 25,000,000 dairy cows, one-fourth of all the milch cows in the world, and we consume all the product of this great herd, although we have only about one-sixteenth of the world's population. Uncle Sam's best recommendation for the milk, butter, cheese, and condensed milk produced here is the fact that he uses them himself.

Now and then we have exported 1 or 2 per cent of our dairy products, but information now available indicates that this year imports will exceed exports. We are frequently urged to eat more cheese and drink more milk, but it looks as if our appetite for these products keeps up with the cow's capacity to gratify it. One of the big reasons for this condition is that the Department of Agriculture, the States, various organizations, and thousands of individuals are constantly working to reduce diseases of cattle and improve the conditions under which dairy products are produced and handled.

TELEGRAPH MADE FORECASTS POSSIBLE.

In connection with the modern system of weather forecasting, it is interesting to know its origin and history. Scientific weather forecasts depend upon the rapid collection of the reports of meteorological observations taken at places scattered over a wide expanse of territory. This process was not, of course, possible before the invention of the electric telegraph.

The earliest experiments in forecasting with the aid of telegraphic reports were probably those of Prof. Joseph Henry, of the Smithsonian Institution, made in 1849. The first national forecasting service, however, was established in France in 1855, and was the result of an episode of the Crimean War. In

November, 1854, a severe storm did much damage to the French and British warships in the Black Sea. The French astronomer, Le Verrier, director of the Observatory of Paris, made a study of this storm and came to the conclusion that, with the aid of telegraphic reports, its eastward progress across Europe might have been predicted so that the disaster to the ships could have been averted. This idea led to the foundation of the French meteorological service.

In this country the establishment of a similar service was frequently recommended by scientific authorities, including the famous Lieutenant Maury and Dr. I. A. Lapham, of Wisconsin, and finally, in 1869, an experimental service was established in the Cincinnati Observatory by the late Prof. Cleveland Abbe, with the aid of the Western Union Telegraph Co. Professor Abbe's experiments in weather forecasting were so successful that Congress was induced to establish a national service, one of the principal duties of which was forecasting the weather. This service was originally attached to the Signal Corps of the Army, but since the year 1890 it has been a branch of the Department of Agriculture under the name of "United States Weather Bureau."

FIRE-WEATHER WARNINGS APPRECIATED.

George C. Joy, chief fire warden of the Washington Forest Fire Association, has written an appreciative letter to the official in charge of the San Francisco forecast district of the Weather Bureau on the subject of the fire-weather warnings issued by the bureau at several of its western stations. The bureau keeps in close touch with forestry officials and the lumber industry, and does much to mitigate the scourge of forest fires by forecasts of the periods of dry weather when there is special danger of fire, and also of rainy periods during which it is safe to burn slashings and conduct other operations involving fire hazard.

Mr. Joy says in part: "I wish to thank you for your telegram of the 3d instant, about the coming of the storm. It came as was predicted. Your advice came in time to enable us to burn slashings before the rain fell, and that is a very important matter in this work."

A list of periodical reports on crops, markets, and agricultural economics issued by the Bureau of Agricultural Economics has just been compiled by that bureau. Copies are available for distribution.

A DIGEST OF THE NEWS

Brief Bits of News Digested From Material Issued by Department During the Past Week.

PACKER HEARINGS CONTINUE NOVEMBER 6.

Hearings under the complaint issued by the Secretary as to the validity of the merger of the Morris and Armour Packing Cos. will be resumed at Chicago on November 6 for the purpose of receiving the evidence offered by the packer respondents. Hearings were conducted in Washington last week at which time the Government concluded its introduction of evidence, except as to some evidence which it was agreed by both sides could be put into the record at a later time.

COTTON REPORT ISSUED ON NOVEMBER 2.

A cotton report showing the condition of the crop on October 25 and forecasting the production in bales will be issued by the crop reporting board on November 2. The report will show conditions as of October 25 in comparison with conditions at the same date in 1921 and 1922, together with a forecast of indicated total production in bales based upon the reported condition and upon yield, picking, ginning, and other data.

ADVERTISING BENEFITS COOPERATIVES.

Twenty-six farmers' business organizations handling boxed apples sold more than 6,000,000 boxes of the 1922 crop, valued at approximately \$8,000,000, according to reports to the department. Sixteen of the associations advertised their products, the advertising assessments ranging from one-half cent to 4 cents a box. Some of the larger appropriations for advertising the 1923 crop are \$35,000, \$30,000, \$22,700, and \$7,200. In the last 10 years more than \$750,000 has been spent to advertise one well-known brand of apples alone.

COTTON LEAFWORM OUTBREAK SERIOUS.

The most serious outbreak of the cotton leafworm that has occurred for several years is reported to the department this year throughout the Cotton Belt. Northern flights of the moths brought them into New England and the Lake region during the first half of September, where the moths damaged fruit, especially peaches. In Massachusetts the moths were reported so thick that they

covered show windows, automobile wind shields, and arc lights. They were similarly noted in Rhode Island.

TOBACCO COOPERATIVES DO BIG BUSINESS.

A producer owned and controlled association marketed nearly 600,000,000 pounds of the 1922 crop of tobacco, the department reports. Total membership of the eight associations is 259,840. The quantity marketed by the cooperatives was nearly one-half the total crop. The largest of the tobacco organizations is the Burley Tobacco Growers' Cooperative Association, of Lexington, Ky., with 90,607 members, which marketed 197,000,000 pounds of tobacco last year.

BANK ASSISTS LIVESTOCK CAMPAIGN.

In the interest of improved livestock throughout the surrounding country the First National Bank of Petersburg, N. Dak., is not only actively supporting the "Better Sires—Better Stock" campaign but is aiding in financing it. An officer of the bank in writing to the department says that there are now over 60 purebred sires in the immediate vicinity, most of them shipped in by the bank. In addition, the bank has arranged to ship in 13 carloads of breeding ewes from the West to place among its customers.

FARM LIVING STANDARDS STUDIED.

Investigations into the living costs of farmers in different parts of the country have been started by the department. It is expected that the results will be of value in comparing country and city standards of living and in determining whether farmers get adequate returns in comfort, health, and enjoyment from their expenditures. Knowledge of farm standards of living is also needed in the development of educational extension programs if they are to touch on other phases of agriculture than simply those of production.

CHILD CROP COMES FROM FARMS.

The Nation's child crop, no less than the food crops, comes mainly from American farms, says Dr. C. J. Galpin, in charge of farm population studies for the department. Of the 30,000,000 farm population as compared with the same number of urban population the number of children under 10 years of age on farms is approximately 2,000,000 more than in the cities. There are approximately 7,700,000 children under 10 years of age on farms with 5,700,000 in cities having equivalent total population, Doctor Galpin points out.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Does the presence of national forests in a county interfere with the development of resources?

Answer. It prevents "boom" days followed by depression common where the timber is privately owned and no control of the rate or character of cutting is exercised. It contributes to the rational and permanent development of all the resources.

One of the best examples is the recent sale of the Bear Valley unit, 890,000,000 feet, in eastern Oregon. The sale of this timber will bring in a common carrier railroad 80 miles long and a sawmill and accessory manufacturing plants cutting 50,000,000 feet a year for all time. This will stimulate all business and particularly the full development of all agricultural resources by furnishing both transportation and a market.

Question. Where did the navel orange originate and to what extent is it being produced?

Answer. The department brought this fruit from Brazil. There were less than 20 trees in the original shipment and only a very few of them lived. Of the original shipment one tree is still growing in the greenhouses of the department in Washington where great efforts have had to be made to keep it alive. Another one of the trees is still growing in California. The navel orange now constitutes the larger part of the orange industry of California with the average annual production running over 8,000,000 boxes during the past five years.

Question. What is the chief benefit in the work of the cattle food testing laboratory?

Answer. The chief benefit derived from the work of the cattle food laboratory of the Bureau of Chemistry is in the improvement in the feed supply of the country. This is accomplished in two ways, (1) by a supervision of the work of the bureau under the food and drugs act as it applies to foods for animals, resulting in great improvement in the feeds entering interstate commerce, and (2) by a study of the methods of manufacture of feeds and of new feedstuffs whereby materials which are now waste products may be utilized as cattle foods. Recent

[Continued on page 8.]



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OFFICIAL ANNOUNCEMENTS.

Memoranda of the Secretary.

Department Terminology.

MEMORANDUM No. 452.—October 18, 1923.—Hereafter the form and usage of the agricultural terms listed below will be followed in all department correspondence, in copy going to the Government Printing Office, and in all material prepared by department workers in their official capacity for publication by agencies outside of the Government. These forms have been recommended by the department committee on terminology, approved by the Public Printer, and will be incorporated in the Style Manual of the Government Printing Office.

Terms.	Definitions.
Brahman (Zebu) to be used instead of Brahma.	Strictly speaking, white Zebu bulls, regarded as sacred by the adherents of the religion of Brahma. Proposed by the U. S. Department of Agriculture to be used as synonymous with Zebu (<i>Bos indicus</i>), the humped cattle of India.
Purebred (to be used instead of pure-bred or pure bred).	Bred from the best or purest blood; of a breed kept pure for many generations.
Livestock (to be used instead of live-stock or live stock).	Domestic animals kept for farm purposes, especially, marketable animals such as cattle, horses, hogs, sheep, and goats.
Butterfat (to be used instead of butter-fat or butter fat).	A milk fat, the natural fat of cow's milk, chemically a mixture of nine or more glycerides.
Census.....	An official enumeration of persons, property, or things in a given area as of a stated time.
Survey.....	The gathering of facts relating to particular things in specific areas.
Count.....	An accurate enumeration of samples, selected to represent the whole.
Estimate.....	An expression of judgment regarding what is true at any given time as to value, amount, size, or character, based upon partial data, past relationships, calculation, appraisement, and and general knowledge of the subject under consideration.
Forecast.....	A statement of what may be expected to happen, based upon present conditions and observations interpreted in the light of previous experience.
Threshold (to be used instead of thrash).	To beat out or separate, as seeds from straw, chaff, or pods.
Sorghum.....	Botanically, plants of <i>Holcus sorghum</i> L., in the broad sense, and of <i>H. halepensis</i> L., including broomcorn, durra, kafir, milo, sorgo, Sudan grass, Johnson grass, etc.

Terms.	Definitions.
Kafir (instead of kafir or kafir corn).	A group of semi-juicy-stemmed sorghum varieties grown for grain and forage. Erroneously called "kafir corn" or kafir.
Milo (instead of milo maize).	A group of pithy-stemmed sorghum varieties, grown chiefly for grain. Erroneously called "milo maize."
Broomcorn (instead of broom-corn or broom corn).	A group of sorghum varieties grown for broom making.
Sorgo (instead of cane sorghum, saccharine sorghum, or sweet sorghum).	A group of sweet-juiced sorghum varieties grown for sirup and forage. Known also as sorghum, saccharine sorghum, sirup sorghum, and sweet sorghum, and erroneously as "cane" and "sugar cane."
Potato (the common name of <i>Solanum tuberosum</i> ; to be used instead of white potato, round potato, or Irish potato).	The plant <i>Solanum tuberosum</i> or one of its esculent tubers, locally known as Irish, white, round, or common potato.
Sweet potato (the common name of <i>Ipomoea Batatas</i>).	The plant <i>Ipomoea Batatas</i> or one of its fleshy esculent roots, erroneously known as "yam" in some parts of the South.

Safety Committee.

MEMORANDUM No. 453.—October 18, 1923.—With the view to the prevention of accidents and in the interest of the safety of department employees, I hereby designate the following to serve as a safety committee: Mr. R. M. Reese, chairman; Mr. R. L. Swenson; Mr. Hugh T. O'Neale.

The duties of this committee shall include the enforcement of the use of such safety devices as are now installed throughout the department, a study of the situation with regard to the installation of such devices wherever necessary, and the recommendation of action to correct any dangerous conditions which may be found to exist in any of the buildings occupied by the department in Washington.

Department Representative on Permanent Conference on Printing.

MEMORANDUM No. 454.—October 18, 1923.—Mr. L. J. Haynes, acting in charge of the office of publications, is hereby designated as the department's representative on the permanent conference on printing, to succeed Mr. F. M. Russell, who has been serving on this board pending the appointment of an officer in charge of publications.

Memorandum of the Administrative Assistant (Mr. Jump).

CIRCULAR No. 117.—October 18, 1923.—The attention of the various bureaus, divisions, and offices is invited to the following Executive orders, dated September 28 and October 5, 1923, amending the civil-service rules regarding reinstatement.

EXECUTIVE ORDER OF SEPTEMBER 28, 1923.

Civil-service Rule IX, reinstatement, is hereby amended by inserting a new section (e) in paragraph 1, and by relettering the present section (e). As amended the last two sections of paragraph 1 of Rule IX will read as follows:

"(e) A former classified employee retired upon annuity under the act of May 22, 1920, by reason of total disability, who is eligible

for reinstatement in his former department or office by reason of recovery and termination of annuity, shall also be eligible for reinstatement to an appropriate position in any part of the service, subject to the conditions and limitations of the civil-service rules.

"(f) No person in any of the foregoing groups may be reinstated to a position requiring an examination different from that required in the position from which he was separated without passing an appropriate examination."

EXECUTIVE ORDER OF OCTOBER 5, 1923.

Clause (a), section 1 of Rule IX, reinstatement, is hereby amended to read as follows:

"(a) Unless otherwise provided hereinafter, a person may be reinstated only to the department or independent Government establishment from which separated and upon requisition made within one year from the date of his separation. When the commission and the appointing officer are in agreement that the public interest requires such unusual action, the commission may allow reinstatement in any part of the classified service, and it may also authorize waiver of the one-year limit herein prescribed under the following time limitations: Two years where service has been two years but less than three years; three years where service has been three years but less than four years; four years where service has been four years but less than five years; and five years where service has been five years or more."

The amendment consists of the insertion of the italicized words, and is designed to permit the utilization of the training and experience acquired in any part of the classified service in any other part when such action is necessary or advisable in the interests of the service.

ESTABLISHING DEPARTMENT CLUBS.

Thus far the rapid development of department clubs has been limited largely to cities having a sufficient number of workers to justify the holding of regular meetings and special events. Some excellent work has been done by the smaller cities but in many instances they have been faced with the problem of carrying on the activities of the club with a small number of members.

The U. S. D. A. club at Albuquerque, N. Mex. is typical of one having a small membership, though it has met with unusual success simply through the effort of the people located in that city. This club was formed almost immediately after the San Francisco club, the first of its kind. But it was up against the problem of functioning with a limited number of department people.

Here is the way they have solved the problem, in the words of one of the members: "Our position is that there is some advantage in having the club organized even though we do not hold regular meetings, and one suggestion is to continue in this status. Then if for some reason or other it becomes desirable to hold a meeting we have the

organization to bring said meeting about. We already have the acquaintance and familiarity with one another's work. We are already going ahead on a closely cooperative and well coordinated basis and the club organization makes it an easy matter to get together should need arise. Meetings would be called, for example, should a bureau representative desire for special purposes to urge more cooperation along some certain line, or should an officer in one of the bureaus represented, or some department official or other Federal officer come to Albuquerque for whose benefit we would want the department personnel together. If the club is kept alive, though rather quiescent most of the time, it will serve a useful purpose."

This brings up a point which could well be considered by the smaller towns not having a department club, or those that have been meeting under difficulty. First, the club could be organized along lines followed by the other clubs. Though regular meetings need not be held unless the membership justifies, the organization could be maintained so that the workers could be called together with a short notice in case the occasion arose.

The RECORD would be glad to have your reaction on this subject. Perhaps some of the smaller clubs have solved the problem successfully. If so, we would like to know about it. Your suggestions would be helpful to others.

A CORRECTION.

At the request of several readers for an up-to-date list of the offices in which Washington visitors might be interested, such a list was printed in last week's issue of the RECORD. It was not intended to make the list complete, but to include only those in which out-of-town workers or visitors might be interested. It was a complete oversight not to include the "pay man." The Division of Accounts and Disbursements, A. Zappono, chief, is located on the first floor of the east wing. The importance of this office is keenly felt by the editor. Hence, we are sorry that it was not included in the original list and we are very happy to make a correction.

MISUSE OF THE WORD "DATA."

C. F. Talman, in charge of the publicity work of the Weather Bureau, calls attention to the fact that one of the besetting sins of American scientific and technical writers—viz., the use of the word "data" as a singular noun—

has recently invaded Government publications to a startling extent. "Data" is the plural of the word "datum;" hence such expressions as "much data," "data is," etc., are quite inadmissible. Incidentally, it is suggested that "data" is a somewhat pretentious word, which American writers are inclined to use much more often than necessary. In a great many cases it could be advantageously replaced by such words as "information," "statistics," etc.

Another word that is similarly misused is "insignia," the plural of the word "insigne." The latter word is rarely used in English, but this fact does not justify the use of "insignia" as a singular noun.

FEDERAL BUSINESS ASSOCIATION.

An account of the formation of a Federal Business Association for Cleveland is given in a letter received from a department worker located in that city. Thirty-five Federal employees attended the meeting, according to the letter, and were addressed by Lieut. Commander L. C. Dunn, United States Navy. "The purpose of the organization will be for the various departments located here to cooperate and effect economies wherever possible," the letter said in part. "One of the first problems to be taken up will be the allocation of space in the Federal building. Although this building is completely occupied and many of the Government activities are located in rented quarters, it is thought possible that additional space may be secured if some of the occupants in the Federal building at present will agree to do with smaller amount of space."

Dr. J. M. Aldrich, of the Bureau of Entomology, has recently given his extensive collection of Diptera to the National Museum. This collection is the result of Doctor Aldrich's personal study on the Diptera from 1890, and contains types of more than 500 species and named representatives of more than 4,000 species. Besides the named material, the collection contains also many undetermined forms, and several hundred species which have been set aside as new.

Dr. H. C. Sampson, a representative of the Empire Cotton Growing Corporation, of London, with field headquarters at Zomba, Nyasaland, East Africa, recently visited the department to consult with experts concerning the growing of corn and rice.

From Our Readers

TO THE EDITOR: Your comment that the telephone is an economical and rapid means of doing departmental business and much to be preferred to the use of memorandums is very well taken.

Would it not be desirable to observe regular hours for office work, during which no conferences should be held? If the first hour of the morning, 9 to 10 a. m., and the first hour after noon, 1.30 to 2.30 p. m., were devoted to office matters, one could be sure of reaching anyone by telephone. At the present one is never sure when another worker can be found in his office. Conferences might well be confined to certain hours except in special instances.—J. C. M.

TO THE EDITOR: The editorial comment in THE OFFICIAL RECORD for October 17 concerning savings effected calls to mind an experience with envelopes. In my official work I frequently receive letter-size envelopes from a certain office in the department containing material which can not be folded. I noticed these envelopes were of very heavy material, always bore the frank and other usual printing, and with my name written large in the center. A telephone suggestion to the individual sending the envelopes to write my name small and in one corner so that the envelope might be used several times failed to produce the desired results. The matter was then taken up by phone with the head of the sending office, with the result that these large, expensive envelopes are now used 8 or 10 times instead of once. This is a considerable saving, but there is room for further improvement by the use of cheaper-stock envelopes, without frank, and with lines stamped or mimeographed for addresses, in order that the envelopes may be used for many more trips than at present.—J. B. S.

TO THE EDITOR: In reference to page 4, column 1, of THE OFFICIAL RECORD for October 17, 1923, Dr. H. C. Frankensfield, of the Weather Bureau, suggests that memorandums should be used whenever the subject matter thereof will form a part of the official files. Otherwise they serve to create unnecessary work, and should be replaced by the telephone.—C. F. T.

The Association of Land-Grant Colleges will hold its thirty-seventh annual convention at the Hotel La Salle in Chicago, November 13-14. A program of the meeting will be given in the RECORD for November 7.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

ROQUEFORT CHEESE FROM COWS' MILK.

Numerous attempts have been made to manufacture in the United States some varieties of foreign cheese of which great quantities were imported before the war and which were not so easily available during war times. Success has attended the making of some of these kinds of cheese; attempts to make others have resulted in absolute failure.

For several years the Dairy Division of the Bureau of Animal Industry conducted experimental work to develop a method of manufacture whereby at least one of the green-mold varieties of cheese, all of which bring high prices, could be made in this country. As a result of the work methods have been developed for the manufacture of Roquefort cheese from cows' milk instead of from sheep's milk which gives promise of establishing a successful industry in time.

Roquefort cheese is a French mold-ripened cheese made almost entirely from sheep's milk in that country and has been known for 20 centuries. Almost the entire world's supply of this cheese comes from Aveyron, in southern France. All of the milk used for this cheese is produced and made up into cheese within a radius of 50 miles of the small town of Roquefort, to which it is sent to be cured in caves. There, too, are the headquarters of several firms that largely control the sale of the world's supply of this cheese. Sheep have been bred for centuries in the vicinity of Roquefort for making the cheese. It is not uncommon for one sheep during a six-months' lactation period to produce milk enough to make 35 or 45 pounds of cheese. It is doubtful whether such a milking strain of sheep can be found in the United States, especially in sufficient numbers to warrant the establishment of a similar industry in this country.

The caves in Roquefort are of a peculiar rock formation and consist of many connected caves, grottoes, and channels through which there is a vigorous circulation of air, which causes a low temperature as a result of rapid evaporation. The natural conditions of humidity, temperature, and ventilation in these caves are favorable to mold growth and ripening of Roquefort cheese.

These conditions have been simulated to a large degree by the Dairy Division in its experimental work at Grove City, Pa., by the construction of insulated curing rooms which are provided with certain conditioning and refrigerating apparatus. As the ideal conditions for making the cheese have been approached, many of the discouraging aspects of the problem have been eliminated, and by the use of such equipment and changes in method of manufacture considerable cows'-milk Roquefort cheese of good quality has been made successfully and marketed.

While the cheese in most cases can be distinguished from sheep's-milk cheese, it will require a connoisseur to make this distinction always, so closely does this cheese resemble the imported article in respect to flavor, texture, and color of mold. With only a limited commercial experience at present, there is reason to believe that future work will tend to improve both the quality and the uniformity of the product and that eventually cows'-milk Roquefort will become one of the established varieties of cheese made in the United States.

WITH EXTENSION FORCES

COUNTIES TAKE UP BENEFITS RAPIDLY.

A striking instance of the effectiveness of strong support from county extension organizations in conducting a State wide campaign for tuberculosis eradication is found in the response of several Illinois counties to a law recently enacted by that State which provides that counties may appropriate money from county funds with which to employ a veterinarian to make tuberculin tests of cattle in the county to further the efforts of the department and State authorities toward eradication of tuberculosis. Such appropriations are not compulsory but may be made if there is demand for them.

The law became effective July 1. Already delegations of farmers in a number of counties have petitioned for the appropriation. Mercer County, Ill., has appropriated \$4,500 per annum for a two-year period; Coles County's board of supervisors voted \$4,000; Christian County and Boone County, \$4,000 each; Peoria County's 51 members voted unanimously for a \$5,000 appropriation. McHenry County's board voted against an appropriation, stating that it was felt the sentiment in the county was against it.

A petition circulated by 40 representative farmers and other business men of the county requested a reconsideration and the appropriation of \$4,000 for this

purpose. A special meeting of the board was called and the motion for the appropriation carried by a vote of all but two members. It is reported that over 30 Illinois counties have made similar appropriations. Other counties are watching the efforts of their neighbors with the expectation of joining later in supplying county aid to further the area plan of tuberculosis eradication sponsored by department and State authorities.

County extension agents are giving valuable assistance in preparing their counties for tuberculosis eradication work as carried on by department and State authorities, according to reports received by the department. Preliminary to introducing the work in a county, the extension agent cooperates with farmers and business men in his county in making tuberculosis eradication a part of the county dairy improvement program and in discussing the need of such work at local community meetings held under extension auspices. The department film, "Out of the shadows," has been used most effectively in many counties as part of such preliminary educational work by the county extension agent. When the Federal and State authorities then take up the work in the county, the extension agent, in cooperation with the officials of the county extension organization, arranges for meetings in the communities.

CONFERENCE OF EXTENSION WORKERS.

The department's contribution to the annual conference of extension workers of the Western States, including Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Utah, Nevada, New Mexico, Arizona, and California, to be held at Fort Collins, Colo., November 5-9, will include discussions of general matters relating to the extension program for that section and relations with the department by C. W. Warburton, director of extension, C. B. Smith, chief office of extension work, and W. A. Lloyd, also of that office. Louise Stanley, chief Bureau of Home Economics, will speak on the results of nutrition investigations of the department adapted to extension use. A. C. Beyer, of the Biological Survey, and S. C. Thompson and E. W. Sheets, of the Bureau of Animal Industry, will discuss the contributions which the department is prepared to make to extension work in rodent pest control, dairying, and range management. Miriam Birdseye, field agent in nutrition, and Gertrude L. Warren, field agent in methods for the Western States, office of extension work, will also assist with the program.

BRIEF REVIEWS OF NEW BULLETINS.

Crop Tests at the Cooperative Testing Station, Sacaton, Ariz. By C. J. King, assistant, office of crop acclimatization and adaptation investigations, Bureau of Plant Industry. Pp. 40, figs. 27. September, 1923. (Department Circular 277.) Price, 10 cents.

Although a wide variety of crops is studied, special attention is given to the growing of Egyptian cotton, which has become a well-established industry in the neighboring districts of the Salt River Valley. The results of the experiments may be taken as applying also to other valleys in the Southwest having similar climatic conditions. For some years experiments have also been conducted in the growing of several of the best-known varieties of upland cotton because of the need of definite information owing to an agitation by a few farmers in favor of upland cotton as against Egyptian. Several years of row comparisons and the yields of plat tests for two years at Sacaton do not justify the somewhat general opinion that upland cottons are capable of producing from 50 to 100 per cent more than Egyptian cottons grown under similar conditions.

Commercial Control of Citrus Stem-End Rot. By John R. Winston, pathologist; Harry R. Fulton, pathologist; and John J. Bowman, junior pathologist, office of fruit disease investigations, Bureau of Plant Industry. Pp. 10, figs. 7. October, 1923. (Department Circular 293.) Price, 5 cents.

An important discovery recently made by scientists in the department is that removing the small knobs, or "buttons," which ordinarily are left on citrus fruits, greatly reduces the danger of infection by either of the two fungi causing stem-end rot which does the most damage when the oranges and grapefruit are in storage, in transit, or on the market—rarely when it is still on the tree. This bulletin discusses in detail practical control measures of this rot, such as gassing, pruning, and spraying the fruit, and suggestions with regard to its packing and shipment.

The Rat Mite Attacking Man. By F. C. Bishopp, entomologist, Bureau of Entomology. Pp. 4. October, 1923. (Department Circular 294.) Price 5 cents.

Outbreaks of the blood-sucking mite of the rate in Southern States are coincident with the presence of many rats, and the repression of the mite appears to be essentially a problem in rat control. It has not yet been shown that the mites carry disease, but their bites are extremely painful and annoying. Both nymphs and adults attack man freely, crawling and running about over the body, and biting especially where there is some constriction of clothing. In addition to a continuous and energetic warfare against rats, the cleaning out of all debris and nests and a thorough spraying with kerosene are recommended. A fine mist spray of gasoline on cabinets, desks, and shelves gives temporary relief. Fumigation with hydrocyanic gas is also recommended if done by an expert.

The Chayote: Its Culture and Uses. By L. G. Hoover, formerly assistant plant introducer, office of foreign seed and plant introduction, Bureau of Plant Industry. Pp. 11, pls. 4, figs. 4. September 28, 1923. (Department Circular 286.) Price 5 cents.

The culture of the chayote, a vegetable related to the cucumber and squash, popular in

Mexico and Central America, is being encouraged by the department in the hope that it will rise to the position of a staple commodity. Being of vigorous growth and prolific yield, a single vine in one's garden or yard trained over a porch or outbuilding produces under favorable conditions of soil and climate more than enough chayotes for the average family. Although valued in this country chiefly for its fruit, in certain regions of the world every part of the plant is utilized. The foliage is devoured eagerly by cattle and poultry. It is an attractive ornamental vine which flowers profusely and is an excellent bee plant. The fleshy underground tubers are used in Mexico and other places much the same as potatoes in temperate regions.

Soil Survey of Rockdale County, Ga. By A. H. Meyer, of the Georgia State College of Agriculture. Pp. 17, figs. 2, map. (From F. O. Soils, 1920.) Price 15 cents.

Rockdale County is one of the smallest counties in the State. In 1919 cotton occupied more than 60 per cent of the total area used for crops, while 30 per cent was in corn. The soils of the county, being mainly of a sandy nature, are adapted to a wide range of crops and particularly to special crops such as vegetables and fruits. However, the farmers have not utilized the soils for special crops to any extent, and the agriculture of the county has not been intensified to any marked degree, although the value of the different types for different purposes is generally known. Because of the presence of the boll weevil, it is likely that the cotton acreage will be materially reduced and the acreage of corn, peanuts, sweet potatoes, and other subsistence crops will be increased.

ADDITIONAL PUBLICATIONS.

Service and Regulatory Announcements. Bureau of Chemistry. No. 161. Notices of Judgment 11501-11550. October 9, 1923. Pp. 273-300. Price 5 cents.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week October 15-20, 1923. These publications can be obtained only from the stations issuing them:

Fungicidal Dusts for the Control of Bunt. W. W. Mackie and F. N. Briggs. (California Sta. Bul. 364, pp. 533-572, pls. 3, figs. 12. May, 1923.)

Sewing Grain Sacks. J. Koeber. (California Sta. Circ. 261, pp. 11, figs. 15. Apr., 1923.)

The Tendency of Tractors to Rise in Front; Causes and Remedies. A. H. Hoffman. (California Sta. Circ. 267, pp. 8, figs. 8. June, 1923.)

White Snakeroot Poisoning in Livestock. L. P. Doyle and F. L. Walkey. (Indiana Sta. Bul. 270, pp. 15, figs. 11. May, 1923.)

Factors Affecting the Butterfat Test of Cream Samples. T. H. Broughton and R. L. Hammond. (Indiana Sta. Bul. 271, pp. 16, figs. 6. May, 1923.)

Better Cream for Buttermaking. V. C. Manhart. (Indiana Sta. Circ. 113, pp. 12, figs. 7. June, 1923.)

The Hessian Fly in Kansas. J. W. McColloch. (Kansas Sta. Tech. Bul. 11, pp. 96, figs. 29. July, 1923.)

Relative Water Requirement of Corn and Sorghums. E. C. Miller. (Kansas Sta. Tech. Bul. 12, pp. 34, figs. 5. Oct., 1923.)

Cattle Feeding Investigations, 1921-22. C. W. McCampbell, H. B. Winchester, and H. W. Marston. (Kansas Sta. Circ. 97, pp. 8, fig. 1. Sept., 1923.)

Swine Feeding Investigation, 1921-22. F. W. Bell, H. B. Winchester, and H. W. Marston. (Kansas Sta. Circ. 98, pp. 11, figs. 2. Oct., 1923.)

House Plants and Their Care. W. B. Balch. (Kansas Sta. Circ. 100, pp. 16, figs. 6. Oct., 1923.)

Abstracts of Papers Not Included in Bulletins. Finances, Meteorology, Index. (Maine Sta. Bul. 309, pp. [2]+93-104+X. Dec., 1922.)

Foods and Drugs. J. M. Bartlett. (Maine Sta. Off. Insp. 107, pp. 8. Apr., 1923.)

Biochemical Oxidation of Sulfur and its Significance to Agriculture. J. S. Joffe. (New Jersey Sta. Bul. 374, pp. 91, figs. 4. Dec., 1922.)

Fumigation of Potting Soil With Carbon Bisulfide for the Control of the Japanese Beetle (*Popillia japonica*, Newm.). W. E. Fleming. (New Jersey Sta. Bul. 380, pp. 45, figs. 7. Jan., 1923.)

Ten Years of Potato Spraying in New Jersey. W. H. Martin. (New Jersey Sta. Bul. 383, pp. 32. Apr., 1923.)

Late Blight of Potatoes and the Weather. W. H. Martin. (New Jersey Sta. Bul. 384, pp. 29, figs. 2. Apr., 1923.)

Poultry Farming in New Jersey. A. G. Waller and W. C. Thompson. (New Jersey Sta. Circ. 153, pp. 31, figs. 8. May, 1923.)

Organizing a Poultry Plant. G. G. Sawyer. (New Jersey Sta. Hints to Poultrymen, vol. 1, No. 12, pp. 4, fig. 1. Sept., 1923.)

Some Lessons from Production Records. G. W. Harvey. (New Jersey Sta. Hints to Poultrymen, vol. 12, No. 1, pp. 4. Oct., 1923.)

Alfalfa. G. R. Quesenberry. (New Mexico Sta. Bul. 139, pp. 19, figs. 7. May, 1923.)

The Little-Known Clover Insects. J. D. Detwiler. (New York Cornell Sta. Bul. 420, pp. 28, figs. 24. May, 1923.)

Economic Studies of Dairy Farming in New York—I. Condensery Milk Without Cash Crops. E. G. Misner. (New York Cornell Sta. Bul. 421, pp. 79, figs. 9. June, 1923.)

The Inheritance of Blotch Leaf in Maize. R. A. Emerson. (New York Cornell Sta. Mem. 70, pp. 16, pls. 3. June, 1923.)

Author Index of the Publications of the Pennsylvania Agricultural Experiment Station. W. Frear and T. I. Mairs. (Pennsylvania Sta. Bul. 180, pp. 56. Aug., 1923.)

Cotton Culture in Tennessee. C. A. Mooers and S. A. Robert. (Tennessee Sta. Bul. 127, pp. 19, figs. 6. Apr., 1923.)

Swine Feeding Experiments. G. R. Warren and D. W. Williams. (Texas Sta. Bul. 305, pp. 41, figs. 2. Feb., 1923.)

Texas Root Rot of Cotton and Methods of its Control. J. J. Taubenhaus and D. T. Kilgough. (Texas Sta. Bul. 307, pp. 98, figs. 15. Apr., 1923.)

It has been reported that stockmen throughout the country state that their losses from depredations by predatory animals were less this year wherever poison campaigns were staged than at any time since they were engaged in the sheep business. They say they can tell at once the difference when they trail their sheep outside the poisoned areas. The consensus of opinion is that the results of poisoning operations have exceeded all expectations, and not once has liberal cooperation been refused.

A new method of butter manufacture is now being tried in Holland and is meeting with success in delaying the deterioration of butter. The new process consists in churning in an atmosphere of pure carbon dioxide. The air is sucked out of the churn and is replaced by carbon dioxide, which fills the pores of the butter and keeps out the oxygen so long as the butter is not vigorously agitated after exposure to the air. The natural process of deterioration is accelerated by oxygen.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Agricultural graphics: North Carolina and the United States, 1866-1922. By H. R. Smedes. Chapel Hill, N. C., University of North Carolina press, 1923.
- Avifauna of Laysan and the neighbouring islands. 3 v. By Walter Rothschild. London, R. H. Porter, 1893-1900.
- California. Commission on agricultural education. Report of the special legislative commission on agricultural education. Sacramento, 1923.
- Economic and social survey of Albemarle County. By Wilson Gee and A. L. Bennett. University, Va., 1922. (University of Virginia record. Extension series, v. 7, no. 2, Oct. 1922.)
- Economics of the household; its administration and finance. By B. R. Andrews. New York, Macmillan co., 1923.
- Handbook of business correspondence. By S. R. Hall. New York, McGraw-Hill book co., inc., 1923.
- La Hongrie après le traité de Trianon. Par Ladislas Buday. Paris, G. Roustan, 1922.
- Massachusetts. Commission on the necessities of life. Report. January, 1923. Boston, 1923.
- Les moustiques. 2. éd. Par Émile Hegh. Bruxelles, Imprimerie industrielle & financière, 1921.
- Le matériel agricole pour petites et moyennes exploitations. Par Pierre Larue. Paris, J.-B. Baillière et fils, 1920.
- Notes on commercial geography. By R. J. McLaughlin. Philadelphia, Walther printing house, 1922.
- Das rind, sein körperbau und seine inneren organe. Von A. Seyfferth. Wiesbaden, Pestalozzi [n. d.]
- Scientific results of the Zoological expedition to British East Africa and Uganda made by Prof. V. Dogiel and I. Sokolow in 1914. t. 1. Petrograd, 1916.
- Technique de la réaction de déviation du complément de Bordet et Gengou. 2. éd. Par P. F. Armand-Deille & L. Nègre. Paris, Masson et cie, 1922.

THESES.

- Beitrag zur lehre der komplikationen der gastritis traumatica beim rinde. Von Hermann Wernuth. Bern, 1922.
- Beitrag zur pathologischen histologie der distomatosis der schaf- und rinderleber. Von Heinrich Compes. Hamburg, 1923.
- Beiträge zur physiologie der drüsen. Von Ernst Berne. Berlin, 1922.
- Fütterungsversuche mit vom menschen und vom rinde stammendem tuberkulösen material an hühnern und tauben. Von Kurt Zschernitz. Leipzig, 1923.
- Influence du mode de vie sur la structure secondaire des dicotylédones. Par Jean Daniel. Rennes, 1915.
- Über das verhalten keimfreier abortuskulturfiltrate in vitro und in vivo. Von Gustav Rauchbaar. Leipzig, 1923.
- Über das vorkommen von Bakterium coli bei gesunden hühnern und tauben. Von Bruno Petermann. Colditz, 1922.

CURRENT PERIODICALS.

- American sugar cane league of the U. S. A. Bulletin [semi-monthly] New Orleans, 1923.
- Baynes' soil improver [monthly] Chicago, 1923.
- Bolivia. Ministerio de instrucción pública y agricultura. Boletín de agronomía [monthly] La Paz, 1923.
- Cambridge philosophical society, Cambridge, Eng. Proceedings . . . Biological sciences. Cambridge, 1923.
- Irish statesman, with which is incorporated the Irish homestead. Dublin, 1923.
- Ligue luxembourgeoise pour la protection des oiseaux utiles. Bulletin [monthly] Luxembourg, 1923.
- Ochraha rostlin. Praz, 1921.
- Sociedad de estudios biológicos. Boletín [monthly?] Mexico 1923.

CIVIL-SERVICE ANNOUNCEMENT.

Junior chemist, \$1,200-\$1,800, December 12. Vacancies in the departmental service, Washington, D. C., and in posi-

tions requiring similar qualifications will be filled from this examination. Applicants must show that they have graduated with a bachelor's degree from a college or university of recognized standing, such degree requiring the completion of at least 118 credit hours, 30 credit hours of which must have been in chemistry. Professional degrees, such as in pharmacy, medicine, dentistry, etc., will not be accepted as equivalent of college degrees. If interested apply for Form 1312.

COMPILATION OF DAIRY PUBLICATIONS.

A comprehensive list of publications relating to the dairy industry has just been compiled by Carrie B. Sherfy, librarian, Bureau of Animal Industry. The extent of literature on dairying is evident from the fact that the list of publications issued since 1900 fills 236 pages.

The compilation includes bulletins, circulars, and reports of the various State agricultural colleges and the United States Department of Agriculture, and books dealing entirely or largely with various branches of the dairy industry. The contents are grouped in five main classes, as follows:

Publications of the State agricultural experiment stations, 1900 to June, 1923, inclusive.

Publications of the United States Department of Agriculture, 1900 to June, 1923, inclusive.

Books issued or revised since 1908.

Periodicals.

Subject list.

The compilation is in mimeographed form and is not intended for general distribution, but may be consulted in the main library of the department and also in the various branch libraries. It is believed to be the most comprehensive compilation of dairy literature that has been compiled and indexed in a form suitable for ready reference.

WILL EXTEND LEASED-WIRE CIRCUIT.

The Southern leased-wire circuit of the Bureau of Agricultural Economics will be extended from Atlanta to Jacksonville, effective November 1. The drop will be located in the office of the Florida State Bureau of Markets which will arrange for the distribution of market reports throughout the State.

The mid-west circuit which heretofore had been almost wholly devoted to the handling of livestock traffic has been extended from Chicago to Washington in order to provide better service to the

west coast and to eliminate some of the congestion on the central circuit between Washington and Chicago. The livestock and dairy traffic is moving over this new extension and the fruit and vegetable and other bureau traffic is being handled on what is known as the central circuit. The Minneapolis-St. Paul extension from Chicago has been transferred to the new circuit.

United States official standards for hay, as recommended by the Secretary last November, are now being studied by the Bureau of Agricultural Economics, and in the light of knowledge gained through nearly a year's use by the trade, the bureau will determine whether any modifications of the grades are desirable, and if so, what changes should be made. Any modifications which may be made will be in conformity with the best commercial practice, and it is pointed out that the grades should encourage production of better hay, as well as facilitate the merchandising of hay.

QUESTIONS AND ANSWERS.

[Continued from page 8.]

bulletins on By-Products from Crushed Peanuts and Apple By-Products as Stock Foods illustrate this phase of the work.

Question. What is the consumption of dairy products in the United States?

Answer. Statistics show that the average consumption of milk in 1922 was estimated at about 49 gallons per capita; that of butter, 16.1 pounds; and that of cheese was 3.8 pounds, all of which was an increase over previous years. Last year a little more than one-fifth of the total money paid for food was spent for dairy products.

Question. On what basis is the allotment of Smith-Lever funds made to a State agricultural college?

Answer. There is directly appropriated the sum of \$480,000 for each year, \$10,000 of which is paid annually to each State. All other Federal Smith-Lever funds are allotted annually to the States by the Secretary of Agriculture in the proportion which the rural population of each State bears to the rural population of all the States, but, to be available to any State, an equal sum must have been appropriated for the work for the year by the legislature of the State, or provided by State, county, college, local authority, or individual contributions within the State.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

BUREAU OF ENTOMOLOGY

NOV-3 1923

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VOL. II.

WASHINGTON, D. C., NOVEMBER 7, 1923.

No. 45.

FEDERAL MOTOR TAX EXCEEDS ROAD FUNDS

Revenue from Autos and Accessories Twice that Spent on Federal Roads.

Federal revenue derived from taxation of motor vehicles and accessories since 1917 has been more than twice as great as the amount expended by the Federal Government for road construction, according to a recent talk given by Secretary Wallace. Compared to \$589,012,021 collected by the Government in taxes, only \$264,782,216 was paid out of the automobile income for road construction.

Ever since 1917, when the first war measure was passed, the Government has been collecting a tax on the selling price of automobiles, motor cycles, motor trucks, tires, and automobile accessories, and also a tax upon the use of passenger automobiles for hire. Automobiles and tires and accessories bear a tax of 5 per cent. Motor trucks are taxed 3 per cent. The automobile revenues for the fiscal year ending June 30 were \$146,000,000 in round numbers, and withdrawals from the Treasury for highway construction were approximately \$72,000,000. This indicates clearly that the owners and operators of motor vehicles on our highways are bearing more than double the entire Federal expenditure for roads.

Discusses Financing Plans.

In discussing methods by which the States may raise money to match Government funds Secretary Wallace stated that they have the option of the pay-as-you-go plan, the bonding or deferred-payment plan, or a combination of the two. He said that it is generally accepted that maintenance of roads should be paid for out of current funds, but that the choice of a plan for raising construction funds will depend upon the amount of money to be raised, the tax policy of the State, and the extent to

which one generation should fasten indebtedness upon succeeding generations.

Secretary Wallace believes that the backbone of a State's trunk-line system should be completed at once, the rate of construction depending only on the available supply of labor and materials. He bases this conclusion on the greatly increased use of the principal highways by automobile and motor truck, a use so extensive that the people pay in their operating expense a sum sufficient for adequate highways whether they have them or not—they pay, indeed, less if they have the improved roads than if they do not.

Good Roads Cut Costs.

Some of the most important ways in which highways have a demonstrable earning capacity are the potential savings in the cost of operation, the maintenance, and the depreciation of motor vehicles. It is estimated that the annual fuel bill paid by motor vehicles amounts to \$1,000,000,000, and the annual tire bill is estimated at \$450,000,000. The annual depreciation may be computed on an estimated investment of \$8,767,500,000 in motor vehicles. Although these figures are estimates they are a reasonable indication of the magnitude of the financial side of our motor transport equipment, and that the operating costs will be affected materially by the general improvement of the highways.

COUNTRY LIFE ASSOCIATION TO MEET.

The sixth annual conference of the American Country Life Association will meet at Hotel Chase, St. Louis, Mo., November 8-11; the general subject will be "The Rural Home." C. J. Galpin appears on the program to discuss "Can the Farm Family Afford Modern Institutions and Facilities as Well as the City Family?" and Grace E. Frysinger, of the Office of Extension Work, will speak on "What Has Home Demonstration Work Done? What More Must It Do?," speaking from the national viewpoint. Secretary Wallace has been asked to speak Friday evening, November 9.

LAND-GRANT COLLEGES WILL MEET NOV. 13-15

Chicago Meeting Complete with Discussions on Agricultural Subjects.

The thirty-seventh annual convention of the Association of Land-Grant Colleges, which will be held at the La Salle Hotel, Chicago, November 13-15, will have a varied program of general addresses and technical papers and discussions relating to the teaching, research, and extension work in agriculture, engineering, and home economics of the land-grant colleges and the Department of Agriculture. Representatives of the various State institutions as well as of several of the Federal departments will take part in the proceedings.

Secretary Wallace will address the convention on, "The department and the colleges"; the Secretary of the Interior on "Modernizing the farm home"; Dr. F. M. McMurry, Teachers' College, Columbia University, on "The fundamental or guiding principles of classroom instruction"; and the president of the American Farm Bureau Federation on "The relation of agricultural associations (or farmers' organizations) to agricultural colleges." The Purnell bill providing for increased Federal appropriations for the State experiment stations will be discussed by its author, Hon. F. S. Purnell. Other important addresses are provided for in the program.

General Officers of the Association.

The general officers of the association for the present meeting are: President, Howard Edwards, of Rhode Island; vice-president, E. A. Burnett, of Nebraska; secretary-treasurer, J. L. Hills, of Vermont; chairman of the executive committee, R. A. Pearson, of Iowa.

The sections and their officers are as follows:

Section of agriculture: C. F. Curtiss, of Iowa, chairman; R. L. Watts, of

Pennsylvania, vice chairman; B. H. Crocheron, of California, secretary.

Subsection of resident teaching: J. H. Skinner, of Indiana, chairman; A. R. Mann, of New York, secretary.

Subsection of experiment station work: W. R. Dodson, of Louisiana, chairman; J. W. Wilson, of South Dakota, secretary.

Subsection of extension work: C. F. Monroe, of New Mexico, chairman; H. C. Ramsower, of Ohio, secretary.

Section of engineering: H. S. Boardman, of Maine, chairman; C. R. Jones, of West Virginia, secretary.

Section of home economics: Flora Rose, of New York, chairman; Stella Palmer, of Arkansas, secretary.

Both the general sessions and the sectional meetings will be open to the public.

The tentative program in detail is as follows:

Monday, November 12.

10 a. m. and 2 p. m.: Meetings of the executive committee and of standing committees.

Tuesday, November 13—General Session.

2 p. m.: Opening exercises; report of executive committee; presidential address, "Matter, man, and the morning star," Howard Edwards, of Rhode Island; Modernizing the farm home, Hubert Work, Secretary of the Interior; Fundamental or guiding principles of classroom instruction, F. M. McMurry, Columbia University, New York; An appreciation of the services of Dr. A. C. True during 35 years, Howard Edwards; report of treasurer; miscellaneous business.

Wednesday, November 14—General Session.

2 p. m.: The department and the colleges, Henry C. Wallace, Secretary of Agriculture; The contribution of the land-grant colleges to liberal culture, A. Ross Hill, of Missouri; Engineering education in land-grant colleges, W. M. Riggs, of South Carolina; report on agricultural bibliography, A. C. True, of Washington, D. C.

Thursday, November 15—General Session.

9 a. m.: The Purnell bill, F. S. Purnell, of Indiana; address on matters relating to engineering (speaker to be announced); report of executive committee; miscellaneous business; adjournment.

Tuesday, November 13—Section of Agriculture, Resident Teaching.

9 a. m.: How shall we determine the curriculum best suited to meet the needs of agricultural students? Alfred Vivian, of Ohio; The opportunity of the administrator to influence class instruction, F. M. McMurry, of New York; The status of vocational teacher-training in land-grant colleges, C. H. Lane, of Washington, D. C., election of subsection officers.

Tuesday, November 13—Section of Agriculture, Experiment Station Work.

9 a. m.: The proper development of an informational service for experiment stations, A. W. Hopkins, of Wisconsin, and F. B. Linfield, Montana; Experiment station problems in the utilization of uncultivated lands, S. B. Doten, of Nevada, and C. A. Willson, of Tennessee; report of the committee on ex-

periment station organization and policy, R. W. Thatcher, of New York; report of joint committee on projects and correlation of research, F. B. Mumford, of Missouri; report of joint committee on publication of research, J. G. Lipman, of New Jersey; miscellaneous business; election of subsection officers.

Tuesday, November 13—Section of Agriculture, Extension Work.

9 a. m.: The place of the junior demonstrator in the extension program, Charles G. Burr, of Virginia, and Maude Sheridan, of Colorado; Local leadership, its discovery, training and functioning in communities, D. S. Myer, of Ohio, and Jane McKimmon, of North Carolina; Some unsolved problems in extension work, A. C. True, of Washington, D. C.; election of subsection officers.

Tuesday, November 13—Joint Session of the Three Agricultural Subsections Dealing with Matters Pertaining to Resident Teaching.

2 p. m.: Importance and place of economics in the training of agricultural students, B. H. Hibbard, of Wisconsin; The amount and kind of economic training needed by students who contemplate entering the research, service, and regulatory work in the field of agriculture, H. C. Taylor, Washington, D. C. The relation of agricultural associations (or farmers' organizations) to agricultural colleges, O. E. Bradfute, of Illinois; The relation of agricultural colleges to agricultural organizations, R. A. Pearson, of Iowa.

Wednesday, November 14—Joint Session of the Three Agricultural Subsections Dealing with Matters Pertaining to Research.

9 a. m.: Regional conventions, regional co-operation in projects, etc., of experiment station workers, Dan T. Gray, of Alabama, and J. G. Lipman, of New Jersey; The need of more adequate bibliographical aids to science workers, J. R. Schramm, of Washington, D. C.; The administration of agricultural research, E. W. Allen, of Washington, D. C.; The need of enlargement of research features of ordinary experimentation, R. W. Thatcher, of New York.

Wednesday, November 14—Joint Session of the Three Agricultural Subsections Dealing with Matters Pertaining to Extension.

8 p. m.: Factors to be considered in development of a State program of agricultural improvement: From the economic standpoint, F. W. Peck, of Minnesota; from the sociological standpoint, C. E. Lively, of Ohio; Correlating the educational forces of the land-grant colleges in carrying out a program of agricultural improvement, A. R. Mann, of New York; election of section officers.

Tuesday, November 13—Section of Engineering.

9 a. m.: The university and the engineer, F. Paul Anderson, of Kentucky; discussion, R. L. Sackett, of Pennsylvania, and G. W. Bissell, of Michigan; Cooperation of land-grant colleges in highway research, Anson Marston, of Iowa; discussion, A. N. Johnson, of Maryland; F. E. Turneure, of Wisconsin; E. B. Norris, of Montana; W. K. Hatt, of Indiana; and W. N. Gladson of Arkansas; appointment of committees on nominations and resolutions.

6 p. m.: Dinner of engineering delegates and friends, at which a report of committee on engineering experiment stations will be presented by Anson Marston, of Iowa, and a paper upon English technical universities by R. L. Sackett, of Pennsylvania.

8 p. m.: Waste of education, F. H. Sibley, of Nevada; discussion, D. S. Kimball, of New York, and E. J. McCaustland, of Missouri; A study of the discard, or the economic loss, through failures of college students to complete their courses, J. W. Votey, of Vermont; discussion, E. A. Hitchcock, of Ohio, and E. H. Rockwell, of New Jersey.

Wednesday, November 14—Section of Engineering.

9 a. m.: Inspection trips to engineering works of interest, through the courtesy of the Western Society of Engineers.

8 p. m.: What answer shall the engineering college make to the new demands made of its graduates? R. L. Wales, of Rhode Island; discussion, R. A. Seaton, of Kansas, and C. E. Ferris, of Tennessee; Personnel work as applied to a college of engineering, A. A. Potter, of Indiana; discussion, O. M. Leland, of Minnesota, and M. S. Ketchum, of Illinois; The amount and nature of shop work, F. C. Bolton, of Texas; discussion, R. L. Sackett, of Pennsylvania, O. J. Ferguson, of Nebraska, and O. M. Leland, of Minnesota; reports of committees; election of section officers.

Monday, November 12—Section of Home Economics.

2 p. m.: Conference on problems of administration in home economics, Flora Rose, of New York, presiding. Appointment of committee on findings; 10-minute presentations of main administrative problems in home economics: Financial—led by Mary L. Matthews, of Indiana; organization—led by Edith P. Chace, of Pennsylvania; external relationships—led by Agnes E. Harris, of Alabama; internal relationships—led by Abby L. Marlatt, of Wisconsin; report of committee on schedule of work for teachers, Faith R. Lanman, of Ohio.

Tuesday, November 13—Section of Home Economics.

9 a. m.: Extension in home economics, Marie Sayles, of Ohio, presiding. Appointment of committee on findings; report of committee on findings for section on administration; The problems of extension in home economics, Flora M. Thurston, of New York; discussion from floor led by Marie Sayles, of Ohio; report of committee on qualifications for teachers of graduate courses, Emma L. Wardell, of Illinois.

8 p. m.: Teaching in home economics, Alice L. Edwards, of Rhode Island, presiding. Appointment of committee on findings; The problems of teaching in home economics, Agnes Hanna, of Washington, D. C.; discussion from floor led by Alice L. Edwards, of Rhode Island.

Wednesday, November 14—Section of Home Economics.

9 a. m.: Research in home economics, Ruth O'Brien, of Iowa, presiding. Appointment of committee on findings; reports of committees on findings for sections on extension and teaching; Problems of research in home economics, Louise Stanley, of Washington, D. C.; discussion from floor led by Ruth O'Brien, of Iowa; report of committee appointed to work out an institutional health program, Edith P. Chace, of Pennsylvania.

8 p. m.: Report of committee on findings for section on research; The challenge of education to home economics, and the challenge of home economics to education (speakers to be announced); election of section officers.

Meetings of the executive body have been arranged for Wednesday, November 14, at 9 a. m., and Thursday, November 15, at 2 p. m.

A DIGEST OF THE NEWS

Brief bits of News Digested From
Material Issued by Department During
the Past Week.

FLORIDA PRODUCTS TO BE INSPECTED.

Shipping point inspection of Florida agricultural products has been started at leading loading points under cooperative arrangements between the department and the Florida Bureau of Markets. Inspections will be made for several producers' organizations and commercial shippers. Applications already have been received for inspection of approximately 12,000 cars of citrus fruits, 1,800 cars of potatoes, and tentative applications for inspection of 3,000 cars of celery.

MODIFICATION OF QUARANTINE MADE.

The quarantine restricting the entry of all fruits and vegetables into the United States, which became effective Nov. 1, has been amended to make provision for the entry of certain hothouse-grown fruit and of other specialties which can be accepted as free from risk of carrying injurious insects. The original wording of the quarantine made possible the entry of any vegetables which could be so determined but the entry of fruits was limited to a definite list with certain exceptions as to a comparatively small number of countries and districts.

CORN BORER INCREASES IN OHIO.

Considerable increase in the degree of infestation by the European corn borer in Ohio has been noted during the past month in the infested territory, says a report to the department. One field has been observed which yielded as high as 17 per cent of the stalks infested. No definite indication has yet been found that the insect will be two-brooded this season under Ohio conditions.

MORE RANGE COWS AND HEIFERS SOLD.

Range cattlemen have shown a noticeable tendency this fall to market a larger proportion of cows and heifers than usual, a survey recently made by the department shows. The increase in the proportion of female stock marketed up to October 1 ranged from 5 to 10 per cent, as compared to the corresponding period a year ago. A survey covering 26,737 cattle marketed from 12 range States during the last two weeks of September showed 56 per cent were cows and heifers, compared with shipments of

22,588 cattle from the same States during the corresponding period of 1922, of which 46 per cent were female stock.

CANADIAN FLOUR GIVES COMPETITION.

Canadian flour is giving American flour sharp competition in the German market, particularly because of its quality but also because Canadian mills are satisfied to accept payment in cash documents at Hamburg, whereas American mills will only sell against sight draft New York, says a report received by the department from its commissioner at Berlin. Flour importers in Germany are already handicapped by the depreciation of the mark and find payment of sight drafts in New York an additional burden in view of the fact that it means a percentage for the exchange brokers.

"MUM" SHOW LARGELY ATTENDED.

The twenty-second annual chrysanthemum show of the department opened October 30 and remained open each day from 9 a. m. to 9 p. m., closing November 6. Among those who attended the show the first day were Mrs. Coolidge, the Secretary and Mrs. Wallace, and several of the ladies of the Cabinet and diplomatic corps.

This year the exhibition was about the largest ever held by the department. Between 5,000 and 6,000 blossoms were on display, including Japanese and Chinese double blossoms, pom poms, and single blooms. It was estimated that there were 900 plants of the pom pom and single varieties consisting of almost 300 different varieties, and 1,200 plants of the Japanese chrysanthemums consisting of 200 varieties. During the last year 25 new varieties of the Japanese and 22 of the pom poms have been introduced. One of the most perfect seedling chrysanthemums shown for the first time this year was christened the "Grace Coolidge" in honor of the wife of the President.

The growth of the large-flowered single-stem Japanese varieties is restricted chiefly to greenhouses, except in localities possessing unusually favorable climatic conditions, while the smaller-flowered hardy type succeed out of doors under a wide range of conditions throughout the country.

The pharmacognosy laboratory of the Bureau of Chemistry has been consolidated with the drug-control laboratory and all the work on drugs, both research and regulatory, placed under the leadership of Dr. Geo. W. Hoover, chemist in charge of the drug-control laboratory.

Agricultural Position Best in Three Years Says Review

Purchasing power of farm products, though still at a disparity as compared with industrial products, is now at the highest point in three years, according to the department in its November agricultural review. Moreover, farm prices for agricultural products are higher at a season when farmers actually have something to sell, the review states.

"Spring-wheat territory continues in distress and is still trying to find some remedy," it is stated. "Farmers in this territory are also discouraged at the low price of potatoes and incidental crops. There is considerable talk of diversification, and especially of increasing dairy stock."

Prices of crops as a group in September were slightly higher than in August and 28 per cent higher than September a year ago. Prices of livestock products as a group made the largest gain of any one month since February, 1922. By specific products, advances were made in cotton, wheat, hogs, eggs, butter, and lambs. Corn and potatoes registered declines.

The index of purchasing power of farm products as a group is placed at 75, as compared with 73 in August and with 64 in September a year ago. The run of hogs and sheep to market continued heavy, although many sheep were redistributed for feeders. Exports of wheat, including flour, during the first nine months of 1923 were 45,000,000 bushels less than during the corresponding period of 1922, whereas exports of lard show an increase of 226,000,000 pounds, and of bacon, hams, and shoulders 144,000,000 pounds.

The Forest Products Laboratory, Madison, Wis., which since 1919 has been giving demonstration courses in kiln drying of lumber, boxing and crating, gluing of wood, and wood properties, announces a new course covering wood as a building material. This course is designed for architects, construction engineers, contractors, and others interested in the use of wood in building construction. The course for architects will be given at Madison December 10 to 15, inclusive. Further information may be obtained from the director Forest Products Laboratory, Madison, Wis.

Over 652,000 acres of legumes were plowed under for green manure in 1922 by farmers following the advice of agricultural extension workers on methods of building up soil fertility, according to reports to the department.



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AFTER ENTERING THE SERVICE.

William C. Deming, president of the United States Civil Service Commission, has issued an interesting list of "Do's" and "Don't's" as a result of his study and observations of Federal employment problems. His suggestions under "After entering the service" are to the point and we are printing them herewith:

Be prompt in reporting for duty each day. The day starts best that starts early.

Remember that discipline is just as necessary in the civil as in the military service.

Be economical with time and supplies. Both are paid for with taxpayers' money.

Be self-reliant and ambitious for promotion rightfully earned. Motion is more than half of promotion.

Let patience, courtesy, and an honest effort to serve your employers, 110,000,000 American citizens, be your constant guides.

Don't expect to get more out of your job than you put into it.

Don't be afraid to go ahead for fear of making mistakes. Don't repeat your mistakes.

Don't nurse a grievance. Lay your troubles before your chief. He has been through it himself and understands.

Don't talk too much or too loudly. You can defend your rights without becoming a nuisance.

Don't be in too much of a hurry about leaving at quitting time. A little added to your day may add a little to your pay check.

DR. C. D. LOWE TAKES UP NEW DUTIES.

Dr. C. D. Lowe, a graduate of Ohio State University, has recently taken up the duties of extension animal husbandman in the department. This position furnished the connecting link between the Animal Husbandry Division of the

Bureau of Animal Industry and the Office of Cooperative Extension Work.

Previous to his present appointment, Doctor Lowe has had responsible experience in livestock extension work with the Bureau of Animal Industry, the University of Tennessee, various commercial organizations and breed associations. He also taught in the animal husbandry department of the Pennsylvania State College and managed a livestock farm in Virginia. At the time of his appointment he was State veterinarian of Tennessee.

VALGREN ENTERS BUSINESS FIELD.

V. N. Valgren, economist in charge of the division of agricultural finance, has tendered his resignation, effective November 30, to handle crop insurance and allied subjects for the Automobile Insurance Co. of Hartford, a subsidiary of the Aetna Life Insurance Co. His headquarters will be at Hartford, Conn.

Mr. Valgren has been with the department since February, 1915. For several years he gave his attention exclusively to problems of agricultural finance. About five years ago when the Office of Farm Management was reorganized the work in insurance was taken over by that office. Mr. Valgren was transferred with his work from the Bureau of Markets to the Office of Farm Management, where he was later placed in charge of a division known as farm financial relations. With the organization of the new bureau Mr. Valgren's division was changed to agricultural finance.

One of the most recent pieces of work done by Mr. Valgren was in assisting in the drafting of the agricultural credits act, and his efforts toward the administration of this law. He also is considered a foremost authority on crop insurance, the field to which he has been attracted in the business world.

Henry S. Graves, former Chief of the Forest Service, was recently selected for the position of provost of Yale University, thereby becoming second to the president in administrative rank. Colonel Graves since 1922 has served as dean of the Yale School of Forestry, and occupies a high position among the foresters not only of the United States but of other countries as well. He is president of the American Forestry Association and an active member of several foreign forestry societies. He is also closely identified with the work of the National Research Council and the National Academy of Science.

From Our Readers

TO THE EDITOR: THE RECORD helps me in my work and is, according to my viewpoint, a valuable connecting link between men stationed in the field, as I am, and the department in Washington. It keeps the field men informed as to the latest developments in the whole department, thus broadening their field of vision, and in addition it helps them to remember that they are all members of one large family, all the members of which are working for the betterment of agriculture.

I do not feel that any of the departments now being conducted in the RECORD should be changed to any great extent. Perhaps the list of current experiment station publications could be omitted, as the States Relations Service distributes a list of these each month. Brief reviews of articles by departmental workers in other than the department's publications would be valuable, but I realize this suggestion might be impracticable, due to the lack of space.—J. C. D.

TO THE EDITOR: THE RECORD assists us in our work, for we are often able to give items of interest to the local papers which have a direct bearing on the work of the Forest Service in this locality and help to put across to the general public certain things in which we are much interested. Although our work is in general largely concerned with the administration of the forest, still we have inquiries of all kinds, and data secured from the RECORD help us to answer the questions.—H. B. W.

TO THE EDITOR: THE RECORD is a very interesting little paper to read and gives me many valuable talking points to use in my extension work. Especially valuable are the short articles about what is being done in the field. The section on library accessions is, of course, of no value to me, but might be to some one else. I should say that the column given over to library accessions could be put to better advantage with more live material. These are the only comments I have to offer.—W. M. G.

Wayland Rhoads, field agent in animal husbandry of the extension service, University of Kentucky, visited the United States Department of Agriculture October 25 and 26. Mr. Rhoads has been active in promoting the "Better Sires—Better Stock" movement in his State and reports noteworthy progress in this project.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What is the annual damage done by tree-killing insects in the United States?

Answer. The annual damage done by tree-killing insects in the United States is estimated at \$100,000,000, whereas the damage to forest products is estimated at \$45,000,000. Much of this damage by insects to the forests of this country can be prevented by the control method recommended by the Bureau of Entomology.

Question. Along what main lines is the work of the department carried on?

Answer. The work of the department is carried on in four general fields—research, regulation, extension, and service. In the field of scientific research efforts are directed to more efficient production. In its regulatory work the department administers a large number of protective laws. In the extension field each new discovery is carried directly to the farmer both by individuals and the printed word. In the latter division of the department's work falls a vast number of services of great value both to the consumer and the producer.

Question. What is sodatol?

Answer. Sodatol is the name that has been given to a high explosive that the department is distributing to State highway organizations for road construction and to individuals for land clearing. It is composed of sodium nitrate and T. N. T., both surplus war materials. Sodatol is put up in cartridges like dynamite, each cartridge weighing 7 ounces and having about the same explosive effect as an 8-ounce cartridge of 40 per cent dynamite. It is used in exactly the same manner and for the same purposes as is dynamite. Sodatol is being furnished to the farmer for land-clearing purposes at no profit to the department. The only charge made is the actual contract cost of preparing, cartridgeing, and shipping, and the cost of distribution.

Question. What does the market news on hay, feed, and seed cover?

Answer. Commodities covered in this service include timothy, alfalfa, broom-corn, hay, straw, bran, wheat and rye middlings, cottonseed, linseed meal, hominy, gluten feed, peanut and velvet bean meal, dried beet pulp, all the important kinds of clover, grass, millet,

and sorghum seeds and seed grass. Information on prices, supplies, demand, movement, etc., is obtained by the Bureau of Agricultural Economics from approximately 20 of the principal markets of this country. Hay and feed information is disseminated through the daily marketgrams and fuller reports, as well as reports on seed, are published in Weather, Crops, and Markets. Reports on the outlook, movement, shipment, and prices of seed are published throughout the summer and fall when seed crops are moving from grower to distributor.

Question. Is there any provision in the Federal employees' pension act for compensation to the family of an employee in event of his death (1) before his retirement, (2) after his retirement?

Answer. There is no provision in the retirement act of May 22, 1920, for compensation to the family of an employee in the event of death either before or after retirement. Section 5 of the act provides, however, that in the event of death after retirement and the annuities paid the annuitant are less than the amount withheld from his salary the difference may be paid to his estate, while section 11 of the act provides that where death occurs before retirement the total amount withheld from the employee's salary, with interest, may be paid his legal representatives. I am of the opinion that your correspondent is confusing the retirement act of May 22, 1920, with the United States employees' compensation act of September 7, 1916. This latter act does make provision for the dependent family of an employee killed in the performance of official duty or whose death results from injuries sustained in official work.

Advance Crop Data Will Be Issued Regularly Hereafter

Reports are to be issued regularly in the future by the department showing the intention of farmers to plant different crops. This has been decided upon in response to demands from farmers all over the country that the service be continued and extended. A report on spring-planted crops will be issued in March of each year and one on fall-sown crops in August.

This service was started last April, when an acreage intentions report on cotton, spring wheat, corn, oats, barley, flax, potatoes, sweet potatoes, and tobacco was issued. A report on winter wheat and rye was published August 15. Evidence is available that with these data farmers generally made readjustments in acreage in an effort to prevent

over or under planting of crops and to bring the supply into better correlation with demand.

The information upon which the reports are based is received from thousands of farmers in all parts of the country. Many of these farmers are regular members of the department's crop-reporting staff, who have for years been reporting on acreage and condition of crops and upon whose information part of the crop estimates, as finally published, is based. The intended acreage as published is reported by these farmers for their own farms.

CONGRESSMEN SPEAK AT BUFFALO CLUB.

The Buffalo USDA Club opened its meeting October 24 with a dinner at which there were 89 members of the club and their wives and guests present. The guests of honor were Congressmen MacGregor and Mead, both of Buffalo. Following the dinner, the president of the club, Dr. B. P. Wende, acted as toastmaster, and in a brief address outlined the purpose of the club, telling of its accomplishments in coordinating the work of the bureaus and various offices of the department in Buffalo; how employees in these various offices had become better acquainted through the agency of the club and had been able to cooperate materially in the Government work. He then introduced a representative of each bureau or office, who outlined in a brief sketch the work of his particular organization.

Hon. Clarence MacGregor gave an interesting speech on Government administration, and urged the Government employees to acquaint the public with the work and activities of the department. Hon. James Mead also spoke and expressed a better appreciation and a better knowledge of the department's work from hearing the brief outlines of the work of the bureau and offices.

Tobacco shade cloth which had been treated with four different protective treatments prepared by the leather and paper laboratory of the Bureau of Chemistry were used over growing tobacco during the past season at the tobacco experiment farm in Connecticut and were found to have well maintained their strength. Arrangements have been made to use the same pieces next year and to compare them with untreated shade cloth used one season, which, as a rule, is not strong enough to last through a second season. If the life of tobacco shade cloth can be doubled by means of protective treatments, it will mean a great saving to growers of tobacco.

WITH EXTENSION FORCES

SCIENTIFIC FARMING GIVEN BOOST.

Six years' increasingly profitable operation of a typical farm of the county under a system of rotation and management worked out by the county agent and specialists from the State agricultural college has furnished a strong appeal in favor of scientific farming, effectively used by H. A. Powers, county agent of Henderson County, Tenn.

Up to 1916 the farm belonging to J. F. Pope was used mainly for cotton growing, producing about 6 bales a year. A small amount of pea hay and some corn was grown, the corn averaging about 28 bushels to the acre. No livestock was kept on the farm except the family cows. With the greatest economy this farm, under the methods of management followed generally in the county, would not pay over \$500 a year.

In 1916 the new system was started. Of the four hill-land fields three are always in pasture and one in cotton, each field in turn producing cotton two years and then pasture for six years, chiefly red top, white clover, and lespedeza.

Corn and hay are grown on the six fields containing level land. Here the rotation for each field is, first year, grass and clover; second year, red clover and lespedeza; third year, lespedeza; fourth, fifth, and sixth years, corn; then back to hay. Peas planted at the last cultivation in the corn keep up the fertility and furnish some hog feed. As the farm is limed and the fertility built up, alfalfa is added to the corn and hay rotation.

In connection with the new system livestock has been added from time to time. Sheep are used to eat the short pastures, hogs on pasture with a small amount of grain during the summer make cheap gains on the peas after the corn is gathered, a few mules are grown, and two milk cows are kept. The plan is that the livestock should be just sufficient to take care of crops that would not otherwise reach market.

The three main features of the system are, first, increase in soil fertility; second, economy of labor; and, third, several sources of income.

In 1922 Mr. Pope spent only \$150 for labor, largely for chopping and picking cotton. Most of the work of the farm can be done by the owner with only the aid of his two sons, 10 and 12 years of age. The equipment is simple, but sufficient to make possible efficient and economical use of labor. Some implements are owned in partnership with neighbors.

The main money crop is still cotton, but cotton grown on a soil steadily building up in fertility. Livestock is a secondary line, as it is desired to carry no more than the pastures will feed. Corn and hay are also sold. The farm has in this way several sources of income and is at the same time self-supporting. Mr. Pope sold last year over \$600 worth of livestock and livestock products, more than \$1,750 worth of cotton, corn, and other crops, leaving an ample supply of corn and hay for next year's feed. The year's expenses are covered by the \$150 spent for labor and \$238 for fertilizers and incidentals. The amount cleared by the farm has increased each year since the system was put into operation.

County Agent Powers has made continuous use of this demonstration. The methods used on the farm are so well known throughout the county that reference is made generally to the work in conversation about agricultural matters. Many of the practices introduced on this farm are already commonly followed in the county, and a number of farmers are working out systems along similar lines for their farms.

NOVEL PROGRAM PROVES A SUCCESS.

A demonstration program devoting each half day's session to one general subject was a successful feature of the Sioux City (Iowa) Interstate Fair contributed by the eighth annual encampment of boys' and girls' club members held in connection with the fair in September. Ample advance publicity was given the subjects and the time at which they would be demonstrated, so that visitors interested in livestock, crops, food, clothing, or similar phases, could plan to be in the boys' and girls' club building at the session devoted to this subject. A full-sized stage with drop curtains and removable scenery and floors, planned in cooperation with the department office of exhibits, greatly increased the effectiveness of the demonstrations. Three sets of scenery, prepared by the office of exhibits, were used; one, a farmyard for livestock and crops demonstrations; second, a farm living room; and third, a farm kitchen, for demonstrations of home practices. Each team was allowed from 25 to 40 minutes for its demonstration, teams from several States presenting phases of the same subject in each section of the program.

About 250 club boys and girls were registered in the encampment. Many county agents and other extension workers felt it worth while to come to Sioux City to devote the week to the study of new extension methods demonstrated by these young farmers and home makers.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

DEPARTMENT HELPS FUR INDUSTRY.

During the past few years the Bureau of Biological Survey has been rendering ever-increasing service to fox farmers and other breeders of fur animals and to the fur industry of the United States. This help has been in the form of National and State surveys of the fur bearers and of the eight hundred odd fox farms in this country, the compilation of accurate statistics concerning the breeding of fur bearers, and the publication of bulletins and circulars on the care and propagation of such animals as minks, skunks, muskrats, beavers, and blue and silver foxes. The information gathered by the bureau has added to our knowledge of the habits of native fur bearers and has encouraged many men to take up the breeding and raising of these animals.

For the past seven years the department has been conducting an experimental fur farm at Keeseville, N. Y.—the first and only one of its kind in the country. This farm has served a useful purpose and has produced results of much value. It will soon be discontinued by the establishment of a new fur farm at Greenfield, N. Y., 3½ miles from Saratoga Springs, which will be more useful because of its greater accessibility and better facilities for investigational work. The new farm consists of about twenty acres of well-drained and well-wooded land and contains a large farmhouse which will be used as a residence by the superintendent of the station, who will be an expert on the breeding of fur bearers. A veterinarian will also be attached to the station for service in conjunction with the experiments conducted.

Present plans call for a series of modern animal pens, which will accommodate foxes, martens, and skunks. Additional pens for other animals will be constructed as required by investigations which are under way. It is also planned to install a laboratory on the farm where the study of animal diseases and fur-animal parasites will be carried on.

The work of the station will be important in its bearing on the future of the fur trade. Among the interesting questions to be solved is whether martens, minks, and muskrats can be successfully raised in captivity. If it is found that they can be, the station will develop plans to aid in the propagation of such fur bearers on suitable areas throughout the country.

Dr. Arno Viehoveer, in charge of the pharmacognosy laboratory of the Bureau of Chemistry, has resigned to accept the chair of biology and pharmacognosy at the Philadelphia College of Pharmacy and Science. He entered the service of the Bureau of Chemistry in 1914 and has directed the pharmacognosy investigations since that time. He obtained the degrees of pharmaceutical chemist, doctor of philosophy, and food chemist at the University of Marburg. He took up the duties of his new position on October 1.

BRIEF REVIEWS OF NEW BULLETINS.

Dairy-Barn Construction. By K. E. Parks, dairy engineer, Dairy Division, Bureau of Animal Industry. Pp. 22, figs. 17. October, 1923. (Farmers' Bulletin 1342.)

In building a well-designed, attractive dairy barn the cost should not go beyond the point where the interest on the investment, plus depreciation, will become an excessive overhead load. Other factors to consider are climate, topography, drainage, location relative to other buildings, fire risk, materials available for construction, and local regulations covering the production, handling and disposal of milk. This bulletin considers these questions and also describes in detail the construction of the dairy barn itself.

The Eelworm Disease; A Menace to Alfalfa in America. By G. H. Godfrey, office of cotton, truck, and forage crop disease investigations, Bureau of Plant Industry. Pp. 8, figs. 4. (Department Circular 297.) Price, 5 cents.

The alfalfa eelworm disease has not been under observation in America long enough to permit its full capabilities of doing damage to become known. Where it has been observed, however, the disease has spread alarmingly from original points of infestation and is serious enough to cause general alarm. The organisms are spread in various ways—by irrigation water, infested hay, farm implements, wind, and birds. Prevention of the spread in any way possible is to be urged and is worth infinitely more than "a ton of cure." Eradication of the disease by plowing up infested fields and turning into other crops for a period of three years is the safest way. It has been found that clovers, buckwheat, rye, English pea, turnip, and even potatoes have been attacked and definitely injured by the alfalfa eelworm—in fact, the entire list of possible hosts has not yet been ascertained in America. Prompt and aggressive action is urged in dealing with this disease.

ADDITIONAL PUBLICATIONS.

Service and Regulatory Announcements. Bureau of Animal Industry, No. 197. September, 1923. Pp. 77-84. October, 1923. Price, 5 cents.

Experiment Station Record. Vol. 49, No. 4. September, 1923. Pp. 301-400. Price, 10 cents.

Hog Lice and Hog Mange—Methods of Control and Eradication. By Marion Innes, veterinary inspector, zoological division, Bureau of Animal Industry. Pp. 28, figs. 11. Revised September, 1923. (Farmers' Bulletin 1085.) Suitable for general distribution.

Feeding Cottonseed Products to Livestock. By E. W. Sheets, senior animal husbandman in beef cattle investigations, and E. H. Thompson, formerly scientific assistant in beef cattle investigations, animal husbandry division, Bureau of Animal Industry. Pp. 19, figs. 3. Revised September, 1923. (Farmers' Bulletin 1179.)

A Method for Preparing a Commercial Grade of Calcium Arsenate. By J. K. Haywood, chief miscellaneous division, and chairman insecticide and fungicide board, and C. M. Smith, assistant chemist, Bureau of Chemistry. Pp. 10. Revised September, 1923. (Department Bulletin 750.) Price, 5 cents. Of interest to manufacturers of insecticides and fungicides.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations

during the week of October 22-27, 1923. These publications can be obtained only from the stations issuing them:

Grasshopper Control in Colorado. C. L. Corkins. (Colorado Sta. Bul. 287, pp. 19, figs. 17. June, 1923.)

Twenty-second Report of the State Entomologist for 1922. W. E. Britton. (Connecticut State Sta. Bul. 247, pp. 265-381, pls. 16, figs. 8. 1923.)

Ensiling versus Drying Soft Ear Corn. J. M. Eyward, A. R. Lamb, and E. J. Maynard. (Iowa Sta. Bul. 216, pp. 401-432, figs. 4. July, 1923.)

Raising Orphan Pigs.—I, Protein modifications of cows' whole milk, frequency of feeding, nutritive ratio studies. J. M. Eyward, G. V. Glatfelter, and Q. W. Wallace. (Iowa Sta. Research Bul. 79, pp. 441-493, figs. 3. July, 1923.)

The Volatile Acids Produced by Starters and by Organisms Isolated from Them. B. W. Hammer and F. P. Sberwood. (Iowa Sta. Research Bul. 80, pp. 15. July, 1923.)

Studies on *Streptococcus parocitrovorus* Group. B. W. Hammer and M. P. Baker. (Iowa Sta. Research Bul. 81, pp. 17-36. July, 1923.)

***Melilotus indica* on Fall Plant Sugar Cane.** W. G. Taggart. (Louisiana Stas. Bull. 189, pp. 11. Aug., 1923.)

Studies in Milk Secretion.—XIV, The effect of age on the milk yields and butterfat percentages of Guernsey advanced registry cattle. J. W. Gowen. (Mississippi Sta. Bul. 311, pp. 9-20, figs. 2. June, 1923.)

The Satsuma Orange in South Mississippi. E. B. Ferris and F. B. Richardson. (Mississippi Sta. Bul. 217, pp. 28, figs. 5. Apr., 1923.)

Grazing and Feeding Trials With Hogs. E. Barnett and C. J. Goodell. (Mississippi Sta. Bul. 218, pp. 32, fig. 1. June, 1923.)

Corn and Soy Beans for Pork Production. E. Barnett and C. J. Goodell. (Mississippi Sta. Circ. 49, pp. 7. Apr., 1923.)

Feeding Cottonseed Meal to Steers on Grass. E. Barnett and C. J. Goodell. (Mississippi Sta. Circ. 50, pp. 3. June, 1923.)

A New Method of Making Engine Oil Emulsions. A. M. Burroughs. (Missouri Sta. Bul. 205, pp. 8, figs. 4. Aug., 1923.)

Turkey Management. W. F. Schoppe. (Montana Sta. Circ., 115, pp. 23, figs. 5. June, 1923.)

Analyses of Commercial Fertilizers. R. N. Brackett. (South Carolina Sta. Bul. 217, pp. 58. Aug., 1923.)

The Practicability of the Milking Machine. J. L. Lush. (Texas Sta. Circ. 30, pp. 23, figs. 2. Apr., 1923.)

Influence of Rations Fed to Growing Chickens on the Characteristics of the Adult Females. H. Atwood. (West Virginia Sta. Bul. 179, pp. 39, figs. 15. June, 1923.)

CLEAN WHEAT BRINGS HIGHER PRICES.

The value of cleaning wheat at threshing time is once more demonstrated in experiments conducted in Minnesota and the Dakotas by the department. Farmers cooperating in the experiments with the most successful recleaner gained an average of 7.3 cents per bushel on each bushel threshed. Various types of cleaning machines were operated in connection with threshers.

The 7.3 cents gain per bushel includes the higher price received for the cleaned wheat, the value of the screenings removed and used for feed, and a small saving in transportation. No charge was made to cover the operation of the recleaner, but it is pointed out that if a charge of as much as 2 cents per bushel had been made the gain would have averaged 5.3 cents per bushel net.

The simple and efficient disk recleaner designed by department technologists received the hearty indorsement of spring-wheat farmers because the new method not only gives them a premium for their wheat but also permits them to make valuable use of their dockage, which had previously been a total loss.

LIVESTOCK FEEDING METHODS IMPROVE.

A report on developments in a systematic plan to improve livestock feeding methods has just been issued by the Bureau of Animal Industry. It deals principally with various feeding problems which have been submitted to the department for analysis and which have been answered by department specialists. The report shows a wide variety of problems in 15 different States and contains a summary of the specialist's reply in each case.

An innovation in this systematic service is the use of a return post card on which the farmer asking for help makes a report on the results obtained following recommendations of the specialists. Reports received up to the present time either show improved conditions or complete success. The report contains five pages and concludes with a list of literature relating to feeding subjects. Copies may be obtained on request from the Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.

WEATHER FORECASTS FOR BEEKEEPERS.

For some years past the Weather Bureau has been assisting beekeepers by sending them forecasts of mild periods in the late autumn which are likely to be followed by cold and unsettled weather, in order that the bees may get a general flight as late in the season as possible but be housed before unfavorable conditions set in. Forecasts are also issued in the spring to guide beekeepers in removing bees from winter quarters. These forecasts have been sent to individual beekeepers on request, and there has been a systematic service of this character in New York State, carried out in cooperation with the apary department of the State College of Agriculture.

At the request of the American Honey Producers' League the scope of this work is to be enlarged so that beekeepers in any part of the country can have sent to them such forecasts as they may desire. The Weather Bureau will make no charge for its services, but recipients will be expected to pay the telegraph charges.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Among pygmies and gorillas with the Swedish zoological expedition to central Africa 1921. By William, prince of Sweden. London, Gyldendal, 1923.
- Controlling the finances of a business. By J. O. McKinsey. New York, Ronald press co., 1923.
- Dates and date cultivation of the 'Iraq. pt. 3. By V. H. W. Dowson. Cambridge, Eng., W. Heffer & sons, Ltd., 1923. (Mesopotamia Agricultural directorate. Memoir 3, pt. 3.)
- Diseases of farm animals in New Zealand. By H. A. Reid. Auckland, Whitcomb & Tombs, Ltd., 1923.
- Field practice; an inspection manual. 2d ed. National fire protection association. Boston, 1922.
- Der fachs in der facaliteratur. Von Anton Brosch. Berlin, Im selbstverlag des Verbandes deutscher leinenindustrieller, 1922.
- Forest distribution in the northern Rocky Mountain states. By J. E. Kirkwood. Missoula, Mont., 1922. (University of Montana studies series no. 2.)
- Foundations of agricultural economics. By J. A. Venu. Cambridge, Eng., University press, 1923.
- Fungoid and insect pests of the farm. 2d ed. By F. R. Petherbridge. Cambridge, Eng., University press, 1923.
- Furnace heating. 6th ed. By W. G. Snow. New York, U. P. C. book co., inc., 1923.
- La Hongrie économique et intellectuelle. Conférence faites au VII^e Cours international d'expansion commerciale. Budapest, 1913.
- History of corn milling. 4 v. By Richard Bennett and John Elton. London, Simpkin, Marshall and co., Ltd., 1898.
- How to increase a stock of partridges. 2d ed. By J. Wormald. London, Field and Queen (H. Cox) Ltd. [19-7]
- Iconum algarum index. [By] Francesco Balsamo. Neapoli, 1895-1901.
- Miyoshi, Manabu. Description and history of the cherry. Kyoto, Unso-do, 1921. Japanese.
- Miyoshi, Manabu. Description of Iris. [n. p.] 1921. Japanese.
- Perfumes and cosmetics. By W. A. Poucher. London, Chapman & Hall, Ltd., 1923.
- Pheasants and covert shooting. By Aymer Maxwell. London, A. and C. Black, 1913.
- Practical morbid histology. By Robert Donaldson. London, W. Heinemann, Ltd., 1923.
- Report of Texas alkali lakes. By C. C. Meigs, H. P. Bassett, and G. B. Slaughter. Austin, 1922. (University of Texas bulletin no. 2234.)
- Revival of English agriculture. By P. A. Graham. London, Jarrold & sons, 1899.
- Rural credit and community settlement bill. Explanatory articles. New South Wales. Dept. of agriculture. Sydney, 1923.
- Textile chemistry. By F. J. Cooper. London, Methuen & co., Ltd., 1923.
- Die untersuchung landwirtschaftlich und landwirtschaftlich-gewerblich wichtiger stoffe. v. 1. 5. aufl. Von F. J. König. Berlin, P. Parey, 1923.

OLD BOOKS.

- Album de la flora. Por D. V. M. de Argenta. Madrid, 1862-64.
- Anleitung zur pflanzenkenntniss nach Linné's methode. Von N. J. Jacquin. Wien, 1792.
- Arbor yemensis fructum coffe ferens. By James Douglas. London, 1727.
- Classis cruciflorum emendata. Von H. J. N. von Crantz. Lipsiae, 1769.
- Definitiones generum plantarum. [By] C. G. Ludwig. Ed. by D. G. R. Boehmer. Lipsiae, 1760.
- Ectypa vegetabilium. By C. G. Ludwig. Halle, 1760.
- Flora Romana D. Joannis Francisci Maratti. 2 v. Rome, 1822.
- Herbario nuovo di Castore Durante. Venetia, 1636.
- Histoire generale des drogues. Par Pierre Pomé. Paris, 1644.
- Muscum tradescantium. By John Tradescant. London, 1656.
- Traité des arbres forestiers. Par J. H. Jaume Saint-Hilaire. Paris, 1824.

CURRENT PERIODICALS.

- Connecticut poultry: official organ of the Connecticut poultry association [monthly] Wilmamantic, Conn., 1921.
- Journal da lavoura [weekly] Recife, Pernambuco, 1923.

Purchasing agent [monthly] New York, 1923.

Spain. Ministerio de trabajo, comercio e industria. Dirección general de estadística. Boletín de estadística [quarterly] Madrid, 1923.

CIVIL-SERVICE ANNOUNCEMENTS.

Assistant agricultural aid (dry-land agriculture), \$1,200-\$1,500, December 5. A vacancy in the Bureau of Plant Industry, for duty at Mandan, N. Dak., and vacancies occurring throughout the United States in positions requiring similar qualifications will be filled from this examination. The duties of the appointee will be to assist in the care and cultivation of ornamental plants on the station grounds, and to visit the various field stations for the purpose of laying out grounds in fruits and ornamental plantings. Applicants must have completed at least two years of a standard collegiate course in agriculture in a college or university of recognized standing, and must have had at least two years' experience in practical agriculture subsequent to or concurrently with such education in the Great Plains region. Applicants must submit a thesis on the day of the examination. If interested apply for Form 1312.

Assistant predatory animal inspector, \$1,860-\$2,400, and junior predatory animal inspector, \$1,500-\$1,860. Vacancies in the Bureau of Biological Survey, for duty in the field, will be filled from these examinations. Competitors will not be required to report for examination at any place, but will be rated on education, experience, and a thesis of not less than 2,000 words. The duties of appointees will be to cooperate with the research employees in developing, applying, and demonstrating methods for the control and destruction of predatory animals, and to take charge of the direct campaigns involving the services of a corps of hunters in the extermination of predatory animals in the national forests and public lands and organizing and conducting cooperative campaigns for this purpose in stock-raising communities. Applicants must have had a good common-school education and practical experience in trapping and poisoning predatory animals and in handling livestock on the range. If interested apply for Form 2118. Receipt of applications closes December 4.

Assistant nematologist, \$2,040-\$2,500. A vacancy in the Bureau of Plant Industry, Washington, D. C., and vacancies in positions requiring similar qualifications will be filled from this examination. The duties of the appointee will be to perform work of importance in systematic and economic nematology, to assist in planning and executing research, and to exercise supervisory functions arising in connection with the prosecution of such activities. Competitors will not be required to report for examination at any place, but will be rated on education, training, experience, and a thesis of not less than 5,000 words. Applicants must have graduated from a college or university of recognized standing, having majored in zoology or botany, or both, and have had at least two years' experience in biological investigations. They must also be able to read nema literature readily in French, German, and other modern languages. If interested apply for Form 2118. Receipt of applications closes November 27.

The American Society of Agronomy will meet at the Cooper-Carlton Hotel, Chicago, Ill., November 12-13. Several department people are on the program.

Articles in Current Publications by Department Workers

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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., NOVEMBER 14, 1923.

No. 46.

ESTIMATE BIG GAME ANIMALS ON FORESTS

Thousands of Game Animals Make Their Home on National Forests.

Nearly 441,000 head of deer make their home on the national forests, according to a rough estimate of big game animals recently completed by forestry officials of the department. The largest herds are found in California, where the forests shelter approximately 185,000 head. Oregon is next with a total of 57,000, its largest herd being on the Santiam National Forest. Montana ranks third with a total of 41,000 head, the largest single herd of which grazes on the Jefferson National Forest. Idaho is fourth with nearly 39,000.

The number of elk on the national forests is placed at 40,500, according to the estimate. The Teton National Forest in Wyoming, bordering the Yellowstone National Park on the south, contains a larger number of elk than any other national forest, although several others, notably the Olympic Forest in Washington, have herds ranging from 3,000 to 7,000 head.

On all national forests hunting is allowed in the open season except on areas established as Federal or State game refuges.

Winter Losses Negligible.

During the last three years the winter losses of elk in the forests surrounding the Yellowstone Park have been negligible. The increase in the herds has been high, and two or three years more of mild winters and good summers may bring another danger point with a die-off in a hard winter such as was experienced in 1919-20.

The recent big-game census also shows increases during the past few years in several plants of elk made on various national forests. The plant made about 10 years ago on the Sitgreaves Forest in

Arizona, consisting of about 65 head, now numbers over 350 head, and it is possible that the State Game Warden may permit hunting of elk in the near future in order to check too rapid growth.

The antelope, or pronghorn, are still in a very unsatisfactory situation. The census shows a few antelope on many national forests, but nowhere are they increasing. In northwestern Nevada and southeastern Oregon there is a large antelope herd, estimated at from 1,500 to 3,000 head, grazing on public lands outside of forest areas. An effort is now being made to secure the creation of a game refuge which will cover the habitat of this herd so that it may be protected and saved from extermination.

Moose Shows Increase.

The number of moose on the national forests has been increasing in recent years. The largest number is found on the Teton National Forest in northern Wyoming where moose are now becoming rather plentiful.

In addition to deer, elk, and antelope, the estimate lists 149 buffalos on national forests, 67 caribou, 10,500 mountain goats, and 12,300 mountain sheep.

The estimate as a whole indicates that except for the antelope there has been a slight increase in the number of most big game animals on the national forests. The census was conservative, and an underestimate is regarded as more likely than an overestimate.

Better Marketing Practices Stimulated by Department

Department market investigators during the past year have greatly stimulated the orderly marketing of farm products that is proving of direct benefit to both producers and consumers by the extension of improved marketing practices. Among the improvements that have shown the greatest expansion are the inspection of farm products at shipping points, use of standard grades, increased use of warehouse facilities under Federal

(Continued on page 5.)

STATE LAWS NEEDED UNDER CREDITS ACT

Lack of Statutes in Some States Handicaps Functioning of Act.

Department people have been studying State laws as they pertain to the functioning of the agricultural credits act of 1923. They have found that some States do not have laws expressly authorizing agricultural cooperative associations to discount notes of their members with the intermediate banks which have been set up under the act.

The Federal law is framed to permit credit to be obtained by individual farmers indirectly from the intermediate credit banks, either through commercial financial institutions or through their own cooperative credit agencies organized under State laws. Borrowing through local cooperative credit agencies is possible only where enabling State legislation authorizes the formation of such bodies with the necessary financial powers.

Some States Have Laws.

Minnesota has a law specifically authorizing the formation of agricultural credit corporations. Laws passed in North Dakota and South Dakota have similar provisions. Favorable legislation exists in a number of other States, including Wisconsin, Idaho, Wyoming, and Montana. In Colorado and California laws have been passed permitting the formation of cooperative associations with general business powers. Arizona and Missouri have laws which impose no limitation on the indebtedness which cooperative associations may carry. The laws of Michigan, Nebraska, and Nevada contain no specific provision for the formation of agricultural credit corporations, but the general corporation laws of those States are considered broad enough to permit the formation of farmers' credit corporations with ample powers to utilize the facilities of the intermediate

credit banks. An express statutory provision conferring the necessary corporate powers, however, would be a more desirable form of legislation.

Lack of laws or existing statutes in other States seem to preclude agricultural cooperative associations from borrowing for their members from the intermediate banks.

Direct Loans Not Permitted.

Borrowing by individual farmers directly from the intermediate credit banks is not permitted under the Federal act because the cost of setting up machinery for such dealing would be heavy and would necessarily be felt in higher interest rates. Where existing facilities are adequate for supplying farmers with intermediate credit it is not desirable, the department feels, to set up new credit concerns that will duplicate present ones. Where existing facilities are inadequate or where local bankers do not avail themselves of the discount facilities of the intermediate credit banks, farmers should be free to develop their own special credit agencies. State legislation is required to give them this opportunity, because cooperative agencies usually operate under State charters.

It is also noted that intermediate credit given to individual farmers, through financial agencies, enables them to utilize the improved storage facilities placed at their disposal under the Federal warehouse licensing act. This act and the intermediate credit system are complementary in their functions. The warehouse law provides for the licensing and bonding of public warehouses so that receipts issued against products stored therein will be good collateral for loans. Federal warehouse receipts are thus available for tapping the resources of the intermediate credit banks

CLUB VISITS MEAT-PACKING PLANT.

According to a letter received from W. C. Devereaux, secretary, the Cincinnati Contact Club at its last regular meeting spent two hours visiting one of the meat-packing plants in that city and the work of the meat-inspection division of the Bureau of Plant Industry. Congressman A. E. B. Stephens was the guest of the club. During the tour of the packing plant, inspectors were observed performing autopsies at slaughter, supervising the various processes of preparing meats and products, and enforcing sanitary requirements. A collection of specimens of tissues showing diseases and parasites common to food animals was shown and described.

Army Air Service Assists in Blister-Rust Campaign

The Air Service of the Army has been assisting the department in its efforts to check the spread of the white-pine blister rust. Colonel Gilmore, air officer of the Ninth Corps Area, recently received a communication from Dr. E. P. Meinecke thanking him for the assignment of Lieut. J. W. Benton, of Crissy Field, with a De Haviland observation plane, to take Prof. Ellsworth Bethel, a pathologist of the Bureau of Plant Industry, on a flight over a particularly inaccessible portion of the mountains of California. This action enabled Professor Bethel to make in a few hours a survey which would otherwise have taken several weeks and which would have been not only more expensive but less comprehensive by any ordinary means of transportation. The blister rust is slowly moving southward, and if no means of stopping it is found it will certainly cause very heavy losses in the sugar-pine areas of California, and may, indeed, make the growing of this valuable tree impossible. The Department of Agriculture is endeavoring to find an area extending across the mountains which is largely free from wild currants and gooseberries and can be used as a basis for an artificial barrier against the progress of the disease.

NEW RUST-RESISTANT WHEAT DEVELOPED.

Plant breeders working with Kubanka durum wheat have developed from that variety a promising new strain for growing in the rust-infected area of the durum wheat section. The new strain is known as Nodak, and was increased at the Dickinson (N. Dak.) substation where, in cooperation with the department it was developed as an improved strain. Seed of the new variety will be distributed for commercial growing in North Dakota by the North Dakota Agricultural Experiment Station.

Kubanka was chosen as the best variety from which to make pure-line selections because of its adaptation to a wide range of conditions as evidenced by high yields, its value for manufacturing purposes, and its diversity of composition. Of 144 pure-line selections Kubanka No. 98 (Nodak) is the most promising, as it best combines high yielding ability with rust resistance and good quality for the making of macaroni.

Serious rust losses have occurred in the spring-wheat area for many years, and the acreage of durum wheat has greatly increased because of rust damage

to the hard red spring wheats. Most of the rust-resistant varieties of durum wheat previously distributed have not been of high quality for the making of macaroni, but Nodak is considered to be a rust-resistant strain from which macaroni of excellent quality can be made.

FARMERS SHOW INTEREST IN ACCOUNTS.

Analyzing cost records and farm management systems on 28,000 farms is one of the pieces of work carried on by the department for the past year. The purpose of the work is to discover the facts that make for an efficient, business-like agriculture, and then to spread the gospel of better farm management among the entire agricultural area. Department records of county extension work show an increasing interest among farmers in the keeping of farm accounts, a larger number of accounts being kept and analyzed during the past year than in any preceding period.

The productivity of livestock is one of the most important factors in farm returns upon farms producing livestock, the department says. Losses may be due to poor stock or to improper feeding and care. Wide variations are also found in the use of man and horse labor. In other cases small income is the result of poor crop yields. Careful study of the various elements that make up the farm business indicate how any particular farm may be reorganized to show larger profit. To assist farmers in their book-keeping, special farm account books have been prepared by the Department of Agriculture in cooperation with the State agricultural colleges and may be obtained from the extension divisions of the colleges.

Exhibits shown by the department at the International Textile Exposition at Boston, Mass., October 29–November 3, included those on cotton standards, and on handling, manufacturing, and marketing cotton. Model cotton warehouses were displayed; the market news service by radio was represented and photomicrographs of the structure of cotton were shown. A case containing specimens of different lengths and varieties of cotton was also exhibited.

Grades and standards for butter and cheese prepared by the Bureau of Agricultural Economics were unanimously adopted at a meeting of the American Dairy Science Association in Syracuse. The grades will be used by that association in educational exhibits and student-judging contests of dairy products.

A DIGEST OF THE NEWS

Brief Bits of News Digested From Material Issued by Department During the Past Week.

HAY GRADES TO BE SIMPLIFIED.

In response to requests for modifications from producers, handlers, and consumers of hay, the department plans to simplify existing Federal hay grades on the basis of recent research work. The number of classes and grades will be reduced and a simpler method of determining grade will be adopted. Maurice Niezer, of Fort Wayne, Ind., former president, and for many years chairman of the grades committee, of the National Hay Association, has been appointed by the department as a consulting specialist.

TUBERCULIN TESTS INCREASE RAPIDLY.

During September 430,191 cattle were tuberculin tested under the systematic plan of tuberculosis eradication conducted by various States and the department. A total of 14,604 reactors was found. The elimination of these diseased cattle during the month is the first step in freeing the herds in which they were found from the disease, as well as being a measure for human welfare. The popularity of tuberculin testing among livestock owners is shown by the extent of the waiting list, which at the end of September consisted of 146,487 herds.

RAVAGES OF HOG CHOLERA HEAVY.

An appraisal of the ravages of hog cholera made by the Bureau of Animal Industry for the year ended April 30, 1923, based on estimates of the Bureau of Agricultural Economics, shows that approximately 4 per cent of the hogs on farms in the United States died of hog cholera. It is estimated that this disease is responsible for 80 per cent of the deaths from all causes among hogs. The total number of swine lost from hog cholera exceeded 2,250,000, valued at approximately \$29,393,000.

WORLD CROP MOVEMENTS REPORTED.

Little change in crop estimates from leading world countries, slight decreases in grain shipments to European countries, continued increase in exports of pork products from the United States, and a small increase in cotton acreage in the United States, India, and Egypt are reported by the department in its monthly world crop review. Wheat pro-

duction estimates for Europe outside of Russia now stand at 1,271,000,000 bushels as compared with 1,020,000,000 in 1922. Europe's potato crop will be somewhat less than in 1922. Russia is reported to have shipped about 5,000,000 bushels of grain, chiefly wheat and rye, between August 1 and October 10. More than 3,000,000 bushels of Russian grain have already been exported to Germany, 1,200,000 bushels to the Netherlands, and 240,000 bushels to Finland.

FEDERAL AID TO NEW MEXICO TIMBER.

An agreement whereby timber on lands belonging to New Mexico, and lying within or near the national forests, will be handled according to the rules and regulations for handling timber on national forests, has been made between the department and the State commissioner of lands. Approximately 215,000 acres of land, estimated to contain 550,000,000 board feet of timber, are involved. The State of New Mexico has no organization equipped to administer the use of timber on State-owned lands so that continuous timber production may be assured, and in recent years the Forest Service has informally aided the State in handling sales. Under the agreement recently signed and approved the Federal Government will now lend full cooperation to the State in handling the timber on its lands.

RUSSIAN AGRICULTURE RECOVERING.

A special survey of Russian conditions made by the department shows that Russian agriculture is beginning to show signs of coming back as a factor in world agricultural trade, although still short of pre-war production. The most significant fact pointing to Russian recovery is an increase of from 15 to 20 per cent in the acreage sown to crops this season. Only small quantities of grains have as yet been exported by Russia in that country's struggle to return to its pre-war situation, but the machinery for handling a larger trade is being gradually built up, the department says. Trade agreements have been entered into between the Soviet Government and importers in Germany, Austria, Denmark, England, and Norway which establish trade connections, fix methods of payment, and facilitate commercial intercourse.

Finding that the fields in which they desired to plant legumes had acid soil, some 48,000 farmers in 1922 followed the recommendation of their county agent to apply lime on these fields. They used for this purpose, according to reports to the department, about 627,000 tons of lime or limestone.

Good Results Seen in Four Years of Better-Sires Work

The influence of the "Better Sires—Better Stock" campaign in livestock improvement in the United States is discussed in a report just issued by the department covering a period of four years. Aggregate enrollment during the past quarter totaled 469, somewhat of a slowing up as compared with record periods, but in keeping with previous summer months.

The total number of persons enrolled as keeping nothing but purebred sires was 12,002 with a total number of 446,881 animals listed. Ohio continues in the lead with 2,758 persons, fairly closely followed by Virginia with 2,227. Kentucky made a good increase during the quarter and took third place from Nebraska. Kentucky now has 1,508 persons enrolled, with Nebraska fourth. Activity in Vermont has placed that State fifth in the campaign.

A feature of the report is an article by E. C. Grigsby, county agent for Pulaski County, Va. His name continues at the top of the list, a position it has held since the purebred sire campaign was launched. He briefly reviews the history of the livestock work in his county, which has increased its purebred breeding stock 150 per cent since the work began in the spring of 1920. This county has 578 livestock owners who are using purebred sires for all classes of livestock kept and is the premier better-sires county in the United States.

The report contains a list of 23 States which have been most active in better-sires work. It also contains statistical material showing the extent to which the use of purebred sires influences the keeping of large numbers of purebred female stock.

Three new counties qualified for the honor list having 100 or more enrollments. These were Windsor, Vt.; Henry, Ohio; and Lewis, W. Va. This brought the list to 28 counties. The top 15 are as follows:

County.	County agent.	Persons enrolled.
Pulaski, Va.....	E. C. Grigsby.....	578
Rockingham, Va.....	Chas. W. Wampler..	374
Greene, Ohio.....	Ford S. Prince.....	353
Union, Ky.....	S. C. Brewer.....	319
Oldham, Ky.....	Gordon B. Nance....	248
Hardin, Ohio.....	F. S. Hagy.....	236
Miami, Ohio.....	C. M. Senn.....	220
Kittitas, Wash.....	W. L. Davis.....	193
Greenville, S. C.....	A. H. Chapman.....	176
Hancock, Ohio.....	E. M. Rowe.....	156
Guernsey, Ohio.....	E. H. Reed.....	149
Belmont, Ohio.....	J. C. Neff.....	146
Orleans, Vt.....	W. T. Abell.....	143
Orange, Va.....	Edward V. Breden..	141
Defiance, Ohio.....	Jesse E. Whonsetler.	137



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OFFICIAL ANNOUNCEMENTS.

Memoranda of the Secretary.

Amendment to the Fiscal Regulations.

MEMORANDUM NO. 455.—October 31, 1923.—Paragraph 80 of the fiscal regulations of the department is hereby amended to read as follows:

80. *Payment of foreign postage.*—Postage is required and will be allowed at usual postal rates on official mail to foreign countries. Official correspondence which is admissible to the domestic mails under penalty envelope or label may also be dispatched in the same manner to the territorial and island possessions of the United States, Canada, Cuba, Mexico, the Republic of Panama, and the United States Naval Hospital, Yokohama, Japan.

Committees on Clerical Efficiency (Board of Review).

MEMORANDUM NO. 456.—November 2, 1923.—In accordance with the terms of Memorandum No. 325, dated August 18, 1920, which amended paragraph 32 of the administrative regulations, the personnel of the Committees on Clerical Efficiency (Board of Review) of the several bureaus and offices of the department for the period from November 1, 1923, to April 30, 1923, is as follows:

Office of the Secretary.—R. M. Reese, chairman; Roy L. Swenson; E. H. Bradley, vice Alex McC. Ashley; F. E. Singleton; Mrs. C. E. Johnston.

Office of the solicitor.—C. W. Boyle, chairman; J. B. Horgan; A. H. McConville, vice Fred Lees.

Office of publications.—P. D. Stallings, chairman; C. E. Bracey; F. J. P. Cleary; J. H. Stevenson; J. O. Riley.

Office of experiment stations.—H. L. Knight, chairman; Miss Sybil L. Smith; Miss E. M. Hough.

Extension service.—M. C. Wilson, chairman; I. O. Schaub; M. M. Thayer; J. W. Hiscox; Raymond Evans.

Packers and stockyards administration.—Stephen Bray, chairman; George T. Ash; Lyman S. Hulbert, vice Frank H. Sterling.

Grain futures administration.—R. E. Smith, chairman; George T. Ash.

Weather bureau.—William Weber, chairman, vice R. H. Weightman, chairman; R. H. Weightman, vice C. T. Burns; B. A. Blundon; B. C. Kadel; E. B. Calvert, vice F. G. Tingley.

Bureau of Animal Industry.—C. C. Carroll, chairman; A. J. Pistor; G. H. Russell; A. E. Wight; Ernest Kelly, vice A. W. Miller.

Bureau of Plant Industry.—H. E. Allanson, chairman; H. P. Gould; Edgar Brown, vice R. A. Oakley.

Forest Service.—E. A. Sherman, chairman; C. M. Ballard; Edward E. Carter, vice T. W. Norcross.

Bureau of Chemistry.—S. A. Postle, chairman; R. W. Balcom; Miss Agnes Nordeman, vice A. G. Murray.

Bureau of Soils.—A. G. Rice, chairman; George W. Baumann; C. H. Seaton, vice C. A. Wolfe.

Bureau of Biological Survey.—W. C. Henderson, chairman; E. J. Cohnan, vice W. R. Dillon; W. C. Bell, vice Frank G. Ashbrook.

Divisions of Accounts and Disbursements.—W. R. Fuchs, chairman, vice W. J. Nevius; C. L. Woodman; A. T. Terwisse, vice J. H. Lynch.

Bureau of Agricultural Economics.—F. J. Hughes, chairman, vice A. F. Krueger; C. E. Gage; R. H. Wilcox; W. L. Evans; L. M. Davis, vice C. W. Kitchen; Anna Dewees, vice H. S. Yohe.

Bureau of Entomology.—E. B. O'Leary, chairman; John E. Graf; A. C. Baker, vice W. R. Walton.

Bureau of Home Economics.—Dr. Louise Stanley, chairman; Miss Caroline L. Hunt; Miss Mabel A. Nye.

Bureau of Public Roads.—C. D. Curtiss, chairman; H. H. Barrows; C. Shoemaker, vice H. K. Bishop.

Library.—Miss C. R. Barnett, chairman; Miss E. B. Hawks; Miss H. M. Thompson.

Insecticide and Fungicide Board.—M. B. Waite, chairman; J. L. Monarch; W. D. Lynch, vice C. C. McDonnell.

Federal Horticultural Board.—George B. Sudworth, chairman; Karl F. Kellerman; R. Kent Beattie.

Fixed Nitrogen Research Laboratory.—Joseph M. Braham, chairman; John A. Almquist, vice Harry C. Hetherington; Lewis D. Gittings, vice Edwin J. Grayson.

S. H. McCrory Heads A. S. A. E.

As the result of the recent annual election of officers of the American Society of Agricultural Engineers for the coming year, S. H. McCrory, chief, division of agricultural engineering, Bureau of Public Roads, becomes president of the society. He was inducted into office at the annual meeting of the society held at Chicago November 8-10, inclusive. The election of Mr. McCrory to the presidency of the society is gratifying in that it implies a recognition of the department's work and of the high standing which he enjoys among the institutions and individuals of the country interested in the promotion of agricultural engineering.

B. A. I. INSPECTORS' SCHOOL OPENS.

The Bureau of Animal Industry veterinary inspectors' school of instruction, instituted by Dr. W. N. Neil, inspector in charge of the Chicago station, has resumed its sessions. This school was started in 1922 and held regular meetings each Monday for a period of more than

a year. Meetings were not held during the summer months this year as many inspectors were on leave.

About 60 veterinary inspectors were present at the first fall meeting. The inspector in charge presided and gave a short synopsis of the work in connection with the vaccination of stocker and feeder cattle in the prevention of hemorrhagic septicemia. Dr. A. A. Swain gave a talk on "The anatomy of the ox in relation to meat inspection," which was supplemented with illustrations. Dr. L. E. Day made a diagnosis of and discussed the various pathological specimens presented which included Texas fever, pseudo-leukemia, distomatosis, tuberculosis, and pneumonia.

A program for the meetings has been prepared covering the next three months and provides that the principal subjects discussed will be in charge of veterinary inspectors on the force.

R. Victor Bailey, of the Bureau of Agricultural Economics, died at a local hospital October 29. Death was due to pleural pneumonia. Mr. Bailey entered the service of the department in 1901. In 1913 he became identified with the Bureau of Markets, and as chief clerk and subsequently administrative assistant and assistant to the chief was one of the guiding hands in building up the large clerical personnel eventually needed for the conduct of the work of that bureau, until failing health last summer compelled him to resign.

A golf tournament open to all employees of the department has just been played off at the East Potomac golf course. A qualification round was held and 32 low players were divided into four eights. The final winners are as follows: First eight won by S. L. Mosby, of the Weather Bureau; second eight by E. F. Snyder, of the Bureau of Plant Industry; third eight by William Middleton, of the Bureau of Entomology; and the fourth eight by M. J. Francis, of Insecticide Board. Prizes were distributed to the winners.

The first eastern livestock markets to be reported by the department were issued by the Bureau of Agricultural Economics October 24 on the Jersey City and the Sixtieth Street, New York, markets. The report is distributed from the New York office of the bureau.

In the RECORD for October 24 the location of the office of Dr. Louise Stanley, chief of the Bureau of Home Economics, was incorrectly given. It should have read "Room 209, 220 Fourteenth Street SW."

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What methods are used in testing cattle for tuberculosis, and does a nontuberculous animal ever contract the disease as a result of these tests?

Answer. There are three methods used:
1. Subcutaneous injection of tuberculin.

2. Intradermic injection of tuberculin.
2. The ophthalmic method, by which tuberculin in tablet form is applied to the eye of the animal.

These methods cause a reaction in tuberculous animals but are entirely without effect upon nontuberculous animals.

Question. How is cutting of timber on the national forests regulated to insure a permanent output?

Answer. National forests are first divided into suitable units of management called "working circles" and a study and inventory of the forest resources in each is made. This study gives the volume and area of timber of different ages and some idea of rates of growth. On the basis of the method of cutting employed for the type of timber involved, the area or volume of timber to cut annually which will enable the younger age classes of timber to reach maturity by the time the cutting in the present mature crop is finished is determined and this constitutes the cutting limit for that period. This usually varies from 40 to 100 years, depending upon the condition of timber and its division into age groups. The amount to cut usually increases after a forest unit has been under careful management for several decades.

Question. How much tobacco is annually consumed in the United States?

Answer. For the pre-war period—1909-1913—the annual consumption was 650,000,000 pounds, or 65 per cent of the production. During the five years ending with 1921 consumption averaged 892,000,000 pounds, which was 65.5 per cent of the production.

Question. Is tea produced on a commercial scale in the United States?

Answer. No. Experiments conducted by the Department of Agriculture, in cooperation with Dr. Charles U. Shepard, of South Carolina, showed that while the tea plant grows well in the Southern

and Gulf States, and an excellent product can be manufactured, the production of tea can not be made a commercial success, owing to the high cost of labor in this country. In the manufacture of tea the young and tender leaves must be selected by hand. This is a very expensive operation where the cost of labor is high. Furthermore, the finished product must be picked over by hand to free it from woody stems.

Question. What uses are made by the department of the narrative and statistical reports furnished by State and county extension workers?

Answer. Every report received by the office of extension work from State and county extension workers is carefully read, indexed, and tabulated. From the narrative reports information as to the accomplishments of extension agents is furnished in prescribed reports and in response to inquiries, to Congress, and various officials and bureaus of the department. Statements showing methods and special lines of work in various States are compiled from them for State workers. Narrative reports are also a source of publicity material to acquaint the public with extension work. From the statistical reports are compiled the data showing the volume of extension work and the resulting accomplishments throughout the entire country.

Better Marketing Practices Stimulated by Department

(Continued from page 1.)

supervision, cooperative marketing, and prompt distribution of market news.

The shipping point inspection service enables farmers to have their products inspected at loading points by State inspectors licensed and supervised by the department. Cooperative arrangements for such service have been made in 25 States, providing inspection at more than 600 leading shipping points, and it is expected that more than 200,000 carloads of fruits and vegetables will be inspected during the coming year. This service is exerting a large influence in keeping inferior quality products out of the channels of trade, in addition to providing shippers with an official record of the condition of the products. The result is better use of transportation, better distribution, lower cost of marketing, higher net returns to farmers, and a higher grade of food to consumers.

Tentative standard grades were prepared during the year for several new fruits, bringing the total number of fruits and vegetables for which grades have been prepared up to 17. The department's aim is to prepare grades for all

farm products, so that a common trade language can be evolved that will be understood in all parts of the country, thus doing away with the confusion resulting from the use of a multitude of terms to describe the various grades and quality of farm products.

There has been greater use of warehouses for farm products and a larger increase in the number of warehouses coming under Federal supervision under the terms of the United States warehouse act than ever before. Credit for this is given largely to the bankers of the country who loaned money to farmers, the loans being secured by warehouse receipts.

Approximately 10,000 farmer cooperative organizations with a membership of more than 1,000,000 farmers are now actively operating in the United States. The department is regarded as the leading authority on this subject, the information developed being widely disseminated through agricultural extension services, county agents, and the press.

Extension of the Federal market news service by telegraph and radio during the year now makes it possible for farmers anywhere to keep in daily touch with general crop and market conditions.

The consolidation of the Bureaus of Crop Estimates, Farm Management, and Markets into that of Agricultural Economics has rendered more effective this enlarged marketing service which covers the broad field of problems from farm organization to the study of retail distribution.

CLUB MEMBERS ENTER COLLEGE.

The enrollment of Michigan Agricultural College this year is 8.4 per cent former boys' and girls' club members, according to a recent survey which the college has made. The highest proportion is in the freshman class, 10.7 per cent. There are altogether this year 130 students in this agricultural college who, having previously learned in their club work the practice of methods of farming and home-making which research and experience have found best, wish to go further in the study of the science of agriculture. Club work in Michigan, as in other States, became a considerable feature of agricultural extension about 1914, so that any impetus given by it to interest in the study of agriculture is probably only beginning to be manifest in an appreciable degree. Reports for 1922 show over 18,000 Michigan boys and girls enrolled in agricultural clubs, over 60 per cent of which finished all the work included in the year's club schedule.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

WEATHER FORECASTS AFFECT MANY LIVES.

In the collection and publication of data and the issue of weather forecasts and warnings the work of the Weather Bureau influences the daily life of the people and their various vocations to a greater extent than is generally supposed.

With notice of an approaching cold wave greenhouses are closed and boilers fired. Preparations are at once made by heating and lighting plants, whether gas, electric, steam, or hot water, to meet the increased demands that will follow. Fire plugs, exposed mains, and general plumbing are protected. Large stock-yards drain their mains. Gasoline engines are drained. Work in concrete is stopped. Street railway companies arrange for more heat in their cars. Natural-gas companies turn a larger amount of gas into their lines to provide for increased consumption. Merchants curtail advertisements or direct attention largely to cold-weather articles. Oyster dealers lay in a large stock. Coal dealers supply partial orders to all customers needing fuel, instead of full orders to a few, and thus serve all of their patrons. Ice factories reduce their output. The dredging of sand and gravel ceases, and iron ore piled up for shipment is placed in the holds of vessels to prevent the wet masses from freezing solid. Charity organizations prepare to meet increased demands for food and fuel, and thus minimize suffering among the poor.

The rain forecasts are used by contractors in their roofing work. Photographic firms working on a large scale find them helpful in planning for panoramic views. City departments determine the number of teams needed in street sprinkling, railroad companies guard against wash-outs, and irrigation companies control the output of water by expected conditions of rainfall as given in the forecasts. Physicians use them in advice to patients suffering with tonsillitis or inflammation of the throat, nose, or ear, where it is expedient that the sufferer should be kept indoors. They are also used by dentists, many of whom make appointments for bright days and reserve their plate work for days with inclement weather. Warnings of heavy snows are very valuable to railroads by enabling them to organize their snow-fighting equipment and to reduce the tonnage of their freight

and passenger trains, if considered necessary. They are also necessary on the great western ranches and plains, where the stock is hurried from the ranges to shelter upon notice of blizzards, northers, or heavy snows. Forecasts of bad weather, whether resulting from low temperatures, heavy rains, heavy snows, or a combination of these, are used in regulating advertising, in arranging for automobile or other outdoor trips, in providing for indoor work on the farms, and in guarding school children from exposure to the elements.

Many more uses of the warnings and reports might be cited, but those already given will suffice to show the extent to which they are utilized by the public in the practical everyday affairs of life.

WITH EXTENSION FORCES**VALUE OF LIVESTOCK EMPHASIZED.**

Livestock is particularly essential on the dry farm says A. E. Hyde, county agent for Niobrara County, Wyo. How to induce the dry farm owners to market most of their crops on foot was a big problem that faced him when he took up the work in Niobrara County. He feels that the purebred hog industry is gradually answering it for his people. Coming four years ago from Colorado farms, where hogs were extensively raised, Mr. Hyde was struck by the possibilities for the industry for his new territory. He found some hogs in the county, but no purebred stock being produced. Boys and girls' clubs seemed to Mr. Hyde the best starting place for developing the industry on a good foundation.

He succeeded in organizing a pig club in one community a few weeks later. This first club had 15 members, and for them 17 registered Poland China gilts were brought into the county. After two months a prize registered boar was added for the use of all the members. Interest in the work grew, and in order to properly supervise it the young farmers were organized into a county breeders' association the following January. At first only club members went to the association meetings, but soon the parents began attending and finally they took over the management of the organization.

Four new pig clubs were established the following spring, and the boys and girls of the first club were able to furnish the pigs for the new members. The membership has grown each year. Several of the club boys who bought their first gilts in 1919 and 1920 are now owners of good-sized herds. Four members of the first club have completed their fourth year of club work. Their combined net profits last year totaled over \$750.

At the beginning, Mr. Hyde determined that the hogs sold for breeding purposes should have something back of them besides a pedigree and, with this idea in mind, established a standard for grading. Under this system a hog must grade at least 80 per cent before it can be sold for breeding purposes. Those grading 90 per cent are listed as exceptional individuals and are usually retained in the county for breeding purposes; those grading below 80 per cent are fattened and sold on the market. The grading is done by the extension livestock specialist and no animals are inspected until 6 months old. Educationally and financially this work has proved of great value to new breeders in Wyoming.

The success of the boys and girls encouraged their parents and neighbors to undertake the work and as a result a number of new herds have been established each year. Two years ago the Niobrara County breeders held their first public sale of bred sows, disposing of all their offerings at a good figure. Other satisfactory sales have followed. At the last State fair 90 per cent of the Poland China hogs shown were from Niobrara County, and the majority of the others shown were bred by Niobrara County breeders. The demand for Niobrara County gilts was so great this spring that it could not be supplied.

CONFERENCE ON EXTENSION METHODS.

The first conference held in this country for the study of methods of carrying on extension work met at University Farm, St. Paul, Minn., October 1, 2, and 3. State extension workers of Minnesota, representatives of several colleges of the University of Minnesota, and of this department attended. Included in the program were discussions of the psychology of extension teaching, principles of successful salesmanship, the means and agencies employed in extension work, the factors which determine the means employed to secure an adoption of practices, program making in relation to methods of work, and the application of principles and methods to a typical project. A. B. Graham, H. W. Hochbaum, and Eugene Merritt, Office of Extension Work, represented the department in the conference.

At the Southeastern Alaska Fair, held in Juneau the last week in September, there were three Government exhibits, one each by the Weather Bureau, Biological Survey, and Forest Service. The latter was planned to advertise water power and pulp resources of southeastern Alaska, and received "first award for Government exhibit."

BRIEF REVIEWS OF NEW BULLETINS.

The Yellow-Fever Mosquito. By L. O. Howard, Chief of the Bureau of Entomology. Pp. 14, figs. 6. October, 1923. (Farmers' Bulletin 1354.) This bulletin is a revision of and supersedes Farmers' Bulletin 547 of the same title.

It was conclusively shown in 1900 by scientific experiments under the direction of Dr. Walter Reed, that the common household mosquito in the Gulf States is solely responsible for the spread of yellow fever, and it has since been demonstrated that the mosquito also carries dengue fever. The most important remedy suggested is the abolishing of standing water wherever possible, in order to eliminate breeding places. This includes every imaginable receptacle that may contain even a little water. Where standing water can not be abolished, openings to such receptacles as rain-water barrels, tanks, and cisterns should be screened to prevent mosquitoes from laying their eggs in them. The use of wire screens with not less than 20 strands to the inch excludes adult mosquitoes from houses, and bed canopies are advisable in unscreened houses.

Segregation and Correlation of Characters in an Upland-Egyptian Cotton Hybrid. By Thomas H. Kearney, physiologist in charge, office of alkali and drought resistant plant investigations, Bureau of Plant Industry. Pp. 58, pls. 21, figs. 41. August 10, 1923. (Department Bulletin 1164.) Price, 25 cents.

Hybrids exhibit numerous characters not expressed by either parent variety, which must be taken into account in roguing. Evidence given of the degenerate nature and tendency to sterility of hybrids emphasizes the necessity of rigorous and intelligent roguing in all cases where accidental cross-pollination may have occurred. It is also shown that the chance of developing a superior type of hybridization of very distinct types, such as Egyptian or Sea Island, with Upland cotton is very remote and probably a fruitless undertaking. Information is also included concerning the numerous characters which distinguish the Upland and Egyptian types of cotton, the mode of inheritance of these characters in hybrids between the two types, the kinds and degree of sterility manifested by the hybrids, and the manner in which the characters are correlated or linked in inheritance.

Information for Prospective Settlers in Alaska. By C. C. Georgeson, agronomist in charge. Pp. 18, pls. 6, map. Revised, October 15, 1923. (Alaska Agricultural Experiment Stations Circular 1.) Price, 10 cents.

Much interest has been created recently in the agricultural possibilities of Alaska, and this circular is designed to give prospective settlers, and particularly homesteaders, information of subjects which will be of more or less vital interest to them. Agricultural experiment stations have been established at seven points in the territory covering the principal lines of agricultural industry in their respective locations. They have furnished some convincing evidence of the future possibilities of agriculture in Alaska. More specific information may be found in the annual reports of these stations, while the circular in question attempts to discuss only such subjects of primary interest as climate, agricultural areas, where to locate, how to obtain a farm, cost of trans-

portation, labor market and wages paid, cost of necessities of life, what crops can be grown, livestock, school facilities, etc.

ADDITIONAL PUBLICATIONS.

Journal of Agricultural Research, vol. 25, No. 5. August 4, 1923. Contents: Systematic infections of rubus with the orange rusts. (G-322.) By B. O. Dodge.—Resistance in rye to leaf rust, *Puccinia dispersa* Erikss. (G-323.) By E. B. Mains and C. E. Leighty.—An undescribed orange pest from Honduras. (K-110.) By A. C. Baker. Pp. 209-254, pls. 11, figs. 7. Price, 10 cents.

Same. Vol. 25, No. 6. August 11, 1923. Contents: Correlation of foliage degeneration diseases of the Irish potato with variations of the tuber and sprout. (Vt.-2.) By Alfred H. Gilbert.—Comparative study of phytophthora faberi on coconut and cacao in the Philippine Islands. (G-324.) By Otto A. Reinking. Pp. 255-284, pls. 18, figs. 5. Price, 10 cents.

Same. Vol. 25, No. 7. August 18, 1923. Contents: Quantitative variation of gossypol and its relation to the oil content of cottonseed. (E.-23.) By Erich W. Schwartz and Carl L. Alsberg.—Inheritance of dwarfing maize. (G-325.) By J. H. Kempton.—Determination of sulphur compounds in dry lime-sulphur. (Mass.-9.) By Carleton Parker Jones. Pp. 285-336, pls. 5, figs. 12. Price, 10 cents.

Same. Vol. 25, No. 8. August 25, 1923. Contents: The twinning and monembryonic development of platygaster heimalis, a parasite of the Hessian fly. (K-111.) By R. W. Leiby and C. C. Hill.—Pathogenicity of *Ophiobolus cariceti* in its relationship to weakened plants. (Ark.-4.) By H. R. Rosen and J. A. Elliott.—The pharynx and alimentary canal of the hookworm larva-nectator americanus. (G-326.) By N. A. Cobb. Pp. 337-358, pls. 11. Price, 10 cents.

Service and regulatory announcements. Insecticide and Fungicide Board. No. 45. Notices of judgment 851-855. Pp. 1057-1087. October, 1923. Price, 5 cents.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of October 29 to November 3, 1923. These publications can be obtained only from the stations issuing them:

Experiments on the reclamation of alkali soils by leaching with water and gypsum. P. I. Hibbard. (California Sta. Tech. Paper 9, pp. 14. Aug., 1923.)

Dry rot of corn. L. W. Durrell. (Iowa Sta. Research Bul. 77, pp. 345-376, pls. 3, figs. 13. July, 1923.)

Bionomics and control of the potato leafhopper, *Empoasca mali* Le Baron. F. A. Feinton and A. Hartzell. (Iowa Sta. Research Bul. 78, pp. 377-440, pl. 1, figs. 22. July, 1923.)

Digestion experiments with cattle feeds. J. B. Lindsey, C. L. Beals, P. H. Smith, and J. G. Archibald. (Massachusetts Sta. Bul. 216, pp. 52-62. June, 1923.)

The normal and pathological histology of the ventriculus of the honey bee, with special reference to infection with *Nosema apis*. M. Hertig. (Minnesota Sta. Tech. Bul. 13, pp. [2]+109-140, pls. 3. July, 1923.)

Studies of various factors influencing the yield and the duration of life of meadow and pasture plants. R. G. Wiggans. (New York Cornell Sta. Bul. 424, pp. 24, figs. 6. Aug., 1923.)

On the amount of stable manure necessary for vegetable growing. B. L. Hartwell and F. K. Crandall. (Rhode Island Sta. Bul. 195, pp. 16. Aug., 1923.)

Pasteurization of market milk in the glass enameled tank and in-the-bottle. T. H. Wright, jr. (South Dakota Sta. Bul. 203, pp. 19. June, 1923.)

Bimonthly bulletin. (Western Washington Sta. Bimo. Bul. 11, No. 4, pp. 65-88, figs. 4. Nov., 1923.)

COTTON STATE PRODUCES OWN MILK.

One of the striking developments in Mississippi agriculture, resulting, it is felt, largely from the efforts of agricultural extension workers, is the dairy industry, which has become within the past 10 years a profitable feature of some 10,000 farms in the State. Previous to 1912, when the dairy extension work was begun, there was no commercial dairying in the State with the exception of about \$20,000 worth of milk shipped into New Orleans during the year by near-by farmers.

The first creamery was established in September, 1912, at the agricultural college. The first year of its operation it made 17,000 pounds of butter and paid out to farmers over \$4,400. Each succeeding year more farmers have put daily stock on their farms, some new creameries have been established, and the amount realized by farmers from the sale of butterfat increased. By 1914 they were selling over \$89,000 worth of butterfat, and by 1918 their receipts reached the million-dollar mark.

In 1922 creamery checks for Mississippi farmers amounted to \$1,217,000, while \$650,000 worth of milk was shipped to city markets. In addition to the weekly creamery check, which in many cases is paying the operating expenses of the farm and home, there is the incalculable benefit accruing to the family through the addition of milk and milk products to the diet, and to the farm through the increase in fertility which livestock brings to the fields. Many cotton growers are putting dairy herds on their farms, according to reports to the department, to provide an additional source of income, to increase the fertility of their fields, and to come a step nearer the goal of "living at home."

At the seventh conference of national park superintendents, held recently at Yellowstone Park, Wyo., E. H. Fletcher, observer in charge of the United States Weather Bureau station there, gave an informal talk explaining the work of the Weather Bureau. Mr. Fletcher laid special emphasis on the use of the bureau's services in the work of national park superintendents, and especially on the weather in its relation to forest fires, preservation of wild-animal life in winter, and highway conditions. Members from all parts of continental United States were present, from Alaska and California to the New York-New Jersey Interstate National Park.

PRINCIPAL LIBRARY ACCESSIONS

BOOKS.

- Agricultural organization in the United States. By Edward West. Lexington, Ky., University of Kentucky, 1923.
- Biologie und systematik der südchinesischen spingiden. Von Rudolf Mell. Berlin, R. Friedländer & Sohn, 1922.
- Citrus industry in the lower Rio Grande valley of Texas. [By] J. M. Delcurto, E. W. Halstead and H. F. Halstead. Austin, 1923. (Texas department of agriculture bulletin No. 75).
- Colcopterorum catalogus, auspiciis et auxilio W. Junk. Pt. 74. Ed. by Sigmund Schenking. Berlin, W. Junk, 1923.
- Cyclopedia of education. v. 5. By Paul Monroe. New York, Macmillan co., 1919.
- Dairy cattle and milk production. Rev. ed. By C. H. Eckles. New York, Macmillan co., 1923.
- Fruit industry in New York State. New York (State) Dept. of farms and markets. Bureau of plant industry. Albany, J. B. Lyon co., 1923.
- Japanese journal of zoology; transactions and abstracts. v. 1, no. 1. Tokyo, 1922.
- Marketing northwestern apples. By H. H. Maynard. New York, Ronald press co., 1923.
- Memoirs, with a full account of the great malaria problem and its solution. By Sir Ronald Ross. London, J. Murray, 1923.
- Miyabe-festschrift. Tokio, Kokumeikwan, 1911. Modern setter. 2d ed. By A. F. Hochwat. [n. p.] The author, 1923.
- Poultry-craft. By Will Hooley. London, Poultry press [1923?]
- Principles and practices of up-keep painting. E. I. Du Pont de Nemours & Co., inc. Philadelphia, 1923.
- Principles of geography, physical & human. By E. G. Skeat. Oxford, Eng., Clarendon press, 1923.
- Seventy laboratory exercises in animal production. By P. W. Fattig. Florida. State board for vocational education. Dept. of agricultural education. Gainesville, 1920.
- Third-chromosome group of mutant characters of *Drosophila melanogaster*. By C. B. Bridges and T. H. Morgan. Washington, 1933. (Carnegie institution of Washington. Publication 327).

THESES.

- Currency problem in China. By Wen Pin Wei. New York, 1914.
- Étude comparée de quelques caractères physiques des amidons. Par Edmond Blaise. Sainte-Dié, 1921.
- Foreign trade of China. By Chong Su See. New York, 1919.
- Metrische untersuchungen am pferdemagen. Von F. J. E. Biedermann. Berlin, 1921.
- Tarif problem in China. By Chin Chu. New York, 1916.
- Vergleichende anatomie der cinnamomumrinden. Von Wlater Rudolf Birnstiel. Leipzig, 1922.

CURRENT PERIODICALS.

- Better crops; the pocket book of agriculture [monthly] New York, 1923.
- Plan to plant another tree; official bulletin, Tree lovers' association of America [monthly] Aurora, Ill., 1923.

Articles in Current Publications by Department Workers

- Carrier, Lyman (Bur. Plant Industry). Winterkilling of turf. Bulletin of the Green Section of the U. S. Golf Association, vol. 3, No. 10, pp. 254-255. October 22, 1923.
- Clausen, C. P. (Bur. Entomology). The biology of *Schizaspidia tenuicornis* Ashm., a eucharid parasite of *Camponotus*. Annals of the Entomological Society of America, vol. 16, No. 3, pp. 195-217, pl. 14-15. September, 1923.
- Kiernan, J. A. (Bur. Animal Industry). Progress and outlook in tuberculosis eradication. Guernsey Breeders' Journ., vol. 24, No. 7, pp. 317-319. October 1, 1923.
- McIndoo, N. E. (Bur. Entomology). Glandular structure of the abdominal appendages of a termite guest (*Spirachtha*) Zoologica, vol. 3, No. 18, pp. 367-381, illus. October 1, 1923.

- Mann, W. M. (Bur. Entomology). New genera and species of the termitophilous Coleoptera from northern South America. Zoologica, vol. 3, No. 17, pp. 323-366, figs. 28-40. October 1, 1923.
- Morrison, Harold (Bur. Entomology). On three apparently new species of Termitaphis. (Hem. Het.) Zoologica, vol. 3, No. 20, pp. 401-408, pl. 24. October 1, 1923.
- Nason, Wayne C. (Agric. Economics). The town library: an index to civic life. Wisconsin Library Bulletin, May, 1923.
- Nystrom, A. B. and members of the Department (Bur. Animal Industry). Exhibit of U. S. Department of Agriculture at National. Guernsey Breeders' Journ., vol. 24, No. 7, pp. 321-323. October 1, 1923.
- Phillips, E. F. (Bur. Entomology). Improving nectar resources; why beekeepers in the United States do not cultivate nectar-bearing flowers. Gleanings in Bee Culture, vol. 51, No. 11, pp. 726-728, 759. November, 1923.
- Sherman, Caroline B. (Agric. Economics). The American apple—an all-round favorite. The Forecast Magazine, November, 1923.
- Smith, W. D. (Agric. Economics). How definite grades will benefit the rough rice industry. Rice, October, 1923.
- Van Deman, Ruth (Home Economics). Home economics on the screen. Journ. of Home Economics, vol. 15, No. 11, pp. 659-662. November, 1923.

CIVIL-SERVICE ANNOUNCEMENTS.

Plant quarantine inspector, December 12, \$1,400-\$2,740. Vacancies in the Federal Horticultural Board, for duty in the field or in Washington, D. C., will be filled from this examination. The duties of the appointee will be to assist in the enforcement of the various quarantine and regulatory orders issued under the plant quarantine act of August 20, 1912. Applicants must show that they meet one of the following requirements: (a) Graduation from a college or university of recognized standing, having taken the regular course in entomology or plant pathology. (b) Graduation from a four-years' high-school course and at least two years' experience in State or Federal plant-quarantine or plant-inspection work. (c) Any combination of the education and experience described in (a) and (b) equivalent in point of time. If interested, apply for Form 1312.

Reference and bibliographical assistant (foreign documents), December 12, \$1,800-\$2,400. Vacancies in the position of research assistant in foreign documents, Bureau of Agricultural Economics, Washington, D. C., and in positions requiring similar qualifications will be filled from this examination. The duties of the appointees will be to perform expert work with a reference collection of official documents of various foreign governments, and to act as bibliographical advisor to research workers. Applicants must have graduated from a college or university of recognized standing in a course including library science, and must have had one year's experience in document work in a library using modern methods. For college graduates not having taken library science in their collegiate course, such a course in an acceptable library school for a period of six months will be accepted. A translation test will be given in French, German, and Spanish, and a thesis must be submitted on the day of the examination. If interested, apply for Form 1312.

Press feeder, \$840, December 12. Vacancies in the Weather Bureau, Washington, D. C., and in positions requiring similar qualifications will be filled from this examination. The duties of the appointee will consist in the feeding and oiling of lithographic and printing presses, assisting the pressman to make ready, feeding stitching and folding machines. Applicants must show that they have had at least three months' experience in press feeding, and that they have fed sheets of approxi-

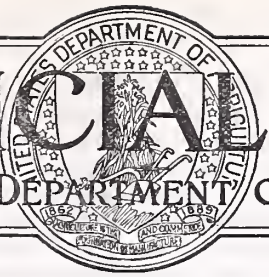
mately 19 by 24 inches on Gordon and Miehle or similar presses at the rate of 1,000 to 1,200 per hour. If interested, apply for Forms 2379 and 1145.

U. S. D. A. CLUB DIRECTORY.

- Albuquerque Club**, Lee J. Reynolds, States Relations Service, secretary, Albuquerque, N. Mex.
- Atusda Club**, J. H. Cain, 1712 Citizens & Southern Bank Building, Atlanta, Ga.
- Baltimore Club**, D. M. Walsh, 300 Park Avenue, secretary.
- Birmingham Club** (Federal Agricultural Technical Association), meets second Saturday, 8 p. m., post-office building; Edgar C. Horton, Weather Bureau, secretary.
- Boston U. S. D. A. Club**, R. S. Clifton, 179 Commercial Street, Boston, Mass., secretary.
- Buffalo Club**, J. W. Rappell, Bureau of Agricultural Economics, secretary.
- Chicago Club**, meets third Wednesday; lunch, Great Northern Hotel; E. P. Lemott, 139 North Clark Street, secretary.
- Cincinnati Contact Club**, W. C. Devereaux, Weather Bureau, secretary.
- Denver Club**, meets second Monday; lunch, 12.15; Denver Civic and Commercial Association, W. J. Ise, Federal Building, secretary.
- Fort Worth Club**, A. R. Losh, Bureau of Public Roads, president.
- Gulf Coast U. S. D. A. Club**, H. D. Money, Bureau Plant Industry, Biloxi, Miss., secretary.
- Houston Club**, meets first Wednesday; lunch, L. H. Daingerfield, Stewart Building, secretary.
- Indianapolis Club** (Unity Club), meets second Monday; lunch, Chamber of Commerce Building; F. H. Ackelov, Weather Bureau, secretary.
- Kansas City Club**, Sidney A. Johnson, 923 Live Stock Exchange Building, secretary.
- Los Angeles Club**, meets second Tuesday; C. H. Beauchamp, 207 Live Stock Exchange Building, secretary.
- Louisiana Club**, M. C. Virgin, Bureau of Agricultural Economics, box 95, New Orleans, secretary.
- Montgomery Club**, L. P. Hughen, box J, Bureau of Public Roads, secretary.
- New Haven Club**, Sumner A. Dole, post-office building, secretary.
- New York Club** (N. Y. U. S. D. A.), meets second Wednesday; lunch, Pig and Whistle Inn, Greenwich Village; W. F. Schroeder, Bureau of Animal Industry, U. S. Barge Office, New York City, secretary.
- Oklahoma City Club**, meets second Monday; lunch, Chamber of Commerce; Mattie A. Craig, 202 Grand Street, secretary.
- Philadelphia Club**, meets third Wednesday; lunch, Suelenberg's Restaurant; C. S. Brinton, 134 South Second Street, secretary.
- Portland (Oreg.) Club**, meets first Wednesday; lunch, Chamber of Commerce Building; J. D. Guthrie, post-office building, secretary.
- Porto Rico (U. S. D. A. Club)**, E. Murray Brunner, Forest Service, San Juan, P. R., secretary.
- San Francisco Club**, meets first Wednesday; 12.15. Commercial Club, Merchants' Exchange Building; H. P. Dechant, Ferry Building, secretary.
- St. Joseph Club**, meets second Friday; lunch, St. Charles Hotel; I. W. Pew, box 68, South St. Joseph, secretary.
- St. Louis Club**, meets second Friday; B. S. Jones, 413 Old Customhouse, secretary.

Something rather new in the use of pontoons is a pontoon telephone line in the Santiam Forest, invented by a fire chief in the Forest Service. This line extends for nearly a quarter of a mile across a lake. The poles that were set in the lake bottom last fall were pulled out by the ice, leaving the line in the water. Some pontoons were built by using large logs and making a sort of raft, which was anchored in the proper places by means of heavy stones and wire, and poles were erected upon the pontoons to which are attached swinging insulators. The line is being held up very satisfactorily by this arrangement.

BUREAU OF ENTOMOLOGY
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THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE

CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., NOVEMBER 21, 1923.

No. 47.

CONDITION OF WORLD AGRICULTURE STUDIED

Germany Produces More Food and Yet Must Import, Foreign Report Says.

One of the important phases of the department's work, particularly at this time, is the world crop and market reporting service. It was developed so that farmers might know the world demand for their products and conditions under which their competitors are producing.

An important report in this regard has just been received from Agricultural Commissioner Squire, located at Berlin. He says that Germany faces the peculiar condition of having produced more food this year than she had for consumption last year and yet must import food. Her production this year is greatest since the war, but food consumption since the war has been far below the pre-war standard, and consumption this year can not equal the pre-war standard unless a considerable amount is imported. The situation is further complicated by the present chaotic currency condition and high costs of transportation. Farmers are not inclined to market their products freely in exchange for a rapidly depreciating currency.

Bread Grains on Increase.

The bread grain crop in Germany this year is greater than any other year since the war. When imports are included and seed requirements deducted, the estimated bread grain supplies per capita for 1923-24 are about 325 pounds, compared with 306 pounds in 1922, 397 pounds in 1921, 271 pounds in 1920, and 525 pounds for the five-year pre-war average.

The slight increase in pigs on farms in Germany does not appear to be producing increased supplies of pork for the city population, according to Mr. Squire. Meat consumption, not including imports,

was reported to be about 123 pounds per capita in 1912 and 84 pounds in 1922. Estimates for the first six months of 1923 indicate a consumption of only 34 pounds per capita against 42 pounds for the first half of 1922.

The demand for foreign wheat and flour will be greatly increased by Germany if a settlement of the Ruhr controversies can be reached which will increase the buying power of the population in that section, Commissioner Squire reports. The Rhine provinces have always depended on foreign wheat even when the Eastern provinces of Germany were exporting grain.

Rhine Imports Decrease.

These provinces imported over 23,000,000 bushels of wheat, including flour, or 6,500,000 bushels more than their food requirements in 1913, the surplus being reshipped to other parts of Germany. In 1920, the latest year for which statistics are available, these provinces imported only 8,400,000 bushels and brought in 4,000,000 bushels from other parts of Germany to make up a food supply which was only 75 per cent of the 1913 consumption.

Even if transportation conditions should improve so that grain could be shipped from the eastern surplus area, this grain would be chiefly rye, which is not used in the western provinces to the same extent as in other parts of Germany. The Rhine country prefers wheat bread, and it has always imported its wheat. With a partial resumption of business in the Ruhr during the last few weeks dealers in Hamburg report that a good flour business has already sprung up in the section.

The largest order from any foreign concern for cotton standards was recently received by the Bureau of Agricultural Economics from the Association of Czechoslovakian Cotton Spinners, at Prague. The order was for 126 boxes of the practical forms of the official cotton standards for grade and color and 65 types for length of staple. The total value of the order is \$695.

DECISION AFFECTING FIELD MEN MODIFIED

Comptroller General's Decision More Liberal to Traveling Employees.

Following the decision of the Comptroller General in the case of J. H. Beattie in May, 1922, the fiscal regulations of the department were amended to provide that the expenses of transportation between the place of lodging and the place of duty would be included in computing the amount allowed for subsistence. The application of this rule resulted in making reimbursement impossible in a number of instances.

Substance of Comptroller's Decision.

The entire subject was recently opened anew in the case of Clyde A. Jackson and a modification of the decision more liberal to the traveling employee has been handed down by the Comptroller General, J. R. McCarl. In rendering the decision he made the following statement:

"Since under modern conditions the expense of daily travel between the place of residence and that of work is an ordinary living expense of residents of a city, in so far as the travel required of the employee is merely that required daily of the inhabitants of the place where he is temporarily stationed, the expense of such travel is incidental to subsistence and should be included therein. So, too, where it is possible for an employee to obtain meals and lodging in the vicinity of his work and he chooses for his own convenience to live elsewhere, the additional expense incurred as a result of the distance between his residence and work is not one necessarily incurred as a result of his absence from his permanent station and should be borne by him. In the case submitted it appears that the employee's actual place of duty was at the farm, and had he been able to secure meals

and lodging there he would only be entitled to the expense of one trip to the farm and return to Reidsville. Since he could not secure such accommodations, he was under the necessity of making the daily trips for which he claims reimbursement. Such travel can not be said to be a part of the ordinary routine and therefore incidental to subsistence. On the contrary, it was extraordinary travel necessitated by the nature of the work upon which he was engaged and may therefore be classified as transportation. The following are general rules to be followed in determining whether travel performed by employees away from their permanent stations, in going to and from their places of abode and their work should be included in their allowance for subsistence. Where the travel is such as is required of the public generally in going to and from its work it is incidental to subsistence. In this class there is embraced street car fare, bus fare, ferry fare, and taxicab hire, when used in lieu of the three preceding modes of conveyance. Where living accommodations can be secured near the work or at a place from which it may be reached by local public transit companies and the employee for his own convenience resides elsewhere, making daily trips to and from his work such trips will not be considered as an actual and necessary expense and reimbursement will be denied therefor.

"Where the nature and location of the work is such that meals and lodging can not be secured there, the daily travel from the nearest place at which living accommodations can be secured to and from the work will be considered as necessary transportation not incidental to subsistence. In this class will be included trips from towns or cities where there are hotel accommodations to farms and to such places as the nature of the employee's work requires him to visit which are inaccessible except by means of special conveyance. In no case will the daily travel to and from work be considered as transportation not incidental to subsistence, when it is similar to that made by the public generally or is only made for the employee's convenience. A full statement of the necessity for the daily travel should accompany the voucher on which payment is made."

C. A. Brown, chief of the Bureau of Chemistry, and R. E. Doolittle, in charge of the central district of the Bureau of Chemistry, Chicago, who were in Minneapolis on an official trip in October, gave interesting talks relative to the work of their bureau to an association formed of Federal officials in Minneapolis and St. Paul.

Department Has Unique Catalogue of Animal Parasites

The man whose livestock is suffering from parasites probably has little appreciation of the widespread efforts that are being made by scientists to discover, classify, and find means to control these various enemies of animals, some of which spend a part of their life cycles in man. In connection with many discoveries recently made by the department regarding parasitic worms and their control, a catalogue has been prepared of all the available information in the world on this subject.

Practically an entire office room is devoted to the card indexes containing the sources of all information on these parasites, the only record of its kind in the world. Scientists in all parts of the world interested in the subject now look upon this office as an exchange at which they can verify discoveries and where they can obtain needed information or be directed to its source. Forty years ago when this work on parasites was beginning there were only a few men who were considered specialists; now there are hundreds making investigations in the fields of veterinary and medical parasitology.

The collection of this vast quantity of information on one small branch of science is an indication of the patience and effort put into the solution of problems affecting the livestock producers. These long rows of drawers are used daily to supply information to scientists, veterinarians, and farmers. When a man finds what he thinks is a new parasite and sends in a description, the records will be searched both under the headings of the parasite itself and of the animals attacked. It may be found to be a well-known organism. If it is a new one, it will be properly classified and the information will be available to parasitologists the world over.

Though most of the information available has to do with farm animals, keepers of all sorts of strange beasts in zoological gardens may find here answers to questions concerning the parasites which attack their caged livestock. A recent letter from a man in Texas asked for the names of the parasitic worms attacking kangaroos. The information was sent to him. When investigators write for information contained in books they can not obtain, it is often possible to photograph the pages containing it and send them at very small cost. Through this extensive catalogue it is often possible to detect errors in books published in many countries and to call the attention of the authors to them,

an invaluable service to scientists. The great increase in the study of animal parasites, of which this catalogue is concrete evidence, has resulted in progress which has been of great economic and social importance.

Hevea Rubber Trees Found In Central American Lands

Plantings of the *Hevea brasiliensis* rubber tree have been located by the Caribbean party of the crude rubber survey sent out by the Department of Commerce, the Department of Agriculture cooperating, according to reports received from Hugh H. Bennett, of the Bureau of Soils, who accompanied the expedition to make a study of the soil possibilities in connection with the rubber industry. Mr. Bennett writes that his party has found groves of trees of this excellent variety in three different countries in Central America—Nicaragua, Costa Rica, and Panama, the only countries visited so far.

The trees are all vigorous and apparently free from disease and range from 8 to 30 inches in diameter and up to 70 feet in height. They are all over 10 years of age, some having been planted in 1906 and prior to that time from seeds brought from the East Indies. The grove in Costa Rica contains over 600 large, vigorous trees, and there is a separate grove there of younger trees. The soils on which these trees are growing are all deep, rich, friable types, with excellent underdrainage and aeration, and having a neutral reaction. That in Nicaragua on which the largest trees were found is a reddish, brown clay, rich in organic matter, friable to a depth of 5 feet, perfectly underdrained, well aerated and oxidized, and having a pH value of 7.5. A more desirable clay soil could scarcely be found.

So far as is known this is the first report here of the finding of Hevea trees in Central America. Castilla rubber plantations were found to be abundant in these three countries, but the trees were in some cases in an unhealthy state, due possibly to having been planted under unfavorable soil conditions.

The National Association of State Marketing Officials will hold its fifth annual meeting December 3-5 at the Auditorium Hotel, Chicago. Lloyd S. Tenny, assistant chief of the Bureau of Agricultural Economics, will deliver an address on "Development and growth of cooperative marketing in the United States." W. A. Schoenfeld, assistant chief of the same bureau, will speak on "Some results of terminal market studies."

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

SATIN-MOTH QUARANTINE EXTENDED.

A slight increase in the areas in Massachusetts and New Hampshire under Federal quarantine on account of the satin moth, a dangerous insect pest, is announced by the Federal Horticultural Board, effective November 15. The spread of the insect that made it necessary to extend the quarantined territory is looked upon by officials of the board as being "fairly inconsiderable," representing the movement of the pest since the original quarantine order, which went into effect, January 1, 1922.

GERMAN SUGAR-BEET CROP SHORT.

The sugar-beet crop in Germany this year is about 2,000,000 short tons less than in 1922, says a report of the department based upon a cable from the International Institute of Agriculture at Rome, which places the crop at 9,381,000 short tons. Production last year was 11,896,000 short tons.

STOCK HOGS SHOW SMALL INCREASE.

The number of stock hogs on farms in the United States on September 1 was three-tenths of 1 per cent more than on the same date in 1922, the department reports in a special survey. The increase in the Corn Belt States is placed at 4.3 per cent. The indicated increase in these States agrees rather closely with the 5.8 per cent increase indicated in the June pig survey of the department. Lack of similar close agreement in other States is attributed to slower turn-over and the larger percentage of births in the second half of the year.

FIGHT BOLL WEEVIL WITH POISON DUST.

More systematic use of calcium arsenate poison by cotton growers in combating the boll weevil and other insects is shown in reports to the department from its crop correspondents. The figures show that approximately 10 per cent of the cotton acreage this year was treated with the poison. In some localities six or more applications were made during the season. In South Carolina and Georgia, where the boll weevil has been most destructive in recent years, between 36 and 38 per cent of the cotton area was treated. In Florida the

poison was applied to 15 per cent of the acreage and in Arkansas 14 per cent. The cotton pest was particularly destructive in Florida and Arkansas this year, but in Arkansas much of the arsenate was used primarily to combat caterpillars that were defoliating the plants. The smallest relative use of the poison was in States that have been longest infested, or that because of climatic conditions are relatively less subject to boll weevil damage.

NEW BIRD COMES TO WASHINGTON.

Among the interesting birds imported into this country during the month of September was a "kiwi" shipped from New Zealand for the National Zoological Park at Washington. The Biological Survey of the United States Department of Agriculture issues permits for all shipments of foreign mammals and birds, and inspects them when necessary in order to protect this country from the introduction of species which may prove injurious to agriculture. The kiwi, which is native only to New Zealand, and even there approaching extinction, is rarely imported into the United States. The present specimen is the first that has been on exhibition in the National Zoological Park for 15 years. The last shipment was made in January, 1906. One of the birds coming in at that time lived two years.

AUTO TOURS BEING DEVELOPED.

The automobile tour as a feature of agricultural extension work is a development from the field meetings held by county agents in the early days of extension activities at the farms on which improved practices were being demonstrated.

There are five types of tours in general use: Local tours, in which visitors from different places meet to observe what is being done in some outstanding farm or home demonstration; county tours, where a number of people drive together over a route including from 8 to 10 different demonstrations; commodity tours, on which demonstrations dealing with but one phase of work, such as poultry, fruit, or livestock, and which are not usually restricted by geographical lines but may include several counties and occasionally more than the home State; agents' tours, on which a number of county agents visit together the demonstrations of a neighbor agent; and college or experiment-station tours, on which the institution is host to groups of people from the counties. The success of any of these types is largely dependent on the judgment ex-

ercised in planning an interesting and convenient itinerary and on the precision with which it is carried out.

The number of tours made is increasing. In the 34 States reporting on this activity some 1,150 tours were made in 1920, with an attendance of 137,000; in 1922 over 2,000 tours were made, with an attendance of 186,000. In many States they have been for several years annual features of the extension program.

CORNSTARCH MANUFACTURE EXPANDING.

The manufacture of cornstarch has grown to such proportions in the United States that the industry now consumes about 50,000,000 bushels of America's great crop each year. From each bushel of corn the average manufacturer makes 33 pounds of cornstarch, and in 1921 the 10 largest concerns made nearly 1,650,000,000 pounds of this product, which was more than 90 per cent of the total produced that year. This industry, which began in the United States in 1844, has been increasing greatly in recent years. By 1880 the factories had reached a productive capacity of 230,600,000 pounds and practically all of it was consumed here. By 1921 there were nearly 50 plants and \$6,000,000 worth of the output was exported. These figures are from a report recently made by the department as a result of an investigation.

The department, through the Bureau of Chemistry, which enforces the food and drugs act, finds that cornstarch, with the possible exception of granulated sugar, is the least adulterated of all food products appearing on the markets. In addition to being used for food, it is also used for many technical purposes.

In the food industry cornstarch finds its greatest use as the basis for the manufacture of corn sirup or glucose, about one-half of that produced in 1921 having been used for that purpose. It is employed by confectioners in making gumdrops, by housewives and chefs in thickening sauces and making custards. Confectioners also use it for forms into which soft candy is poured in making bonbons. Large quantities are used in the manufacture of baking powder and pie fillers. It is also an important ingredient in cosmetics and pastes and is used to a limited extent in pharmaceutical preparations.

In the RECORD for November 14 the Meat Inspection Division was incorrectly referred to as a part of the Bureau of Plant Industry. It should have read "Meat Inspection Division of the Bureau of Animal Industry."



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THE IMPONDERABLES.

At the celebration of the fiftieth anniversary of the founding of Boston University, Theo H. Price delivered an address upon "The imponderables in business." The imponderables—"the things that are unseen and eternal"—he listed in the order of their importance as faith, sympathy, loyalty, courtesy, personality, and enthusiasm.

ECONOMICS URGED IN FARM PROGRAM.

Practical application of economic studies to current agricultural problems as a pressing need of American agriculture, was emphasized by Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics, in addressing the thirty-seventh annual convention of the Association of Land Grant Colleges.

"The type of economic discussion which shows that the present distressed financial condition of the farmers is due to certain well-defined economic forces, but which prescribes no remedy, will not find a permanent place in our agricultural colleges," Doctor Taylor said. "There is only one thing worse than a passive attitude on the part of economists and that is political gestures by those who have no serious intention of helping farmers but who would secure a following by prescribing ineffective remedies."

Doctor Taylor urged an understanding of economic forces and adequate up-to-date information regarding economic facts, which should be provided constantly by public sources, giving the basis for working out programs by each farmer and for making intelligent adjustments of farming operations to changing conditions. Such information interpreted in the light of basic economic principles enables the farmer not only to choose more wisely what he should produce but also to select more wisely the time, method, and place of marketing his product.

Doctor Taylor then outlined a series of courses for agricultural college students calculated to train students to discern economic facts and their inter-relationship, and then to reason accurately from these basic facts and forces to proper conclusions as a basis of action. He also said there is a pressing need in agriculture for properly trained men along the lines of economic geography, agricultural history, and in farm analysis and organization.

DR. M. W. GLOVER.

Dr. M. W. Glover, in charge of the drug administration office of the Bureau of Chemistry for seven years, died suddenly November 3 at the marine hospital, St. Louis, Mo. The funeral services were held in Washington November 12.

Doctor Glover was detailed by the United States Public Health Service to the Bureau of Chemistry in 1916, where he inaugurated and developed the work under the Sherley amendment to the food and drugs act for the prevention of false and fraudulent claims on the labels of medicinal preparations. During the years of his connection with this work, and largely as a result of his efforts, a notable change for the better has taken place in the manner of stating therapeutic claims on the labels of drug preparations.

On March 1, 1923, Doctor Glover was recalled by the Surgeon General on account of the need for his services in the increasing activities of the Public Health Service and was sent to St. Louis to take charge of the marine hospital there. Doctor Glover received his training at the Georgetown University Medical School and served his internship at the Home for Incurables in this city.

ARKANSAS PEOPLE VISIT DEPARTMENT.

Members of the Arkansas Traveling Exposition were scheduled to spend the forenoon today viewing a few of the department's motion pictures and making an inspection of work at Arlington farm. This delegation consists of Congressmen, county judges, numerous other officials, and representatives of business interests. The main object of the trip is to bring to the attention of eastern and southern cities some of the resources, products, and industrial opportunities of that State. According to preliminary plans most of the forenoon was to be given to an inspection of the road experiments being conducted by the Bureau of Public Roads at Arlington. Hurried inspection was to be made of the turf garden, supervised by the Bureau of Plant Industry.

From Our Readers

TO THE EDITOR: Our aim should be to make official letters high-grade business letters, representing the department.

By studying the every day business letters of progressive firms we may discover their life-giving qualities; and it will usually be found that they depend upon an appeal to fundamental human motives, rather than a flowery presentation of the subject, for their power. They connect with the reader's life.

The proposition in the letter is of such importance that it deserves careful planning. The writer should have a thorough knowledge of the subject under consideration, taking time to familiarize himself on any point which is not already clear in his mind. Poor letters necessitate more letters on the same subject.

The presentation should be clear, concise, and complete. The subject should be covered in such a manner that the proposition will stand out so forcibly that the reader will have no difficulty in understanding it. In order to make it entirely clear we should put ourselves in the reader's shoes and see the proposition through his eyes, furnishing information which will be helpful to him. He may not be very much interested in us, nor a discussion of our business, but he is interested in himself. He is eagerly seeking information or advice that will help him. A letter is what the reader finds it to be.

Back of each letter should be a knowledge of the subject and a plan. In the letter a spirit of helpful service should be manifested. Beyond the letter should be sought the good will of the reader, or a favorable reaction to the writer's words. The impulse he receives and his reaction to that impulse back to the writer completes the circuit.

"The reader be served" may well be the motto of official correspondence.—D. D. C.

TO THE EDITOR: This letter may not have much more value than to show that opinions may differ on all points. I note in THE OFFICIAL RECORD of November 7 that correspondents suggest that the list of experiment station publications and the recent accessions to the department library might well be omitted from THE RECORD. I would like to say that I find these the most valuable parts of the publication.—W. L. McA.

The National Association of Commissioners and Secretaries of Agriculture will meet at the Raleigh Hotel, Washington, D. C., December 6 and 7.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. Is it true that the astronomer, Herschel, devised a method of predicting the weather from the phases of the moon?

Answer. A table for predicting the weather from the hour of the day at which the moon "changes" is frequently published in almanacs under the name of "Herschel's weather table." This table has no scientific basis whatever. It appears to have been published for the first time in the European Magazine about 1803 under the title "Herschel," implying that the celebrated astronomer, Sir William Herschel, was responsible for it, although this was not actually stated. The table was soon reprinted in other publications and was thus brought to the attention of the astronomer in question, who issued a public statement to the effect that he had had nothing to do with its composition. Unfortunately, in spite of these denials many almanacs of the "medical" variety continued to publish the table and to attach Herschel's name to it.

Question. Is the reindeer a native of Alaska?

Answer. No. Reindeer, the domesticated Siberian caribou, were first introduced into Alaska in 1892, and fostered by the Bureau of Education. There are now thriving herds aggregating about 200,000 head.

Question. How does this country rate in the consumption of wood and wood products?

Answer. The United States uses nearly half the lumber in the world, more than half the paper made from wood, and about two-fifths of the wood in all forms.

Question. How should one proceed to secure sodatol, an explosive that the department is distributing for road work and land clearing?

Answer. Sodatol for road work is furnished by the department only to the State highway organizations for use on public roads. It is never furnished to individuals for road work. For stump and rock blasting, sodatol is furnished to the farmer for use on his own farm through the State agricultural college or through some farmers' organization. The department endeavors to secure the cooperation of the extension service of each State to accept orders from individuals and to distribute carload shipments when received. In some States the extension service has not found it

feasible to take up the work, and unless some other organization within the State has been found there is at present no means of supplying residents of those States. In case some organization other than the extension service handles sodatol, the extension service is advised of the identity of that organization. To secure information as to the distribution of sodatol, inquiry should therefore be made of the extension service.

Question. What are the small flies commonly found flying around and breeding in decaying fruit?

Answer. The small flies commonly breeding in decaying fruit are the so-called pomace flies. While they are at times sufficiently abundant to be a considerable nuisance, they are otherwise of no economic importance. Fruit juices, such as sweet cider, should be protected from infestation by the flies, and decaying fruit around packing houses should be promptly disposed of.

EXTENSION WORK HELPS SOUTH AFRICA.

Some months ago the department of agriculture of the Union of South Africa requested information and printed material from the Department and State extension services regarding extension work carried on in this country with farm boys and girls for the use of the school of agriculture and experiment station at Potchefstroom. A letter acknowledging receipt of the material has just come to hand from Jacq. I. F. Sell-schop, officer in charge of maize growing competition, in which he says:

"Even at this stage we find that the juniors surpass their elders both in production and quality of exhibits. It has at times been hard for the officials of the Department of Agriculture to influence farmers to adopt better methods but since the lads are profiting by such instructions the older folks realize that it is time for them to take notice, too. It is difficult for many of them to understand why a lad of 16 can harvest 4,900 pounds of grain from an acre against their 600 to 800 pounds from the same area. I can assure you that every publication that has reached me will prove to be very helpful now and when work of this nature is taken up more in this country."

DISCUSSES VIRUS-SERUM CONTROL WORK.

At a recent meeting of the St. Louis U. S. D. A. Club Dr. J. W. Joss, inspector in charge, virus-serum control, Bureau of Animal Industry, discussed the enforcement of the virus-serum toxin

act. To illustrate this talk an exhibit of samples of products produced under department supervision, parts of equipment used, and pictures of establishments, was presented. The division of virus-serum control during the past fiscal year supervised operations in 94 licensed establishments which produced 77 distinct classes of biological products. Among these products are blackleg ag-gressin and filtrate for the prevention of blackleg; anthrax vaccine and anti-anthrax serum for the prevention of anthrax; rabies vaccine for the prevention of rabies, and anti-hog-cholera serum for the prevention of hog cholera.

During the last fiscal year 856,358,652 cubic centimeters of anti-hog-cholera serum were produced by licensed establishments; of this quantity practically one-seventh was clarified serum. Allowing 40 cubic centimeters of serum for the treatment of each hog, the total amount produced during the year would treat 21,000,000 animals, or approximately one-third of the hogs estimated to have been on the farms of the country on January 1, 1923.

Inspectors of the division supervised 11,353 tests to determine the purity and potency of anti-hog-cholera serum and 3,395 tests of hog-cholera virus to determine its purity and virulence. They also inspected and admitted to licensed establishments 442,876 hogs and 1,504 calves and rejected 25,989 hogs at various times on account of conditions which made them unsuitable for use in the production and testing of anti-hog-cholera serum and hog-cholera virus.

The effect of this work has insured merit and purity of biological products for the prevention of animal diseases and thus safeguarded the livestock industry of the country.

MINERAL WELLS INSPECTED.

Annual inspection of the mineral wells and springs in Kentucky, Tennessee, Mississippi, Texas, Arkansas, and Missouri that ship water into interstate commerce has just been completed by the Bureau of Chemistry, over 100 commercial wells being visited by a member of the water and beverage laboratory. A State official from each State visited usually accompanied him. Samples from source were collected and analyzed and, when found to be not in compliance with the Department's standard for sanitary quality of waters, interstate shipments were reported to the inspection district to which shipped. Improvement in the sanitary conditions about the wells and springs and in methods of bottling the water shipped into interstate commerce was noted in various places.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

SURVEYS BRING OUT SOIL FACTS.

One of the notable achievements of the department is the accumulation during the last quarter of a century of a vast store of facts concerning our soil resources—the number of different soils, their location, distribution, and extent, their origin, and their physical characteristics in both surface and subsoil. The soil survey—the process of locating and mapping the various kinds of soils, usually by counties—is a project instituted by the Bureau of Soils toward the close of the nineteenth century and still being conducted in a systematic and orderly manner with the ultimate object of mapping the entire tillable land of the United States. To date more than one-third of the continental United States has been surveyed and mapped. There are in some of the Western States large areas of mountain lands and of deserts for which there will likely be no need of soil surveys. The completed work covers most of the area now in cultivation and is the source of much valuable information, both for direct use by the farmer and as a foundation for further research and experimental work by experiment stations for the furtherance of our agriculture.

While the most obvious use to which this information can be put is that of direct use by the farmer in organizing his farming operations in accordance with the best adaptation of his soils, there are many other less obvious but none the less important uses for this information.

The soil survey is both scientific and practical in its scope. It is fundamental in character, and its value in this respect is clearly recognized, as is shown by the increasing demand for soil survey reports from investigators working in almost every field of scientific agriculture. The introduction of agricultural instruction in the common schools and the extension of agricultural schools has also created a demand for information as to soils and their relation to agricultural conditions in different parts of the country.

Prominent among the demands for soil surveys, in addition to those coming from the cooperating States, are those coming from development companies interested in opening up large tracts of cut-over land to settlement, from the homeseeker or farmer looking for a new location,

from road engineers, land banks, and large loan companies.

The soil-survey work is the basis for the experimentation of the various State agricultural experiment stations. As a result of the classification of soils, varietal and fertilizer tests are being established on the large and important soil types in many of the States. That the soil type possesses individual characteristics is becoming more and more recognized by the agriculturist, county farm-advisor, and extension-service director. The peculiarities of the various soils must be recognized if we are to make the greatest progress in plant breeding and selection, in fertilizer practice, in cultivation—in fact, in all work looking to improvement of cultivated crops.

Besides cooperating with the States in a purely experimental way, the department has cooperated with the War Department in determining the value of land taken for camp sites, with the Office of Indian Affairs, the Reclamation Service, the Department of Justice, the Bureau of Standards, and with the Post Office Department in the prosecution of land-fraud cases.

WITH EXTENSION FORCES**LOCAL LEADERS COVER BROAD AREA.**

Local leadership has been found by the home demonstration agent of Spokane County, Wash., Inez J. Arnquist, a very efficient means of carrying extension work to all parts of her county. Early in 1922 a program of work for the year was made up and project leaders selected through community meetings. Twenty-seven out of a total of 30 communities adopted programs. Following the community meetings, the leaders of each project met and worked out methods of carrying on the programs.

It was decided that in each community where a nutrition demonstration would be held a committee should work with Miss Arnquist on the problem of securing scales, of providing a mid-morning and mid-afternoon lunch, and also of providing a hot dish at noon for the underweight children. Committees were able to work out these problems in three communities while schools were still in session. In these communities the local leaders, with the help of other women of the community, conducted the classes and weighed and measured, first, the whole school, and then, weekly, the members of the class. Miss Arnquist kept in close touch with the leaders and also met the groups on an average of twice during the demonstration. Other communities have secured scales and are planning to start

work. About 800 children have been reached in the demonstrations.

Taking up the clothing project, Miss Arnquist held a series of three one-day training classes for local leaders, one in garment finishes in March, one in decorative stitches in April, and a third in the making of handmade trimmings, later. Visits with the classes to stores to observe the application of the principles learned were a part of the training.

Fourteen women from seven communities studied different garment finishes and passed on the instructions to an average of 20 women each. Thirty-six women from 11 communities took work in basic decorative stitches. Each of these local leaders taught, on an average, 20 other women. The class in handmade trimmings was attended by 40 women from 11 communities. Each of the 11 groups passed on the instructions to an average of 16 other women.

A dress form "clean-up" was planned by the clothing leaders in an attempt to complete that phase as a major project, as work had been in progress on it for about three years. A goal of 1,000 forms was set for the county.

Eight fall and four spring millinery classes were held under a paid instructor and three women who showed the greatest talent and leadership ability were selected from each group to serve as local leaders. Six groups of these women were given two days' special training to prepare them for helping other women in their communities. In September the millinery specialist from the State extension service gave two days' training to 25 leaders from 13 communities.

Local leaders also worked out plans for their communities in conducting circles for testing labor-saving equipment for the home.

This year the county has been divided into four districts and training classes for leaders conducted in one center in each district, thus reducing the distances to be traveled and the expense for leaders securing their training.

Miss Arnquist estimates that over 2,000 families were reached by home demonstration work last year, a little less than 50 per cent of the number of farms in the county; over 4,000 demonstrations were carried on by women of the county. In each line of work there is a notable increase in the number it has been possible to reach. Interest and approval of the work is indicated by the many new communities asking for assistance this year.

Although hunting ducks from an airplane is in violation of the treaty act and regulations, Biological Survey reports that this method of hunting wild fowl still continues to some extent.

BRIEF REVIEWS OF NEW BULLETINS.

United States Grades for Rough Rice. Recommended by the United States Department of Agriculture. Effective August 1, 1923. By H. J. Besley, in charge grain division, E. G. Boerner, in charge grain investigations, and W. D. Smith, in charge rice investigations, Bureau of Agricultural Economics. Pp. 10. October, 1923. (Department Circular 290.) Price, 5 cents.

United States Grades for Milled Rice. Recommended by the United States Department of Agriculture. Effective August 1, 1923. By H. J. Besley, in charge grain division, E. G. Boerner, in charge grain investigations, and W. D. Smith, in charge rice investigations, Bureau of Agricultural Economics. Pp. 17. October, 1923. (Department Circular 291.) Price, 5 cents.

Extensive research relating to the various phases of the rice industry, including production and milling, the general quality of the average rice crop, milling quality, and trade practices and requirements, has resulted in the preparation by the department of grades for rough rice and revised grades for milled rice. The classification in the grades for rough rice is based on the length of the whole kernels, as is also the case in connection with the head rice classes in the grades for milled rice. It is believed that the grades will provide a basis for uniform grading and will facilitate rice marketing.

Root-Knot: Its Cause and Control.—By G. H. Godfrey, pathologist, office of cotton, truck, and forage crop disease investigations, Bureau of Plant Industry. Pp. 27, figs. 26. October, 1923.

Root-knot is the cause of serious damage to many crops—to what extent it is difficult to estimate, since it is both direct and indirect and in many cases is overlooked entirely. The direct damage is that caused to the growing crops. The indirect damage results from the fact that the presence of the disease makes it impracticable to grow certain crops which are particularly susceptible to injury. Control methods suggested vary under different conditions. Some crops are resistant to the disease and these may be used on infested soil. The disease may be eliminated in greenhouses and seedbeds by the application of steam under high pressure or by the introduction of uninfested soil. The home vegetable garden can become productive again by a special grain and chicken-garden rotation.

The Occurrence of Diseases of Adult Bees, II.—By E. F. Phillips, apiculturist, Bureau of Entomology. Pp. 34, November, 1923. (Department Circular 287.) Price, 5 cents.

There is considerable demand on the part of beekeepers for correct information as to the recently approved regulations for the importation of adult honeybees into the United States. This publication contains a copy of these regulations and also a very complete description of the nature and distribution of the Isle of Wight disease, against which the prohibitory measures are chiefly directed. Up to the present time, this disease, although widespread in Europe, has not been introduced in this country, and it is hoped that it may be permanently kept out. In Great Britain, France, and Switzerland especially, the Isle of Wight disease has caused severe losses in bee colonies. The Dominion of Canada is the only country from which bees may be imported into the United States. The publication cites a long list of articles in foreign and American periodicals on bee diseases, with particular attention to the Isle of Wight disease.

Beef-Cattle Barns. By E. W. Sheets, senior animal husbandman, animal husbandry division, Bureau of Animal Industry, and M. A. R. Kelley, barn architect, division of agricultural engineering, Bureau of Public Roads. Pp. 17, figs. 10. September, 1923. (Farmers' Bulletin 1350.)

This bulletin contains suggestions of value regarding the right types of barns for various conditions, the location, arrangement, ventilation, and construction. Several plans and alternate plans are given for general-purpose barns, feeding barns, sheds, and barns for housing breeding herds. Consideration is given to the requirements in severe climates and in regions where less protection is needed from the elements. There are 16 drawings showing elevations, floor plans, and cross sections. Emphasis is placed on the desirability for economizing as much as possible whenever added cost will increase the overhead with little advantage in convenience, durability, or comfort of the animals.

Local Names of Migratory Game Birds.—By W. L. McAtee, assistant in charge, food habits research, Bureau of Biological Survey. Pp. 95, figs. 52. October, 1923. (Miscellaneous Circular 13.) Price, 20 cents.

There has been great need on the part of sportsmen, naturalists, wardens, and others interested in the identification of migratory game birds, and particularly in the ordinary business of the Biological Survey, for an authoritative compilation of the vernacular names used in different part of the country. This circular, which treats about 4,000 names, and tells where they are known to be used, will aid in answering inquiries of various correspondents, in court trials connected with the administration of the migratory bird treaty act, and in many other ways. The names are conveniently indexed by States for each kind of bird, and in alphabetical form. The author states that any information as to names not included in the glossary and as to additional localities where included names are used will be appreciated.

ADDITIONAL PUBLICATIONS.

Natural and Artificial Incubation of Hens' Eggs.—By Alfred R. Lee, poultryman, animal husbandry division, Bureau of Animal Industry. Pp. 18, figs. 5. October, 1923. (Farmers' Bulletin 1363.) This bulletin is a revision of and supersedes Farmers' Bulletin 585 of the same title.

The Sweet Potato in Hawaii.—By H. L. Chung, specialist in tropical agronomy. Pp. 20, pls. 2. October, 1923. (Hawaii Agricultural Experiment Station Bulletin 50.)

CIVIL SERVICE ANNOUNCEMENTS.

Animal husbandman (qualified in wool investigations), \$3,600—\$5,000.—Vacancies in the department, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Competitors will be rated on education, training, experience, and writings (thesis or publication, to be filed with application). Appointees will be engaged in active work in chemical investigations of wool as related to genetics and nutrition and the writing of bulletins of these investigations. Applicants must have graduated from a college or university of recognized standing and have had at least six years of progressive experience in the making of studies and investigations of wool production. If interested, apply for

Form 2118. Receipt of applications closes December 18.

Extension animal husbandman, \$3,600—\$4,500.—Vacancies in the department, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Competitors will be rated on education, training, experience, and writings (thesis or publication, to be filed with application). The duties will be to aid State extension agents in methods of organizing and developing extension work in animal husbandry and to act as liaison officer between the department and the State extension forces in matters relating to extension work in animal husbandry. Applicants must have graduated with a degree or major in animal-husbandry subjects from a college or university of recognized standing and have had at least six years' progressively responsible experience in animal-husbandry extension work. If interested, apply for Form 2118. Receipt of applications closes December 18.

Associate animal husbandman (qualified in animal genetics), \$3,000—\$3,600.—Vacancies in the department, Washington, D. C., and in positions requiring similar qualifications, will be filled from this examination. Competitors will be rated on education, training, experience, and writings (thesis or publication, to be filed with application). The duties of appointees will be to plan and conduct the genetic side of experiments with livestock and poultry and genetic studies of livestock data under the general supervision of the head of the genetics section. Applicants must have graduated from a college or university of recognized standing and have had at least three years' experience in animal husbandry, two years of which must have been in genetic research. If interested, apply for Form 2118. Receipt of applications closes December 18.

Assistant agronomist, \$2,040—\$2,500.—Vacancies in the Bureau of Plant Industry will be filled from this examination. The duties of appointees will be to plan and carry on experimental work with flax and other fiber-producing plants, particularly in practical plant breeding and genetic studies; to conduct research in the preparation of bast fibers; and to perform such administrative work as may be necessary in connection with field experiments. Applicants must have graduated from a college or university of recognized standing, with major work in botany and agronomy. In addition, applicants must have completed at least two years of post-graduate work in botany and agronomy. If interested, apply for Form 2118. Receipt of applications closes December 18.

F. H. Rogers, assistant district commissioner for the British Government at Uganda, British East Africa, who has been touring the United States and Canada, visited the office of plant physiological and fermentation investigations the week of November 3 to 10. Mr. Rogers has been stationed in Uganda for the past 10 years, where he is interested in general administration work, road building, the development of cotton growing, and general agricultural production. Mr. Rogers and Dr. H. L. Shantz, of the Bureau of Plant Industry, spent some time together in Uganda in 1920 and made the trip from Uganda to Cairo.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- The Americas. By James Bruce. London, G. Bell & sons, Ltd., 1922.
- Amphibia of the Indo-Australian archipelago. By P. N. van Kampen. Leiden, E. J. Brill, 1923.
- Bibliography of British ornithology from the earliest times. Supplement. By H. K. Swann. London, Wheldon & Wesley, Ltd., 1923.
- Biology of man and other organisms. By H. R. Linville. New York, Harcourt, Brace and co., 1923.
- Birds of Cuba. By Thomas Barbour. Cambridge, Mass., Nuttall ornithological club, 1923 (Memoirs of the Nuttall ornithological club, no. 6).
- British deer heads. By H. F. Wallace. London, "Country life" [1914].
- Charts and graphs. By K. G. Karsten. New York, Prentice-Hall, Inc., 1923.
- Consumers' co-operative societies. By Charles Gide. New York, A. A. Knopf, 1922.
- Delphiniums. By A. J. Macself. London, "Country life," Ltd., 1923.
- Elementary text-book of Australian forest botany. v. 1. By C. T. White. Sydney J. Spence, 1922.
- Enumeration of Philippine flowering plants, v. 1, fasc. 1-2; v. 2. By E. D. Merrill. Manila, 1922-23. (Philippine Islands. Bureau of science. Publication no. 18).
- Das estnische pferd. Von Gustav Grünwald. Dorpat, C. Mattiesen, 1920.
- Forest insects of Australia. By W. W. Froggatt. Sydney, Forest commissioners of New South Wales, 1923.
- Le forme elementari della composizione dei vegetali, pel G. E. Anastasia. 2 pte. Le Primulaceae e le Violae Scafati, Italy. R. Istituto sperimentale per le coltivazione del tabacco. Scafati, 1921-22.
- General botany. By E. N. Transeau. Yonkers-on-Hudson, New York, World book co., 1923.
- General chemistry. By H. G. Deming. New York, J. Wiley & sons, inc., 1923.
- Geography of Illinois. By W. O. Blanchard. New York, Macmillan co., 1923.
- Die getreideproduktion österreich-ungarns im hinblick auf kreig und volksernährung. Von Franz Schindler. Wien, F. Deuticke, 1916.
- Grundzüge der chemischen pflanzenunter-suchung. 2. aufl. Von Leopold Rosenthaler. Berlin, J. Springer, 1923.
- Handboek voor de rubbercultuur in Nederland-sch-Indië. Amsterdam, J. H. de Bussy, 1921.
- Human side of Fabre. By P. F. Bicknell. New York, Century co., 1923.
- International labour organization. Advisory committee on anthrax. Report. Geneva, 1923.
- La lavande française. Par Charles Mourre. Paris, Gauthier-Villars et cie, 1923.
- Life of Jean Henri Fabre. By Augustin Fabre. Tr. by Bernard Miall. New York, Dodd, Mead and co., 1923.
- Mechanism and physiology of sex determination. By Richard Goldschmidt. Tr. by W. J. Dakin. London, Methuen & co., Ltd., 1923.
- Movable and long-span steel bridges. Ed. by G. A. Hool. New York, McGraw-Hill book co., inc., 1923.
- Natural history of South Africa. Birds. By F. W. Fitzsimons. London, Longmans, Green and co., 1923.
- Die nord- und ostseehäfen im deutschen aussenhandel. Von Alfred Rühl. Berlin, 1920. (Veröffentlichungen des Instituts für meereskunde an der Universität Berlin. n. f. B. hft. 3)
- Observations on milling. By E. S. Miller. Chicago, National miller, 1923.
- Peonies in the little garden. By Mrs. Edward Harding. Boston, Atlantic monthly press, 1923.
- Die physikalischen eigenschaften des bodens. 2. aufl. Von Josef Kopecký. Wien, Verlag für fachliteratur, 1914.
- Principes de biologie végétale. Par Bernard Noël. Paris, F. Alcan, 1921.
- Relatório sobre a irrigação do vale do baixo Limpopo com o projecto preliminar. Por J. A. Balfour. Lourenço Marques, Impr. nacional, 1921.
- Relatórios sobre irrigação nos vales do Incomati, Maputo e Umbeluzi. Por J. A. Balfour. Lourenço Marques, Impr. nacional, 1922.
- Silurian. Maryland geological survey. Baltimore, 1923.
- Social life among the insects. By W. M. Wheeler. New York, Harcourt, Brace and co., 1923.

Technik und methodik der bakteriologie und serologie. Von Martin Klimmer. Berlin, J. Springer, 1923.

Towns and town-planning, ancient and modern. By T. H. Hughes and E. A. G. Lamborn. Oxford, Clarendon press, 1923.

OLD BOOKS.

- Address on the subject of underdraining wet and cold land, by a plough invented by Robert Green. London, 1832.
- L'agriculture, et maison rustique, de Mm. Charles Estienne, et Jean Liebault. Paris, 1602.
- Annales agricoles de Roville. Par C. J. A. Mathieu de Dombasle. Paris, 1824-61.
- Dissertation on smut-balls amongst wheat and other grain. By Roger Treffry. Plymouth, 1793.
- High farming, under liberal covenants, the best substitute for protection. 7th ed. By James Caird. Edinburgh, 1850.
- L'histoire de la nature des oyseaux. Par Pierre Belon. Paris, 1555.
- Monograph of the Paradisicæ, or birds of paradise. By D. G. Elliot. London, 1873.
- Notice des arbres et arbustes. Par J. J. Jugl de Saint Martin. Limoges, 1790.
- Observations on such nutritive vegetables as may be substituted in the place of ordinary food, in times of scarcity. By A. A. Parmentier. London, 1783.
- Six months tour through the north of England. By Arthur Young. London, 1771.
- Treatise on the art of bread-making. By A. Edlin. London, 1805.

CURRENT PERIODICALS.

- Esnea; periodico dedicado a la industria lechera [weekly] Buenos Aires, 1922.
- Farm economics [monthly] Cornell university. College of agriculture. Dept. of agricultural economics and farm management. Ithaca, N. Y., 1923.
- Ice cream and soda fountain journal [monthly] London, 1923.
- Manufacturing confectioner [monthly] Chicago, 1923.
- Poultry and egg bulletin [monthly] Anadarko, Okla., 1922.
- Rivista illustrata di avicoltura [monthly] Portici, 1923.
- Russian review [semimonthly] Washington, D. C., 1923.
- Spinner and weaver; hilador y tejedor; spinner and weaver. Export-ausgabe [quarterly] Leipzig, 1923.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of November 5-10, 1923. These publications can be obtained only from the stations issuing them:

- Production of improved hardy strawberries for Alaska. C. C. Georgeson. (Alaska Sta. Bul. 4, pp. [2]+13, pls. 10. Oct. 1923.)
- Report of the Connecticut Agricultural Experiment Station, New Haven, Conn., on food products and drugs, 1922. Part II. E. M. Bailey. (Connecticut State Sta. Bul. 248, pp. 383-443. Mar., 1923.)
- Report on commercial feeding stuffs, 1922. E. M. Bailey. (Connecticut State Sta. Bul. 249, pp. 445-475. Apr., 1923.)
- Poultry-breeding records. W. A. Lippincott. (Kansas Sta. Circ. 99, pp. 34, figs. 25. Oct., 1923.)
- Moisture relations of peach buds during winter and spring. E. S. Johnston. (Maryland Sta. Bul. 253, pp. 57-88, figs. 9. June, 1923.)
- Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and H. H. Shepard. (Massachusetts Sta. Met. Bul. 418, pp. 4. Oct., 1923.)
- Soils of Sheridan County.—Preliminary report. I. F. Gieseker. (Montana Sta. Bul. 158, pp. 20, pls. 4. Apr., 1923.)
- Thirty-sixth annual report of the director for the fiscal year ending June 30, 1923. (Pennsylvania Sta. Bul. 181, pp. 28, fig. 1. Sept., 1923.)
- A farm-management study of the Great Salt Lake Valley. G. Stewart. (Utah Sta. Bul. 184, pp. 44, figs. 13. May, 1923.)
- The influence of nitrogen in soil on azo fixation. J. E. Greaves and D. H. Nelson. (Utah Sta. Bul. 185, pp. 23. July, 1923.)
- Irrigation experiments with sugar beets. F. S. Harris and D. W. Pittman. (Utah Sta. Bul. 186, pp. 19, figs. 10. Sept., 1923.)
- Irrigation experiments with potatoes. F. S. Harris and D. W. Pittman. (Utah Sta. Bul. 187, pp. 15, figs. 6. Sept., 1923.)

Articles in Current Publications by Department Workers

- Ashbrook, Frank G. (Biological Survey). Trade names in the fur industry. Journal of Mammalogy, vol. 4, No. 4, pp. 216-220. November, 1923.
- Bailey, Vernon (Biological Survey). Buffalo in Oregon. Journal of Mammalogy, vol. 4, No. 4, pp. 254-255. November, 1923.
- Doolittle, S. P. (Plant Industry). The mosaic disease of cucumbers and melons. Report Iowa State Horticultural Society, vol. 57, pp. 393-396. 1923.
- Gould, H. P. (Plant Industry). The geography of apple growing in America. Report Iowa State Horticultural Society, vol. 57, pp. 102-111. 1923.
- Hall, M. C. (Animal Industry). The relation of life histories to treatment and prophylaxis in parasitism. Vet. Med., v. 18, No. 11, pp. 1005-1007. November, 1923.
- Lincoln, Frederick C. (Biological Survey). The white ibis (*Guara alba*) in California. The Condor, vol. 25, No. 5, p. 181. September, 1923.
- MacDonald, T. H. (Public Roads). Basic principles of highway management and finance. Highway Topics, vol. 1, p. 5. October, 1923.
- Magness, J. R. (Plant Industry). The handling of apples in storage. Report Iowa State Horticultural Society, vol. 57, pp. 209-226. 1923.
- Marsh, C. D. (Animal Industry). Stock poisoning plants of the range. Texas State Jour. of Medicine, v. 19, No. 3, pp. 188-193. July, 1923.
- McKay, J. G. (Public Roads). Two-thirds of truck hauls are less than 30 miles. (Richmond highway meeting.) Automotive Industries, vol. 49, p. 846. October 25, 1923.
- Oberholser, Dr. Harry C. (Biological Survey). The saving of Swan Lake, Minn. Bulletin of the American Game Protective Association, vol. 12, No. 4, pp. 6, 13. October, 1923.
- Scott, L. B. (Plant Industry). Nursery stock investigations. Report Iowa State Horticultural Society, vol. 57, pp. 172-176. 1923.
- Skinner, W. W. (Bureau of Chemistry). Flood law enforcement promotes public health. In J. Am. Inst. Homeopathy, vol. 16, No. 5. November, 1923.
- Taylor, W. P., and Charles T. Vorhies (Biological Survey). Kangaroo rats and scorpion mice on the Santa Rita Reserve, Ariz. Journal of Mammalogy, vol. 4, No. 4, p. 255. November, 1923.
- Wetmore, A. (Biological Survey). List of seabirds collected by Charles Fagan. The Condor, vol. 25, No. 5, pp. 170-171. September, 1923.

SOIL-IMPROVEMENT CONTEST CLOSES.

W. F. Gahn, county agricultural agent of Scioto County, Portsmouth, Ohio, won high honors in the contest just closed for the best soil-improvement method, according to a report reaching the department. County agents winning other honors in the work were E. C. Roth, of Minnesota; R. E. Wilson, of Delaware; C. F. Class, of Ohio; R. E. Gwin, of Kansas; and F. R. Churchill, of Vermont. These men attended the meetings of the American Society of Agronomy in Chicago this week at the expense of the soil improvement committee of the National Fertilizer Association. Judges in the contest were Profs. F. E. Bear, Ohio State University; S. B. Haskell, Massachusetts Agricultural Experiment Station; A. G. McCall, Maryland Agricultural Experiment Station; and M. F. Miller, University of Missouri. The contest was staged to encourage the development of county soil-improvement programs.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., NOVEMBER 28, 1923.

No. 48.

ACCESS TO PACKERS' BOOKS IS DEMANDED

Secretary Maintains Law Gives Authority to Go Over Their Books.

Secretary Wallace has made a demand upon the Swift, Wilson, and Cudahy Packing Companies for full access to their accounts, records, memoranda, and documentary evidence. The demand is that the auditors of the Packers and Stockyards Administration shall have access to and the right to examine and copy books and accounts, records, memoranda, and documentary evidence which relate to the organization, business conduct, practices, management, relations to other corporations, individuals, partnerships, and associations, transactions involved in the conduct of the business and the true ownership of such business, the purpose being to—

(1) Determine the extent to which these concerns are engaged in the buying of livestock in commerce, the manufacturing and preparing of meats or livestock products, including dairy products, poultry, poultry products, and eggs.

(2) Information concerning the ownership of the business.

(3) To determine whether said accounts, records, and memoranda fully and correctly disclose all transactions involved.

(4) To examine and verify the information contained in the balance sheets, profit and loss statements, published from time to time.

(5) To determine the extent to which the business is interstate or intrastate or intermingled.

(6) To secure information with respect to the various plants, branches, agencies, and offices and the character of business carried on.

(7) To determine the accounting methods and practices by which the records are kept.

The notice closes with the statement that failure to comply is subject to the penalties prescribed in the packers and stockyards act.

Have Right, Says Secretary.

This action comes at the end of a considerable period of negotiations which finally resulted in the packers refusing to give the accountants of the Department of Agriculture full access to their books. Concerning this, Secretary Wallace said to-day:

"For some months we have been conferring with the packers on this subject. It is my opinion we have full right under the law to secure the information desired through examination by our auditors. The packers seem to feel that such examination goes further than the law permits and that it is a violation of their rights. I continued negotiations with them for some time in the hope that we might come to an agreement which I considered very desirable. It would be very much easier for our auditors to make the examination with the consent and cooperation of the packers, because they could secure information in very much less time with such cooperation. The delay has not meant important loss of time, as our auditors have been busily engaged, first, in helping to prepare testimony to be used in connection with the Armour-Morris merger, and, second, in examining the Armour-Morris books in connection with the merger proceedings. Now that their work in this respect has mostly been completed, we are anxious to take up the examination of the books of the three other big packers at the earliest date possible."

RELEASE DATES FOR ANNUAL REPORTS.

Dates of release for the annual report of the Secretary and of the different bureaus and offices have just been announced. Secretary Wallace's report will be released for morning papers of Monday, December 10. Other reports will be released starting with December 11 and running to December 22. Other dates will be found on page 7 of this issue.

EXHIBIT AT CHICAGO SHOW TO BE COMPLETE

Will Have a Wide Range of Interest and Educational Value to Visitors.

December 1 will mark the opening of the International Live Stock Exposition to be held at the Union Stockyards, in Chicago, for one week. The management has invited the department to participate again this year, and has allotted to it one-half of the first floor of the hay and grain building. In accordance with its previous custom, the department will present an exhibit dealing with livestock and related subjects.

Tells Story of Livestock Farming.

In addition to the pens of live animals exhibited, the display will consist of refrigerated show cases showing wholesale and retail cuts of meat, motion pictures, and pictorial booths introducing novel ways of showing educational material. The exhibit has been designed to tell the story of livestock farming. The story starts with the organization of the livestock farm, discusses some of the most important livestock feeds, points out some recommended practices in the growing of the different classes of farm animals, their breeding and feeding, and finally takes the animal through the market to the table of the consumer. Specialists on the various subjects will be on hand to explain the exhibits and answer questions, and descriptive material on each exhibit will be furnished to those interested.

On stated days talks by Secretary Wallace, the assistant secretary, Howard M. Gore, and a number of chiefs of bureaus of the department, will be received by radio.

New Film to Be Released.

The department's new motion picture on beef production, entitled "Sir Loin of T-Bone Ranch," will be officially re-

leased this year at the exposition and will be given regular showings at one end of the room containing the department's exhibit. This film tells in a fascinating way the connection between up-to-date methods of feeding and breeding of beef animals and a choice piece of beef. It takes its audience from the ranch which produces the feeder steer, through the feedlot where the steer is fattened, to the packer's cooler where the finished carcass appears. It emphasizes that a fore-quarter cut from a choice animal is more desirable and likely to be more toothsome than a more expensive cut from an inferior animal.

The exhibit of the department last year and the year before proved one of the attractive features of the exposition, and it is believed by the officials of the department who have planned this year's exhibit that it has even a wider range of interest and educational value.

A. SCRUB BULL IS CONVICTED.

In a special "court" convened in Howard County, Md., the last of October, A. S. Bull, known better as "Scrub," was found guilty of robbing hard-working farmers and their families and was sentenced to be barbecued immediately. County Agricultural Agent M. H. Fairbank, who acted as prosecuting attorney, found that the accused had been depriving the people of this farming community of many luxuries and even some of the necessities, taking the butter from their bread and cream from the milk.

"Scrub" was well represented by counsel appointed by the "court," but no argument could prevail against the overwhelming evidence presented by the prosecution and the damaging testimony of a large number of farmer witnesses who had been robbed and had seen their neighbors robbed in the same manner by this old offender.

The jury was unanimous for conviction, and J. R. Dawson, of the Dairy Division, delivered the funeral oration. The trial was followed by a sale of purebred bulls.

The St. Louis U. S. D. A. Club was honored at its November luncheon by having Senator Seldon P. Spencer, Congressman Harry B. Hawes, and Mr. Glass, editor of the St. Louis Star, as its guests. These gentlemen all expressed surprise at the scope of the work and the representation of the department in St. Louis, Mo., and adjacent territory. Mr. Glass stated that the public should know more of the good work of the department and that he would be glad to do all he could by printing articles of interest concerning our work.

Report Department Films Seen Annually by Millions

The known audience that saw department motion pictures in the last fiscal year numbered 4,460,000, and the probable audience was twice that number. These figures are based on reports received by the office of motion pictures from film users.

The audience is constantly growing, according to the requests for films, and according to other evidences that reach the motion-picture office. Probably the most convincing evidence is the fact that more county agents and other extension workers are steadily becoming equipped with projection machines. In most cases the machines are furnished by local farmers' organizations or commercial organizations interested in agricultural development.

One of the new fields in which the department's films are being regularly used is the system of visual instruction classes in the District of Columbia public schools. These classes are conducted by the school officials in cooperation with a chain of commercial theaters. Department films are being used almost exclusively, and there seems little doubt that the school children of the Capital are better informed than ever before in regard to the agricultural resources and problems of this country.

Another new use for the pictures is in teaching the English language and American citizenship to adult foreigners, members of the Americanization classes of the Washington public schools. Department films are being used for this purpose, also, almost exclusively. The teachers in charge of the classes sought the films that would make the widest appeal, and their report states:

"The Department of Agriculture, that great human department of the Government which is so near to the primal wants of man, answered this need. Our group of students come from the four quarters of the globe, but farming and food are universal."

The report gives specific mention to the value of the department's films for this purpose. It is stated that "English, civics, geography, agricultural and industrial problems have all been taught through their use. The clear simple titles which definitely describe the pictures are specially valuable."

RADIO WORK SHOWN AT INTERNATIONAL.

A series of radio talks prepared by department people will be broadcast from stations in Chicago in connection with the department's part of the pro-

gram at the International Livestock Exposition, December 1-8. These talks will cover a wide range of subjects of interest to visitors at the exposition and will deal with practical work carried on by the department. The talks will be received in the room allotted to the department exhibit, in which will be included a special division devoted to radio. The primary purpose is to show the distribution given to weather, crop, and market reports, and agricultural news distributed by radio by the department. A number of loud speakers will be rigged up and used to receive the talks and weather and market reports and broadcast them to the visitors within hearing at the show.

A talk by Secretary Wallace will open the program and will be followed by speeches by Assistant Secretary Gore, the directors of departmental work, and the various bureau chiefs at the rate of two a day. The program is being staged in cooperation with the Chicago Daily Drivers' Journal and the Drake Hotel, who are putting their broadcasting stations at the disposal of the department for this work. A number of commercial radio equipment companies also are cooperating with the department by supplying loud speakers and other equipment for receiving the talks.

AREA TESTING DEVELOPS RAPIDLY.

Testing cattle for tuberculosis under the area plan—that is testing all the cattle at once in a county or other area—is proving very popular in many parts of the country. One reason is that a county freed of this disease is a center to which cattle buyers are attracted; another is that large numbers of cattle can be tested at a lower cost than when only a few herds or a single herd are tested.

During the past year nearly 1,800,000 cattle were tested under this plan, and this was more than 50 per cent of all the cattle tested in the United States. A summary of 72 counties reported as having finished testing all of the cattle within their borders shows that the work was done at a cost of approximately 34 cents a head, which included all expenses, exclusive of indemnity.

So far 81 counties have finished testing all of the cattle once, an increase of 50 counties over the preceding year. Seventeen counties—1 in Indiana, 2 in Tennessee, 4 in Michigan, and 10 in North Carolina—have been approved as modified accredited areas, and cattle may now be moved from within their borders when properly identified without a tuberculosis test for a period of three years to such States as will accept this class of cattle.

A DIGEST OF THE NEWS

Brief bits of News Digested From
Material Issued by Department During
the Past Week.

SHIPMENT OF CHINESE EGGS RECEIVED.

A single shipment of Chinese eggs recently received in this country and inspected by the Bureau of Chemistry was estimated to be worth approximately \$5,000,000. The shipment, which came in at the port of New York, consisted of 43,369 cases and 128,262 tins of frozen eggs from Nanking and Hankow, and 16,009 cases of dried eggs exclusive of egg albumen.

WEATHER REPORTED IN CATTLE REGION.

A practical service for livestock owners forms one phase of the work carried on by the Weather Bureau. During a summer season the bureau maintains a service called the "Special cattle-region service," which has headquarters at Amarillo, Tex., with a number of outlying stations giving reports of weather conditions over the cattle ranges of the Southwest.

TURKEYS PLENTIFUL THIS YEAR.

The turkey crop is heavy, particularly in Texas, this year, and turkeys are being raised in many new sections in Northern States, reports the department. The birds have been bringing around 18 to 20 cents to Texas growers, and because of the size of the Texas crop, State agricultural officials there are putting on campaigns for increased local consumption. Supplies in Maryland and Virginia are large. In addition, storage stocks carried over from last year are around 5,000,000 pounds as compared with 2,000,000 pounds last year.

COMMISSION FIRMS FOUND GUILTY.

Three livestock commission firms doing business at the stockyards at South St. Paul, Minn., have been ordered by the secretary to "cease and desist" from violations of the packers and stockyards act, violations which were admitted after the Government had filed complaints. These companies were charged specifically with certain irregularities in accounts of sales rendered to their patrons.

NEW LIGHTS REDUCE BIRD MORTALITY.

Those engaged in bird conservation work in the Biological Survey have been greatly interested in the decrease dur-

ing the last 20 years in bird mortality formerly due to the fixed white lights used in lighthouses. Along the Atlantic coast, in particular, there has been a tendency to replace these fixed lights, which attract large numbers of birds to their destruction, with intermittently flashing lights, which do not seem to have the same disastrous effect. The British Royal Society for the Protection of Birds is providing resting places for birds on the lighthouses about the British Isles which are still of the fixed white-light type.

FOREIGN WHEAT DEMAND IN GERMANY.

The demand for foreign wheat and flour will be greatly increased by Germany if a settlement of the Ruhr controversies can be reached which will increase the buying power of the population in that section, according to advices received from Agricultural Commissioner Squire in Berlin. The Rhine Provinces have always depended on foreign wheat even when the eastern Provinces of Germany were exporting grain.

GERMAN FOOD CONSUMPTION INCREASES.

Although Germany has produced more food this year than she had for consumption last year, she must import additional food. Her production this year is greatest since the war but food consumption since the war has been far below the pre-war standard and consumption this year can not equal the pre-war standard unless a considerable amount is imported. The situation is further complicated by the present chaotic currency condition and high costs of transportation. Farmers are not inclined to market their products freely in exchange for a rapidly depreciating currency.

Regional and State Extension Conferences

Following the plan of previous years, a number of regional and State conferences of extension workers will be held during the winter months to discuss agricultural conditions and problems relating especially to the different localities represented.

Supervising extension workers of the Southern States will meet at Birmingham, Ala., January 8-9, 1924, preceding the annual meeting of the Association of Southern Agricultural Workers in that city, January 10-12, 1924.

Extension workers of the Eastern States will meet at Springfield, Mass., February 19-21, 1924, to discuss farm management demonstration work and home management problems.

Dates have been set for the following State extension conferences, up to the present time:

Arizona, Tucson: January 19-22, 1924.
California, Berkeley: Home demonstration agents' conference, January 2-8; general conference 7-12, 1924.

Colorado, Fort Collins: January 14-19, 1924.

Georgia, Athens: January 21-26, 1924.

Louisiana, Baton Rouge: January 21-26, 1924.

Maine, Orono: January 29-February 1, 1924.

Maryland, College Park: January 15-19, 1924.

Massachusetts, Amherst: December 17-20, 1923.

Michigan, East Lansing: January 31-February 2, 1924.

Mississippi, A. and M. College: December 15-20, 1923.

Missouri, Columbia: December 10-14, 1923.

Montana, Bozeman: January 3-5, 1924.

New Hampshire, Durham: December 3-7, 1923.

New York, Ithaca: December 17-22, 1923.

North Dakota, Agricultural College: January 8-11, 1924.

Oregon, Corvallis: January 21-25, 1924.

Pennsylvania, State College: January 14-20, 1924.

South Carolina, Winthrop College, Rock Hill: Home demonstration agents' conference, January 3-14, 1924.

Tennessee, Knoxville: December 10-15, 1923.

Vermont, Burlington: January 22-25, or January 29-February 1, 1924.

Washington, Pullman: December 13-21, 1923.

West Virginia, Morgantown: January 14-21, 1924.

Wyoming, Laramie: January 10-17, 1924.

A number of State conferences have already been held, and in several other States not mentioned in the above list, the time of meeting has not yet been determined.

CORN SHUCKS PAY SCHOOL EXPENSES.

Corn shucks are helping pay the way of a Montgomery County, Ala., negro girl through Tuskegee Normal and Industrial Institute, according to a report to the United States Department of Agriculture. This 17-year-old girl, Georgia Sharp, has always lived on a remote tenant farm which she and her mother work, doing most of the plowing themselves. Georgia learned from the negro home demonstration agent of the county how to twist corn shucks and weave them into chair bottoms, hand bags, and hats. She attended this summer, through the efforts of the home-demonstration agent, a short course for boys and girls at Tuskegee Institute, riding for the first time on a railway train. Through new twists and weaves of the shucks which she learned in the short course she has been able to secure a number of orders for her work and thus add to her school fund.



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GUARD AGAINST OVERFATIGUE.

A generation or two ago, we are told, a delicate woman was considered quite interesting, and fainting gracefully was an accomplishment to be cultivated. But the woman of to-day can not afford to be delicate; there is too much to interest her, and too much that she wants to be able to do and do well. A healthy body, doing its work without effort, enables one to accomplish and endure and leaves the mind free to develop. Fatigue is physically, intellectually, and morally dangerous; and if we shall realize this and really make up our minds to prevent ourselves from becoming overfatigued and do the things that will rest us, our powers of accomplishment will be increased. A few minutes' rest taken in the midst of work may mean efficiency for the remainder of the day.—Nebraska Agricultural College News Notes.

USE OF YEARBOOKS STRONGLY URGED.

How many bushels of corn were produced in the United States in 1922? What was the average price paid for good beef steers in 1919? or, What was the destination of butter exported from this country for the last three years? are some of the many questions daily asked the Bureau of Agricultural Economics. Many of the questioners are members of the department staff who, apparently, do not know that the answers to the above and many other questions may be found in the Yearbooks of the department.

The Yearbooks for 1921 and 1922, together with the forthcoming issue for 1923, give a very comprehensive view of the economic situation, and form a very complete source of statistics. The Yearbook for 1921 presents in a somewhat detailed way the economic situation with respect to four of our principal agricultural products—wheat, corn, beef, and cotton. If your work deals with but one of the commodities, you may be interested in having the Yearbook separate dealing with that commodity. The following are the separates from the 1921 Yearbook: No. 869, Statistics of Crops

other than Grain Crops; 872, The Corn Crop; 873, Wheat Production and Marketing; 874, Our Beef Supply; 876, Cost Data for Farm Products; 877, The Cotton Situation; 878, A Graphic Summary of American Agriculture.

Separates from the 1922 Yearbook are entitled: 880, Imports and Exports of Agricultural Products; 881, Statistics of Grain Crops; 882, Hog Production and Marketing; 884, Statistics of Crops other than Grain Crops; 885, History and Status of Tobacco Culture; 887, Miscellaneous Agricultural Statistics; 888, Livestock; 890, Farm Operations; and 891, Oats, Barley, Rye, Rice, Grain Sorghums, Seed Flax, and Buckwheat.

CROW NOT SO BLACK AS PAINTED.

Recent articles in sportsmen's periodicals and newspapers based on information gathered on the coastal islands of Virginia have condemned crows because of their destructiveness to other bird life and are making a profound impression in many quarters. The Biological Survey points out that the birds to blame for most of the vandalism on the Virginia islands is the fish crow, a species quite different in habits from the common crow. This difference is frequently lost sight of in the articles referred to, and the whole race of crows is condemned by the evidence obtained against the maritime species.

The Biological Survey takes the attitude that on game farms and on reservations where both time and money are spent to maintain bird life in more than normal numbers, control of certain injurious species, including the crow, is warranted and even necessary. On the other hand, a careful study of the economic status of the crow has demonstrated that over much of its range the bird probably does as much good as harm, and under some conditions its usefulness is pronounced.

DEPARTMENT BOASTS HISTORICAL TREE.

There has been considerable misunderstanding and confusion relative to the introduction and dissemination of the Washington navel orange in this country. In order to correct any false impressions, especially concerning the old tree of that variety now growing in one of the department greenhouses, the following facts are given:

About 1870, 10 or 12 small plants of the navel orange, afterwards named the Washington navel, were received from Bahia, Brazil, by the late William Saunders, then superintendent of the gardens and grounds of the department.

What became of these imported trees is not definitely known, but from Mr. Saunders's notes and statements all were fruited in Washington. Presumably the original trees were held in Washington for a considerable time, for Mr. Saunders, in speaking of their arrival, says that he had a supply of young stocks on hand and that as fast as he could secure buds they were worked on the stocks.

One of the two survivors, so far as known, of the trees earliest propagated from the original importation, is in the citrus greenhouse of the department at Washington. About 50 years old, it stands a veritable patriarch, surrounded by numerous relatives in one of the most unique citrus collections to be found anywhere in the world.

The family of the Washington navel orange has increased until it now numbers nearly 9,000,000 trees in this country, yielding an annual crop of fruit which for five years has averaged 8,400,000 boxes, with a maximum crop of 13,000,000 boxes.

The program of the seventeenth annual meeting of the Society of Agricultural Engineers, which was held at Chicago, Ill., November 8-10, put particular emphasis upon the need and methods of developing more advanced research in the various fields of rural engineering, such as farm structures, sewage disposal, and ventilation; farm power and machinery; land reclamation by drainage, irrigation, and clearing; and rural electrification. The membership of the society is composed largely of representatives of the department and the land-grant colleges and experiment stations.

During the first two weeks of September an exhibit of forest insects was shown at the Spokane Interstate Fair and at the Lewiston, Idaho, Fair. This exhibit was in cooperation with the Forest Service, Bureau of Entomology, Bureau of Public Roads, and Bureau of Biological Survey. In addition to pictures showing insect-killed timber and methods of insect control, the exhibit included specimens of the insects causing the death of the trees. The total attendance at the Spokane Fair was 96,000 while at Lewiston the attendance was 18,000.

Dr. L. A. Rogers, in charge of the dairy research laboratory of the Bureau of Animal Industry, was recently given a dinner by the men of the dairy division in recognition of the work which he did as chairman of the program committee of the World's Dairy Congress held in October.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. How can the farm forest be made more profitable?

Answer. The chief reasons for failure to make farm woodlands profitable are, lack of intelligent management, neglect to protect from fire and excessive grazing, ignorance concerning local timber values, and undeveloped markets. Wherever forest land is close to centers of consumption, numerous examples of profitable management can be found. Generally in the eastern United States the value of timber is now such as to make its production as a crop bring a fair net return on the investment.

Question. Much has been written concerning the planning of cities. Has the department made any study of country planning?

Answer. A study of the social aspects of rural planning has been made by the Bureau of Agricultural Economics. This investigation was conducted from the standpoint of what has actually been accomplished by various rural communities in making themselves more orderly, beautiful, and efficient and better adapted to their natural social and recreational functions. Farmers Bulletin No. 1325, entitled "Rural Planning—the Social Aspects," may be had upon application.

Question. What is the cost to the farmer of sodatol, the explosive that the department is distributing for stump blasting?

Answer. The cost varies slightly according to the location of the plant from which it is shipped. The shipping points and the cost per hundred pounds are as follows:

Barksdale, Wis.....	\$5.07
Repauno, N. J.....	5.80
Ashburn, Mo.....	5.20
Louviers, Colo.....	6.50
Dupont, Wash.....	6.20

In addition to the above the purchaser must pay the transportation charges.

Question. How are bananas ripened for market?

Answer: The best practice in ripening bananas for marketing involves holding the fruit in a dark room at about 70° F., well ventilated, and kept at a high humidity. Humidity should be at about 85 to 90 per cent. There are of course many variations to this practice and in some cases bananas are ripened at from 60 to 65° and sometimes the

temperatures run as high as 80 to 85°. At above 85° it may be said that they do not ripen well.

Question. Why do we have a tea law?

Answer. Commercial tea is made from the young, tender, and succulent leaves and shoots of the tea plant (*Thea sinensis* L.), because only the young and tender leaves and shoots contain the qualities necessary for commercial tea. From the older leaves of the tea plant it is possible to make an absolutely pure product, which, however, would not have the qualities of that made from the young leaves and therefore could not be considered commercial tea. Under the tea law physical standards of both quality and purity are fixed. If these standards were not fixed to measure the quality as well as the purity of imported teas, products made from the older leaves would be imported and consumed as commercial tea. Besides this, the tea law prevents the importation of adulterated and spurious teas and teas unfit for human consumption. The tea act is one of the oldest pure food measures. The first act, passed in 1883, was superseded by the present act, passed in 1897.

Land-Grant Colleges Report New Officers

Officers of the Association of Land-Grant Colleges, chosen at the recent Chicago convention, are as follows:

President, R. A. Pearson, of Iowa; vice president, G. I. Christie, of Indiana; secretary-treasurer, J. L. Hills, of Vermont. Members of the executive committee, the president of the association, ex officio; and W. M. Riggs, of South Carolina; A. F. Woods, of Maryland; A. R. Mann, of New York; F. B. Mumford, of Missouri; and W. B. Bizzell, of Texas.

Section of Agriculture: B. H. Crocherson, of California, chairman; C. A. McCue, of Delaware, vice chairman; F. W. Peck, of Minnesota, secretary.

Resident teaching: W. C. Coffey, of Minnesota, chairman; C. B. Waldron, of North Dakota, secretary.

Experiment station work: W. C. Coffey, of Minnesota, chairman; Wilmon Newell, of Florida, secretary; E. W. Allen, of Washington, D. C., recording secretary.

Extension work: H. C. Ramsower, of Ohio, chairman; W. R. Perkins, of Louisiana, secretary.

Section of engineering: J. W. Votey, of Vermont, chairman; C. R. Jones, of West Virginia, secretary.

Section of home economics: Agnes E. Harris, of Alabama, chairman; Edith P. Chace, of Pennsylvania, secretary.

By constitutional amendment, adopted at this meeting, the president elect was made ex officio a member of the executive committee and presiding officer of the executive body, with power to fill vacancies in the standing committees, not otherwise provided for by the executive body; and the term of members of the executive committee was increased to five years.

Two additional committees of the association were established, one on industrial and engineering extension work, the other on institutional classification and rating, the latter to consist of 5 members, 3 to be named by the association and 1 each by the Secretary of Agriculture and the Secretary of the Interior.

On the standing committee on projects and correlation of research B. L. Hartwell, of Rhode Island, succeeds Alfred Atkinson, of Montana; and on the joint committee on publication and research (*Journal of Agricultural Research*) H. W. Mumford, of Illinois, succeeds W. A. Riley, of Minnesota.

CORN-CLUB BOYS HAVE HIGH YIELDS.

For 11 years the Iowa corn-club boy carrying off the State championship in corn production has had to make a yield of more than 100 bushels of corn to the acre; even the winner in 1911, the twelfth year back, grew 99.7 bushels on his acre plot. Ten counties are represented in the list of champions from 1911 to 1922, only two counties winning the honor twice. The average yield secured by Iowa club members in 1922, according to reports to the United States Department of Agriculture, was 92 bushels per acre, or more than double the yield in the State for the year. Each club member is expected to keep a record of the expense of making his crop. The records for 1922 show an average cost of 38.2 cents per bushel. The achievements of these young farmers, it is stated, are stimulating to a marked degree the adoption in their communities of the best methods of selecting and testing seed, planting the corn, and raising the crop.

Dr. James M. Sherman, who has been in charge of the work dealing with the bacteriology of cheese in the Dairy Division of the department since 1917, has resigned to accept a position as head of the department of dairy industry at Cornell University. He is the author of several papers on fundamental bacteriological problems and holds the position of secretary of the Society of American Bacteriologists.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

PARASITES SOUGHT IN FOREIGN LANDS.

As early as 1883 a few beneficial species of the parasitic enemies of some of our common destructive insect pests were introduced into this country by the Division of Entomology, now the Bureau of Entomology, and since that time insect parasites have been introduced intermittently whenever there seemed to be an opportunity to secure valuable natural enemies of established pests.

Of late years the attention of many countries has been drawn to this kind of work, and beneficial insects in the shape of parasites are being sent here, there, and everywhere. A very large-scale experiment has been carried on in the introduction from Europe and Japan of the parasites and natural enemies of the gypsy moth and the brown-tail moth. The actual importation of these natural enemies was begun as early as 1905, and it is interesting to note that during this interval (with a gap during the period of the World War) more than 74,000,000 parasites have been liberated in territory infested by these two moths. The results on the whole have been excellent although not as striking as the very complete success of the early California introduction of *Novius* from Australia.

The Bureau of Entomology has not only continued during the past two years its work in Europe and Japan in regard to the natural enemies of the gypsy moth, but it has been carrying on other work of this kind at different places.

For example, there is in full operation a parasite laboratory in the south of France, where the parasites of the European corn-borer are being studied especially, but at the same time the European parasites of other injurious insects common to the two continents are being investigated. Recently parasites of the European earwig, now a scourge in the far northwestern United States, have been found at this laboratory. An expert has just returned from Mexico where he found a promising parasite of the Mexican bean beetle, an insect which is doing great damage to the bean crop in Georgia and some of the adjoining States.

The most extensive effort now being carried on in this direction is the attempt to find effective parasites of the Japanese beetle, one of the most dangerous enemies to fruit crops that has been accidentally introduced into the United

States in recent years. Two experts have been stationed in Japan during the past two years and have also visited Korea and China. An agent has been engaged in south Russia to attempt the study of parasites of an allied species which exists in that country, and another one is to be sent to India on the same mission. Incidentally, the man who goes to India will try to find the effective parasite of the citrus white fly, which was discovered there some years ago by another agent of the Bureau of Entomology but which, although brought to this country, failed to become established in the Florida orange groves.

This whole line of investigation of the possibilities of what is termed the "biological method of control of injurious insects" is being broadened as opportunity offers and appropriations permit. Its results in most cases are of slow accomplishment, and in the meantime investigations along other lines which promise more immediate results, are being pushed.

WITH EXTENSION FORCES

PRAIRIE SOILS NEED PHOSPHATE.

For several years the growers of small grains in the prairie region of Mahnomen County, Minn., had been pondering over the question of growing more bushels per acre. Although the soil was fairly productive and yielded good crops in favorable years, it was evident that something was lacking for maximum production.

In the spring of 1921 the county agent decided to conduct several demonstrations to determine whether the soil lacked phosphoric acid and if so on what grains and legumes the response would be greatest. Tests were conducted with treble superphosphate on alfalfa, clover, barley, and wheat.

All crops were observed during the growing season and noticeable effect was apparent, although the barley showed the most striking difference. This particular plot was on a poor piece of land, and the weather conditions most unfavorable to mature the crop. Hot, dry weather prevailed and the unfertilized plot dried up without fully maturing. The result was that the unfertilized plot produced but 3 bushels of barley per acre, while the fertilized plot withstood the drought and hot weather much better and fully matured, yielding 27 bushels per acre. These demonstrations showed such striking differences that a number of farmers became interested and ordered a 25-ton car of fertilizer for the spring of 1922.

Further experiments were conducted during the year of 1922 with equally definite results. The grain plots included spring wheat, barley, and rye. The difference between the fertilized and unfertilized plots was noticeable at all times and greatly in favor of the fertilized plots. The fertilized spring wheat plot yielded 21 bushels, the check plot 12; the fertilized rye plot 40 bushels, the check plot 15; the fertilized barley plot 50 bushels, the check plot 20. Different quantities of fertilizer were used, the amount varying from 50 to 100 pounds per acre. It was found that 80 pounds gave the same increase as 100 pounds, but smaller amounts gave lower yields. From these results it was concluded to recommend 90 pounds per acre generally for small grain. Treble superphosphate was used on all of these demonstrations.

Some most interesting results were obtained with potato demonstration plots as well. These plots were all located near the roads and signs were placed beside them showing which fertilizers were used and where. Acid phosphate and 2-8-5 fertilizers were tested. The difference between the fertilized and unfertilized plots was plainly visible all through the growing season. The unfertilized plots yielded 113 bushels per acre, the acid phosphate at the rate of 250 pounds per acre of 0-16-0 yielded 217 bushels, while the complete fertilizer at the rate of 500 pounds per acre of 2-8-5 gave a yield of 246 bushels.

Sixty-five tons of treble superphosphate were used in the county during the last year. It was ordered through the Farm Bureau, the local leaders securing orders for carload shipments. Publicity on the demonstration plots was given through the local papers, a crop tour, and through the local township meetings. All demonstration plots were visited at the time of the tour in August.

A regional report on the status of agricultural extension work in the eastern group of States, including Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, New York, and Pennsylvania, has been issued by the office of extension work. It reviews the undertakings and accomplishments in all lines of extension work in this territory for the year 1922 with special reference to agricultural projects. The report is based on annual reports of extension workers in the States concerned and on information obtained during an annual tour of these States, made by Florence E. Ward, division of programs, office of extension work, to note the progress being made in extension work under way and to discuss plans for new projects.

BRIEF REVIEWS OF NEW BULLETINS.

Effect of Feeding Green Alfalfa and Green Corn on Flavor and Odor of Milk. By C. J. Babcock, assistant market milk specialist, dairy division, Bureau of Animal Industry. Pp. 12, figs. 3. November 16, 1923. (Department Bulletin 1190.) Price, 5 cents.

Extensive tests have shown that undesirable flavors and odors in milk produced by feeding green alfalfa or green corn may be prevented by giving these feeds at the proper time or they may be reduced through aeration of the milk. Experiments have proved that green alfalfa produces more pronounced "off" flavors and odors than does green corn. The final conclusion reached is that green alfalfa as a soiling crop should be fed immediately after milking, and that when it is used as a pasture the cattle should be taken off four or five hours before milking. Aeration will help to remove slight "off" odors and flavors. Green corn, at least up to 25 pounds at a feed, may be fed at any time.

Chrysanthemums for the Home. By B. Y. Morrison, assistant landscape gardener, office of horticultural and pomological investigations, Bureau of Plant Industry. Pp. 17, figs. 14. November, 1923. (Farmers' Bulletin 1311.)

The chrysanthemum is far famed for its variety of beauty and pleasing colors, ease of culture, and hardiness. It can be grown in almost the entire country, except in the extreme North, and even there if frost-proof storage space can be given. This bulletin describes the cultural methods that represent the better practice for the amateur by treating in a simple manner the preparation of the soil, summer pruning or stopping, fertilizing, staking, disbudding, shelters propagation, varieties, and types of bloom. The home gardener in general will find the small-flowered or pompon varieties more suited to his purpose and easier of culture than the large commercial type.

Effect of Feeding Turnips on the Flavor and Odor of Milk. By C. J. Babcock, assistant market milk specialist, dairy division, Bureau of Animal Industry. Pp. 8, figs. 2. November 15, 1923. (Department Bulletin 1208.) Price, 5 cents.

In regions where root crops are used as feed for cows in the fall and winter, turnips are one of the crops most commonly sown for that purpose. They have long been suspected of being responsible for "off" flavors and odors in milk, and the department's investigation has shown that the dairymen were right. Feeding 15 pounds of turnips an hour before milking produced taints, and increasing the quantity fed to 30 pounds greatly intensified them. By feeding even the maximum quantity just after milking practically all the objectionable flavors and odors were removed and strong ones reduced by aeration. The taints were more noticeable in the cream than in the milk.

Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction During the Period from October 1 to December 31, 1921. Pp. 41, pls. 5. October, 1923. (Inventory No. 69. Nos. 54426 to 54676.) Bureau of Plant Industry. Price, 10 cents.

The last inventory of plants introduced into this country, covering the last three months of 1921, emphasizes the commendable cooperation between individual plant propagators in various parts of the world and the department. Of the 250 new plants and seeds sent in during this time nearly all of them were sent by friends of the depart-

ment who are interested in furthering this work. Among the interesting introductions are a new peach from Baalbek, a village in Syria which contains the ruins of the Temple of the Sun; a melon with hardly any cavity, but exceedingly juicy and delicately perfumed from an oasis 10 miles west of Tripoli; the Ohia tree from Panama, whose flowers can be seen only when one stands beneath it. The department has its own explorers searching for new plants that may be useful to us, but rarely does a day pass without the receipt of plants or seeds from some foreign friend who is interested in seeing the good things of the earth more widely distributed.

ADDITIONAL PUBLICATIONS.

Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction during the period from April 1 to June 30, 1921. Pp. 100, pls. 5. October, 1923. (Inventory No. 67. Nos. 52855 to 53895.) Bureau of Plant Industry. Price, 15 cents.

Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction during the period from July 1 to September 30, 1921. Pp. 65, pls. 4. October, 1923. (Inventory No. 68. Nos. 53896 to 54425.) Bureau of Plant Industry. Price, 10 cents.

Journal of Agricultural Research. Vol. 25, No. 9. September 1, 1923. Contents: Specialized varieties of *Puccinia glumarum* and hosts for Variety tritici. (G-327.) By Charles W. Hungerford and C. E. Owens. Pp. 363-401, pls. 6. Price, 10 cents.

Same. Vol. 25, No. 10. September 8, 1923. Contents: Origin and control of apple-blotch cankers. (Ind.-12.) By Max W. Gardner.—Determination of the surface area of cattle and swine. (Mo.-6.) By Albert G. Hogan and Charles I. Skouby. Pp. 403-430, pls. 4. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semimonthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, no. 9 being the last issue, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Monthly Weather Review. Vol. 51, No. 8. August, 1923. Pp. 383-435, figs. 9, charts 10. Special articles: Concerning normals, secular trends, and climatic changes. By C. F. Marvin.—An improved method of computing meteorological normals. By H. W. Clough.—Hourly precipitation at Syracuse, N. Y. By M. R. Sanford.—Efficiency of smoke screens as a protection from frost. By H. H. Kimball and B. G. MacIntire.—Cloud dissipated by kite. By J. A. Riley.—Forecasting rain on the West Texas coast. By J. P. McAuliffe.—Water-spouts near Corpus Christi, Tex. By J. P. McAuliffe.—The first cool wave of 1923 in the Dakotas and Lake region. By A. J. Henry.—Fires caused by lightning in Iowa, 1919-1922. By R. N. Covert.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies, to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government.

Single numbers will be supplied free so long as the bureau's supply lasts, and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Service and Regulatory Announcements. Bureau of Chemistry. No. 162. Notices of Judgment 11551-11600. November 5, 1923. Pp. 301-324. November, 1923. Price, 5 cents.

War Bread-Saving Habits Limit Wheat Consumption

Bread-saving habits formed in war time and needlessly continued now are limiting the consumption of wheat in this country to the disadvantage of both producer and consumer, say officials of the department. They assert that a return to pre-war food habits in the use of wheat by the public and the feeding of low-grade wheat to livestock would greatly help to solve the wheat problem.

Use of wheat flour and bread in the United States, it is pointed out, was much reduced in war time by high prices and by the appeal for wheat saving. The custom of serving bread free with "a la carte" orders in restaurants, hotels, and railway dining cars was abandoned, and has not since been generally revived. Bread is not consumed liberally at the prices commonly charged.

It is pointed out, too, that the price of bread in cities has not fallen with the price of wheat and flour. Thus a pound loaf of bread which in Minneapolis in 1913-14 cost 5.3 cents now costs approximately 9 cents, while the flour from which it is made cost \$4.43 a barrel in 1913-14 and now costs \$6.89. Allowing 280 loaves of bread to the barrel, the margin between the price of the flour and the price of the bread produced from it has increased from \$10.40 to \$18.30.

It is recognized that the price of flour is not the only element in the cost of bread. Costs of other ingredients and of labor and distribution have likewise to be taken into account. Nevertheless the wide disparity between the cost of bread to the consumer and the price received by the producer for the wheat from which the bread is made is cited as a typical illustration of the disproportionate relationship which exists between the price of farm products and the price of things that have gone through a manufacturing process.

REPORTS TO BE RELEASED.

All reports from the different bureaus and offices have been received from the printer and will be released in the following order: Bureau of Plant Industry and Insecticide and Fungicide Board, December 11; Bureau of Animal Industry, December 12; Weather Bureau, December 13; Report of the Chemist and Packers and Stockyards Administration, December 14; Report of the Entomologist and Federal Horticultural Board, December 15; Bureau of Public Roads, December 17; Bureau of Agricultural Economics and Administration of Grain Futures Act, December 18; Report of the Forester, December 19; States Relations Service, December 20; Bureau of Biological Survey and Bureau of Soils, December 21; and Fixed Nitrogen Research Laboratory, December 22. No dates were set for the reports of the librarian, solicitor, and reports of the Division of Publications, Motion Pictures, and Exhibits.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- British spiders. By E. C. Ash. London, R. Holden & co., Ltd., 1923.
- Butterflies and moths, and how to know them. By S. C. Johnson. London, R. Holden & co., Ltd., 1923.
- Collection of recipes. Comp. by Negaunee woman's club. Negaunee, Mich., 1923.
- Dumping. By Jacob Viner. Chicago, University of Chicago press, 1923.
- External insect-anatomy. By A. D. MacGillivray. Urbana, Ill., Scarab co., 1923.
- Field crops. Rev. ed. By A. D. Wilson and C. W. Warburton. St. Paul, Minn., Webb publishing co., 1923.
- Die forstwirtschaft. Von Robert Ortel. Neudamm, T. Neumann, 1922.
- Hongkong. Economic resources committee. Factory and home and cottage industries sub-committee. Report with Minutes of proceedings. Hongkong, 1920.
- Lebensgeschichte der blütenpflanzen Mitteleuropas. Ifig. 10-24. Von Oskar Kirchner. Stuttgart, E. Ulmer, 1923.
- Manufacture of hydrochloric acid and salt-cake. By A. C. Cummings. London, Gurney and Jackson, 1923. (Lunge, George. Manufacture of acids and alkalis. v. 5)
- Le monde social des fourmis du globe compare à celui de l'homme. v. 5. Par. A. H. Forel. Genève, Kundig, 1923.
- Monographia uredinearum. v. 4, fasc. 2. [By] P. and H. Sydow. Lipsiae, Fratres Borntraeger, 1923.
- Open price association. By M. N. Nelson. Urbana, University of Illinois press, 1923.
- Physikalisch-chemische tabellen. 5. aufl. Von Landolt-Börnstein. Berlin, J. Springer, 1923.
- Raw materials for the manufacture of sulphuric acid. By Wilfrid Wyld. London, Gurney and Jackson, 1923. (Lunge, George. Manufacture of acids and alkalis. v. 1.)
- Southern yellow pine. 9th ed. Southern pine association. New Orleans, La., 1923.
- Sport in the highlands of Kashmir. By H. Z. Darrah. London, R. Ward, Ltd., 1898.
- Statistics relative to the dairy industry in New York State, 1922. Albany, 1923. (New York State) Dept. of farms and markets. Bulletin 158.)
- Text-book of pathology. 12th ed. By Francis Delafield. New York, W. Wood and company, 1922.
- Therapeutic use of Digitalis. By G. C. Robinson. Baltimore, Williams & Wilkins co., 1923.
- Tree ancestors. By E. W. Berry. Baltimore, Williams & Wilkins co., 1923.

OLD BOOKS.

- Dictionnaire universel d'histoire naturelle. Nouv. ed. Par Ch. d'Orbigny. Paris [1867?]. [1867?]
- Essai sur les variétés de la vigne qui végètent en Andalousie. Par Simon de Rojas Clemente y Rubio. Paris, 1814.
- Fleurs de la Paléontologie. Par Hannah Zeller. Bale [n. d.]
- Le parfait boulanger. Par A. A. Parmentier. Paris, 1778.
- Schedulae criticae de plantis florae halsensis selectis. [By] F. G. Wallroth. Halae, 1822
- Travels in China. By Sir John Barrow. London, 1804.
- Von der sexualität der pflanzen. Von August Henschel. Breslau, 1820.
- Where shall we get meat? The food supplies of western Europe. By Joseph Fisher. London, 1866.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of November 12-17, 1923. These publications can be obtained only from the stations issuing them.

- Effect of salts on the intake of inorganic elements and on the buffer system of the plant. D. R. Hoagland and J. C. Martin. (California Sta. Tech. Paper 8, pp. 26, figs. 5. July, 1923.)
- The seasonal variation of the soil moisture in a walnut grove in relation to the hygroscopic coefficient. L. D. Batchelor and H. S. Reed. (California Sta. Tech. Paper 10, pp. 31, figs. 7. Sept., 1923.)

- Studies on the effects of sodium, potassium, and calcium on young orange trees. H. S. Reed and A. R. C. Haas. (California Sta. Tech. Paper 11, pp. 32, pls. 5. Oct., 1923.)
- The sweet potato in Hawaii. H. L. Chung. (Hawaii Sta. Bul. 50, pp. 11+20, pls. 4. Oct., 1923.)
- Commercial feeding stuffs, 1922-1923. J. M. Bartlett. (Maine Sta. Off. Insp. 108, pp. 9-28. Aug., 1923.)
- The more important poultry diseases. L. Van Es and H. M. Martin. (Nebraska Sta. Bul. 195, pp. 71, figs. 15. Oct., 1923.)
- The monthly bulletin. (Ohio Sta. Mo. Bul., vol. 8, No. 9-10, pp. 129-160, figs. 11. Sept.-Oct., 1923.)

CIVIL-SERVICE ANNOUNCEMENTS.

Senior agricultural statistician, \$5,000-\$6,000. Vacancies in the Bureau of Agricultural Economics, for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications will be filed from this examination. The duties will be to initiate, plan, and assume full responsibility for major statistical investigations involving a thorough and extensive knowledge of statistical methods, agricultural statistics, and economics. Competitors will be rated on education, training, experience, and thesis or publications (to be filed with application). Applicants must have graduated from a college or university of recognized standing and must show that they have had at least eight years of successful experience in statistical work. If interested, apply for Form 2118. Receipt of applications closes December 26.

Agricultural statistician, \$4,000-\$5,000. Vacancies in the Bureau of Agricultural Economics, for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications will be filed from this examination. The duties will be to assume the responsibility for initiating, planning, and carrying out major statistical investigations with only general supervision or direction, with reference to the field work; also to conduct original research work requiring at its inception broad knowledge of agricultural statistics and economics. Competitors will be rated on education, training, experience, and thesis or publications (to be filed with application). Applicants must have graduated from a college or university of recognized standing, and must show that they have had at least six years of successful experience in statistical work. If interested apply for Form 2118. Receipt of applications closes December 26.

Associate agricultural statistician, \$3,000-\$4,000. Vacancies in the Bureau of Agricultural Economics, for duty in Washington, D. C., or in the field, and in positions requiring similar qualifications will be filed from this examination. The duties will be to plan and carry out, under general direction, major statistical investigations involving the use of technical statistical methods; also, in consultation with a superior, to determine matters of policy relative to organization, scope, management, analysis, and presentation. Competitors will be rated on education, training, experience, and thesis or publications (to be filed with application). Applicants must have graduated from a college or university of recognized standing and must show that they have had at least five years of progressive statistical experience. If interested, apply for Form 2118. Receipt of applications closes December 26.

Assistant bacteriologist (food products), \$2,040-\$2,500. Vacancies in the Bureau of Plant Industry, Washington, D. C., and vacancies in positions requiring similar qualifications, will be filled from this examination. The duties

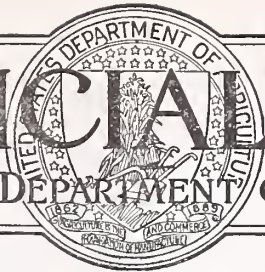
of the appointee will be to assist in the prosecution of investigations upon fruit and vegetable utilization, particularly upon canning and preserving under the direction of the bacteriologist in charge of food-canning investigations. The duties of the present vacancy require knowledge of electricity and mechanical ability. Competitors will be rated on education, training, experience, and publications or thesis (to be filed with application). Applicants must show that they have graduated with a bachelor's degree from a college or university of recognized standing with major work in bacteriology. If interested apply for Form 2118. Receipt of applications closes December 26.

Articles in Current Publications by Department Workers

- Barber, G. W. (Entomology). A note on a recently introduced leafhopper. *Psyche*, vol. 30, no. 5, pp. 155-157, 1 fig. October, 1923.
- Brandes, E. W., and Klaphaak, P. J. (Plant Industry). Growth stimulation and pest and disease control by hot-water treatment of sugar cane "seed." —Louisiana Planter, vol. 71, pp. 371-372. November 10, 1923.
- Chace, E. M. (Bureau of Chemistry). Production of essential oils from citrus fruits. *Citrus Leaves*, Vol. 2, No. 11, November, 1923.
- Cook, O. F. (Plant Industry). Malformations of cotton plants in Haiti. A new disease named smalling or stenosis, causing abnormal growth and sterility. *Journal of Heredity*, vol. 14, pp. 323-335. October, 1923.
- Crawford, A. B. (Animal Industry). Tuberculin sensitiveness caused by dead tubercle bacilli. *Am. vet. med. assn. journ.*, v. 64, no. 2, pp. 228-230. November, 1923.
- Edler, George C. (Agricultural Economics). Field seed summary for 1923. *Seed world*, November 16, 1923.
- Holm, George E., and Greenbank, George R. (Animal Industry). A gas-tight stirrer. *Indust. and eng. chem.*, v. 15, no. 11, p. 1134. November 1, 1923.
- Howard, L. O. (Entomology). A curious phase of parasitism among the parasitic Hymenoptera. *The Canadian Entomologist*, vol. 55, No. 10, pp. 223-224, October, 1923.
- Howard, L. O. (Entomology). Our fight against insects. In *Science remaking the world*, edited by Otis W. Caldwell and Edwin E. Slosson. New York, Doubleday, Page & Co., 1923, pp. 190-198.
- Humphrey, C. J. (Plant Industry). Decay of poles and the fungi which cause it. Report Special Commission on Wood Preservation, American Electric Railway Association 312, pp. 52-63. 1923.
- Humphrey, C. J. (Plant Industry). The destruction by the fungus "Poria incrassata" of coniferous timber in storage and when used in the construction of buildings. *Proceedings American Wood Preservation Association*, vol. 19, pp. 188-207. 1923.
- Larimer, W. H. (Entomology). A hygromograph puzzle. *Indiana Academy of Science, Proceedings 38th meeting*, 1922, pp. 231-232, illus. 1923.
- Price, D. J., and Baker, R. M. (Bureau of Chemistry). Hazard of inflammable dust shown in a recent explosion of aluminum powder. In *Chem. & Met. Eng.*, vol. 29, no. 20, November 12, 1923.
- Sherman, Caroline B. (Agricultural Economics). Uncle Sam umpires the produce game. *Journal American Bankers Association*, November, 1923.
- Taylor, J. N. (Animal Industry). What is a chemical? *Am. jour. of pharm.*, v. 95, no. 10, pp. 755-757. October, 1923.
- Trullinger, R. W. (Office of Experiment Stations). Agricultural engineering and the American Society of Agricultural Engineers. *Agricultural Engineering*, vol. 4, no. 10, pp. 155, 156. October, 1923.
- Wherry, E. T. (Bureau of Chemistry). A soil acidity map of a Long Island wild garden. In *Ecology*, vol. 4, no. 4, October, 1923.
- Young, R. A. (Plant Industry). Two new starchy vegetables. *Bulletin Garden Club of America* no. 14, pp. 11-14. November, 1923.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



BUREAU OF ENTOMOLOGY
★ DEC 7 1923 ★
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CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., DECEMBER 5, 1923.

No. 49.

DEPARTMENT WORKERS RETURN FROM JAPAN

Find Ten Species of Parasites of Destructive Japanese Beetle.

Curtis P. Clausen and J. L. King, of the Bureau of Entomology, returned to Washington on November 20 from Japan where they have been searching for parasites of the Japanese beetle for introduction into the parts of this country where this pest has become established. The laboratory headquarters of the expedition were maintained at Yokohama, Japan, but the investigation covered all the main islands of Japan as well as Korea and Manchuria. Mr. Clausen has been in Japan since April, 1920. Mr. King joined him in December of the same year.

The laboratory at Yokohama was wrecked in the recent earthquake but did not burn. Consequently, practically all of the records and equipment were saved. None of the staff of the laboratory was present in Yokohama at the time of the earthquake.

Parasites Are Imported.

The Japanese beetle was found commonly throughout Japan but is not an economic pest in that country. Ten species of parasites were found and large numbers of these have been shipped to the Japanese beetle laboratory of the Bureau of Entomology at Riverton, N. J., some of which have been released and others will be released next season. The parasite work in Japan and Korea will be continued by Mr. Clausen for several years.

Considerable progress has been made in the establishment of foreign parasites in the campaign against the Japanese beetle in this country. Colonies of a few species have been released in the field and there is good reason to believe that some, at least, may be able to establish themselves.

The Bureau of Entomology is fortunate to have the cooperation of Japanese entomologists in the work to combat the Japanese beetle with natural parasites. This cooperation has added greatly to its effectiveness.

In addition to the beetle parasite work in Japan, attention has been given to obtaining parasites of other insects, such as the oriental fruit moth, citrus fruit fly, camphor scale and other pests. Attention is also being directed to the utilization of possible fungous and bacterial diseases of the Japanese beetle, particularly those attacking the larval stage.

Operation of Intermediate Credit Banks Is Studied

Operation of the Federal intermediate credit banks established under the agricultural credits act has been the subject of a study made by the department. These new banks have loaned approximately \$32,000,000, of which about \$24,000,000 has gone to cooperative marketing associations and \$8,000,000 to cattle loan companies, agricultural credit corporations, and State banks and trust companies. Loans to the larger cooperative marketing associations have been made on warehouse receipts secured by raisins, cotton, tobacco, wheat, alfalfa, and red top clover seed, and canned fruits and vegetables.

Of approximately \$8,000,000, which has been loaned to financial institutions, about \$6,000,000 has been used in liquidating paper held by the War Finance Corporation, State banks and trust companies, and cattle loan companies. Approximately \$2,000,000 has been loaned for development and production purposes.

The introduction of dairy cattle through the agricultural credit corporations appears to be one of the largest factors in advancing the farming interests of several midwestern and far Western States, according to the survey. The assistance being given to the live-

(Continued on page 3.)

REGIONAL EXTENSION PROGRAM IS ADOPTED

Twelve Western States and Department Formulate Program of Work.

A regional conference of extension workers of the 12 Western States, Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, Texas, Utah, Washington, and Wyoming, was recently held at Fort Collins, Colo. The purpose of the conference was to formulate a program of extension work which would be mutually acceptable to the Western States and to which each State would contribute. The subjects considered were range livestock, dairying, and human nutrition. These subjects were selected, when the conference was planned more than a year ago, not because they are the most important in all of the States but because each State is interested in them.

Committee Accepts Extension Program.

That the cooperative extension service, embracing the extension forces of the department and the various agricultural colleges, was organized to make available to the people concerned facts established by the agricultural experiment stations and the research bureaus of the department was accepted by the conference program committee as the basic principle governing the formation of an extension program. Committees were appointed to catalogue the results of research on range livestock, dairying, and human nutrition in both the department and the agricultural colleges of the States concerned. These committees worked throughout the year. In the department, a range council was appointed by the Assistant Secretary which, at the request of the conference committee, undertook the compilation of a range livestock handbook for the use of western extension workers.

At the conference, the extension directors and the livestock, dairy, and nutrition extension specialists of the various Western States met with representatives of the bureaus of Agricultural Economics, Animal Industry, Home Economics, Plant Industry, Forest Service, Biological Survey, and Weather Bureau, and of the offices of cooperative extension work and exhibits of the Extension Service, to pool information on the subjects under consideration and adopt a program adapted to the needs of the region in light of the information available.

The various extension specialists from the States brought with them lists of extension work under way on the three subjects. Committees on these subjects held almost continuous sessions throughout the conference. These committees had before them the data collected during the year by the special conference committees, department and State representatives appeared before them with such additional material as they had to present, and papers read before the general sessions were immediately referred to them.

On the fourth day of the conference, the committees reported to the general session a proposed program of extension work in range livestock, dairying, and human nutrition which, after being discussed, was adopted by the States represented and will be taken back to the States by the extension directors for consideration with producers' associations and by county and community program committees. The entire program adopted will not be undertaken in any one State but each will take up such part of it as its resources and economic needs warrant. Reports of the program committees will be issued by the department as requested by the extension directors.

Special Committee Named.

Each of the committees was continued by the conference to report to a meeting to be held next year after these programs have been tried out in the field.

The work of this year's conference was further reinforced by the appointment of a special crops committee to develop a crops extension program for the West to supplement the work planned in range livestock, dairying, and nutrition. This crops program will be the central theme of a similar conference to be held next year. Conference topics for annual meetings until 1930 are being considered by the committee in order that a complete extension program in agriculture and home economics may be gradually and thoughtfully evolved.

The last day of the conference was spent as a traveling conference, visiting

demonstration work in Colorado on various lines of range livestock, dairying, and nutrition.

Those attending the conference from the department were: C. W. Warburton, director of extension work; office of extension work, C. B. Smith, chief, and W. A. Lloyd, A. B. Graham, Gertrude L. Warren, and Miriam Birdseye; office of exhibits, J. W. Hiscox, chief, and C. A. Lindstrom; Forest Service, J. H. Hutton, W. R. Kreutzer, and Chester Lee; Bureau of Plant Industry, H. A. Ireland; Bureau of Animal Industry, E. W. Sheets, C. D. Lowe, and S. H. Thompson; Weather Bureau, J. S. Kincaid; Bureau of Agricultural Economics, C. V. Whalen; Biological Survey, Charles J. Bayer and A. M. Day; Bureau of Home Economics, Louise Stanley, chief.

UPPER-AIR OBSERVATIONS USED.

The observations of the winds at high levels made twice a day at a number of Weather Bureau stations serve a twofold purpose. They furnish information directly applicable to the needs of aviators, and they also supplement the information obtained from observations at the earth's surface, which serve as a basis of weather forecasts.

A striking illustration of their value for the latter purpose was furnished by the history of the Atlantic coast storm of October 23-24, which, instead of following the usual track of such storms, northeastward along the coast north of Cape Hatteras, followed a most exceptional course from the vicinity of Cape Hatteras to eastern Lake Erie. The rain area attending this storm extended far to the west and the northwest of the region in which rainfall ordinarily occurs in connection with coast storms.

The Weather Bureau forecasters state that there was nothing on the daily weather maps, as drawn from the ordinary surface observations, to suggest that the storm would take this unusual course; but, on the other hand, pilot-balloon flights and the observed movements of the upper clouds for a day or two preceding the storm showed that at an altitude of 2 or 3 miles the winds were blowing from the south or southwest instead of from a westerly quarter, as they usually do at these levels. This abnormality in the upper winds enabled the forecaster to predict with considerable confidence, on the morning of October 23, that the storm would move north northwestward, and that the accompanying rains would extend over the Appalachian Mountain region and into the upper Ohio Valley and lower lake region. This forecast was fully justified by subsequent events.

Department Cotton Motion Pictures Interest English

Cotton trade centers in England are watching the fight against the boll weevil in this country with a great deal of interest, according to information reaching the department. Films made by the department illustrating cotton production from soil preparation to final shipment were recently exhibited in Manchester and Liverpool. They drew big audiences and aroused great interest. One film was shown in Manchester during the trading hours of the cotton exchange. Fifteen hundred members dropped their work to see it.

Comments on the films in the English textile press are very favorable. One journal refers to them as a striking example of the "wonderful system" developed by the American Government for aiding farmers, and says the pictures are of paramount interest to Lancashire people.

Interest in the methods of cotton growing in this country, it appears, has been tremendously stimulated in England by the difficulties brought about by the boll weevil and economic conditions. Reports received by the department forecast hard times for the English cotton centers this winter. Many mills are working part time while others are running at a loss to retain skilled employees.

While the boll weevil is responsible to a considerable measure for the distress in the Lancashire cotton industry, the general economic condition is equally or more responsible. English exports of cotton to practically all countries have been seriously reduced, many markets being in a distressed condition.

FEED OFFICIALS HOLD MEETING.

The Association of Feed Officials held its annual meeting at the Hotel Raleigh, Washington, D. C., on November 22 and 23, about 28 States being represented. A number of changes in the present definitions for feeds were made and some new definitions considered. The program included addresses by Dr. H. W. Wiley, E. G. Prolux, H. H. Hanson, W. G. Campbell, D. B. Jones, W. H. Strowd, and O. E. M. Keller. H. O. Halverson, of Minnesota, was elected president for the next year; George L. Bidwell, of Washington, D. C., vice president; and A. W. Clark, of Geneva, N. Y., was re-elected secretary-treasurer. The executive committee of the association is composed of the president; the secretary-treasurer; W. H. Strowd, of Wisconsin; Dr. J. K. Haywood, of Washington, D. C.; and J. W. Sample, of Tennessee.

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

REVISE JAPANESE BEETLE QUARANTINE.

A revision of the regulations under the Japanese beetle quarantine has been issued by the Secretary, becoming effective November 27. This revision is made particularly to safeguard the movement of nursery stock and other ornamental plants from areas covered by the spread of the Japanese beetle during the past summer. The principal changes in the regulations are the combination of the Japanese beetle area with the farm products area and the enlargement of the area thus designated as infested.

GROWTH OF SEED TREES STUDIED.

Experiments conducted by the Forest Service show that in the Southwest yellow pine seed trees left after logging grow about twice as fast as similar trees in virgin forests. The rate of deterioration in trees of this type was also studied and it was found that 15 trees standing at a considerable distance from any other trees cut at the time of logging grew 32 per cent more, while 13 standing near stumps grew 82 per cent more during the last period. The average increase in diameter of these trees 25 years after logging was 1.55 inches and 3.12 inches, respectively.

HOG CHOLERA AND "FLU" EVIDENT.

"Infectious bronchitis, or 'flu,' is again prevalent and appears to be more fatal than usual, probably due to the unfavorable weather. Many of these cases develop pneumonia and die," reports a veterinarian of the department who is located in one of the principal hog-raising States in the Corn Belt. Reports from other sections of the country also indicate that hog cholera and "flu" are becoming unusually prevalent this fall. Outbreaks of cholera should be reported to the State veterinarian, the county agent, or the representative of the Bureau of Animal Industry who is cooperating with the State authorities in controlling outbreaks of hog cholera.

REPORT OUTBREAKS OF FOREST PESTS.

Recent investigations and correspondence indicate considerable activity of the southern pine beetle, an insect which is the most injurious enemy of the southern pines. Serious local outbreaks are occurring in Virginia, West Virginia,

North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Texas, and Florida. The insect is ranging farther north than it has since 1893. Reports from northern Arizona indicate that the Black Hills beetle is threatening a very serious outbreak which may rival that of this beetle in the Black Hills of South Dakota.

FATTENING OF BEEF CATTLE STUDIED.

For four years the department has made extensive investigations of the methods and costs of fattening beef cattle in the Corn Belt, specifically in Illinois, Indiana, Iowa, Missouri, and Nebraska. During each of the four years practically 100 feeding records for separate farms have been taken in each of these States. The figures for each year represent the results with nearly 20,000 head of steers. Another year will complete this investigation, which should yield valuable comparisons of the economy of different methods.

RECORDS SHOW COW TESTING PAYS.

That cow testing pays substantial returns is shown conclusively by records for five years compiled by the department. In three well-managed associations in Michigan, Ohio, and Pennsylvania the average butterfat production per cow has increased noticeably every year. The first year the average production of butterfat was 237 pounds; second year, 255; third year, 278; fourth year, 292; and fifth year, 305 pounds. At the end of this period the average in these herds was yielding 68 more pounds of fat than the average at the beginning of the testing. At 40 cents a pound this increase of fat would have a value of \$27.50 per cow, and a herd of 20 cows would bring in \$544 more than at the beginning.

FALL LAMBS BRING BETTER PROFITS.

Investigations made at Middlebury, Vt., on the experimental farm of the department have shown that better profits usually come from late-dropped lambs than from those dropped earlier. In 1922 those dropped in May and June and marketed in November yielded a net average of \$4.38 a head more than those born in February and March and sold in July.

Nils A. Olsen has been selected to succeed V. N. Valgren as leader of the Division of Agricultural Finance, Bureau of Agricultural Economics, and will assume charge November 30, on which date Mr. Valgren's resignation takes place.

Government Money Saved by Sheep Experiment Station

An example of the application of economy to Government work is shown in a recent report from W. A. Denecke, in charge of the United States Sheep Experiment Station at Dubois, Idaho.

The lowest contractor's bid received for the construction of a 100,000 gallon reservoir was \$2,700. Mr. Denecke purchased the materials direct, hired the necessary labor, and placed a competent man in charge of the work. In this manner the reservoir was built at a cost of \$2,000, saving the Government \$700.

Coal retails in Dubois at from about \$10 to \$11 per ton, but the winter supply of coal for the station cost \$8.55 per ton. This saving was made by purchasing the coal at the mine during the summer when a discount is made and railroad traffic is slack.

Similar economies were effected in the purchase of other commodities when it was possible to ascertain the amount needed for 6 or 12 month period. Barley, now selling for \$1.75 per hundredweight, was bought from local farmers at prices ranging from \$1.20 to \$1.35 per hundredweight. Baled alfalfa hay retailing at \$16.50 per ton, cost the Government from \$11 to \$12 per ton by buying hay in the stack and having it baled by contract.

Operation of Intermediate Credit Banks Is Studied

(Continued from page 1.)

stock industry, especially in Texas, can hardly be overestimated. Livestock loans are expanding rapidly, although cattle loan companies are still in liquidation and large amounts of "frozen" cattle paper are being carried by the local banks. The outlet for this paper through the intermediate credit banks has brought great encouragement to the stock raisers.

The exhibits of the department on milk and its value as a part of the daily diet are attracting particular attention in the South. A leading creamery in Chattanooga, Tenn., recently devoted advertising space to calling the attention of the public to the interesting and instructive display of charts and illustrations in the department exhibit at the Chattanooga Interstate Fair. Such support aids the department materially in giving the public the information which it is gathering by experiment and investigation.



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THE OFFICIAL RECORD is published as a means of communicating to workers and co-operators of the Department of Agriculture official statements and other information necessary to the performance of their duties and is issued free to them by law. Others can obtain it from the Superintendent of Documents, Government Printing Office, Washington, D. C., by subscription at the rate of 50 cents a year domestic, and \$1.10 foreign. Stamps can not be accepted in payment.

OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary.

MEMORANDUM No. 457.—November 20, 1923.—Effective July 16, 1923, paragraph 33 (k) of the Fiscal Regulations of the department is hereby amended to read as follows:

Amendment to the Fiscal Regulations.

33. *Actual traveling expenses.*—(k) When specifically authorized actual operating expenses (gasoline and oil) or mileage rates not exceeding 3 cents per mile for a motor cycle and 7 cents per mile for an automobile, for the use of personally owned vehicles in official work. Each account covering actual operating charges or mileage rates should be supported by a certificate setting forth (a) date of travel, (b) points between which performed, (c) actual number of miles traveled, (d) hour of departure from and arrival at official station, (e) that the distances stated are to the best of the employee's knowledge and belief correct and that no public or regular means of transportation could be used as advantageously in the interest of the Government. Certificates covering actual operating charges should indicate in addition (f) that the charges for gasoline and oil were arrived at by actual measurement at both the beginning and end of the official trip, and those covering mileage rates should show (g) the rate per mile and total charge. In addition to actual operating expenses (gasoline and oil), employees using their own vehicles in official work may be reimbursed for storage charges when storage becomes necessary at points other than official headquarters, and necessary tolls and ferry charges. Where it becomes necessary, by reason of breakdowns, impassable roads, or miring to have vehicles towed partly, or under extraordinary circumstances, entirely to destination, reimbursement may be made for reasonable expense of such towage, but all such charges must be fully explained and each case will be considered on its merits. Employees operating personally owned vehicles on a mileage basis will not be reimbursed in addition for storage, tolls, ferry, or towage charges.

Telegrams.

MEMORANDUM No. 458.—November 23, 1923.—Employees filing official telegrams at field points in cases where messages can not be delivered during business hours on the day of filing sometimes fail to employ night rate service, as required by paragraph 81 of the Fiscal Regulations.

The superintendent of telegraph has been instructed to deliver all Washington incoming messages through the appropriate bureau visiting officers. A special report to chiefs of bureaus will be made in instances where day telegraph service appears to have been improperly employed, or where careless con-

struction or the use of unnecessary words has occasioned an unnecessary charge against Government funds.

Amendment to the Administrative Regulations.

MEMORANDUM No. 459.—November 23, 1923.—Paragraph 215 of the Administrative Regulations of the department is hereby amended to read as follows:

215. *Disposition of travel authorizations.*—Copies of letters of authorization for travel, station, and field expenses will be furnished quarterly to the disbursing office of the department for transmission to the General Accounting Office for use in the audit of accounts. The material to be so treated comprises general or specific letters of authorization issued from the Washington office or from district or field headquarters, including every letter or memorandum which authorizes or defines objects of travel or limits travel, designates territory or points to be visited, specifies rates of per diem allowance in lieu of subsistence, or which contains other evidence necessary in the administrative examination of travel accounts.

Letters of travel authorization requiring the Secretary's approval shall when transmitted for such action be accompanied by a carbon copy, which will be detached and retained in the Secretary's office.

Letters of authorization submitted for the Secretary's approval should not be accompanied by transmitting communications which merely repeat facts or statements embodied in the authorization, but a letter of transmittal or explanatory memorandum should be sent in every instance where more detailed information than the letter of authorization carries is necessary to a complete understanding of the case.

Hereafter an approved authorization will ordinarily be returned to the bureau without letter of transmittal.

AGRICULTURAL CHEMISTS MEET.

The thirty-fourth annual convention of the Association of Official Agricultural Chemists, held in Washington at the Raleigh Hotel November 19 to 21, inclusive, was attended by over 350 agricultural, food, and commercial chemists from all parts of the country. Many important reports of interest to agricultural chemists were given, among them reports by the referees on dairy products, water, tanning materials, insecticides and fungicides, soils, saccharine products, fertilizers, fats and oils, drugs, etc.

Dr. R. E. Doolittle, chief of the central food and drug inspection district of the Bureau of Chemistry, was elected president of the association for the ensuing year; Dr. C. A. Browne, vice president; and Dr. W. W. Skinner was reelected secretary-treasurer. The executive committee is composed of these three officers and Dr. E. M. Bailey, of Connecticut, and Dr. P. B. Dunbar, of Washington, D. C.

Tentative grades for oranges have been prepared by the department and are now being used in Florida in connection with the department's shipping point inspection service. It is proposed also to prepare grades for grapefruit.

From Our Readers

TO THE EDITOR: Your publication has been coming to the reading table in this office for some time past, and I wish to write to you at this time to express my appreciation for your kindness in sending it. I am sure that those who read your paper find much valuable material and would send every good wish for your future success.—C. J. G.

TO THE EDITOR: I notice in the November 7 issue there was a statement to the effect that it was lost space to publish the list of the different Experiment Station publications. At this point may I raise an objection? During the past my experience has been that I have never received regularly the list of Experiment Station publications from the States Relation Service, whereas THE OFFICIAL RECORD list always comes, so that I can always depend upon it. Every now and then I find notice of a publication that I am very anxious to obtain, and for my part I consider the list of Experiment Station publications one of the most valuable items to look over weekly. I also enjoy many of the other articles that appear from time to time.—O. G. B.

J. A. Evans, formerly chief of the office of extension work in the South, has been made assistant chief of the present office of Cooperative Extension Work, effective October 16, 1923. In addition to his duties as assistant chief, Mr. Evans will give special attention to the development of the southern and southwestern extension program, particularly with relation to cotton production and the growing of cotton under boll-weevil conditions. Mr. Evans will assist in the formulation of office policies and will be in charge of the office in the absence of the chief.

A float illustrating the western pine beetle control project recently won second prize in a parade held at Klamath Falls, Ore. The float depicted the method of controlling the pine beetle. A large infested log was placed on the truck with a stump, saw, and other felling tools. Two men rode on the float peeling off the bark from the infested log and throwing samples out to the crowd. A legend on the float stated "One pine tree in ten killed by beetles in the last 10 years, Why grow trees for beetle fodder? Beetle losses are largely preventable. Control this timber pest; it pays."

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What is the most profitable crop per acre in the United States?

Answer. Cranberries. According to a recent report of the department, cranberries earned an average of \$280 an acre for farmers who cultivated them in 1922, a higher rate of return than that of any other principal crop farmed in the United States.

Question. Have smoke screens been found practicable in protecting crops from frost?

Answer: Results of recent experiments at Edgewood Arsenal, Md., show that while the smoke cloud decreased the rate of cooling of a blackened surface about one-half, it had little effect upon the air temperature. The slight increase in the temperature noted under and in the smoke apparently was due principally to heat imparted to the air by the hot particles constituting the smoke. The experiments confirm previous conclusions that the most efficient and economical method of frost protection is to heat the lower layers of the air by burning some form of cheap fuel.

Question. What has the department available which would be helpful to an extension agent in organizing a kitchen-improvement campaign?

Answer: A mimeographed circular entitled, "Organization and conduct of county kitchen improvement contests in Virginia," gives in detail the methods followed in a recent campaign in that State. A set of eight photographs taken by the department of some of the improvements made may also be obtained through State directors of extension work at a cost of \$1.44 for the set.

Question. What are migratory game birds?

Answer. Migratory game birds are defined in article 1 of the migratory bird treaty and regulation 1 of the treaty act regulations, as follows:

Waterfowl, including brant, wild ducks, geese, and swans; cranes, including little brown, sandhill, and whooping cranes; rails, including coot, gallinules, and sora and other rails; shorebirds, including avocets, curlews, dowitchers, godwits, knots, oyster catchers, phalaropes, plovers, sandpipers, snipe, stilts, surf birds, turnstones, wil-

let, woodcock, and yellowlegs; pigeons, including doves and wild pigeons.

The following are a few migratory birds which are frequently killed by hunters but which are not game birds and can not be taken except under appropriate Federal permit: Gulls, grebes commonly called water witches, loons, herons, bitterns, and terns.

There is a continuous closed season on all shorebirds, excepting woodcock, Wilson snipe or jacksnipe, greater and lesser yellowlegs, and black-bellied and golden plovers, on which birds appropriate open seasons are prescribed.

Question. What is reconstituted milk? Is it against the law to use it?

Answer. Reconstituted, or reconstructed milk, as it is sometimes called, is obtained by blending together the constituents of milk previously separated. It is made from skim-milk powder, sweet, unsalted butter, and pure, fresh water, or from whole-milk powder and water, or from evaporated or skim milk as a basis with any additional preparation of milk fat to give the desired richness. Any person may make reconstituted milk for his own use, but it must never be sold as fresh milk. The purchaser must be informed as to just what he is getting.

OFFICIALS MEET TO STUDY MARKETING.

Cooperative organization and city marketing were the subjects given chief consideration at the fifth annual meeting of the National Association of State Marketing Officials, held at the Auditorium Hotel, Chicago, December 3, 4, and 5.

Contact with State marketing officials is very desirable from the point of view of the marketing specialists of the department, and for this reason a number of representatives from the Bureau of Agricultural Economics met with the State officials. Dr. H. C. Taylor, Chief of the Bureau of Agricultural Economics, attended the meeting and spoke at the banquet given by this association the evening of December 4. Lloyd S. Tenny, assistant chief, delivered an address entitled "Development and growth of cooperative marketing in the United States." W. A. Schoenfeld and J. Clyde Marquis, assistant chiefs, also participated in the proceedings.

W. F. Callander, chairman of the Committee on Crop Estimates of the association, discussed the relation of crop statistics to marketing programs. Walter P. Hedden, in charge of the research work of the Port of New York Authority and a cooperative employee of the Bu-

reau of Agricultural Economics, talked on "Some results of terminal market studies." R. C. Potts demonstrated the tentative grades and standards for eggs as proposed by the Bureau of Agricultural Economics.

Because many of the State officials were deeply interested in shipping point inspection of fruits and vegetables, F. G. Robb represented the fruit and vegetable division, and Miss Helen L. Bonebrake, editor of State and Federal Marketing Activities, attended in order to report the meeting in detail and to meet the marketing men with whom contacts are maintained for obtaining State marketing news.

ARGENTINE FREIGHT RATE IS LOW.

The freight rate on wheat from the wheat-producing region of Argentina to Liverpool is from 3 to 11 cents a bushel less than the combined rail and ocean rate from the wheat-producing areas of the United States to Liverpool, according to a study of foreign and domestic freight rates on wheat now being made by the department. This difference is due primarily to the proximity of the wheat-producing areas in Argentina to the seaboard, the department says. The advantage of the shorter rail hauls is partly offset, however, by the relatively higher ocean rates from Argentine ports to Europe and by higher handling charges and other costs. The average freight rate per bushel per mile is considerably higher in Argentina than in the United States.

In Argentina it is not customary for farmers to haul wheat to market. This is done by special contractors, who make a charge according to the distance. This charge is therefore one of the factors that enters into the price paid the Argentine grower for his wheat. In the United States farmers haul their own grain to the country shipping point, as a general rule, and the labor cost of this service is absorbed in the production cost of the wheat.

A special train of 12 cars, exhibiting purebred livestock, together with literature and posters furnished by the department, was recently sent out by the Chicago, Burlington & Quincy Railroad Co. with the cooperation of the Colorado Agricultural College. The "Purebred-Sire Special" made 29 different stops through eastern Colorado, and the displays were inspected by over 25,000 people. A number of the leading railroads now have agricultural agents and are doing constructive work in this field.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

KEEP RECORDS FOR BUD SELECTION.

Performance records of individual trees have been kept by California citrus growers for a considerable period. These performance records are kept so that the yield and quality of fruit produced by individual trees can be compared throughout a series of years. The idea of securing detailed performance records in the California citrus orchards was worked out upon an experimental scale in 1909 by A. B. Shamel, of the Bureau of Plant Industry. Mr. Shamel's detailed studies showed not only very striking and consistent differences in the yield and quality of different trees but established the fundamentally important fact that, instead of all trees being identical that traced back their origin through nursery propagation or otherwise to a single parent tree, the occurrence of bud variations was not infrequent and that accordingly many strains of what was supposedly a single variety of fruit had become established.

Such strains were often strong growing but unproductive trees, their vigor of growth suggesting especially strong buds for use in propagation; and not infrequently buds were taken from "off type" trees or from sporting branches on otherwise normal trees, the propagators not then knowing that the undesirable characteristics would be perpetuated.

Results obtained in the investigation in bud selection indicated that by top-working inferior trees with buds taken from trees having consistently good records of productiveness and quality inferior or "drone" trees of such varieties as the Washington Navel or Valencia oranges could be made productive and profitable.

Many citrus growers in California are now keeping records of the individual trees in their orchards much the same as the dairyman keeps records of the cows in his herd to weed out the inferior or unprofitable individuals, and to use those of known value for improving the others.

The California Fruit Growers Exchange, a cooperative citrus growers' organization, established in May, 1917, a bud department for the purpose of making available to nurserymen and growers, the results of Mr. Shamel's investigations upon bud selection in correlation

with tree performance records. Up to June 1, 1923, this department had sold to propagators a total of 2,300,000 buds at an average price of about 5 cents each. These buds have been secured from the most productive and desirable citrus trees in orchards where individual tree performance records have been secured for a period of several years. The trees used for sources of bud-wood supply were selected on the basis of these records and budwood was cut only from those trees which have consistently borne high yields of uniformly good fruits.

WITH EXTENSION FORCES

PUTTING THE FEED BEFORE THE HOG.

Why advise people to raise more hogs when the hogs they have are not making a profit? Why are hogs not profitable here? What can be done, without involving a large outlay of money or labor by the farmer, to make hog raising pay? These hard and persistent questions were waiting for the swine specialist of North Carolina extension service when W. W. Shay was appointed to the position some three years ago. North Carolina offers excellent conditions for the swine industry, with some advantages over many sections in its winter climate and accessibility to eastern markets, and needs the income and soil improvement it should bring, especially in the cotton boll weevil section. The returns from hog raising in the State, however, had not been very profitable.

Two things North Carolina farmers needed to know, Mr. Shay determined, were how to feed better and more economically and how to market their stock to better advantage. This training, he felt, could best be obtained with the stock already held rather than risk importing expensive stock before facilities and skill had been developed.

Plans were therefore made with county agents for feeding demonstrations and a number started the first year. Balanced rations were worked out for each individual farm, using feeds on the farm as far as possible. Establishment of pastures and the growing of protein supplement crops were stressed. This program has been extended as rapidly as a good foundation for it could be laid.

In the meantime Mr. Shay and the marketing specialist had been studying the marketing phase. From market reports for 21 years back the best markets for North Carolina shippers were determined. These figures, which had re-

mained practically constant in rise and fall for the 21 years, showed a very vital point in the selling system, the months in which prices are highest and those in which the prices are low. Most North Carolina hogs, the records show, had been ready for the low markets and sold with little profit. The study shows that a pig which could be sold when weighing 100 pounds on a high market at a profit of \$1.15, if held until it reaches 200 pounds and sold when the market is low, would return a profit of only 30 cents. This pig, if fattened, instead, for the next high market, four months later, weighing 240 pounds, would return a net profit of \$5.

A schedule was then worked out for the breeding of sows to produce pigs which could be fed for the high-priced market. These points in breeding and marketing are kept before the farmers by charts and printed material sent to demonstrators and publicity in newspapers.

Feeding demonstrations in 1922 numbered 275. During the period September 1, 1922, to March 1, 1923, 98 demonstrations were started in 20 North Carolina counties. Records were completed in 62 of these demonstrations in which 646 hogs were fed. These hogs made a daily average gain of 1½ pounds on a feed cost of \$6.33 per hundred pounds. Three-fourths of the feed was produced on the home farms and approximately 85 per cent of its fertilizer value returned to the soil.

In each case where the demonstrations have been completed and the results given reasonable publicity among the neighboring farmers, it has been followed by gratifying results. Cooperative shipments of from one to three cars of hogs are frequently made and, last year, a premium of \$1 per hundred pounds was paid for all hogs fed under the demonstration plan. The quality of the stock is gradually rising, over 300 registered boars and more than 1,000 registered sows having been brought into demonstration territory last year.

To determine the relative merit of methods used in combating the boll weevil under different soil and weather conditions, the Division of Crop and Livestock Estimates has sent out 200,000 copies of what is known as a Special Boll Weevil Inquiry. It is hoped that from a study and comparison of the experience of actual farmers and practical cotton growers the bureau may learn more about what methods of growing cotton profitably have proven successful in spite of the weevil and under what conditions certain methods succeed or fail.

BRIEF REVIEWS OF NEW BULLETINS.

Laws Relating to Fur Animals for the Season 1923-24. By George A. Lawyer, chief United States game warden, and Frank L. Earnshaw, assistant interstate commerce in game, enforcement of migratory bird treaty, and Lacey Acts, Bureau of Biological Survey. Pp. 34. November, 1923. (Farmers' Bulletin 1387.)

Laws in the different States vary in the manner in which they afford protection to the several species of fur-bearing animals. In many cases the open seasons were shortened by the 1923 sessions of the legislatures. Laws concerning trapping licenses have become more stringent, and in many cases the license fees have been increased. Several States have discontinued the payment of bounties and now cooperate with the Biological Survey in the destruction of predatory animals. In a few States permits must be obtained for all shipments of furs going out of the State, and in a few States trappers are required to render annual reports of their fur catch. In addition to reviewing the legislative changes enacted in 1923, the bulletin contains summaries of the various State laws on open seasons for trapping, prohibited methods of capture, license requirements, restrictions on sale and export, and conditions under which fur species may be kept in captivity.

Bordeaux-Oil Emulsion. By John R. Winston, pathologist, and John J. Bowman, junior pathologist, office of fruit-disease investigations, Bureau of Plant Industry, and W. W. Yothers, entomologist, office of fruit-insect investigations, Bureau of Entomology. Pp. 24, figs. 3. November 21, 1923. (Department Bulletin 1178.) Price, 5 cents.

Citrus growers in Florida are adopting the use of a combination spray developed by the department to control both fungi and insects at one and the same application of the spray. An important practical advantage from such a mixture is the saving on labor and team expenses resulting from one application taking the place of two. This bulletin suggests the Bordeaux-oil emulsion, a mixture of 3-3-50 Bordeaux mixture and 1 per cent of oil in the form of an emulsion. The Bordeaux fraction is equally as effective against fungi as is Bordeaux mixture, and the oil emulsion fraction is equally as effective against insects as is plain emulsion.

Flax-Stem Anatomy in Relation to Retting. By Robert L. Davis, assistant plant breeder, office of fiber investigations, Bureau of Plant Industry. Pp. 27, figs. 23. October, 1923. (Department Bulletin 1185.) Price, 5 cents.

The present method in common use for retting wet flax stems for completion of retting is not entirely dependable or satisfactory. This bulletin discusses two methods of testing the completion of the retting process which are now in general use and proceeds to explain the experimental work which has been done in determining and devising other methods which might prove more satisfactory and dependable. Investigations show that the leaf-scar test is more dependable than the loose-core test now in common use for deciding when retting is completed.

The Puss Caterpillar and the Effects of Its Sting on Man. By F. C. Bishopp, entomologist, Bureau of Entomology. Pp. 14, figs. 12. September, 1923. (Department Circular 288.) Price, 5 cents.

The occurrence of the puss caterpillar, or "Italian asp" and "possum bug," as it is

likewise called, in great abundance during a number of seasons in the last 8 or 10 years has given it considerable notoriety in the South. This circular tells of the distribution of the pest, the trees on which it lives and feeds, and its stages of development. The symptoms produced by the sting are described, and remedies both effective and ineffective in treating it are given. The logical method of procedure to prevent the occurrence of stings is early destruction of the caterpillar. For this the circular recommends several solutions for spraying shade trees, which have been found satisfactory in a number of cases.

Production of Improved Hardy Strawberries for Alaska. By C. C. Georgeson, agronomist in charge. Pp. 13, pls. 10. October, 1923. (Alaska Agricultural Experiment Stations Bulletin 4.) Price, 10 cents.

Experimental work at the various stations in Alaska has resulted in the development of a number of excellent varieties of strawberries suitable to Alaskan conditions of soil and climate. The wild native strawberry was made use of to some extent in developing commercial varieties. Strawberry growing for market on a fairly large scale is as yet (1923) confined to residents of the town of Haines and to homesteaders in that vicinity. Nearly every farmer has one or more acres in strawberries. Haines has a favorable climate, light rainfall, and much sunshine, and usually winters that are not too severe for the crop. The Haines strawberry growers have won a deservedly enviable reputation for their fruit, which nets them 35 cents per box.

ADDITIONAL PUBLICATIONS.

Fig Growing in the South Atlantic and Gulf States. By H. P. Gould, pomologist, office of horticultural and pomological investigations, Bureau of Plant Industry. Pp. 48, figs. 25. Revised October, 1923. (Farmers' Bulletin 1031.)

The Native Persimmon. By W. F. Fletcher, scientific assistant, office of horticultural and pomological investigations, Bureau of Plant Industry. Pp. 29, figs. 17. Revised September, 1923. (Farmers' Bulletin 685.) This is a general bulletin, intended for those to whom knowledge of the production, preparations, and uses of the native persimmon is of value.

Tuberculosis of Hogs. By John R. Mohler, Chief of the Bureau of Animal Industry, and Henry J. Washburn, senior bacteriologist, Pathological Division, Bureau of Animal Industry. Pp. 18, figs. 3. Revised September, 1923. (Farmers' Bulletin 781.) Suitable for general distribution.

AGRICULTURAL EXPERIMENT STATIONS.

Several requests have come to THE RECORD for the addresses of the various agricultural experiment stations where publications of the latter could be obtained. In response, the following list is given containing the post-office addresses of the experiment stations of the United States, followed by the name of the director or other officer in charge:

ALABAMA.—College station, Auburn, D. T. Gray; Canebrake station, Uniontown, W. A. Cammack; Tuskegee station, Tuskegee Institute, G. W. Carver.

ALASKA.—Sitka, C. C. Georgeson.¹
 ARIZONA.—Tucson, J. J. Thornber.
 ARKANSAS.—Fayetteville, ———.
 CALIFORNIA.—Berkeley, C. M. Harling.
 COLORADO.—Fort Collins, C. P. Gillette.
 CONNECTICUT.—State station, New Haven, Storrs station, Storrs; W. L. Slate, jr.
 DELAWARE.—Newark, C. A. McCue.
 FLORIDA.—Gainesville, Wilmon Newell.
 GEORGIA.—College station, experiment, H. P. Stuckey; Coastal Plain station, Tifton, S. H. Starr.
 GUAM, ISLAND OF.—Guam, C. W. Edwards.²
 HAWAII.—Federal station, Honolulu, J. M. Westgate¹; Sugar Planters' station, Honolulu, H. P. Agee.
 IDAHO.—Moscow, E. J. Iddings.
 ILLINOIS.—Urbana, H. W. Mumford.
 INDIANA.—Lafayette, G. I. Christie.
 IOWA.—Ames, C. F. Curtiss.
 KANSAS.—Manhattan, F. D. Farrell.
 KENTUCKY.—Lexington, T. P. Cooper.
 LOUISIANA.—State station, University station, Baton Rouge; Sugar station, Audubon Park, New Orleans; North Louisiana station, Calhoun; Rice station, Crowley; Fruit and Truck station, Hammond, W. R. Dodson.
 MAINE.—Orono, W. J. Morse.
 MARYLAND.—College Park, H. J. Patterson.
 MASSACHUSETTS.—Amherst, S. B. Haskell.
 MICHIGAN.—East Lansing, R. S. Shaw.
 MINNESOTA.—University Farm, St. Paul, W. C. Coffey.
 MISSISSIPPI.—Agricultural College, J. R. Ricks.
 MISSOURI.—College station, Columbia, F. B. Mumford; fruit station, Mountain Grove, F. W. Faurot; poultry station, Mountain Grove, T. W. Noland.
 MONTANA.—Bozeman, F. B. Linfield.
 NEBRASKA.—Lincoln, E. A. Burnett.
 NEVADA.—Reno, S. B. Doten.
 NEW HAMPSHIRE.—Durham, J. C. Kendall.
 NEW JERSEY.—New Brunswick, J. G. Lipman.
 NEW MEXICO.—State College, Fabian Garcia.
 NEW YORK.—State station, Geneva, R. W. Thatcher; Cornell station, Ithaca, A. R. Mann.
 NORTH CAROLINA.—State College station, Raleigh, B. W. Kilgore.
 NORTH DAKOTA.—Agricultural College, P. F. Trowbridge.
 OHIO.—Wooster, C. G. Williams.
 OKLAHOMA.—Stillwater, C. T. Dowell.
 OREGON.—Corvallis, J. T. Jardine.
 PENNSYLVANIA.—College station, State College, R. L. Watts; institute of animal nutrition, State College, E. B. Forbes.
 PORTO RICO.—Federal station, Mayaguez, D. W. May; insular station, Rio Piedras, R. M. Ramos.
 RHODE ISLAND.—Kingston, B. L. Hartwell.
 SOUTH CAROLINA.—Clemson College, H. W. Barre.
 SOUTH DAKOTA.—Brookings, J. W. Wilson.
 TENNESSEE.—Knoxville, C. A. Mooers.
 TEXAS.—College station, B. Youngblood.
 UTAH.—Logan, William Peterson.
 VERMONT.—Burlington, J. L. Hills.
 VIRGINIA.—College station, Blacksburg, A. W. Drinkard, jr.; truck station, Norfolk, T. C. Johnson.
 VIRGIN ISLANDS, U. S. A.—St. Croix, J. B. Thompson.¹
 WASHINGTON.—Pullman, E. C. Johnson.
 WEST VIRGINIA.—Morgantown, H. G. Knight.
 WISCONSIN.—Madison, H. L. Russell.
 WYOMING.—Laramie, J. A. Hill.

¹ Agronomist in charge.

² Animal husbandman in charge.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

Agricultural problems of India. By R. B. G. Ram. Simla, M. Manzur Ali, 1917.

Agriculture and credits. By T. J. Faithfull. London, Credit research library, 1922.

Analytical microscopy. By T. E. Wallis. London, E. Arnold & co., 1923.

Anatomy and physiology of the seed plants. By R. E. Torrey. Amherst, Mass., 1922.

Bakery management. By W. T. Ryle. London, MacLaren & sons, Ltd. [1923?]

Biology of home and community. By G. H. Traiton. New York, Macmillan co., 1923.

Le blé. Compte-rendu des travaux de la Semaine nationale du blé. Paris, 1923.

Bomulls-industriens produktions-förhållanden. Av K.-G. Hagström. Stockholm, Marcus' boktryckeri-aktiebolag, 1921.

Book of letters. By M. O. Crowther. Garden City, N. Y., N. Doubleday, inc., 1923.

Brief survey of Italy's economic condition. International chamber of commerce. Italian section. Rome, 1923.

Cactaceae. v. 4, p. 1-80. By N. L. Britton and J. N. Rose. Washington, Carnegie institution of Washington, 1923.

Chemical basis of growth and senescence. By T. B. Robertson. Philadelphia, J. B. Lippincott co., 1923.

Cincinnati zoo guide. By S. A. Stephan. Cincinnati, O., 1923.

Congresso de inspectores agricolas. 1st. Rio de Janeiro, 1922. Annaes. Rio de Janeiro, 1923.

Corn and corn-growing. By H. A. Wallace and E. N. Bressman. Des Moines, Wallace pub. co., 1923.

Cotton growing in South Africa. By G. F. Keatuz. London [Guilford, Eng., Printed by Billing and sons, Ltd.] 1923.

Development of the sciences. Ed. by L. L. Woodruff. New Haven, Yale university press, 1923.

Few Texas plants. By Lula Pace. Waco, Tex., Baylor press, 1923.

Game birds and wild-fowl of Great Britain and Ireland. By Archibald Thorburn. London, Longmans, Green and co., 1923.

Géologie, hydrologie et agronomie appliquées. La vallée de Beaulche (Yonne). Par Pierre Larue. Paris, J. B. Baillière et fils, 1911.

Handbook of the Canadian customs tariff and excise duties. Comp. by M. P. McGoldrick. Montreal, McMullin publishers, Ltd., 1923.

Industrial filtration. By Arthur Wright. New York, Chemical catalog co., 1923.

Investigations on oilpalms. By A. A. L. Rutgers. Batavia, Ruygrok & co., 1922.

Das kali. v. 1. Von Paul Kriesche. Stuttgart, F. Enke, 1923.

Laboratory manual of inorganic chemistry. 2d ed. By J. B. Ekeley. New York, J. Wiley & sons, inc., 1923.

Maladies des abeilles. By P. J. Baldensperger. Nice, G. Mathieu, 1922.

Mesures propres à lutter contre la dépopulation des communes montagnardes et rurales. Union suisse des paysans. Brougg, 1919.

Methods of seed analysis. By C. B. Saunders. National institute of agricultural botany. Cambridge, Eng., 1923.

Nova Caledonia. v. 1, fig. 1-3. Von Fritz Sarasin. Wiesbaden, C. W. Kreidel, 1914-21.

Ornithologia Neerlandica. De vogels van Nederland, v. 1. Door E. D. van Oort, 's Gravenhage, M. Nijhoff, 1922.

Parassitologia animale. Per Davide Carazzi. Milano, Società editrice libraria, 1922.

Possibilidades da cultura algodoeira no Brasil. Por W. W. Coelho de Souza, Rio de Janeiro, Imprensa nacional, 1922.

Die rauchschadenfrage der aluminiumfabriken. Von F. Wille. Berlin, P. Parey, 1922.

Raw products of the world. v. 1. By Ralph Davol. Taunton, Mass., Davol pub. co., 1922.

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Indices botanici et materiae medicae quibus plantarum genera. [By] Giuseppe Monti. Bononiae, 1753.

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CIVIL-SERVICE ANNOUNCEMENTS.

Entomological Ranger, \$1,000-\$1,400, January 9, 1924. A vacancy in the Bureau of Entomology, for duty at Klamath Falls, Oreg., at \$1,200 a year and vacancies in positions requiring similar qualifications, for service in the Rocky Mountains or Pacific Coast States, or elsewhere, at \$1,000 to \$1,400 a year, will be filled from this examination. The duties of this position will be to collect specimens and information, locate and mark trees infested with destructive insects, and give instructions and assistance to private owners on the practical details of the methods recommended for the control and prevention of insect depredations on living timber. Credit will be given for any experience in cruising forest areas for the purpose of collecting specimens of insects and their work, locating and reporting on insect-infested timber, and taking notes on observations on forest ranger work. If interested apply for Form 1812.

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by Department Workers

Caudell, A. N. (Entomology). Report on Orthoptera and Dermaptera collected by the Barbados-Antigua expedition from the University of Iowa in 1918. University of Iowa Studies in Natural History, vol. 10, no. 1, pp. 19-44, figs. 2, March 15, 1923.

Fellows, A. Lincoln (Public Roads). Earth dams require study. Engineering News-Record, vol. 91, no. 19, p. 776, Nov. 8, 1923.

Goldbeck, A. T. (Public Roads). Behavior of concrete roads under service conditions. Michigan Roads and Pavements, vol. 20, p. 18, Nov. 8, 1923.

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Hyslop, J. A. (Entomology). The present status of the coleopterous family Plasteridae. Proc. Ent. Soc. Wash., vol. 25, no. 7-8, pp. 156-160, pl. 12, Oct.-Nov., 1923.

MacDonald, T. H. (Public Roads). Basic principles of highway management and finance. Michigan Roads and Pavements, vol. 20, p. 12, Nov. 8, 1923.

Rohwer, S. A. (Entomology). A new Macrocentrus reared from the strawberry leaf-roller (Hymenoptera, Braconidae). Proc. Ent. Soc. Wash., vol. 25, no. 7-8, p. 168, Oct.-Nov., 1923.

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Schaus, William (Entomology). A new genus and species of moth of economic interest in the United States National Museum. Proc. Ent. Soc. Wash., vol. 25, no. 7-8, p. 164, Oct.-Nov., 1923.

EXPERIMENT STATION PUBLICATIONS.

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations during the week of November 19-24, 1923. These publications can be obtained only from the stations issuing them.

Temperature Experiments During the Incubation of Hen Eggs. A. G. Phillips and F. D. Brooks. (Indiana Sta. Bul. 275, pp. 16, figs. 5. Nov., 1923.)

The Colorimetric Hydrogen-ion Determination as a Means of Locating Faulty Methods at City Milk Plants. L. H. Coolegge. (Michigan Sta. Spec. Bul. 124, pp. 19, figs. 4. Sept., 1923.)

Scale Insects of Missouri. A. H. Hollinger. (Missouri Sta. Research Bul. 58, pp. 71, pls. 7. Apr., 1923.)

The Chemical Nature of a Colloidal Clay. R. Bradfield. (Missouri Sta. Research Bul. 60, pp. 60, figs. 7. June, 1923.)

Picking, Handling, and Exhibiting Fruit. T. J. Talbert and A. M. Burroughs. (Missouri Sta. Circ. 113, pp. 7, fig. 1. Aug., 1923.)

Chemical Analyses of Montana Soils. E. Burke and R. M. Pinckney. (Montana Sta. Bul. 159, pp. 13. Aug., 1923.)

Nebraska Farm Tenancy—Some Community Phases. J. O. Rankin. (Nebraska Sta. Bul. 196, pp. 50, figs. 25. Oct., 1923.)

Winter Lamb Feeding. 1919-20, 1920-21, 1921-22. W. H. Savin. (Nebraska Sta. Bul. 197, pp. 23, fig. 1. Oct. 1923.)

"Ammo-phos": Its Effect Upon Seed Germination and Plant Growth. D. G. Coe. (New Jersey Sta. Bul. 375, pp. 102, figs. 32. Jan., 1923.)

Some Principles Which Underlie the Making and Use of Nicotine Dust. T. J. Headlee and W. Rudolfs. (New Jersey Sta. Bul. 381, pp. 47, figs. 18. Jan., 1923.)

Para-dichlorobenzene (p-c-benzene) for Controlling the Peach-Tree Borer. A. Peterson. (New Jersey Sta. Circ. 156 (revision of Circ. 126), pp. 12, figs. 8. Sept., 1923.)

Alfalfa Fertilizer Experiments. C. E. Craig and W. T. Couway. (New Mexico Sta. Bul. 137, pp. 22, pl. 1, fig. 1. Mar., 1923.)

Rural Credits in Utah. E. B. Brossard. (Utah Sta. Circ. 48, pp. 42, fig. 1. Sept., 1923.)

The Fishy Flavor in Butter. H. H. Sommer and B. J. Smit. (Wisconsin Sta. Research Bul. 57, pp. 51. Oct., 1923.)

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UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

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No. 50.

MARKED IMPROVEMENT IN FARM SITUATION

Secretary's Report Says Farmer's Position More Favorable Than in 1922.

Higher prices for many farm products and some reduction in the prices of the things farmers have to buy have brought about a marked improvement in the condition of agriculture in the last year, although the situation is not yet satisfactory viewed either from the standpoint of the farmer or from the standpoint of the national welfare, said the Secretary in his annual report to the President, which was made public last Monday. After citing the favorable aspects of the farmer's position, he reviewed some of the adverse conditions with which the farmers are faced, with the thought that a bad condition can not be corrected unless it is understood.

Total Farm Income Greater.

Total general farm income, said the Secretary, will be considerably greater this year than it was in 1922. In 1923 farmers planted 341,000,000 acres of the principal crops, an increase of 4,000,000 acres over the area planted in 1922 and of 3,000,000 acres over that of 1921. Yield of these crops is estimated to aggregate 265,000,000 tons, which is about the same as in 1922 and 11,000,000 tons more than the yearly average in the last 10 years. The value of 11 of these crops—corn, wheat, oats, barley, rye, buckwheat, flaxseed, potatoes, sweet potatoes, hay, and cotton—as of October 1 (except in the case of corn, which is calculated at the December future prices recorded in the first 15 days of October) is \$6,947,000,000, compared with \$5,711,000,000 last year and \$5,289,000,000 in 1921. These figures do not indicate the total value of farm crops grown. They are mentioned, said the Secretary's report, simply to show the substantial increases in money received by the farmers

this year compared with their receipts in 1922 and 1921.

Some Commodity Prices Higher.

In some lines of farm production, the report said, prices have been satisfactory, while in other lines low prices have added to the financial difficulties of the farmers. The farm price of wool, stimulated by a protective tariff, is more than twice the pre-war price. Cotton at the farm is worth two and a quarter times its pre-war value, and the purchasing power of cotton per acre is above the pre-war average, despite the ravages of the boll weevil. Butter, cheese, and milk, said the Secretary, have brought remunerative prices, and poultry and eggs have been profitable. Other farm commodities that have ranged higher than the general price level are beans, apples, broomcorn, cabbage, onions, cotton seed, and lambs.

Farm commodities that are still below the general price level include horses, rye, barley, timothy seed, oats, hogs, wheat, hay, veal calves, beef cattle, milk cows, corn, clover seed, buckwheat, sweet potatoes, flaxseed, and potatoes. Many of these products, however, have risen in price in the last year, notably corn and flax. But the price of corn, the Secretary noted, must be taken in conjunction with the price of hogs, since not more than 20 per cent of the corn crop will be sold as corn but will be fed to hogs and other livestock, and therefore enters into the cost of producing meat. Hog production received a great impetus from the existence two years ago of a large surplus of corn, and marketing of hogs in the year ended June 30, 1923, exceeded that for the preceding year by more than 9,000,000 head, with the result that hog prices have fallen and corn fed hogs is fetching lower prices than corn sold on the market.

Turning to the dark side of the picture, the Secretary said the ratio between the prices of most farm products and the prices of other commodities is still far out of line. Industrial wages continue at war-time levels and help to maintain high prices for what the farmer has to

(Continued on page 3.)

PLANT INDUSTRY REPORT SHOWS MUCH PROGRESS

Many Problems Solved by Improved Varieties and Study of Disease Control.

The year's work of the Bureau of Plant Industry described in the report recently made to the Secretary shows much progress in solving the problems of plant production, the control of diseases, the breeding of improved varieties, the introduction of promising seeds and plants from foreign countries, and the development of methods for the utilization of perishable crops, such as fruits and vegetables. Much of the work done is of the kind which brings its greatest returns after there has been time for the commercial development of discoveries.

In combating plant diseases a great deal of progress has been made through obtaining highly resistant or immune strains by trial and selection. Varieties of wheat resistant to flag smut are being developed, and this disease is no longer considered the menace it was thought to be a few years ago. In the study of scab, a disease which damages both wheat and corn, it has been discovered that wheat seedlings are more resistant when grown at comparatively low soil temperatures and that corn seedlings are more resistant to it when the soil is warm. Barberry eradication was carried on extensively in cooperation with a number of States for the control of black stem rust, and up to the present time nearly 6,000,000 bushes have been eradicated.

New varieties of oats have been secured in cooperation with State experiment stations, and a number of them are being distributed. The root and stalk rots of corn have been found to require special soil management for their control; in some cases proper fertilization and amendments are all that is required, while to control the parasitic types

crop rotation is needed in addition. Some new forage crops are being developed, and improved varieties of common crops have been developed and new methods are being tried for handling them. New and rare field seeds are being brought into the country, tried out, increased, and distributed to growers.

Valuable results have been obtained in the treatment of "tobacco-sick" soils, and means have been found for the prevention of a condition known as "sand drown" by the use of magnesia. Various phases of cotton production have received attention, including cultural methods and special varieties to help in the control of the boll weevil, trials of cotton classing in the field, and breeding to maintain the purity of Egyptian cotton grown in the Southwest. Studies have been made of the possibilities of growing binder-twine fiber in Porto Rico, the Virgin Islands, and the Philippines.

The improvement of citrus fruits is now being greatly increased through the use of bud selection from trees with performance records, and means have been found for the control of stem-end rot of citrus fruits. Through work being carried on in the Southwest the infant date industry is being greatly stimulated, and there is a new interest in the production of figs. The fruit and nut industries are being helped not only through the introduction and development of better varieties and methods of growing, but also through studies of handling and shipping the products.

Improvements in the principal vegetables have been obtained through the selection of seed stocks, the development of improved varieties, and the control of diseases. In the field of forest trees work has been carried on with white pine blister rust, which is now spreading in the Northwest, and in the East the chestnut blight. The Chinese chestnut has been found quite resistant to the disease. In addition to these two important trees which are menaced, it is reported that another valuable tree, the Douglas fir, is in danger because of canker which occurs on these trees in Scotland and which already may be in this country.

Types of Farming Undergo Certain Minor Changes

Although types of farming in the United States are more or less fixed by necessary adaptation to conditions of soil, climate, and markets, they are always undergoing minor changes, and the last

few years, with the unprecedented disturbances in commodity prices and in production and transportation costs, have brought about an unusual number of readjustments. The department has obtained reports on crop changes in many States, which give some idea of the shake-up in agriculture.

Eastern farmers, with a high freight rate differential in their favor, are considering whether they can not produce some of the feed which they now buy. In the South the inroads of the boll weevil have compelled some farmers to turn from specialization in cotton to other crops. Flax has been successfully substituted for wheat in a small portion of the spring wheat region.

There has been a big increase in the number of sheep in the United States in the last two years, under the stimulus of tariff protection and an active demand for wool. In the last year the farm price of sheep has risen from \$4.80 to \$7.50 a head; the farm price of wool has increased from an average of 29 cents a pound in 1922 to 38 cents in the present year. These advances have been a boon to many farmers whose major crops have not brought good prices. Further expansion of the sheep industry probably would be profitable.

Farmers in the semiarid regions, especially in western North Dakota and eastern Montana, are finding that it pays them to grow corn on land which they have been accustomed to summer fallow. With only a small additional amount of labor required for planting and cultivating, they are growing a feed crop which helps them to broaden their livestock production.

If the present price of corn continues, it is believed it will be profitable to increase the corn acreage in most of the Corn Belt. An acre of corn in Ohio this year promises to be worth nearly twice as much as an acre of wheat or oats.

Wheat acreage has been cut down throughout the country since 1919 except in parts of the Northwest States, which are practically a one-crop area. Yet even here farmers are introducing milk cows on their farms, or increasing the number already owned. Some have been successful with hogs and poultry. Farming conditions are more hazardous in the Montana triangle than in any other part of the spring-wheat area, but Government experts believe there are prospects of success in some localities.

That farmers in some parts of the country are overlooking opportunities to make money, is shown by investigations recently made around Altoona, Pa. This city shipped in 92 per cent of all the potatoes it consumed in 1922, notwith-

standing the fact that Blair County, in which the city is located, is a good potato-growing area. Most of the Blair County farmers are dairymen. Although dairying may be on the whole a more profitable occupation than potato growing, yet a few more acres of potatoes could be grown on many Blair County farms without limiting the extent of profitability of dairying.

In the Yakima Valley, Washington, where probably larger yields of potatoes of the highest grade are produced than in any other area in the country, potato growers are working on plans to prevent a repetition of losses suffered in the last few years from lack of a readily accessible market.

The development of dairying around New York City illustrates that some farmers are constantly on the alert to take advantage of new opportunities as they arise. Growth of the urban population and improved methods of handling and shipping milk have steadily widened the field of distribution. Similar extension of dairying areas have been made, though to a lesser degree, around other large cities.

Another example of wholesale readjustment in farming policies due to a changed condition is furnished by the country along the Gulf and Atlantic coasts, where climatic conditions make the fight against the boll weevil exceptionally hard. Cotton acreage in parts of this region has been cut 50 per cent. Farmers are turning to the production of maintenance crops, velvet beans, peanuts, other forage crops, and pastures for the extension of hog-raising, beef production, and dairying. In some localities sugar cane for sirup, sweet potatoes, watermelons, and other truck crops, are receiving increased attention.

Readjustments now taking place in agriculture, say officials of the department, draw attention to a fact sometimes forgotten, namely, that changes are always going on in the basic conditions of farming due to the growth and distribution of population, the rise or fall of wages and prices, the increased or lessened cost of transportation, crop pests and diseases, and other influences. Wide-awake farmers are quick to note these changes and modify their production policies accordingly. Farming today is more uncertain than it has been for many years. It is undergoing more necessary readjustments. Farmers who study the situation, and alter their plans to suit the circumstances, will be the first to cut their losses on crops that for any reason have become unprofitable, and the first to get their farms back on a paying basis.

A DIGEST OF THE NEWS

Brief bits of News Digested From
Material Issued by Department During
the Past Week.

FOREIGN MARKET IS UNIMPROVED.

Economic conditions in Europe the past month have not improved the foreign market for American farm products, according to the monthly world agricultural review by the department. Germany continues in a condition of almost complete economic demoralization, and the unprecedented low level of French exchange has placed American products at great disadvantage in French markets. The drop in sterling exchange and possible adoption of the discriminatory tariff legislation recommended by the imperial conference point to a restricted British market for some American products. The Italian wheat crop has exceeded previous estimates. Russian grain exports have increased, and additional contracts have been reported for the exchange of Russian grain for machinery and other commodities.

WAR EXPLOSIVE PROVES ECONOMICAL.

Some 45,000 farmers in 28 States have used picric acid, a surplus war explosive, says the Bureau of Public Roads, which has had charge of the distribution. These farmers have used 7,500,000 pounds of the explosive to clear 250,000 acres of land and to remove stumps from about 86,000 acres in cultivation. It is estimated that the actual saving to the farmers over the cost of commercial explosives has amounted to \$750,000, but the actual benefits have been more far-reaching, as thousands of small farms have had the acreage of cultivatable land increased.

PREDATORY WOLVES UNDER CONTROL.

Predatory wolves in the West are gradually being brought under control, according to the Biological Survey, which has been assisting in campaigns against these enemies of domestic livestock. Many areas have now been freed from them, and flocks and herds can graze in safety where formerly raids by predatory animals meant nightly slaughter of domestic animals on the range.

LIVESTOCK ABROAD HAS IMPROVED.

Results collected by the Bureau of Animal Industry show that the department and the various States are not alone in carrying on a campaign for better live-

stock. The ministry of agriculture for England and Wales has been working for nine years on a "livestock scheme" which is a combination of the "better sires—better stock" campaign, cooperative bull associations, cow-testing associations, and register of merit of the United States. Reports from countries in Europe, South America, Asia, and Africa, where various methods for improving livestock are being used, also show a general activity in this field. The work is prompted by a growing recognition of the economic value of well-bred livestock.

FRENCH AGRICULTURE RECOVERING.

Agricultural reconstruction in France has now reached the point where wheat production is about 90 per cent of pre-war production, reports to the department show. The population in the war zone is now placed at 4,207,000 as compared with 2,000,000 when the armistice was signed. This has made possible the progress in restoring the soil, factories, and mines to working order, the department says. Of the 8,000,000 acres of land of all kinds requiring treatment, virtually all has been cleared of explosives, all but about 1,000,000 has been cleared of barbed wire, and trenches leveled, and of the soil formerly under crops almost all that can be made to yield again is under cultivation.

CORN-BORER REGULATIONS AMENDED.

An amendment to the corn-borer quarantine regulations, effective November 30, is announced by the Federal Horticultural Board. One object of the change is to provide for better baling of imported broomcorn, so as to insure safe handling without scattering and wastage. The amendment also limits the period of entry of manufactured broomcorn at New York to November 1 to January 31. The period of sterilization of imported broomcorn at New York can be completed during the dormant period of the pest.

SURVEY MILEAGE OF SURFACED ROADS.

The mileage of surfaced roads in the United States, including sand-clay, gravel, macadam, as well as those which have been paved, is well over 400,000 miles, according to the Bureau of Public Roads. At the close of the year 1921 the surfaced mileage was approximately 387,000 miles and 35,000 miles were constructed in 1922. It is believed that the 1923 construction will not fall short of the previous year's record and that by the end of the previous year the surfaced mileage will be somewhere near 430,000 miles.

MARKED IMPROVEMENT IN FARM SITUATION

(Continued from page 1.)

buy. High freight rates still rule, and unfavorable exchange rates with European countries have narrowed the export trade in farm commodities. Costs of retail distribution of farm commodities are unreasonably high. Moreover, the fall in prices generally since the war period has made it impossible for debts to be paid with the same quantities of commodities that would have paid them when they were incurred. While the price level can not be adjusted with that nicety which would do equal justice to everyone, it would seem to be in the public interest, the Secretary said, that while the country is working out of war difficulties the price level should be maintained at from 60 to 70 per cent over the pre-war level.

Wheat Acreage Reduced.

That the farmers themselves are taking energetic action to overcome their troubles is indicated by figures given in the report regarding the reduction of wheat acreage. It is said the process has been going on faster than is realized. From a high point of 75,000,000 acres in 1919, to which war-time demands carried the wheat area from a pre-war total of 47,000,000 acres, there has been a shrinkage to 58,000,000 acres this year, affected by substitution of other crops and letting land remain idle. Reduction of wheat acreage is still going on.

It must be kept in mind, however, said the Secretary, that in large areas of the West and Northwest soil and climate are better adapted to the production of wheat than any other crop. Farmers in those sections are fixed for growing wheat and can not immediately change to another crop, even if some other crop promised success. In many sections good progress has been made in diversification, but diversification in a large way requires time and money.

The Secretary concluded therefore that diversification, while advisable where possible, does not afford a means of quick relief for agriculture. In considering the demand for Government action to help agriculture, it is well to bear in mind, he said, that both industry and labor have been the beneficiaries of Government action in recent years, and he also pointed out that industry, commerce, and labor have prospered of late at the expense of agriculture. He declared that the longer this continues the more hurtful to the Nation will be the ultimate result, and added that the truth of the statement that in the United States national prosperity must rest on a sound and prosperous basis remains unchallenged.



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OFFICIAL ANNOUNCEMENTS.

Memoranda of the Secretary.

MEMORANDUM No. 460.—November 26, 1923.—Mr. Paul D. Kelleter, director of purchases and sales, is hereby appointed a member of the department advisory committee on finance and business methods. With Mr. Kelleter's appointment the personnel of the committee is as follows: A. Zappone, chairman; R. M. Reese; A. McC. Ashley; Roy Headley; Paul D. Kelleter.

Amendments to the Fiscal Regulations.

MEMORANDUM No. 461.—November 26, 1923.—The following paragraphs of the fiscal regulations of the department are hereby amended to read—

Paragraph 53, "Preparation of travel accounts," is amended by the addition of the following section:

• (i) Accounts covering travel in foreign countries must be stated in the currency of the country or countries in which expenditures are made, the total of all expenditures in each country to be converted into the currency of the United States at the exchange rates which prevailed at the time United States currency was converted into the currency of that country. When United States currency is converted into foreign currency a certificate should, if practicable, be obtained from the bank or other institution where the conversion was accomplished showing the rate of exchange then current, and such certificate should accompany the reimbursement account or the impracticability of obtaining it set forth. Per diem allowances in lieu of subsistence which accrue during foreign travel should be claimed in the currency of the United States.

64. *Purchase orders requiring the approval of director of purchases and sales.*—The Forest Service and Bureau of Public Roads may issue orders in amounts not exceeding \$1,000, which amount is increased to \$2,500 in the case of orders and contracts for road construction, station work, and supplies required solely for fire suppression and the maintenance of roads and trails wholly or partially within national forests.

No other bureau shall order job work or supplies in excess of \$500 without approval of the director of purchases and sales.

Acceptance of all bids other than those exempted by paragraph 73 shall be by director of purchases and sales; notice of such acceptance shall also be by him.

In absence of such prior action the approval of the director of purchases and sales must appear upon vouchers covering expenditures in excess of the above limitations. Each such voucher submitted shall be accompanied by a statement setting forth the reason why prior approval by the director of purchases and sales was not obtained.

Passenger-carrying motor-driven vehicles and motion-picture cameras and projection machines must not be purchased without the specific authority of the director of purchases and sales.

65. *Purchases from general supply committee contracts.*—The General Supply Committee contracts cover supplies for delivery in the city of Washington only except where specific provision is made for a field service. However, with the consent of the contractor any supplies may be purchased under the contracts of the General Supply Committee for delivery outside of the city of Washington. Subject to the provisions of paragraphs 67 and 68 supplies and materials for use in scientific, laboratory, or research work may be purchased independently of the General Supply Committee contracts, but the statement "for use in scientific, laboratory, or research work" must appear on each voucher covering such purchases when similar articles have been contracted for by the General Supply Committee.

66. *Purchases less than \$50.*—When the aggregate amount involved does not exceed \$50, purchases may be made without obtaining bids (a) if the supplies, whether or not contracted for by the General Supply Committee, are for use in scientific, laboratory, or research work; (b) if the supplies are for use of a field service outside the District of Columbia and no specific provision is made for such field service in the contracts of the General Supply Committee; (c) if the supplies are not contracted for by the General Supply Committee or included in the envelope contracts of the Postmaster General; and (d) if the supplies are contracted for by the General Supply Committee, but delay incident to obtaining them from the contractor would be detrimental to the best interests of the work. Purchase or other orders shall not be split for the purpose of defeating the requirements of competition. (See pars. 67 and 68 for instructions regarding purchases in excess of \$50 and instructions regarding exigency statements.)

67. *Purchases in excess of \$50.*—Except as provided by paragraph 68 no purchase of or contract for supplies or services, other than personal services, when the aggregate amount involved exceeds \$50, shall be made until after advertisement a sufficient time previously for proposals respecting the same. Such advertisements shall be by one of the following methods: (a) In newspapers, upon specific authority (see par. 2) when the amount involved is \$2,500 or more; or (b) by formal proposals sent to three or more dealers, when the aggregate amount involved exceeds \$50 and is less than \$2,500. Either of these methods may be supplemented by posting notices in public places inviting competitive bidding, when it seems probable that better competition will be obtained thereby. All bids for supplies or services for use of the department in Washington must be obtained through the director of purchases and sales. Bids for supplies or services for the field shall, whenever practicable, also be obtained through the director of purchases and sales.

72. *Supplies purchased from contingent fund of department available for bureau use.*—Whenever practicable the various bureaus, divisions, and offices of the department should secure from the property clerk, office of the secretary, on stores requisition, all stationery, office supplies and miscellaneous materials which are purchased from the contingent fund of the department and carried in stock by the said property room. Reimbursement for supplies furnished will be made to the appropriation for contingent expenses of the department by said bureaus, divisions, and offices from their lump-fund appropriations by transfer settlements in the General Accounting Office. Articles of mechanical equipment, paints, tires and other articles stocked by the mechanical shops of the department should also be obtained as above outlined.

73. *Acceptance of bids; contract and bond.*—No bid shall be accepted unless the price is reasonable. All bids and proposals shall be subject to these regulations. The contract of purchase will be complete and binding upon acceptance by the department of the bid or proposal and giving notice to the bidder. The forester, or a district forester when previously authorized in writing by the forester, and the Chief of the Bureau of Public Roads, or a district engineer of that bureau when previously authorized in writing by the chief of bureau, may accept bids or proposals when the amount involved is \$1,000 or less. The Forester or the Chief of the Bureau of Public Roads, or a district forester of the Forest Service or a district engineer of the Bureau of Public Roads, when authorized as aforesaid, may, when the amount involved is \$2,500 or less, accept bids or proposals for road construction station work, or for supplies, materials, and equipment required exclusively for fire suppression, and the construction or maintenance of roads or trails, giving notice to the successful bidder of all acceptances. A formal contract

and bond must be required for all construction work for which bids are accepted. In other cases the officer accepting the bid may, in his discretion, require such contract and bond utilizing the services of the most available law officer of the department in connection therewith. An official in charge of an experiment station in Alaska, Hawaii, Porto Rico, the Virgin Islands, or the island of Guam, when previously authorized in writing by the Secretary, may accept bids or proposals up to amounts fixed in such authorization, and shall give notice to the successful bidder of the acceptance thereof.

In all cases other than those covered by the preceding paragraph acceptances and notices thereof will be by the director of purchases and sales.

In all cases in which the amount involved in the purchase is \$1,000 or more, except in the case of purchase of supplies, materials, and equipment required exclusively for the maintenance of roads and trails, or fire suppression, where the amount of the purchase does not exceed \$2,500, the successful bidder will be required to execute a written contract supported by an appropriate bond. This requirement may be waived, however, by the director of purchases and sales when the articles to be purchased are of regular standard make or manufacture and in connection with the purchase of seeds for congressional distribution when immediate delivery is required.

When less than \$50 is involved and answers to inquiries, made in compliance with the fiscal regulations, result in quotations of reasonable prices, the lowest price quoted may be used informally by the chief of the bureau concerned as the basis of purchases in the open market.

Unless otherwise stated in the specification, or advertisement for bids or proposals, or in the contract of purchase, the department shall be bound only for the particular supplies in the quantities specified therein, and shall not be bound for supplies which may be purchased at any other time during that fiscal year.

WRITE AS YOU WOULD TALK.

What and why is a business letter? It is, isn't it, a substitute for a verbal message? Because the subject is not of sufficient importance to require a formal call, or because the distance between the parties prohibits it, a letter must be made to express what would otherwise have been spoken. * * * Words and phrases of a dead past are still going into the routine business letters of to-day; the construction of such letters is as unscientific as it was a century ago. Our spoken language has undergone great changes in that period because a language is a living thing and must grow or die. * * * Scores of modern yet conservative concerns have found the key to correct letter language in this question: "Would a representative of ours talk like this if we sent him instead of the letter?"—Charles H. MacKintosh, former president Associated Advertising Clubs of the World. System, November, 1923.

The final scenes for a new motion-picture film on the corn borer adapted to middle western conditions were taken in Ohio during the week of November 26. It is hoped to have this film ready for exhibition some time during the first half of December.

The Australian Government has made an exception of the United States in prohibiting importation of adult bees to prevent the introduction of serious diseases.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What is the annual value of the corn crop in the United States?

Answer. It varies greatly from year to year and from period to period. The 1921 crop, which was only 4 per cent less than the record crop of the previous year, was valued at only \$1,303,000,000 or 43 per cent of the annual value during the war period. The 1922 crop had a value of \$1,900,000,000.

Question. What is the volume of the timber business on the national forests?

Answer. At present the cut of national forest timber is about 1,000,000,000 board feet a year—992,000,000 board feet in the fiscal year 1923, to be exact. This timber brings about \$2,500,000 into the Treasury of the United States—\$2,641,244 in the same fiscal year 1923. Both cut and receipts are increasing as the lumber industry moves from the depleted forests of the East to the forests of the West, where most of the national forests are situated.

Question. Where is sugar cane grown in this country and to what extent?

Answer. Sugar cane is grown primarily in the Gulf region. In 1919 Louisiana led with an acreage of 234,049, and a tonnage of 2,435,683. Georgia ranked second with 41,558 acres and 365,603 tons, Alabama third with 25,302 acres and 208,342 tons, followed in turn by Mississippi, Florida, and Texas. The total production for the United States in 1919 was 372,938 acres and 3,544,679 tons.

Question. In making jelly with fruit deficient in pectin, is it necessary that the addition of pectin be declared on the label?

Answer. Yes. The presence of pectin must be plainly declared on the label where small amounts are used simply to supply the deficiency of pectin in the fruit, provided the added pectin is wholesome. Where the amount of pectin used is more than sufficient to supply the natural deficiency of the fruit, the article should no longer be designated as a fruit jelly without qualification, even though a subsidiary declaration of the presence of pectin is made. If the amount of fruit juice used is sufficient to impart definitely and unmistakably the characteristic odor, taste, and flavor of the fruit to the finished product there is no ob-

jection to the use of such a label as "pectin and raspberry (or other fruit) jelly." Where the amount of fruit juice used is insufficient to impart definitely the characteristics of the fruit to the finished product, the article should be labeled simply as a pectin jelly and, in the event a fruit juice has the effect of coloring the finished article, a declaration should be made to the effect that the article is colored with a fruit juice.

Question. Do farmers use radio sets regularly?

Answer. More than a quarter of a million farmers have radio sets according to a recent survey by the department. They use their sets regularly, not only for the entertainment they afford, but for listening in on weather and market reports. These reports are broadcast from more than 80 stations in the United States.

Extension Needs Discussed at Recent College Meeting

The committee on extension organization and policy of the Association of Land-Grant Colleges in its report to the thirty-seventh annual convention at Chicago, recently recognized the value of comprehensive and accurate reports of work accomplished and urged that increased attention be given to securing accurate and complete records of their accomplishments from all extension agents. It was decided in conference with representatives of the Office of Extension Work of the department that the date for filing annual reports of extension work with the department might be put forward one month to enable supervisory forces to review more fully such reports before forwarding to Washington.

The need for forestry extension work in many States was recognized and the employment of State extension foresters was indorsed.

Emphasis was laid on the importance of extension work with boys and girls and county workers were urged to devote a fair portion of their time to this work, stressing the value of club members as demonstrators of improved practices. Judging contests within restricted areas were commended as furnishing an incentive for club work and affording an opportunity for training large numbers of boys and girls in the fundamentals of good production; the disadvantages of overemphasis of the contest feature was pointed out and too extensive participation in interstate and national competitions discouraged. The use of methods demonstrations by boys and girls at public meetings and fairs was commended as

being helpful to the individuals, as a means of developing leadership, and as a practice exerting wholesome influence in local communities. Short courses held at educational institutions and other points within the State for successful club contestants were especially commended.

To meet a prevalent need of agricultural extension workers for readily available subject matter and general information, it was recommended that a handbook of extension information be prepared through the cooperation of the extension services of the United States Department of Agriculture and the State agricultural colleges.

Improvement of the farm home was classed as one of the fundamental factors in the stabilizing of agriculture and the belief was expressed that a well balanced program for extension work should include farm and home projects for both adults and juniors. The work of home demonstration agents was indorsed as the most effective means for extending improvement of the farm home as a part of such a program, and effort to provide for the employment of home demonstration agents in additional counties as rapidly as conditions warrant was commended. In counties without home demonstration agents it was deemed important that the State extension service through its specialists take action to organize home improvement work with available local assistance. A well developed local and county organization was indorsed as the most effective means through which the home demonstration agent might carry on her work.

The library has received a copy of the program and regulations of the Second World's Poultry Congress and Exhibition to be held at Barcelona-Madrid in May, 1924, under the honorary presidency of His Majesty King Alfonso XIII and Royal Highness the Prince of the Asturias, the official patronage of the Spanish Ministry of Agriculture and the municipality of Barcelona, with the assistance of the executive committee of the Universal Exhibition of Barcelona. The organization of the congress and exhibition has been entrusted to the Royal Spanish Poultry School of Arenys de Mar (Barcelona) and to the General Association of Breeders of Spain, which are collaborating with the International Association of Poultry Instructors and Investigators.

A rather extensive acreage of cigarette tobacco will be planted in portions of northern Florida the coming season for the first time.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

REMEDY FOR HOOKWORM DISCOVERED.

A new remedy for hookworm, carbon tetrachlorid, which is more efficacious than any previously known, was discovered by Dr. M. C. Hall in the Bureau of Animal Industry and introduced into veterinary medicine in 1921. It has solved the problem of hookworm treatment for dogs, cats, and foxes, and is now being used quite extensively in human medicine, where it has been found to be effective in removing hookworm from man. Additional work by the bureau has shown that the drug is also extremely effective against various blood-sucking worms in horses, sheep, and cattle.

The medical profession has made extensive use of the drug, especially in the field work of the International Health Board, during the past two years. It has been used in the United States, Mexico, Jamaica, Dutch Guiana, Brazil, the Philippines, Fiji, Ceylon, Samoa, Japan, Australia, India, and other countries. Over 50,000 cases have been treated in Fiji alone and it has been adopted there and elsewhere as the official drug for hookworm cases. It has been reported on favorably for use in the United States Army by Cooper and Vadala and has been used to some extent by medical officers of the Navy. Carbon tetrachlorid has long been in the dispensatory in connection with its uses aside from that as an anthelmintic. It was admitted this spring to the list of "New and non-official remedies," and is now under consideration for admission to the United States Pharmacopœia.

In human medicine it has been found to accomplish in one treatment what most drugs require two or more treatments to accomplish. Post-mortem examination of condemned criminals treated before death has shown the removal of all hookworms. Patients are usually able to do their day's work after taking the treatment instead of losing a day's work or several days' work. This is a matter of great importance in mass treatments of coolies on plantations and leads to considerable savings. It has been emphasized by Army medical officers as a great advantage in treatment that hospitalization of soldiers with this drug is greatly reduced in duration or even eliminated. In addition to savings of this sort, carbon tetrachlorid makes a great saving possible in large-scale operations owing to the low cost of the

drug and the efficacy of the treatment. Lamber reports the treatment of 20,000 persons in Fiji at a total cost of £387, or 4½ pence a head, exclusive of the director's salary.

In the great majority of persons and animals the drug produces no symptoms or only slight and transient symptoms. However, as was to be expected from any anthelmintic and especially from one concerning which little was known, some bad effects have been reported. Certain persons and animals appear to be susceptible to bad effects, and during the past year the factors influencing the safety of the drug have received considerable attention from workers in the bureau and elsewhere. Already certain things have been ascertained that promise to add greatly to the safety of the drug and to prevent accidents in patients with high susceptibility to bad effects.

WITH EXTENSION FORCES

BENEFITS COUNTY AGENTS.

Castle builders are not the only ones who "listen to voices in the upper air." County agents in South Carolina may now "listen in," for each has been provided with an up-to-date type of radio receiving set. These sets were purchased for the county agents by the extension service of the Clemson Agricultural College, Clemson College, S. C., as a part of its comprehensive program for the dissemination of agricultural information to the farmers of the State. Inasmuch as the sets are portable, they may be taken by county agents to any point in the county for actual demonstration in farm homes or at meetings.

The high-powered broadcasting station erected at the college will receive weather, crop, and market reports disseminated daily by the powerful radio telegraph station at Arlington, Va. Crop and market reports sent out from the Arlington station, NAA, are compiled by the Bureau of Agricultural Economics, and the weather reports are prepared by the Weather Bureau. The station at the college will rebroadcast these reports by radiotelephone. Triweekly talks by extension specialists on various subjects will also be broadcast.

Radio and extension specialists of the department have, at the request of the South Carolina extension service, made suggestions and recommendations looking toward perfecting what is considered a most substantial radio market news service for the State.

The extension service at Clemson College has taken a great step forward in the distribution of weather, crop, and

market reports by using radio, according to department representatives. Any county extension service in the United States can, with a small investment for receiving equipment, be put in touch with a world of vital agricultural information which is being regularly broadcast from more than 100 stations. South Carolina's action adds one more State to the group furnishing agricultural news by radio to the extension forces of the State.

I. L. Hobson, field agent in boys' and girls' club work, Office of Extension Work, resigned, effective November 30, to accept the position of director of the Junior Achievement Bureau, Springfield, Mass. Mr. Hobson came to the department in June, 1919, from the State extension service of Wyoming. His work since that date has included, in addition to his duties as field agent, studies of methods employed in conducting junior extension work and of the development of local leadership as a factor in boys' and girls' club activities.

That Wisconsin banks make a point of assisting, as each individual case may warrant, in making available to deserving farm boys sufficient funds to permit enrollment for short courses of the University of Wisconsin was a recommendation of the agricultural committee of the Wisconsin Bankers' Association at a meeting in Madison, Wis., October 8. The special interest of the committee in the educational facilities offered the farm boy and girl by the college of agriculture was made a matter of record at this meeting.

About 15 people from the various Washington offices of the department from among those who were attending the sessions of the Association of Land Grant Colleges attended the luncheon of the Chicago Department Club at the Great Northern Hotel on November 14. Dr. E. D. Ball, director of scientific work; C. W. Warburton, director of extension work; Dr. H. C. Taylor, Chief of the Bureau of Agricultural Economics; and Dr. Louise Stanley, Chief of the Bureau of Home Economics, spoke briefly about the department's work in Washington. Commander Dunn and other members of the staff of the Chief Coordinator also were present and testified to the excellent cooperation they had received from Department of Agriculture employees in Chicago.

The thirty-sixth annual meeting of the American Economic Association will be held at the Willard Hotel, Washington, D. C., December 26, 27, and 28.

BRIEF REVIEWS OF NEW BULLETINS.

Dahlias for the Home. By B. Y. Morrison, assistant landscape gardener, office of horticultural investigations, Bureau of Plant Industry. Pp. 17, figs. 15. November, 1923. (Farmers' Bulletin 1370.)

Dahlias may be obtained from nurseries as dormant roots or as growing plants which have been raised from cuttings, or they may be raised from seed. Where the home gardener has had a bed of dahlias through the summer and desires to perpetuate the same varieties the following year he can do so by saving the roots and storing them properly until planting time in the spring. Care must be taken that the storage material is perfectly dry to prevent rot from setting in and damaging the entire mass. On the other hand, there is a degree of dryness which causes the roots to shrivel and makes starting difficult. Care should be taken also not to injure the roots as the decay which starts in a wound will soon spread.

Some Results of Cutting in the Sierra Forests of California. By Duncan Dunning, forest examiner, Forest Service. Pp. 27, pls. 8, figs. 2. November, 1923. (Department Bulletin 1176.) Price, 10 cents.

Studies following cutting have been made in California for the past 10 years to determine how to secure a uniform, well-stocked stand of the desirable species which will develop rapidly into a new forest. On all the sales of national-forest timber seed trees are left to provide for the new forest. Best results have followed when the trees are well distributed over the ground, for when in groups they do not grow so rapidly, and the resulting stand is not uniform. Very large trees are often too old to make any more volume growth and are often attacked by insects or disease, are often blown over by the wind, while very small trees do not furnish sufficient seed.

Standard Grading Specifications for Yard Lumber, as Recommended by the Department of Agriculture. By Edward P. Ivory, associate wood technologist, David G. White, forest examiner, and Arthur T. Upson, in charge, section of industrial investigations, forest products laboratory, Forest Service. Pp. 75, pls. 22, chart. October, 1923. (Department Circular 296.) Price, 20 cents.

Part I of this circular contains a discussion of the principles of standard grading, and Part II contains basic grading rules, standard sizes and shipping practices, definitions of defects and blemishes, and the proposed standard nomenclature. These grading specifications are intended to serve as a guide to the lumber industry in its effort toward the creation of American lumber standards. Many parts of the proposed specifications have already been adopted by the central committee on lumber standards and its affiliated organizations.

Directory of Officials and Organizations Concerned with the Protection of Birds and Game, 1923. By George A. Lawyer, chief United States game warden, and Frank L. Earnshaw, assistant, interstate commerce in game; enforcement of migratory bird treaty and Lacey Act. Bureau of Biological Survey. Pp. 16. November, 1923. (Department Circular 298.) Price, 5 cents.

This circular shows the organization and personnel of the various State game departments, and the publications issued by each. Legislative changes, affecting administrative organizations, occurred during the year in four States: Idaho, Tennessee, Wisconsin, and

Pennsylvania. These changes are described and attention called to new organizations formed since the preceding list was issued.

Basic Grading Rules and Working Stresses for Structural Timbers. As Recommended by the Department of Agriculture. By J. A. Newlin, in charge section of timber mechanics, and R. P. A. Johnson, engineer in forest products laboratory, Forest Service. Pp. 23, October, 1923. (Department Circular 295.) Price, 5 cents.

This circular does for structural timbers what Circular 296 does for yard lumber. The proposed grading rules and working stresses for structural timbers are based on more than half a million tests made by the forest-products laboratory to determine the physical and mechanical properties of wood.

ADDITIONAL PUBLICATIONS.

Experiment Station Record. Vol. 49, No. 5, October, 1923. Pp. 401-500. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions, and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Journal of Agricultural Research. Vol. 25, No. 11, September 15, 1923. Contents. Soil temperature as a factor affecting the pathogenicity of *Corticium vagum* on the pea and the bean. (Utah, 18.) By B. L. Richards.—Growing experimental chickens in confinement. (Kans. 37.) By C. A. Herlick, J. E. Ackert, and Bertha L. Danheim.—Addity of corn and its relation to vegetative vigor. (G-328.) By Annie May Hurd. Pp. 431-469, pls. 4, figs. 8. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21, semi-monthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price is \$5.25 per year.

Service and Regulatory Announcements. Bureau of Animal Industry. No. 198. October, 1923. Pp. 85-92. November, 1923. Price, 5 cents.

Same. Bureau of Chemistry. No. 163. Notices of judgment 11601-11650. Pp. 325-349. November 28, 1923. Price, 5 cents.

Same. Federal Horticultural Board. No. 76. July-September, 1923. Pp. 99-131. November, 1923. Price, 5 cents.

NEW SLIDES ON FARM WATER SUPPLY.

"The Farm Water Supply" is the subject of a new series of lantern slides, series 104, now available for distribution by the Office of Extension Work. Slides are included in the series which emphasize the necessity for protecting water used in the home from pollution. Typi-

cal scenes of insanitary and inconvenient water supplies are shown, supplemented by slides showing efficient means of furnishing water for the farm home which may be developed at reasonable expense.

This series, which supplements Farmers' Bulletin 941, Water Systems for Farm Homes, was prepared from illustrations selected and arranged in cooperation with the Bureau of Public Roads and includes 48 slides. It is accompanied by explanatory notes prepared by the Bureau of Public Roads.

FOREST FIRE MADE TO ORDER.

Unique in the annals of the Forest Service is a forest fire recently made to order. A moving picture entitled, "The Flaming Barrier" is being filmed in California, and among other "sets" a forest fire was needed. Fifty-two trees were bought from the Forest Service, cut down, carried by men and trucks to the scene of action, and there erected again. A wide fire line was cut through the brush and fire-extinguishing appliances of every description placed at hand to prevent the flame, which was estimated to last about two minutes, from getting away. The most unusual feature of the affair was the fact that reports giving all data concerning the fire, such as the acreage burned, damage done, etc., could be made out before it actually occurred.

FIVE-YEAR FARM CENSUS APPROVED.

The value of the proposed agricultural census in 1925 as an aid in developing national agricultural policies is emphasized by Dr. H. C. Taylor, chief of the Bureau of Agricultural Economics.

"In working out the details of a properly balanced system of national agriculture under normal conditions, the basic agricultural statistics collected in 1920 are inadequate," Dr. Taylor says. "At that time American agriculture was still in a period of readjustment from war conditions, and the statistics reflect the transitory effects of the war rather than to provide data from which national agricultural policies may be developed.

"The various branches of American agriculture are now gradually working toward a more normal basis, and by 1925 will yield figures that may safely be used in planning the future healthy growth of the industry as a whole. The plan to make agricultural enumerations in other than population census years is also merited in that the results can be made available nearer the date that the agricultural census is taken."

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- De aetherische oliën leverende planten van Nederlandsch Oost-Indië en de bereiding van haar oliën. Door A. W. K. de Jong. Amsterdam, de Bussy, 1922.
- Applied business correspondence. By Herbert Watson. Chicago, A. W. Shaw co., 1923.
- El azafrán en España. Spain. Ministerio de estado. Centro de información comercial. Madrid, 1916.
- La cellule. Par Auguste Sartory. Paris, A. Quillet, 1923.
- Choix et appréciation de la vache laitière. Par L. Roy. Paris, Librairie agricole de la maison rustique [1923?]
- Costing and price-fixing. By J. M. Scott-Maxwell. London, Pitman & sons, ltd., 1923.
- De Danske barkbiller (Scolytidae et Platypodidae). Af E. A. Lovendal. Kjøbenhavn, Lybecker og Hirschsprung, 1898.
- Dwarf and slow growing conifers. By Murray Hornbrook. New York, C. Scribner's sons, 1923.
- Farm woodlands. By J. B. Berry. Yonkers-on-Hudson, N. Y., World book co., 1923.
- Federation horticole professionnelle internationale. 5th, Ghent, 1923. Report. London, 1923.
- Gronlands landarthropoder (Insecta et Arachida Groenlandicae). Af K. L. Hendrikson og Will. Lundbeck. København, B. Lunos bogtrykkeri, 1917.
- History of land tenure in England. By Jajneswar Ghosh. Calcutta, Kar, Majumder & co., 1922.
- Industrial hygiene and medicine. By E. W. Hope, W. Hanna and C. O. Stallybrass. London, Baillière, Tindall and Cox, 1923.
- Malattie da filarie. Per Giuseppe Canallini. Bologna, L. Cappelli [1922?]
- Natural history of the ducks, v. 2. By J. C. Phillips. Boston, Houghton Mifflin co., 1923.
- Nutrition and clinical dietetics. 3d ed. By H. S. Canter, P. E. Howe, H. H. Mason, 3d ed. Philadelphia, Lea & Febiger, 1923.
- Les plantes à thymol. By Georges Blaque. Lons-le-Saunier, L. Declume, 1923.
- Principles of insect control. By R. A. Wardle and Philip Buckle. Manchester, Eng., University press, 1923.
- Souvenirs entomologiques. v. 8. Par J. H. C. Fabre. Paris, Delagrave, 1923.
- Speaking of agriculture. By H. S. Martin. Topeka, Kan. Merit service, 1923.
- Le thé. Par Emile Perrot. Paris, 1923.
- Das tropische parenchym. A. Assimilationsgewebe. Von F. J. Meyer. Berlin, G. Borntraeger, 1923.
- Wild animals in central India. By A. A. D. Brander. London, E. Arnold & co., 1923.

OLD BOOKS.

- La chasse du loup, necessaire a la maison rvsique. By Jean de Clamorgan. Paris, 1602.
- Culture des orchidées. Par Charles Morel. Paris, 1855.
- Exercitia phytologica. J. E. Gilbert, Lugduni, 1792.
- Lois Weedon husbandry as it is. 3d ed. London, 1862.
- De nonnullis plantis, quae pro venenatis habentur. [By] Pireto Rossi. Pisis, 1762.
- Recherches pour servir a l'histoire naturelle des végétaux inferieurs. Par Jules de Seynes. Paris, 1874.
- Treatise on the culture of the pine apple. By William Griffin. Newark, 1806.
- Treatise on the culture of the pine apple. 2d ed. By William Griffin. Newark, 1808.

CURRENT PERIODICALS.

- British association of chemists. Bulletin. London, 1922.
- Chinese economic monthly. Peking, 1923.
- Dairy products merchandising [monthly] Detroit, 1923.
- Fur trade journal of Canada [monthly] Oshawa, 1923.
- Revista mensual. Comisión ejecutiva económica. Guayaquil, 1923.
- Sociedad nacional de agricultura de Chile. Instituto biológico. Boletín. Santiago de Chile, 1922.

EXPERIMENT STATION PUBLICATIONS.

The office of Experiment Stations received for its library files copies of the following publications of the State experiment stations

during the week of November 26 to December 1, 1923. These publications can be obtained only from the stations issuing them.

- Farmers' Market Bulletin. (North Carolina Sta. Farmers' Market Bul. vol. 10, No. 65, pp. 12, figs. 2. Nov., 1923.)
- Standard Fertilizer Formulas and Their Use. G. S. Fraps. (Texas Sta. Circ. 31, pp. 7. Sept., 1923.)
- The Feeding and Management of Dairy Calves. E. V. Ellington and J. C. Knott. (Washington Sta. Bul. 178, pp. 31, figs. 10. Sept., 1923.)

Articles in Current Publications by Department Workers

- Deuel, Harry J. (Bureau of Home Economics.) Digestibility of baked goods made from patent flour. Journal of Home Economics, v. 15, no. 12, p. 699-701. December, 1923.
- Hitchcock, A. S. (Plant Industry.) Type species of the first 100 genera of Linnaeus' species plantarum. American Journal of Botany, vol. 10, pp. 510-514. November, 1923.
- Losh, A. R. (Public Roads.) The grade-crossing problem. North Carolina Highway Bulletin, vol. 4, p. 9. October, 1923.
- Ross, W. H., and Merz, Albert R. (Soils.) The economics of concentrated fertilizers. Chem. & Met. Eng., vol. 29, no. 8. August, 1923.
- Stanley, Louise. (Bureau of Home Economics.) Plans for the Bureau of Home Economics. Journal of Home Economics, vol. 15, no. 12, pp. 679-683. December, 1923.
- Wetmore, Alexander. (Biological Survey.) Avian fossils from the Miocene and Pliocene of Nebraska. Bulletin of the American Museum of Natural History, vol. 48, art. 12, pp. 483-507. Dec. 3, 1923.
- Whitney, Milton. (Soils.) Yield of wheat in England during seven centuries. Science, vol. 58, no. 154, p. 320. October, 1923.

WEATHER WARNINGS SAVE FRUIT.

The Weather Bureau has just made arrangements to give special warnings to resident messengers along the routes taken by the cars of the Fruit Dispatch Co., which ships great quantities of bananas. Whenever the temperature is 40° or below, and a drop of 10° or more is expected during the following 24 to 36 hours, along the route the cars will take, a message is sent by telegraph or telephone, at the expense of the dispatch company, warning the messenger to regulate the ventilators so as to protect the fruit in the cars. The greatest amount of damage to fruit is due to sudden and unexpected cold waves. This service is an extension of the present "shippers' forecast" service of the bureau.

COLD STORAGE INFORMATION IMPROVED.

Expansion of the cold storage information service of the department is planned in response to requests from trade organizations. It is proposed in the daily reports published by the department to give the storage movement of butter, cheese, eggs, and dressed poultry in 10 leading cities instead of in 4 cities as heretofore.

The department feels that the figures for New York, Philadelphia, Chicago, and Boston alone are no longer properly

representative of the national cold storage situation, inasmuch as large quantities of products are being held in other cities near leading production centers.

It is planned also to issue on Monday of each week reports on holdings in 25 cities. The cold-storage figures will be obtained on Saturday by branch office representatives in the cities covered, flashed over leased telegraph wires to Washington, summarized at the Washington office, and a composite report flashed back to the branch offices Monday morning for immediate distribution to the trade and other interests. Under the new arrangement, the monthly preliminary report of cold storage holdings will be eliminated, but the final monthly report issued about the 15th of each month will be continued.

BOVINE TUBERCULOSIS INFECTION.

A study of the obscure parts of the body in which bovine tuberculosis is found shows that no important organ or portion of the body is likely to resist the infection. The skin, bones, eye, heart, udder, and other regions where the disease is seldom looked for may be the seat of tuberculous infection.

According to the records of the Bureau of Animal Industry, lesions of the disease have been found in 57 different parts of bovine animals. So-called obscure lesions have been responsible in some cases for livestock owners to doubt that cattle which reacted to a tuberculin test were actually diseased.

The increasing knowledge of tuberculosis and its eradication, however, according to Department of Agriculture veterinarians, shows that the disease is practically always present when an animal reacts to the tuberculin test. But it is difficult in some cases to find the physical signs, owing to the large masses of flesh and tissue that must be examined to find the proof. More frequently the disease is plainly evident on the inside of the body wall, on the liver, in the lungs, or in tissues that are visible at the time of slaughter.

The department was represented by six livestock specialists on the program of the annual meeting of the American Society of Animal Production, held at the Sherman Hotel, Chicago, from November 30 to December 2, 1923. The representatives were E. W. Sheets, secretary-treasurer of the society, Dr. L. J. Cole, Ralph Hoagland, Dr. Sewall Wright, C. A. Cary, and M. A. R. Kelly. The organization is composed of national and State leaders in livestock improvement and research. Subjects discussed at the meeting included scientific feeding, breeding, and housing.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



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VOL. II.

WASHINGTON, D. C., DECEMBER 19, 1923.

No. 51.

REPORT PROGRESS IN LIVESTOCK ACTIVITIES

Year's Work Shows Advances Made in Old Projects and New Ones Taken Up.

Definite progress has been made during the last year in the improvement of all kinds of farm livestock through breeding and selection, the development of better methods of feeding, the study of animal diseases and parasites, the protection of the industry from plagues which menace it from other countries, and the search for new facts concerning food values of animal products, according to the annual report of the Chief of the Bureau of Animal Industry. The large figures involved show the great importance of the work being done for the industry based upon the production of meat, milk, and wool.

Meat Inspection Expanded.

More animals were inspected by the department at various slaughtering establishments during this 12-month period than during any similar period in the history of the livestock business in this country. The number of animals slaughtered under inspection was more than 73,000,000, which exceeded the previous record by 2,000,000 animals. This inspection protects the consuming public against unwholesome meats and in many cases serves to acquaint producers with the condition of herds on the farm.

The battle against cattle tuberculosis has been going forward rapidly, according to the report. At the close of the fiscal year there were more than 615,000 cattle in 28,526 herds officially accredited as free of the disease, a 76 per cent increase in the number of these herds over the preceding year. The plan of cleaning out the plague in entire counties at one time is becoming popular. Fifty additional counties were freed during the year, raising the total to 81. In the course of the year the tuberculin test

was applied to nearly three and a half million cattle, most of those found diseased being slaughtered under inspection and the owners indemnified with Federal, State, and county funds. Areas in which practically all the tuberculous animals have been removed are now designated as "modified accredited areas," an arrangement which permits shipments of cattle from these areas without the usual restrictions.

Guard Against Animal Diseases.

There has been no foot-and-mouth disease in the United States for a number of years, but the danger of its introduction is great because of the presence of the highly contagious malady in Jamaica. The department's quarantine forces have been on the alert and so far have prevented its entrance; precautions have been taken, in case it should pass our borders, to have the defensive organization ready for immediate action. During the year, the report says, the dangerous disease known as surra was found in the blood of five dromedaries, offered for importation and inspected at one of the Government's animal quarantine stations.

Livestock improvement is being stimulated through the "Better Sires—Better Stock" campaign. At the end of the year there were nearly 12,000 livestock owners who had pledged themselves to use only purebred male animals on their farms. A questionnaire sent out to several hundred farmers brought out the most troublesome problems in the feeding of farm animals. As a result of the department's offer to assist, many special problems in animal nutrition have been sent in for solution or suggestions. A study was made of the meat yields of the different farm animals, the results showing that the types recognized as best by judges at the leading shows are much superior to poorly bred stock from the meat production standpoint.

Bulletins, articles in newspapers and farm papers, exhibits at shows and fairs, and motion pictures have brought the animal industry work to the attention of the public.

WORK WITH PESTS IN 1923 IS SUMMED UP

Annual Statement Points Out Many Serious Insect Enemies to be Combated.

The serious nature of the struggle to control the numerous insect enemies of our various crops, our livestock, and ourselves is shown in the annual report of the Chief of the Bureau of Entomology. Now and then, in newspapers and journals, the general public has been impressed with the destructiveness of the boll weevil, the grasshopper, the chinch bug, and the army worm; but these are only a few of the hordes which annually chew and suck away our national wealth by the millions of bushels and bales. Scores of these enemies are continually being investigated and every now and then a new one from another country makes its appearance, sometimes threatening an important industry in some locality and demanding hurried efforts on the part of the scientists.

Overcoming the Boll Weevil.

The cotton boll weevil is responsible for the greatest economic disturbance in this country in recent years, and a number of pages are devoted to the various studies being made of methods for controlling the pest. Tests conducted on more than 1,000 farms scattered throughout the Cotton Belt have shown that by proper dusting of the fields with calcium arsenate 96 per cent of the farmers were enabled to control the weevil so as to make the crop profitable. Many experiments were carried on in trying out other methods and equipment, including the use of airplanes for dusting. All but 4.01 per cent of the cotton crop is now produced in territory infested with the boll weevil.

Strong efforts have been made to gain control of the Japanese beetle, a new pest which has been spreading in New Jersey and Pennsylvania. The insect is

being carefully studied, farm practices are being modified to help reduce its multiplication, and progress has been made in introducing natural parasites from the Orient. During the year much work was done on other deciduous fruit insects, including those of the grape, peach, apple, and of various nuts.

Campaigns have been carried on against the gipsy and brown-tail moths. Investigators have been in Europe and Japan studying the natural agencies which assist in the control of these insects, and several promising parasites have been shipped to this country and are being tried out along with every other agency which may be of service in fighting these tree-defoliating pests.

Cereal and Forage Insects.

Cereal and forage insects have been given much attention in various parts of the country where damage is being done or where new pests are gaining a foothold. The European corn borer is one of the most important of these introduced pests; another is the alfalfa weevil, while grasshoppers, the southern stalkborer, the wheat strawworm, the corn earworm, and webworm cause serious losses. Investigations were carried on to develop better control measures for insects attacking stored grain and grain products, dried fruits, meat, and fabrics. Tests have been made of cold storage for the prevention of loss by insects, of fumigation, and of woods, such as red cedar.

A number of insects attacking tropical and subtropical fruits have become troublesome and efforts are being made to control them. Among these are several citrus pests, including the camphor scale, mango and avocado insects, and fruit flies in the Canal Zone and Hawaii. Pests of vegetables and truck crops now of great importance are the Mexican bean beetle, sweet-potato weevil, pea aphid, bean fly, cabbage, cucumber, melon, strawberry, and sugar-beet insects.

Animal Pests Under Control.

The entomologists of the department also have been concerning themselves with pests of animals and of man. Treatments have been devised for destroying ox warbles, and traps, poisons and repellents have been developed for screw worms and blowflies; studies have been made of the possibilities in new treatments for lice on livestock and poultry and investigations of malaria mosquitoes have been conducted.

Forest Insects Do Great Damage.

Another branch of this varied work has to do with insects damaging forests and those that destroy lumber and other

forest products. The largest single control project ever attempted against tree-killing bark-beetles is now in its second season. The area in southern Oregon and northern California over which this epidemic extends is a little larger than the State of Delaware and in the last 10 years in this region the western pine beetle has killed over a billion board feet of merchantable yellow pine timber, valued at more than \$3,600,000. This is fifty times as much as has been killed by fire on the same area during the same period. It has been demonstrated that, with the establishment of an effective beetle control as has been established for forest fire control, losses due to the beetle can be reduced to a minimum.

The bureau devotes much attention to improving the methods of bee culture and has a good sized apiary devoted to intensive studies of the ways of bees and means of controlling their diseases and protecting them from enemies. Studies also have been made of the grading of honey with the object of establishing standards.

Insecticide and Fungicide Work Covers Many Activities

The Insecticide and Fungicide Board, through the enforcement of the insecticide act of 1910, has a marked effect upon the manufacture and sale of materials for the control of insect pests and fungous diseases. In the latest report of the board the statement is made that the effect of this law is felt on the farm, cattle range, in the orchard, home, school, hospital, and all places where the human race is engaged in the unending struggle for supremacy over the armies of insects and germs which at times take such heavy toll of life and property.

Each year, says the report, sees a new crop of insecticides and fungicides, some of them representing new manufacturers of standard remedies, but always some representing new theories of treatment or old ones which have been discredited. The board is making tests of these preparations, but the work has been too much to be completed rapidly with the funds available; in some cases the results so far show them to be ineffective.

Under this law campaigns have been carried on to keep up the standard of calcium arsenate, a chemical now used extensively in poisoning the boll weevil. During the past year this poison was imported from abroad for the first time, all of it being submitted to tests and the unsatisfactory material refused admittance. Work was carried on to improve the quality of Bordeaux mixture and to pre-

vent the adulteration of coal-tar dips and disinfectants and pine-oil disinfectants.

Another important result of the enforcement of this act, and one which has not received sufficient emphasis, is that it has proved to be a potent aid in the endeavor of the department to introduce new remedies. By inspecting the material offered for sale in the localities where the department is attempting to introduce new control methods, it is possible to prevent the failure of the control treatment which would follow from the use of materials not only not up to standard, but sometimes positively injurious. The failure of such new treatment might be attributed to the method advocated instead of the poor materials and thus might prevent the adoption of a truly valuable treatment.

In addition to instances in which frauds have been stopped, there was a great deal of inspection work to determine whether the commonly used remedies are being kept up to the required standard. In the opinion of the Insecticide and Fungicide Board the consumers of these products are too ready to purchase untried remedies, which frequently results not only in the loss of the money paid for them but in the greater loss due to their failure to correct the condition they were expected to remedy.

PROPORTION OF CREAM AND MILK SOLD.

A questionnaire recently sent out to 185 milk plants by the department shows that the percentage of cream sold is between 5 and 9 per cent of the sale of milk. It also shows that the sales in pint bottles amount to about 14.5 per cent of those in quart bottles.

The volume of the milk sold by a firm seems to have little to do with the relative amount of cream vended. As a general rule, the smaller firms do a larger proportional business in pints, as compared with quarts, than the larger firms.

The official in charge of the Weather Bureau Office at Nashville, Tenn., writes of a particular use for weather forecasts which has developed to a great extent in his territory. This is the foretelling of good hog-killing weather, which must include a cold spell with at least two cool nights, in which the meat may be cooled or shipped to cold storage before warm weather sets in. The uncertainty of cool spells in the South, particularly early in the winter, and their tendency to last only a very short time, make this a very important service to the many farmers who wish to kill, especially during November and December.

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

GERMAN COTTON CONSUMPTION IS LESS.

Decreased consumption of cotton by German mills during the 1922-23 season as compared with that of 1921-22 is reported to the department from Berlin. Total consumption during the year ended July 31, 1923, was 853,000 bales as compared with 1,083,000 bales during the preceding year, a reduction of 21 per cent. Average consumption of cotton in Germany during the three years 1911-13 was 1,874,000 bales.

STANDARDS FOR CANNERY TOMATOES.

Tentative grades for cannery tomatoes have been prepared by the department and are being urged for adoption by producers and the trade. Trade organizations in conference with the department have indorsed the grades in principle and it is expected that a number of buyers will use the grades in market transactions during the coming season.

PRICES OF PUREBRED HOGS ARE LOWER.

Sale prices of purebred hogs for the first six months of 1923 were slightly lower than the average for the full year 1922, according to a survey recently completed by the department. The decrease in average prices ranged from \$2.30 to \$4.21 per head.

FEDERAL WOOL GRADES NOW READY.

Sets of the Federal wool grades for diameter of fiber are now being prepared by the department for distribution to the trade and other wool interests. The official sets will be supplied only for use in connection with wool grading, for trade use in commercial and financial channels, and for educational purposes. For all general purposes the official wool grades as established are sufficient and desirable from the standpoint of the wool grower, the department says. It is pointed out, however, that it would not be advisable for wool growers to attempt to grade wool into a larger number of grades, especially from a diameter of fiber standpoint.

EGG EXPORTS OF U. S. ARE HEAVY.

Annual imports of Chinese eggs into the United States are more than offset by exports of American eggs, the depart-

ment declares. Moreover, the imported eggs are mainly dried and frozen eggs used by the larger bakeries, confectioners, and other wholesale consumers, whereas American exports are principally shell eggs. During the ten months ending October, 1923, 15,000,000 pounds of dried and frozen eggs were imported, as compared with 18,000,000 pounds imported during the corresponding period of 1922.

TUBERCULOSIS ERADICATION IMPORTANT.

The economic importance of tuberculosis on the dairy industry is shown by figures on the length of time cows remain in the milking herd. Figures prepared by the department show that the average cow remains in the milking herd 4.2 years. However, when the cows removed on account of tuberculosis are not considered it is found that the turnover is not nearly so great, the useful life of the average cow being 5.7 years. The eradication of the great cattle plague will cut down the costs of production of dairy products.

Forest Forage Resources To Come Under New Rules

New regulations concerning the use of forage resources in the national forests are being worked out by the department with a view to stabilizing the use of the ranges under permits extending for a period of 10 years, and conditioning the retention of grazing privileges on the ownership of ranch property or improvements sufficient to afford a well-balanced and efficient stock-raising business.

This is announced in the secretary's annual report. Under the present system, forest-grazing permits run for 5 years. The change to a 10-year basis is to be started in 1925. Simultaneously, the report indicates, the scale of fees charged for grazing privileges will be revised.

It is the object of the department to establish a permanent and settled program of range use which will command public confidence and go forward without interruption. To accomplish this, says the report, it is essential that the relations of the holders of grazing privileges with the Government be placed on a business footing. This is stated to mean that users of the national ranges should pay fairly for value received.

No change in grazing fees is to be made for the present, owing to the disturbed condition of the livestock industry. When the charges are finally revised, they will not exact from forest-

range users more than a just price, but will be based on the principle that forage in national forests is a commercial resource which should not be obtained at less than its actual worth, the report says.

By its plan to issue the grazing permits for a 10-year period the Government hopes to encourage a more stable use of the national forest ranges. Provision is to be made for the redistribution of range use to care for the needs of new settlers. Such redistribution will be made at the end of each 5-year period. The department, says the report, stands for the allocation of the forage to the stock-growing enterprises most dependent on it and most logically situated for its efficient use, and for a stabilization of the use of the range to the fullest possible degree so that the livestock industry may prosper and establish favorable credit and banking relations.

KNIGHT NAMED RECORD EDITOR.

Effective December 1, 1923, Dr. E. W. Allen, chief of the office of experiment stations, has relinquished the editorship of Experiment Station Record. H. L. Knight, associate editor, has been appointed editor. Doctor Allen has been continuously associated with the Record since 1890, carrying on the abstracting in the departments of chemistry, foods and animal production, and dairying for several years, and becoming editor in 1899. During his long period of service the principal policies of this periodical have been formulated, and nearly 48 volumes have been completed, embodying well over 150,000 abstracts of the world's scientific literature pertaining to agriculture. Doctor Allen will continue to exercise general supervision over the Record, as of other activities of the office. Mr. Knight's connection with the Record dates back to his appointment in 1906 as assistant editor. In 1918 he became associate editor and has been identified with its management since that time.

Dr. T. A. Jaggard, jr., volcanologist in charge of the Hawaiian Volcano Observatory of the United States Weather Bureau, has recently returned to his post in Hawaii after an official visit to Japan, where he made a study of the effects of the recent earthquake. Doctor Jaggard enjoyed the hearty cooperation of Japanese officials in connection with his visit, and he prepared several reports for the Japanese Government on topics relating to the earthquake.



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"Please" and "Thank you" are easily said if the saying of them becomes a habit. But before the habit of courtesy is formed, there must be real thought given to the subject. To give thought to anything takes time, and time is what most of us think we are short of; hence our rushing hither and thither. And in our rushing we easily become discourteous. Why not be as courteous all the year as we are around Christmas? It is not the gifts we receive that make Christmas a time of good cheer. It is, rather, the thought and time we expend in spreading good cheer. Our personalities during the Christmas season become broadcasting stations of the Christmas spirit, and we are thus tuned in harmony with all the beautiful things of life.—Kiwanis Club International.

OFFICIAL ANNOUNCEMENTS

Memoranda of the Secretary.

Reprints of Publications.

MEMORANDUM No. 462 (superseding Memorandum No. 379)—November 26, 1923.—All requests for reprints of Department publications should be submitted until further order to Mr. L. J. Haynes, Office of Publications, with a memorandum signed by the chief of the bureau, showing—

(1) That the publication has been personally read by the chief of the bureau.

(2) That the material is up to date and requires no revision.

(3) The present need for the publication.

(4) That the same material has not been incorporated in a later bulletin.

When the head of the Office of Publications thinks it desirable to have a publication reprinted to replenish his stock, he will take the matter up with the bureau concerned, and if no revision is desired the bureau will submit the request for reprint, with the memorandum referred to above, to the Office of Publications.

Submission of Manuscripts for Publication.

MEMORANDUM No. 463 (superseding Memorandum No. 363)—November 26, 1923.—Until further order all manuscripts for publications should be submitted direct to L. J. Haynes, Office of Publications, accompanied by a statement to the effect that the chief of the bureau has given thorough consideration

to such manuscript. The statement should show—

1. The title of the manuscript and the series in which it is recommended that it be published.

2. That the bureau chief personally has read the manuscript.

3. The authority under which the work reported was done.

4. The need and purpose of the publication.

5. That the information contained is unpublished or not available.

6. That statistics and computations have been verified and are correct.

7. The timeliness of the publication.

8. Suggested distribution of the publication.

It must be established that the publication of a manuscript is necessary before the department sends it to the printer. The chief of the bureau must hold himself responsible for the information contained in the manuscript and should personally inform himself of the details of all the manuscripts submitted. The summary of reasons will enable us to give more intelligent consideration to all manuscripts.

Efficiency Register.

MEMORANDUM No. 464.—November 30, 1923.—The provisions of paragraphs 2, 3, and 4 of General Circular No. 8 of the Bureau of Efficiency, which are quoted below, make necessary certain changes in the manner of preparing the efficiency registers of the various bureaus for the period beginning January 1, 1924:

"2. The classification grades approved by the Personnel Classification Board will be used as the basis for grouping employees for rating purposes. In order that competing employees may more readily be grouped for rating purposes, however, the gradings approved by the board should be translated in the corresponding gradings under the schedule issued by this office as Efficiency Rating Form No. 1, in accordance with the following table:

Grade numbers, by services, under the classification act.			Grade numbers, efficiency rating form No. 1.
Sub-professional.	Clerical, administrative and fiscal.	Custodial.	
		1	II
		2	III
		3	IV
1		4	V
2	1	5	VI
3	2	6	VII
4	3	7	VIII
5	4	8	IX
16	5	9	X
17	6		

¹ This item is not included in General Circular No. 8, but is given here as a matter of necessary information.

"3. Competing employees should be rated together regardless of the service allocations approved by the Personnel Classification Board.

"4. The following salary standards are prescribed for Grades II and III in lieu of those fixed under paragraph 72 of General Circular No. 6:

Rate.	Grade II.	Grade III.
a (minimum).....	\$600	\$780
b.....	630	840
c.....	660	900
d (standard).....	690	960
e.....	720	1,020
f.....	750	1,080
g (maximum).....	780	1,140

The individual rating sheets are to be prepared as they were in making up the current register. This procedure is described in Acting Secretary Pugsley's memorandum of April 12, 1923. The blank now in use also will be used for the register itself, but instead of grouping employees according to their salary ratings it will be necessary to group them in accordance with the classification grades established by the Bureau of Efficiency. The table given in the general circular quoted above will serve as a guide for the translation of the grades of the Personnel Classification Board to those of the Bureau of Efficiency. Employees up to and including Grade X will be listed on the register, with the exception of those persons in Grades IX and X whose basic salaries exceed \$2,000 per annum.

The register in this form will establish the individual ratings of employees and the maximum salary for which they are eligible, but it will not indicate the order in which employees receiving the same salary should be promoted. The "order number" column on the register will be left blank. Therefore it will be necessary to make promotions as vacancies occur without referring to any specific promotion list prepared in advance. In submitting recommendations for promotions, however, it is desired that two basic principles be kept in mind:

1. An employee should be promoted at one time only to the next higher salary grade; that is, there should be no skipping of salary grades. For example, Grade VIII may include employees who receive salaries ranging from \$1,200 to \$1,800. The same situation may exist in other grades. Assume that a vacancy occurs at the statutory salary of \$1,600 per annum and that it happens that no employees in Grades VIII, IX, or X are

(Continued on page 8.)

PERHAPS WE HELPED SOME.

In view of recent discussion in the RECORD regarding correspondence, officials of the Bureau of Agricultural Economics state that it is gratifying that some of our letters are "getting across."

"Please permit me to say what a pleasurable feeling was created by the receipt of a letter from a Government department at Washington which is actually written by a human being and which does not start off 'You are informed' or 'You are directed,' etc.," writes the vice president of the State and City Bank and Trust Co. of Richmond, Va., to H. S. Yohe, of the Bureau of Agricultural Economics.

"Your courtesy and helpfulness in arranging the Government warehousing will always be one of the bright spots in the writer's memory," the president of the Akin-Erskine Milling Corporation recently wrote to H. K. Holman, jr., also of the Bureau of Agricultural Economics.

These illustrate the type of many commendatory letters received acknowledging assistance and at the same time expressing appreciation for "human interest" in the problems connected with agriculture.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. What causes the grayish-white felt-like growth on the foliage and young shoots of rose bushes?

Answer. Powdery mildew, one of the most common diseases of the rose, is responsible for the growth. It is especially serious on indoor roses and on certain varieties grown out of doors, especially the crimson rambler and its relatives.

Question. What is the difference between black and green tea?

Answer. The difference between black and green tea lies in the process of curing. Although all varieties of the plant can be made into either green or black tea, certain varieties are better suited for making one or the other. In the manufacture of green tea, the freshly picked young and tender leaves are subjected to live steam or heated air, or are placed in contact with a hot surface which destroys the oxidizing properties in the leaf. After rolling and drying, the cured product gives a green or greenish yellow infusion. In the manufacture of black tea, the oxidizing agencies are developed. This oxidizing process is done during the withering, which lasts from 12 to 24 hours, and is continued after the withered leaf is rolled by allowing the teas to oxidize or ferment from 2 to 6 hours before they are finally dried.

Question. Is the gipsy moth considered the most destructive forest pest in New England at present?

Answer. In the opinion of entomologists the spruce bud worm, the white pine weevil, and the pales weevil are considered to be the most destructive pests in New England at present. The gipsy moth as a forest pest in New England at present is not believed to be as important as these insects, since the effective work of the Bureau of Entomology in the importation of parasites and predators as well as other methods of control have checked its ravages.

Question. What is the relation of the county agricultural extension agent to tuberculosis eradication work?

Answer. Since this is primarily work lying within the province of veterinarians and is officially conducted in cooperation with the Bureau of Animal Industry, the county agent holds toward

it his customary relation of disseminator of educational information. He should consider it one of his duties to acquaint farmers with the danger of tuberculosis and the means by which it may be controlled. He should, with the approval of his State director of extension and the livestock sanitary authorities of the State, cooperate in movements for tuberculosis eradication, but should not assume responsibility for regulatory measures.

Question. What is the function of the Forest Service in examining and reporting upon homestead and mineral entries within the national forests?

Answer. In this work the Forest Service acts virtually as the representative of the General Land Office of the Department of the Interior to which the reports are submitted for final action under the laws applicable to the case. This arrangement is merely a step toward the elimination of duplication of activity with resultant economy and efficiency in the Government's work.

MALTOSE SUGAR MADE BY NEW PROCESS.

A new process for making crystalline maltose sugar from cornstarch or from corn hominy or other starch materials has been developed experimentally in the Bureau of Chemistry.

That it is possible to make crystalline maltose sugar from cornstarch has been known to chemists for many years, but control of the process has been lacking, and it has not been possible heretofore to produce it economically. The new method is simple and involves no unusual equipment, thus enabling the chemist to control it with regularity and certainty. The final cost will be comparatively low, as low or lower than cane sugar.

While the process for making maltose sugar is simple, it will not be practicable for the farmer to make the product for family use from his own corn, as the method requires technical control similar to that necessary in making sugar from beets or cane.

The new product is obtained in the form of fondantlike masses and not in a granulated form like granulated cane or beet sugar. It can be melted and cast in molds like fondant made from cane or beet sugar. It may be used in the candy industry in producing chocolate cream centers and other cream confections.

This new advance in producing crystalline masses of maltose sugar from corn has yet to be industrialized, so that it is too early to realize its bearing on the utilization of corn. The investigational

work is not entirely complete, but has proceeded far enough to demonstrate that it is entirely practicable to make an excellent grade of crystalline maltose sugar from cornstarch or hominy.

Government Spreads Better Methods for Farms and Homes

Improved practices in farming and in the conduct of homes are being adopted at a greater rate now than ever before as a result of the extension work being carried on by the department in cooperation with the various States. In this work of spreading knowledge of better methods nearly 5,000 persons are now employed by the department and the States. According to the annual report of the Secretary, about 2,100 counties now have agricultural agents, 840 have home demonstration agents, and 160 have agents working exclusively with boys and girls. In addition, 800 specialists in different phases of agriculture and home economics are employed to aid the county extension workers and to give advice and assistance in special and emergency situations.

"It is estimated," says the Secretary, "that farms and farm homes adopted not less than 4,000,000 improved practices through the efforts of the extension workers during 1922, of which at least 924,000 were brought about through home-demonstration work. The total enrollment in boys' and girls' club work during 1922 was approximately 600,000, and 358,000 reports meeting all requirements were received. The total value of all products reported produced by club members was approximately \$8,650,000. There was an increase during the year in the number of negro extension agents employed. There are now 294 negro field agents, and substantial progress in the work of these agents is reported."

F. B. Smith, formerly commissioner of agriculture in South Africa and at present teaching estate management in Cambridge University, spent several days in the department recently studying the work in agricultural economics and the cooperative system developed for carrying agricultural information direct to the farms through the extension force. Professor Smith was sent by the British Government on a mission to the colonies and returned from Australia by way of the United States.

The eighteenth annual meeting of the American Sociological Society will be held in Washington at the Willard Hotel, December 26-29.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

WEATHER BUREAU DATA SETTLE CLAIMS.

The furnishing of official weather data in admiralty proceedings is one of the important phases of the marine meteorological work of the Weather Bureau. The records of the bureau form practically the only source of such information. In some cases applicants for information will tell the bureau what they are trying to prove; in others this is not known.

For the most part inquiries relate to storms and resulting damage to cargo or delay in shipment. A few are in regard to missing ships. Of these latter the purpose sometimes is to establish the death of some member of the crew and the time at which it occurred.

Where claims of severe weather are either made directly or implied it is generally found that they are more or less fully corroborated by the information furnished. One case is recalled, however, where this was not true. A suspected rum runner, a British subject, who cleared from Nassau for the French island of Miquelon, near Newfoundland, ran aground at one of the inlets to Pimlico Sound, on the North Carolina coast. He claimed to have been driven off his course by storms, but the bureau's records failed to show any of sufficient intensity to substantiate the claim, so far as landmen could judge. The bureau was not advised as to the outcome of the trial which resulted from the seizure of the vessel, a small schooner.

Owing to the fact that ocean data are not compiled and printed, as are most land data, much time and labor are involved in furnishing them to applicants.

In a recent case the bureau was able to be of great assistance to the Shipping Board in a salvage suit involving a large claim of not less than \$75,000. The case turned on the sort of weather that would have been experienced by a salvaged vessel had she remained longer on the beach of one of the Bahama Islands. The wrecking company, which evidently made exceptional speed in floating the vessel and getting her to port, claimed the extra amount on the ground of what might have happened during the time consumed by ordinary salvage operations. Therefore the matter of subsequent weather was an important one. On the basis of the manuscript maps of the North Atlantic ocean

prepared by the Weather Bureau the Government won its case and was thus saved the necessity of paying extra amount claimed by the salvors.

MUCH DANGER FROM DUST.

At the twelfth annual convention of the American Association of Port Authorities, D. J. Price of the Bureau of Chemistry, said that "preventive methods for control of dust explosions in grain elevators are an immediate necessity. In this field the need is particularly great because of the large scale of operation, size of plants, the large quantity of dust produced during the handling, elevating, and storing of grain, and the introduction of new ignition sources."

Mr. Price gave figures which indicate that the explosion of dust in many kinds of manufacturing plants and grain handling plants is a cause of great losses of life and property. "A total of 253 dust explosions in industrial plants in the United States and foreign countries," he said, "has been reported to the department. In 60 of these, 397 lives were lost and in 77 of them 668 persons were injured. The total money loss in 120 dust explosions was more than \$30,282,000 an average of \$252,000 for each explosion."

WITH EXTENSION FORCES

VALUE OF EXTENSION SPECIALISTS.

In discussing the extension specialist and his work at the recent Western States Extension Conference, Fort Collins, Colo., A. B. Graham, Office of Extension Work, said: "The extension specialist should be equal, if not greater, even, in his power to teach than resident instructors, for his function is largely that of teaching those who have already become fixed in their thoughts and their manual habits. His work involves the clear understanding of the adult mind, in order to succeed with adults who have had perhaps years of practice, illguided though they may have been, beyond that of his own. He ought to understand the nature of the mental characteristics of the youth in order to impress and direct his thought and action along those lines securing best results.

"The extension specialist who is a real teacher of his subject has clearly in mind the contributions that are spectacular and ephemeral features of his work. For example, the keeping of farm accounts is not merely for the sake of knowing just what his net cash or in-

debtedness may be at the close of the year; in the end, it is to balance his enterprises, to make a better distribution of labor, application of capital, etc. The culling of poultry is not an end of itself; neither is the elimination of the cow from the cow testing association. The extension teacher understands clearly that these things are not ends of themselves but that they contribute to the one big, outstanding piece of work."

Changes in Assignment of Extension Workers are Made

In line with the plan of handling Federal relations to extension work on a regional basis, it has been found desirable to make certain readjustments in the assignment of personnel in the Office of Cooperative Extension Work. Practically all members of the staff will work in the same territory and along the same lines as heretofore, but, in the case of the group concerned particularly in organization work, they will report in the future to the respective leaders of the regions in which they work rather than to the division of methods in the office, as formerly. This will enable the regional agents not only to cooperate with the State extension directors in planning for the work of the year but also will permit them to aid the directors in organizing State, county, and community forces for carrying out the programs thus agreed upon.

The regional groups as now constituted are as follows:

Eastern group.—Florence E. Ward, in charge; H. W. Hochbaum, field agent.

North central group.—G. E. Farrell, in charge; H. W. Gilbertson, field agent; Grace E. Frysinger, field agent.

Southern group.—I. O. Schaub, in charge; O. B. Martin, field agent; Ola Powell, field agent; I. W. Hill, field agent; C. L. Chambers, field agent; T. M. Campbell, field agent (negro work); J. B. Pierce, field agent (negro work).

Western group.—W. A. Lloyd, in charge; Madge J. Reese, field agent; Eugene Merritt, field agent (temporary assignment).

There has also been organized in the office a visual instruction and editorial section which handles matters relating to visual instruction, publications, press information, and educational illustrative material in which the Office of Extension Work is concerned. This section is composed of elements of the former editorial division of the States Relations Service and the former manuscript section of the Office of Extension Work. The personnel of the section consists of Reuben Brigham, specialist in visual instruction, in charge; C. H. Hanson, specialist in visual instruction; and L. A. Schlup, assistant.

BRIEF REVIEWS OF NEW BULLETINS.

Improvement of Kubanka Durum Wheat by Pure-Line Selection. By Ralph W. Smith, assistant agronomist, Office of cereal investigations, Bureau of Plant Industry; L. R. Waldron, plant breeder, North Dakota Agricultural Experiment Station; and J. Allen Clark, agronomist in charge of western wheat investigations, office of cereal investigations, Bureau of Plant Industry. Pp. 15, figs. 4. November, 1923. (Department Bulletin 1192.) Price 5 cents.

An improved strain of Kubanka wheat, named Nodak, has been developed, which combines to a high degree the desired characters of a durum wheat, such as resistance to stem rust, ability to yield well, and suitability for making macaroni. The Kubanka variety was chosen for improvement through selection because this variety, more than any other, possessed to a considerable extent the qualities desired. Under the name of Nodak, this improved strain will be further tested, increased, and distributed for commercial growing in North Dakota.

Experimental Production of Straw Gas. By Harry E. Roethe, associate development engineer, Bureau of Chemistry. Pp. 11, figs. 2. November 30, 1923. (Department Bulletin 1203.) Price, 5 cents.

Gas produced from straw may be used successfully for lighting and heating and as a motor fuel. However, the question of the feasibility of a straw-gas plant on the farm depends primarily upon the cost of production and ease of operation, and the estimated cost of the gas as produced under the conditions here outlined is prohibitive. Any conditions which tend to decrease the expense of manufacture or enhance the value of the main product and by-products would, of course, increase the attractiveness of the proposition, but that such conditions would be of a magnitude to make it a financial success is doubtful. On the other hand, the use of this gas would afford many advantages and conveniences which can not be measured in dollars and cents. Considering the proposition impartially from every angle, it appears that the destructive distillation of straw and similar material for the production of gas on the farm is not practicable.

ADDITIONAL PUBLICATIONS.

Experiment Station Record. Vol. 48, index Number, November 28, 1923. Pp. 901-992. Price, 10 cents.

NOTE.—The Record is a technical review of the world's scientific literature pertaining to agriculture, issued in 2 volumes a year, 10 numbers each. Its free distribution is restricted to persons connected with the agricultural colleges, experiment stations, and similar institutions and to libraries and exchanges. The subscription price is 75 cents a volume (foreign subscriptions \$1.25 a volume), payable to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Journal of Agricultural Research. Vol. 25, No. 12. September 22, 1923. Contents: Bacterial leafspot of clovers. Wis. 24. By L. R. Jones, Maude M. Williamson, Dr. F. A. Wolf, and Lucia McCulloch.—A new type of orange rust on blackberry. (G-329.) By B. O. Dodge.—Effect of the orange rusts of rubus on the development and distribution of stomata. (G-330.) By B. O. Dodge. Pp. 471-500, pls. 7, figs. 4. Price 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semi-monthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9 being the last issue,

and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries or agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publication. The domestic price is \$4 per year and the foreign price \$5.25 per year. **Monthly Weather Review.** Vol. 51, No. 9, September, 1923. Pp. 437-495, figs. 21, charts 11. Special articles: The law of pressure ratios and its application to the charting of isobars in the lower levels of the troposphere. By C. L. Meisinger.—The winds of Oklahoma and east Texas. By J. A. Riley.—Upper-air observations at sea. By F. G. Williams.—The anticyclone of September 12-18, 1923. By A. J. Henry.—Frequencies of monthly and seasonal rainfalls of various depths at San Jose, Calif. By E. S. Nichols.—Typhoon at Guam, Mariana Islands. March 19-27, 1923. By J. H. West and J. D. Swartwout. Weather and the Berkeley fire. By G. W. Alexander.—Record-breaking rainfall in southern Michigan. By R. M. Dole.—Tornado at Council Bluffs, Iowa. September 28, 1923. By M. V. Robins.

NOTE.—The Monthly Weather Review is sent free only to organizations and scientific institutions exchanging like courtesies to libraries of and workers in agricultural colleges and experiment stations, to universities and other institutions of learning in which systematic courses of instruction in meteorology are offered, and to officials of the Government. Single numbers will be supplied free so long as the bureau's supply lasts and the Review can be obtained regularly from the Superintendent of Documents at the nominal price of \$1.50 per annum. Single copies may be had from the same source at 15 cents the copy.

Report of the Secretary of Agriculture, 1923. Pp. 100. December, 1923.

Inventory of Seeds and Plants Imported by the Office of Foreign Seed and Plant Introduction during period from January 1 to March 31, 1922. Pp. 37, pls. 4. November, 1923. (Inventory No. 70; Nos. 54677 to 54968.) Bureau of Plant Industry. Price 10 cents.

JOINT CLUB MEETING IS HELD.

A new idea, at least so far as the reports indicate, was tried out by the Department Club at Cincinnati at its meeting on December 3. On this date the Department Club met with the Electric Club of Cincinnati. The members of the Department Club representing the various lines of Department of Agriculture work were introduced to the members of the Electric Club and the work of each office of the department was briefly explained. Then a rather complete talk was given on the work of the Weather Bureau, giving special attention to the various forms of service and the reports given at Cincinnati for the benefit of the general public. The nature of lightning and the wind element, subjects in which the Electric Club people were especially interested, were particularly dealt with. This part of the program was given by Mr. Devereaux, secretary of the Department Club, who represents the Weather Bureau in Cincinnati. After the meeting, at which there were about 80 members of the two

clubs present, the Electric Club invited Doctor Jelen, the representative of the Bureau of Animal Industry, and Mr. Garrett, local representative of the Bureau of Chemistry, to address its members at a later date.

BULLETINS OF INTEREST IN JANUARY.

There are some Farmers' Bulletins available which, it is felt, will be of special timely interest and value in the month of January, and a list of a few of them is given here. Copies may be obtained free by addressing the Office of Publications, United States Department of Agriculture, Washington, D. C. Specify number and name in requesting bulletins.

Farmers' Bulletin 181, Pruning; 828, Farm Reservoirs; 847, Potato Storage and Storage Houses; 947, Care and Repair of Mowers, Reapers, Binders; 1036, Care and Repair of Grain Separators; 1040, An Illustrated Poultry Primer; 1091, Lining and Loading Cars of Potatoes for Protection from Cold; 1117, Forestry and Farm Income; 1131, Tile Trenching Machinery; 1160, Diseases of Apples in Storage; 1194, Operating a Home Heating Plant; 1387, Laws Relating to Fur Animals for the Season 1923-24.

For testing labor-saving equipment to determine its potential worth in the home of the woman making the test and those of her neighbors, the home demonstration agent for Rock Island County, Ill., Lucile Allen, has prepared the following list of requirements as an aid in making decisions: (1) It must show a net gain in saving of time and energy; (2) it must be frequently used; (3) there must be a suitable place for its storage; (4) it must be equipment which the homemaker is both able and willing to use; (5) there must be wise use of the time and energy saved.

Home demonstration agents, during the past year, have assisted in conducting a number of testing circles in which each of a group of women in a community try out in turn several labor-saving devices with a view to adding those found desirable to their housekeeping equipment.

In THE RECORD for November 28, the article entitled "Use of Yearbooks strongly urged," contained some statements which have proved rather misleading. It did not attempt to include a list of all separates from the 1921 and 1922 yearbooks, but only those which answer questions pertaining to the work of the Bureau of Agricultural Economics, as stated in the first paragraph.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- American electric railway engineering association. Committee on wood preservation. Report. New York, 1923.
- Breads, rolls, and sweet doughs. By Paul Richards. Chicago, Bakers' helper co., 1923. Business management for small retailers. By H. M. Theedam. London, Pitman & sons, ltd., 1921.
- Civilization and climate. 2d ed. By Ellsworth Huntington. New Haven, Yale university press, 1922.
- Congrès international d'oleiculture. 5th, Marrakech et Rabat, 1922. Compte rendu des travaux. Paris, 1923.
- Cultivated evergreens. By L. H. Bailey. New York, Macmillan co., 1923.
- Departmental and standard costs. By W. S. Kemp. New York, National association of cost accountants, 1923.
- Dipterologische studien; Dolichopodidae der Indo-Australischen region. By Theodore Becker. sGravenhage, M. Nijhoff, 1922. (Capita zoologica, deel 1, afl. 4).
- Economic principles. 2d ed. By A. W. Flux. London, Methuen & co., ltd., 1923.
- Electron in chemistry. By Sir J. J. Thomson. Philadelphia, Franklin institute, 1923.
- Elementary agriculture for Virginia schools. By E. A. Miller. Richmond, State dept. of public instruction, 1918.
- English country life and work. By E. C. Pulbrook. London, B. T. Batsford ltd., 1922.
- Food planning and preparation. By M. T. Wellman. Philadelphia, J. B. Lippincott co., 1923.
- Gesammelte schriften. By Curt Lehmann. Berlin, Verlag der Deutschen gesellschaft für züchtungskunde, 1920.
- Inland birds. Northern observations by a sportsman. By H. M. Batten. London, Hutchinson & co., 1923.
- Meat industry. By Walter Wood. London, Pitman & sons, ltd., 1923.
- Propagation of wild birds. By H. K. Job. Garden City, N. Y., Doubleday, Page & co., 1923.
- Queensland. Royal commission on prickly-pear. Report. Brisbane, 1923.
- Untersuchungen über aminosäuren, polypeptide und proteine. v. 2. Von Emil Fischer. Berlin, J. Springer, 1923.
- Zur geschichte des alten bauerngartens der Schweiz und angrenzender gegenden. 2. auf. Von Hermann Christ. Basel, B. Schwabe & co., 1923.

OLD BOOKS.

- Considerations on the necessity of establishing an agricultural college. By Simeon DeWitt. Albany, 1819.
- Flore fourragère de la France. Par Edme Ansbuerge. Lyon, 1866.
- Icones plantarum rariorum Horti regii botanici berolinensis. Pars prima. [By] H. F. Link. Berolini, 1828.
- La pratique du jardinage. Nouv. ed. Par J. R. Schabol. Paris, 1782.
- Traité de la culture et de la plantation des arbres à ouvrer. Par Augustin Roux. Paris, 1750.
- Die wein- und tafeltrauben der deutschen weinberge und gärten. Von L. v. Babo und J. Metzger. Stuttgart, 1851.

EXPERIMENT STATION PUBLICATIONS.

The office of experiment stations received for its library files copies of the following publications of the State experiment stations during the week of December 3-8, 1923. These publications can be obtained only from the stations issuing them.

- Alfalfa in Connecticut. B. A. Brown and W. L. Slate, jr. (Connecticut Storrs Sta. Bul. 115, pp. 299-323. June, 1923.)
- Pruning young apple trees. F. P. Cullinan and C. E. Baker. (Indiana Sta. Bul. 274, pp. 40, figs. 13. May, 1923.)
- The quarterly bulletin. (Michigan Sta. Quart. Bul., vol. 6, No. 2, pp. 41-78, figs. 10. Nov., 1923.)
- Analyses of commercial feeding stuffs and registrations for 1923. C. S. Cathcart. (New Jersey Stas. Bul. 387, pp. 70, fig. 1. Aug., 1923.)

Vitamines and their relation to poultry diseases. F. R. Beaudette. (New Jersey Stas. Hints to Poultrymen, vol. 12, No. 2, pp. 4, figs. 2. Nov., 1923.)

The standard of life in a typical section of diversified farming. D. L. Kirkpatrick. (New York Cornell Sta. Bul. 423, pp. 183, figs. 24. July, 1923.)

Digestive coefficients of poultry feeds and rapidity of digestion and fate of grit in the fowl. B. F. Kaupp and J. E. Ivey. (North Carolina Sta. Tech. Bul. 22, pp. 143, figs. 13. June, 1923.)

The strawberry. P. Thayer. (Ohio Sta. Bul. 364, pp. 61-98, figs. 31. June, 1923.)

Prices of Ohio farm products. J. I. Falconer. (Ohio Sta. Bul. 365, pp. 99-143, figs. 10. June, 1923.)

The insects of the soybean in Ohio. W. V. Balduf. (Ohio Sta. Bul. 366, pp. 145-181, figs. 9. June, 1923.)

A comparison of types of lambs and systems of production. J. W. Hammond. (Ohio Sta. Bul. 367, pp. 183-239, figs. 9. June, 1923.)

Garbage for fattening pigs. F. S. Hultz and L. P. Reeve. (Wyoming Sta. Bul. 135, pp. 17-26, fig. 1. May, 1923.)

Avian type of tuberculosis in cattle: Injection and testing. C. Elder and A. M. Lee. (Wyoming Sta. Bul. 136, pp. 27-41, figs. 3. June, 1923.)

OFFICIAL ANNOUNCEMENTS.

(Continued from page 4.)

receiving \$1,400 per annum but there are several receiving \$1,200. On the other hand, Grade VII includes a \$1,400 employee. If his efficiency rating is high enough to make him eligible for promotion to \$1,600, he should receive the increase rather than one of the \$1,200 employees in the higher classification grades. In other words, as long as the statutory salary plan is in effect, making it impossible to adjust all differences in compensation of employees doing similar work, the mere fact that one employee occupies a higher classification grade than another will not be considered as warranting his promotion more than one salary grade at a time.

2. When employees in each of the several grades, receiving the same salary, are eligible for promotion to the next higher salary, the employee in the highest grade having the highest rating should receive the promotion. To illustrate, assume that a vacancy exists at \$1,400 per annum. There are two \$1,200 employees in Grade VIII, one having an efficiency rating of 120, the other a rating of 115. There are no \$1,200 employees above Grade VIII, but one in Grade VII has a rating of 125. The employee in Grade VIII whose rating is 120 should be promoted in preference to the employee in Grade VII, although the latter's efficiency rating is higher than his. This policy is to be followed because the duties of the employees in the higher grade are presumed to be more responsible than those of persons in the lower grades or he would not have been classified above them. It should be borne in mind, however, that no employee, regardless of his grade, can be promoted unless his efficiency rating is sufficiently high to make him eligible for the salary recommended.

It is recognized that situations may arise in which the application of these principles would not be practicable. In such cases, recommendations for action involving a departure from the general rule should contain

a full statement of the facts which make such exception advisable.

The personnel classification officer of the department will be glad to discuss the questions involved in preparing registers with members of efficiency committees or other bureau representatives.

If additional copies of this memorandum are desired they can be obtained by requisition on the duplicating and addressing section of the Office of Publications, which also will supply individual rating sheets and efficiency register forms.

Articles in Current Publications by Department Workers

Ayers, S. Henry, Rupp, Phillip, and Johnson, Wm. T., Jr. (Animal Industry). The influence of surface tension depressants on the growth of streptococci. VI. Studies of the streptococci. Jour. of Infect. Dis., vol. 33, no. 3, pp. 202-216. September, 1923.

Bailey, Vernon (Biological Survey). The eastern deer mouse, woods mouse, or white-footed mouse (*Peromyscus leucopus noveboracensis*). Nature Magazine, vol. 2, no. 4, pp. 245-246, October, 1923.

Campbell, R. E. (Entomology). Notes on nicotine dust progress. Journal of Economic Entomology, vol. 16, no. 6, pp. 497-505, 2 tab. December, 1923.

Fletcher, C. C. (Soils). Sulphur as a soil amendment. Chem. Met. Eng., vol. 291, no. 23. December, 1923.

Giltner, L. T. (Animal Industry). Spontaneous tuberculosis in a calf caused by a human type bacillus. North Am. Vet., vol. 4, no. 12, pp. 622-625. December, 1923.

Gore, H. C. (Chemistry). The value of sweet potato flour in bread making. Ind. Eng. Chem., vol. 15, no. 12, December, 1923.

Hall, Maurice C. (Animal Industry). Parasitism and metabolism. Vet. Med., vol. 18, no. 12, pp. 1109-1112. December, 1923.

Mohler, John R. (Animal Industry). Helpful cooperation. Nat. Prov., vol. 69, no. 12, pp. 117-120. September 22, 1923.

Phillips, E. F. (Entomology). Humidity in the beehive. Gleanings in Bee Culture, vol. 51, no. 12, pp. 779-782, December, 1923.

Spencer, G. C. (Chemistry). The testing of chemicals in the Bureau of Chemistry from 1920 to 1923. Ind. Eng. Chem., vol. 15, no. 12, December, 1923.

Stahl, C. F. (Entomology) and Carsner, Eubanks. A discussion of *Eutettix tenella* Baker as a carrier of curly-top of sugar beets. Journal of Economic Entomology, vol. 16, no. 6, pp. 476-479. December, 1923.

Summers, J. N. (Entomology). A refrigerator for shipping live insects. Journal of Economic Entomology, vol. 16, no. 6, pp. 539-543, fig. 6-7. December, 1923.

Webb, J. L. (Entomology). The pink bollworm of Thurberia, *Thurberiphaga catalina*. Journal of Economic Entomology, vol. 16, no. 6, pp. 544-546. December, 1923.

CIVIL-SERVICE ANNOUNCEMENT.

Associate soil technologist, \$3,000 to \$3,600. Vacancies in the Bureau of Soils, Washington, D. C., at \$3,000 to \$3,600 a year, and in positions requiring similar qualifications, will be filled from this examination. Competitors will not be required to report for examination at any place, but will be rated on education, experience, and a thesis or publication (to be filed with application). Applicants must have been graduated from a college or university of recognized standing; and, in addition, must have had at least three years of graduate study in soil science. In lieu of each year of the required graduate study, applicants may substitute a year of practical experience in soil science. If interested, apply for Form 2118. Receipt of application closes January 8, 1924.

THE OFFICIAL RECORD

UNITED STATES DEPARTMENT OF AGRICULTURE



CERTIFICATE: By direction of the Secretary of Agriculture, the matter contained herein is published as administrative information and is required for the proper transaction of the public business.

VOL. II.

WASHINGTON, D. C., DECEMBER 26, 1923.

No. 52.

AIRPLANE SUCCEEDS IN WEEVIL CAMPAIGN

Dusting of Cotton from Air Gives Profitable Returns in Recent Tests.

Attacking the boll weevil from the air has been proved a successful means of combating this most destructive enemy of the South's greatest crop, according to the Bureau of Entomology. Scores of different methods and materials have been devised and recommended for putting a stop to the depredations of the boll weevil, but according to the results obtained calcium arsenate in the form of dust is the most effective poison for this and a number of other cotton insects, and a specially equipped plane is the most effective means for applying it to the fields.

B. R. Coad, in charge of the department station at Tallulah, La., spent the past week in Washington and brought to light many features of the work during the past summer. In a comparison made on adjacent plantations the fields dusted with calcium arsenate by airplane showed an increase of 750 pounds per acre of seed cotton over fields not treated. Although the cost of dusting with use of the planes, which were supplied and manned by the Air Service of the United States Army, is not definitely known, it is estimated to be about \$5 per acre. At present prices of cotton the gain from dusting was over \$75 an acre.

New Facts Are Brought Out.

The tests being carried on by the department are designed to bring out infor-

mation of many phases of the problem of cotton insect control. During the past summer the treatment covered 3,000 acres. On one plantation the fields were unobstructed by buildings and trees, and on the other the fields were broken up by woods, barns, and cabins. Both of the plantations were heavily infested with the boll weevil and the cotton leaf-worm. Applications of the poison dust were made whenever the condition of the cotton seemed to indicate the necessity for treatment.

MANY AGRICULTURAL BILLS ARE PENDING

Measures Affecting Agriculture In- troduced in Both Branches of Congress.

Of the numerous measures introduced in Congress since it convened, over a hundred of them affect agriculture directly or indirectly. One measure would

prohibit speculative trading in grain and food products; another would forbid the sale of cotton and grain in future markets. Other measures include the tariff, cooperative marketing, Muscle Shoals, national highways, famine conditions in Europe, inland navigation, cotton production, agricultural experiment stations, and forestry. "Truth in fabric" bills have again been introduced.

Senator F. R. Gooding, of Idaho, is author of a bill "to promote agriculture by stabilizing the price of wheat." It would create a wheat stabilization corporation with \$300,000,000 capital stock subscribed and held by the United States Government to purchase wheat at a guaranteed price of \$1.50 a bushel. Importation of wheat, except under certain conditions, would be prohibited.

A bill designed to stabilize the price not only of wheat but of corn, cotton, and wool has been introduced by Representative J. H. Sinclair, of North Dakota. This bill would set up a Government

corporation to buy No. 1 northern spring wheat at \$2 a bushel in Chicago and \$1.96 in Minneapolis; No. 2 yellow corn at 95 cents a bushel in Chicago; and wool, unwashed, at 55 cents a pound in Boston and St. Louis. These prices are

Department of Agriculture,
Office of the Secretary,
Washington, D. C., December 18, 1923.

Merry Christmas to everyone in the Department of Agriculture, wherever he or she may be, and a Happy New Year.

My greeting is the more sincere because I am sure that there is no group in the employ of the Government which more clearly exemplifies the real Christmas spirit—the spirit of giving—the spirit of unselfish service.

I speak with confidence because I have had the opportunity to know. I have seen our people at their work—in the offices, the laboratories, the fields, the forests. I have met them in twenty different States this year and in far off Alaska. These contacts have been an inspiration to me and a stimulus to do my own work better as the temporary leader of this great Department. And it has been a great gratification to learn that my own high opinion of our people and their work is shared by those with whom they come in contact. Everywhere I find them well thought of in the communities in which they live and respected by those with whom they have to deal.

The Department is doing better work now than a year ago. We are working harder and more efficiently. There is better teamwork. There is a better Department spirit. We have made gains all along the line. Let us keep it up in 1924.

Certainly we can enter the holiday season festivities this year with right good will. Conditions with the people of the great open country, the people we serve, are much better than a year ago. We are on the up grade. Just as the primitive people of early times celebrated this season of the year because it marked the return of the sun with its promise of another harvest, so can we celebrate it this year as marking definitely an improvement in material conditions which warrants the hope of better times.

So I close as I began, with a sincere wish that all of our folks may have a truly Merry Christmas and a Happy and Prosperous New Year.

George Wallace

During the experiment some important fundamental facts have been brought out concerning the application of dust. When dusting of plants to kill insects was first practiced on a large

(Continued on page 5.)

proposed for 1924. For subsequent years minimum prices based on estimated production costs would be promulgated.

The Secretary of Agriculture would be authorized "to purchase, store, and sell wheat, and to secure and maintain to the producer a reasonable price for wheat and to the consumer a reasonable price for bread," under the terms of a bill sponsored by Representative E. C. Little, of Kansas. It would give the Secretary power to buy wheat at not more than \$1.25 a bushel, "and at not to exceed the market price * * * except when wheat is being sold at less than \$1.10 a bushel, when he may pay \$1.10 if he deems it advisable."

To carry out this program, the bill would appropriate \$30,000,000 and provide for the issuance of Treasury certificates. If at any time the Department of Agriculture, as a result of purchases by the Secretary, should have on hand 100,000,000 bushels of wheat or more, it would have the sole authority to export wheat without paying an export tax of 50 cents a bushel, which might be levied on all wheat exported by other parties.

Would Help Wheat Farmers.

Representative J. N. Tinker, of Kansas, has introduced a bill "to provide relief to persons who owned wheat of the crop of 1917 before the announcement of the food administration price-fixing policy with respect thereto, and who sold such wheat after August 11, 1917." The Secretary of Agriculture is directed to ascertain the losses suffered in such transactions by persons, firms, or corporations, and pay them at the rate of 60 cents a bushel. A clause provides that no claim shall be paid resulting from purchases of wheat for investment or speculation.

Sales or purchases of grain, foodstuffs, or other agricultural food products that are "not for prompt delivery or not intended to be actually delivered by the seller or received by the buyer" would be prohibited under a bill introduced by Representative J. V. McClintic, of Oklahoma. Senator T. H. Caraway, of Arkansas, has introduced a bill to prevent the sale of cotton and grain in future markets unless actual delivery is intended. The bill would make it unlawful to use the mails or the telegraphs to send messages offering to make such sales.

A bill to increase the duties on wheat and flaxseed and their products and repeal provisions of the existing tariff authorizing payment of wheat drawbacks and permitting milling in bond, has been introduced by Senator E. F. Ladd, of North Dakota. It would increase the duty on wheat to 45 cents a bushel; on

(Continued on page 8.)

WORK OF CHEMISTRY COVERS MANY PHASES

Recent Yearly Statement Indicates Important Results Have Been Accomplished.

The work of the Bureau of Chemistry during the past year covered a wide variety of subjects of interest to nearly all classes of the population, according to the annual report of its chief. The most familiar activity of the bureau is through its enforcement of the food and drugs act, but its investigations are shown to extend into many other fields.

Important researches have been carried on relative to the chemical composition of various crops, especially with relation to quality production; the odorous principles of the cotton plant were studied in an effort to help solve the boll-weevil problem; extensive studies of plant proteins are being made, and of vegetable oils. Methods are being devised for the profitable utilization of cull and surplus oranges and lemons. Further studies of the possibilities of making a commercial beverage and a flavoring sirup from cassina, a wild plant growing extensively in the South, have been carried on.

The report tells briefly of work that has been done in tanning leather and in making articles of leather more resistant to wear and weathering. Valuable information was collected on waterproofing, mildewproofing, and fireproofing of fabric such as canvas used extensively on the farm.

By-Products Are Studied.

Better means for utilizing cull and surplus sweet potatoes are being studied which should be important to great areas in the South where this crop grows well. Other work of benefit to this same section has to do with the manufacture of cane sirup and sugar. Work also was done on sorgo sirup and beet sugar. Much of this work promises to be of great value in increasing profits and in opening up the way for other improvements.

The investigations of this bureau, although they are related to agriculture directly or indirectly, reach into fields that touch manufacturers of many products. Studies have been made of insecticides, and a great deal of work has been done on investigations of causes of dust explosions or fires which occur in a wide variety of industries, in threshing machines, in cotton gins, and in elevators.

Information is being collected on the dehydration of fruits and vegetables, including cull oranges, cherries, rhubarb, cauliflower, and onions.

Better methods are being devised for the manufacture and grading of rosin and turpentine, and demonstrations are being carried on among the producers. Another branch of the work has to do with color, medicinal, and technical investigations. More information has been obtained on uses for furfural and other chemical products which the bureau has found can be made from corncobs. Cheaper processes have been devised for manufacturing certain of these products.

Regulatory Acts Enforced.

In addition to the food and drugs act the bureau enforces the tea inspection act and the naval stores act, laws designed to protect the public from being defrauded and to provide certain standards for these products. During the year nearly 100,000,000 pounds of tea was examined for quality and purity at the ports of entry. The naval stores act is a new law and so far no funds have been provided for its enforcement. During the year there were 621 prosecutions and 829 seizures under the food and drugs act, and the quality of foods and general conditions in the trade have greatly improved under the operation of this law.

The American Farm Economic Association will hold its fourteenth annual meeting at the New Ebbitt Hotel, Washington, December 27-29. The program includes a paper by Secretary Wallace entitled "A National Agricultural Program," and two by Dr. H. C. Taylor, Chief of the Bureau of Agricultural Economics. Doctor Taylor will speak on "What Should Be the Content of a Marketing Course for Undergraduates?" and "Agricultural Forecasts—Their Use and Value." In the discussion on the effect of business upon agriculture, A. B. Genung and G. C. Haas, both of the Bureau of Agricultural Economics, are scheduled to take part. R. H. Wilcox, in charge of the cost of production studies of the bureau, will discuss the use of detailed cost studies in improving farm organization in a community. Dr. W. J. Spillman will present a paper on "The Law of the Diminishing Increment in the Feeding of Cattle and Hogs."

Decreased production of potatoes and sugar beets in France and increased production of corn as compared with last year's crops is reported to the department by the International Institute of Agriculture at Rome. The Egyptian cotton crop is also larger than in 1922.

FEDERAL-AID ROADS PUSHED DURING YEAR

Annual Report of Public Roads Shows Large Building Pro- gram Under Way.

Eight thousand eight hundred and twenty miles of roads of all types were completed with Federal aid during the fiscal year which ended June 30, 1923, according to the annual report of the Bureau of Public Roads. This, added to the mileage completed prior to the fiscal year, brought the total of completed projects up to 26,536 miles, or more than enough to encircle the earth.

An outstanding achievement of the year has been the work done in selecting the roads to constitute the Federal-aid highway system, in accordance with the provisions of the Federal highway act. The total mileage of rural roads in the United States is 2,859,575 miles, which will limit the Federal-aid highway system to 200,170 miles. At the end of the fiscal year 35 State systems, comprising 111,699 miles, had been approved by the Secretary, and it was not thought likely that the initial program will exceed 180,000 miles. Analysis of the approved systems shows that most of the cities of 5,000 or more population in these States lie directly on the system, and there is probably not one but will be connected with the system by an improved road. It is safe to say that 90 per cent of the total population lives within 10 miles of some route on the system.

Forest Roads Are Built.

The bureau is charged with the construction of roads for the protection and utilization of our national forests. At the close of the fiscal year the total mileage of forest roads completed was 1,536 miles, with 932 miles under construction and surveys in progress for 1,014 miles. On account of the large areas of forest land in some of the Western States it is necessary that the forest highways and the Federal-aid highways be properly coordinated and that they form one continuous system of roads.

In the field of highway economics important investigations have been conducted and are still being carried on. The reemergence of the highway as a factor in the transportation of people and goods has brought forth problems to be solved if the use and development of the highways are to be along the most economic lines. Observations made in Connecticut to determine the character and amount of commodities hauled by highway, the method of hauling and length

of haul for commodities moving over the roads of the State show that 1,019,688 net tons of commodities were transported over the Connecticut highway system during the three months' period beginning September, 1922. A large part of this movement was distinctly a service that could be rendered only by improved highways, as more than a third of the tonnage moved only from 1 to 9 miles, and nearly another third from 10 to 29 miles.

Sources of Revenue Studied.

In recent years much discussion as to methods of highway financing has created a feeling that the distribution of the cost to property owners and motor-vehicle operators has not been equitably adjusted. To ascertain the facts the bureau has undertaken to make a thorough study of the sources of highway revenue and selected four counties in Wisconsin for study.

Among the significant findings, some of which are at variance with opinions widely held, are the following:

1. The major portion of the total highway funds are raised by township and county units rather than by the State.
2. Real property taxation produces 62 per cent of the highway revenue derived from these counties.
3. Vehicle license fees produce 9 per cent of the total funds raised in the counties.
4. Significant reduction of real property taxation can only be made by reduction of county and local taxes.

Experiment in Road Testing.

Much progress has been made during the year in researches to supply data for use in the design of roads. Sections of bituminous road have been tested under truck traffic to determine the cause of the familiar "washboard" wrinkles which sometimes appear in bituminous surfaces. A great many road slabs are being tested by means of an impact machine which duplicates the pounding action of a truck wheel after it strikes a small obstacle on the road. In another experiment a circular track of many sections of concrete, each built of different materials or in a different way, has been tested under traffic to determine the amount of surface wear.

The bureau has cooperated with universities and State highway departments in a number of special investigations such as traffic tests on road surfaces, gasoline consumption of motor vehicles, and tractive resistance of various road surfaces.

Dr. Sokrat K. Tschajanoff, director of the Voronej, Russia, Agricultural Experiment Station, was a recent visitor to the department.

A DIGEST OF THE NEWS

Brief Bits of News Digested From
Material Issued by Department During
the Past Week.

GERMAN MARKET CONDITIONS IMPROVED.

Improvement in agricultural market conditions in Germany during the first half of December is reported by cable dispatch to the department by the agricultural commissioner at Berlin. Larger quantities of cotton, wheat, rye, flour, lard, and bacon are apparently being imported, and a short supply of lard and bacon in the Hamburg markets will probably stimulate further increase in imports of these commodities. The mark has now been practically abandoned as a basis for foreign trade, contracts being made on the basis of foreign currency. The large shipment of gold recently sent to New York and reported credit advances from other countries have probably contributed to the December revival.

STUDY TYPES OF FARM AUTOMOBILES.

Automobiles on farms are used mainly for business purposes with comparatively little use made of the machines for pleasure, the department has learned in recent farm-management surveys. On 1,371 farms surveyed, 923 farmers reported the ownership of 1,000 automobiles or trucks. The owners of the cars stated that from two-thirds to nine-tenths of the use of the machines was for farm business. The touring car is the most popular type of automobile with these farmers, as it can be used for all purposes, from hauling milk or feed to taking the children on Sunday picnics. Two-thirds or more of all machines reported were touring cars. Trucks come next in popularity, about 25 per cent of all machines reported being trucks. Roadsters, sedans, and coupés were less frequently reported, totaling less than one-tenth of all machines used. The low-priced car is also the most popular among farmers, over two-thirds of the machines reported being makes that now cost less than \$500 for touring cars f. o. b. factory.

ALFALFA WEEVIL STILL SPREADING.

Continued spread of the alfalfa weevil throughout the Great Basin States and the increasing damage which it is causing in some of these States, notably Idaho, have caused great apprehension, especially throughout the more newly infested regions. The insect, according to the department, now occupies practically

(Continued on page 4.)



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Women Confer on Plans for Bureau of Home Economics

At the request of Dr. Louise Stanley, Chief of the Bureau of Home Economics, a group of eight women, representing various organizations, came together at the department recently to discuss future plans and policies of the new bureau.

The conference was opened by Dr. E. D. Ball, director of scientific work. He outlined briefly the plan of the Secretary in establishing a Bureau of Home Economics, coordinated with other bureaus in the department, and expressed the opinion that in the future an increasingly important place will be given to the study of the problems of the home. Among the many definite suggestions made, Mrs. Charles Schuttler, representing rural women, said that the bureau might be expected to furnish "the scientific basis for the mechanics of living." Mrs. Ethel Puffer Howes, speaking for the American Association of University Women, felt that the work of the bureau should aid women in the home in acquiring a philosophy of living. "Most of the problems of women," said Mrs. Howes, "are rooted in lack of conviction about the relative value of the activities in the home. Things must be translated into terms of values before the new bureau can decide on its fields of research."

The women on the committee and the organizations they represented were as follows:

Miss Lida Hafford, National Council of Women; Mrs. A. H. Reeve, National Congress of Mothers and Parent-Teachers' Association; Mrs. Ella A. Boole, National Woman's Christian Temperance Union; Miss Mary E. Sweeny, General Federation of Women's Clubs; Mrs. Ethel Puffer Howes, American Association of University Women; Miss Lita Bane (representing Mrs. Mildred Weigley Wood), American Home Economics Association; Mrs. Charles Schuttler, repre-

senting the rural women (no organization); Mrs. Winfield Smith (representing Mrs. Edward P. Costigan), League of Women Voters.

Italian Red Clover Seed Unsatisfactory In Tests

In October last the department called attention to the fact that the American red clover seed crop for 1923 appeared to be a short one and that therefore it was probable that considerable importations of foreign seed would be made. Present indications are that such importations will be heavy.

While the department has not yet accumulated sufficient information through its tests in cooperation with the State experiment stations to make possible a determination of the adaptability of red clover from all the foreign sources, the following points are regarded as fairly well settled:

1. Italian red clover seed is unsuitable for any part of the clover area except the Pacific Northwest. Italian seed has resulted in a poor crop or a failure in nearly every trial made by the department, both in its own tests and those made in cooperation with the State experiment stations, except in the Pacific Northwest.

2. In the central Northwest, where winters are severe and the snow cover usually light, northern-grown red clover seed only should be used. If that is not to be had, other domestic seed may be used except that from Oregon, which produces a less hardy plant.

3. So far as trials have been made, the Chilean, French, and north European seed has given good results in the Ohio and Mississippi Valleys and in the North Atlantic Coast States. However, where there is trouble from clover diseases, especially anthracnose, the foreign clovers are more likely to lose out on the second crop.

4. In Virginia and westward to Tennessee, where anthracnose is likely to be destructive, an effort should be made to develop local disease-resistant strains.

5. In Oregon, Washington, and Idaho all strains have done well; the place of origin of the seed seems to make little difference for these regions.

6. Buyers should insist on knowing the origin of the seed offered, and seed should be purchased from firms or organizations of known integrity and responsibility.

7. It would probably be desirable for all American farmers to use only domestic red clover seed. That is at present impossible, however, and too great insistence on this might lead to an ex-

cessive increase in price, together with the sale of much imported seed under domestic labels. Whenever imported seed of suitable kinds can be safely used, this course would seem advisable to follow rather than to reduce the acreage seeded because of difficulty in securing domestic seed.

A DIGEST OF THE NEWS.

(Continued from page 3.)

all the alfalfa-growing regions of Utah and Idaho and is found in parts of Colorado, Wyoming, and Nevada. It has also been discovered in eastern Oregon and more recently has been reported from Sierra County, Calif.

NO NEW OUTBREAKS OF PINK BOLLWORM.

The Federal Horticultural Board reports that no new infestations of the pink bollworm have been found during the past year, and that except in the extreme western districts no infestation whatever has been determined in any of the territory where the insect had been previously established, indicating the ultimate success of the effort to stamp out this pest in the main part of the Cotton Belt.

MILLIONS USE NATIONAL FORESTS.

Over 6,000,000 people are estimated to have visited the national forests during 1923, according to a recent report of the department. As only 3,000,000 visitors were recorded in 1917, the first year records of the number of people visiting the national forests were compiled, these figures show a doubling in the number of visitors to the forests in six years. All indications point to a continued increase for the future, the report states.

PREDICT FIRES IN MONTANA FORESTS.

The attempt to predict forest-fire conditions on the basis of weather forecasts and the condition of forest litter is being undertaken by the Priest River Forest Experiment Station at Missoula, Mont. Weather Bureau forecasts and forest-fire warnings are received by wireless and adapted to local conditions as determined by tests of moisture content or inflammable condition of the forest floor and undergrowth. The results are made available as widely as possible throughout the station's territory.

M. Kugimoto, of the Bureau of Animal Husbandry, Department of Agriculture and Commerce, Tokyo, Japan, recently visited the Division of Dairy and Poultry Products of the department, to investigate the work of that division.

QUESTIONS AND ANSWERS.

Questions of general interest on the work of the department will be answered in this column. Those of limited interest will be answered direct.

Question. If there are no Federal grades for a commodity, on what standards is a Federal inspection certificate based?

Answer. In issuing a certificate covering the inspection of a commodity for which there are no Federal grades, the Bureau of Agricultural Economics describes the important factors of quality and condition.

Question. How long has the meat inspection law been in effect and how many animals have been tested under it?

Answer. The meat inspection law became effective October 1, 1906. With the close of the fiscal year June 30, 1923, the total number of animals inspected under the meat inspection law was 1,002,640,044. This number includes all the animals slaughtered under the present meat inspection law, and of this number 3,597,310 whole carcasses and 12,077,445 parts of carcasses were condemned and rendered unfit for food purposes.

Question. Is it possible for owners of private lands within national forests to trade them to the Government for other lands or for stumpage within national forests?

Answer. Yes. The act of March 20, 1922, authorizes the Secretary of the Interior, upon recommendation of the Secretary of Agriculture, to accept title to any privately owned lands within national forests which are chiefly valuable for forest purposes and to grant in exchange therefor other national forest lands or national forest stumpage not greater in value than the offered lands. Congress has also passed a number of special acts authorizing exchanges on specific forests, and in two or three cases has applied the exchange provision to privately owned lands outside present forest boundary. Offered lands upon acceptance by the Secretary of the Interior become parts of the national forests.

Question. What is a good, more or less elementary, textbook on meteorology? Has the Weather Bureau published anything of this nature?

Answer. A selection of books on meteorology, prepared by C. F. Talman, chairman of the committee on public information of the American Meteorological Society, was published in the bulletin

of that society for March, 1921. The Weather Bureau has never undertaken to publish a general work on meteorology, though certain of its publications cover more or less comprehensively particular branches of this science, such as weather forecasting, clouds, frost, etc. A list of Weather Bureau publications now available for distribution can be obtained by addressing "Chief, U. S. Weather Bureau, Washington, D. C."

AIRPLANE SUCCEEDS IN WEEVIL CAMPAIGN

(Continued from page 1.)

scale it was found necessary to do the work at night, when the moisture on the leaves would cause the dust particles to stick. It was soon found, however, that dust applied by the airplane in the daytime would stick to the plants and that a pound of the material would go much farther than when applied by other means and when the leaves were damp.

Investigation has led experimenters to believe that the better effect with the plane is gained because the particles of powder are highly charged with positive electricity, while the plants carry a negative charge. Since opposite charges attract, the charged dust settling toward the earth or blown that way by the swift currents of air from the plane is drawn into close contact with the plant and held there. The charge of electricity on the dust is thought to be produced by the friction of the plane with the air and the friction of the dust particles with the air current, which has a speed of 125 to 135 miles an hour.

Experimental Work Broadened.

With this information regarding the charging of dust particles, department workers are now making efforts to produce the same sticking qualities in the dust applied by other machines so that all dusting work can be done in the daylight and the same results obtained with less material per acre. At the southern station the ground machines are being equipped with high-frequency and high-voltage generators to determine if the dust can be charged in this way instead of by friction which is incidental to the operation of the plane.

Greater success in the use of the plane in fighting the boll weevil will come when a machine is developed especially adapted to the work, according to department people. What is needed is to do away with speed in planes and build machines for maximum efficiency at intermediate speed, but with power to rise quickly to avoid obstruction. The planes now in use have a landing speed of about 75 miles an hour. It is thought desirable in

view of past experiments to have a machine with a traveling speed of 50 to 60 miles and a landing speed of 20 to 25 miles.

NEW RUBBER SOURCES SOUGHT.

Because the United States is the greatest rubber consumer in the world and must buy all of the raw material from other countries, much attention is now being given to the possibilities of developing new sources in this country and in tropical America. A special appropriation was made by Congress for more extensive investigations. "The need for developing new sources of rubber supply," says the Secretary in his annual report, "is shown by the rapidly increasing consumption in the United States and the serious danger of interruption of supplies from the East Indies.

"About nine-tenths of the world's supply of crude rubber comes from East Indian plantations," says the report, "while three-fourths of the supply is used in the United States. These two facts are a standing challenge to agricultural scientists and to business men.

"In view of the large number of plants that are known to produce rubber and of the wide range of diversity among such plants in habits and conditions of growth," the report continues, "adequate determinations of cultural requirements and possibilities are not to be expected until many observations and experiments have been made. Facilities for experimental work are being extended in the different regions where rubber-producing plants can be grown, and expeditions are being sent to foreign countries to study the habits of the plants under native conditions and to secure the best stocks for propagation and breeding purposes, so that vigorous, high-yielding strains may be developed as the basis of production.

"Under the existing world conditions it is clearly desirable that a thorough study of the potential rubber-producing plants of the world be carried forward vigorously and without interruption, with a view to ascertaining the most promising sources of increased supplies of rubber to meet the increasing requirements of our industries and of the users of rubber, who now constitute practically the entire population of the country."

A public hearing to consider restrictions on the importation of Christmas trees and Christmas greens from Canada to guard against the possible entry with such products of the gipsy moth will be held by the Federal Horticultural Board in Washington, January 4, 1924.

DID YOU KNOW?—

Brief mention of certain phases of the department's work will be included in this column from week to week.

SCALE INSECT CONTROL EFFECTIVE.

For the control of scale insects growers of citrus fruits in California have for the last 30 years depended upon fumigation of their trees with hydrocyanic-acid gas, a method discovered and introduced by an agent of this department as early as 1886. The use of this gas in fumigating plants for the destruction of insect pests is one of the most important discoveries in the field of insect control. No other gas having so wide a range of usefulness so quickly destroys insect life. The success of the gas treatment, following its discovery by the department while investigating the control of certain scale insects in the citrus orchards of California, was immediate and its development rapid. Soon all other methods of controlling citrus scale insects in that State were almost completely supplanted.

Nearly every year new sprays have been offered in competition with the gas method, but fumigation has outlived them all, and hydrocyanic-acid gas is to-day, even as 30 years ago, by far the most widely used and most effective of all insecticides for scale control on citrus trees on the Pacific coast. In Florida cyanid fumigation has been amply demonstrated several times, but never adopted commercially, as in California, owing largely to more restrictive climatic conditions. This method of scale control is now used in South Africa, Egypt, Spain, Australia, and Japan.

The method of application consists in covering the tree with a tent and producing or liberating the gas within the tent. With proper dosage and under proper conditions the scales are killed and the tree is seldom injured. Three methods of producing and applying the gas are in common use. The first is the pot method, in which the gas is produced within the tent by adding cyanid to water and sulphuric acid in a glazed earthenware jar. This method, however, was largely superseded by the fumigating-machine method, in which cyanid solution is added to sulphuric acid and water in a machine mounted on wheels, and the gas is conducted into the tent through a hose. The third method, introduced within the last few years and now very extensively used, is the "liquid-gas" method, in which the liquid hydrocyanic acid, carried in a machine, is forced into the tent through a fine nozzle,

forming a mist which quickly becomes gas.

Hydrocyanic-acid gas is fatal to insects when the dose is sufficiently large and the exposure long enough, but a much greater strength of gas is necessary for the destruction of some insects than for others. Were it not for the destructive action of the gas on the plants, its field of usefulness would be increased greatly.

In recent years growers in California have been organizing cooperative fumigating companies, which include the members of several citrus associations. This cooperation has been quite successful and has made possible a more extensive use of the method in the citrus-fruit region of California.

WITH EXTENSION FORCES

AN ANSWER 1,400 MILES LONG.

With clover so plentiful that the region is known as "Cloverland," and with an abundance of grain crops well established in its cropping system the Upper Peninsula of Michigan presents admirable facilities for dairy farming. The problem of developing a dairy industry has been given considerable attention by extension workers in this section for some time. Progress has been made but many Cloverland farmers look upon dairying for their own farms with some question.

Believing that the quickest and most permanent way to establish dairying on a firm basis is through the boys and girls of the farm, A. G. Kuttunen, assistant State club leader stationed at Marquette, the extension agents of Upper Peninsula counties, leading farmers and members of the Upper Peninsula Development Bureau thought out a plan this year for giving farm boys of their section a glimpse of the dairy industry well established, to help establish ideals toward which to work and arouse determination to carry on to success.

Wisconsin being the most accessible region furnishing the desired material, it was decided to take as many club boys as possible on a trip to some of the leading farms of that State. The cooperation of Wisconsin breed associations and chambers of commerce, Kiwanis and Rotary Clubs of Michigan and Wisconsin both, was enlisted, and with this aid an itinerary including dairy farms, several creameries, factories using dairy products, and some points of general interest was arranged. Some time before the date set for the tour, Mr. Kuttunen drove over the entire route, trying out time schedules, inspecting roads, locating suit-

able stopping places, and getting details well in hand.

The Upper Peninsula Development Bureau appropriated \$1,000 to finance the trip. Automobiles and trucks were loaned by individuals and Michigan Agricultural College. Folding cots were loaned by the agricultural college to help take care of the sleeping proposition.

On August 15, 33 calf-club boys from 12 Upper Peninsula counties and some 13 local leaders and extension workers drove out to Powers, Mich., on their 1,400-mile tour. De Pere, Wis., was reached by 5.30 p. m. the same day. Here the breeders and grain growers' associations of the county gave a banquet for the party and a building of the Northwest Wisconsin Fair was turned over for sleeping quarters. The days that followed were filled by travel and visits to farms, with frequent breakfasts, luncheons, and dinners with breed associations and business organizations, a visit through the plant of a dairy journal, and a trip around Wisconsin's capital sandwiched between. Forty-seven farms were visited, a number of them having stock of famous breeding. Herds were seen on several farms operated under ideal conditions by persons of means, but most of the visits were to see practical farmers' herds developed either from small holdings of purebreds or from grade cows and purebred sires. Feed resources, barns, silos, and other equipment essential on a farm specializing in dairying were studied. Stops were made at a condensary, several dairies and creameries, and a cheese plant or two.

Precaution was taken to guard against confusion from the wealth of new ideas. Each boy was required to keep a notebook and to submit a report at the end of the tour, and quizzes were conducted at the end of each day to clarify ideas and emphasize the important things observed. The 10 days of combined schooling and outing ended August 25.

While concrete results can not be expected at once, the interest aroused among Upper Peninsula farmers generally by the publicity which this unusual journey brought forth and by the enthusiastic reports of the boys who participated has been encouraging. One county agent reports that farmers in his county are considering a similar tour themselves. A boy making the trip wrote Mr. Kuttunen: "Daddy says that when he was my age he never had the opportunity to go on a wonderful tour like this was, but he says he is glad that his son has had the chance."

Mr. Kuttunen believes the dairy question has been answered conclusively for at least the 33 farms represented on the tour.

BRIEF REVIEWS OF NEW BULLETINS.

Breaking and Training Colts. By V. G. Stambaugh, J. O. Williams, and Earl B. Krantz, Animal Husbandry Division, Bureau of Animal Industry. Pp. 21, figs. 16. October, 1923. (Farmers' Bulletin 1368.)

Since horses do things largely through habit, it is essential to establish good habits and to prevent colts from doing things which might develop into bad habits. It is of primary importance here that the colt should never be permitted to have his own way. If he can not do the one thing asked of him, the trainer immediately should make him do something else which he can do. In this way the colt is soon impressed with the fact that man is his master. Once this impression is firmly fixed in the colt's mind, he is well on his way toward becoming a good, safe work horse. Separate chapters are devoted to such subjects as the age to break, gentling the colt, breaking to lead, handling and trimming the colt's feet, breaking to drive, stopping, backing, driving double, driving single, sights and sounds, breaking to ride, correcting bad habits, throwing a horse, harness, and the importance of a good mouth.

Care of Food in the Home. Prepared by the Bureau of Home Economics. Pp. 13. Revised November, 1923. (Farmers' Bulletin 1374.)

Food costs labor or money, or both; therefore it should receive the best care in the home. Moreover, clean food is necessary to health and well-being. Some of the most important kinds are highly perishable and require careful handling. All foods should be kept clean; that is, protected from visible dirt and from contamination by insects and microorganisms. Most kinds should also be kept cool. Dry goods such as crackers need to be prevented from absorbing moisture and succulent foods such as fresh vegetables from losing it.

The best practice in connection with the home care of specific foods is brought out in the bulletin, which should be of value to the experienced housekeeper as well as to the novice. Anyone employing servants partially or entirely in the kitchen should find it a useful aid in teaching them the requirements for a high standard of sanitary living.

ADDITIONAL PUBLICATIONS.

Journal of Agricultural Research. Vol. 26, No. 2. October 13, 1923. Contents: A new tumor of the apricot. (Calif.—36.) By Amram Khazanoff.—Notes on the biology of the Cadelle, *Tenebroides mauritanicus* Linné. (K-112.) By Richard T. Cotton.—Chemical examination of "Chufa," the tubers of *Cyperus esculentus* Linné. (E-24.) By Frederick B. Power and Victor K. Chestnut.—The constituents of "Chufa" oil, a fatty oil from the tubers of *Cyperus esculentus* Linné. (E-25.) By Walter F. Baughman and George S. Jamieson. Pp. 45-82, pls. 13. Price, 10 cents.

NOTE.—Volumes 1 to 4 of the Journal of Agricultural Research were published monthly, volumes 5 to 16 weekly, volume 17 monthly, volumes 18 to 21 semimonthly, and volume 22 weekly. The publication of the Journal was suspended December 1, 1921, volume 22, No. 9, being the last issue, and no parts were issued for 1922. The Journal is now being published weekly, beginning January 6, 1923, with volume 23, No. 1. The Journal is distributed free only to libraries of agricultural colleges and experiment stations, to large universities, technical schools, and such institutions as make suitable exchanges with the department. It will not be sent free to individuals. The Superintendent of Documents will receive subscriptions for this publica-

tion. The domestic price is \$4 per year and the foreign price \$5.25 per year.

Report of the Virgin Islands Agricultural Experiment Station. 1922. By J. B. Thompson, Agronomist in Charge. Pp. 18, figs. 4. December 15, 1923. Price, 5 cents.

Service and Regulatory Announcements. Bureau of Biological Survey. No. 58. Use of headlights on Big Lake Reservation, Ark., prohibited. Pp. 1, December 14, 1923. Price, 5 cents.

Snow and Ice Bulletin for December 11, 1923. This bulletin is issued weekly during the winter season, and is based upon data from regular Weather Bureau stations, supplemented by reports from selected cooperative observers.

Articles in Current Publications by Department Workers

Brand, Charles J. (Agricultural Economics.) Wheat and prosperity. Jour. American Bankers' Association. December, 1923.

Brown, H. R., and Reed, J. O. (Chemistry.) Dust collecting equipment for elevators. Results of a preliminary study of dust-collecting appliances now installed in terminal grain elevators. In American Elevator & Grain Trade Jour. November 15, 1923.

Hitchcock, A. S. (Plant Industry.) Sodiro barbarum. Science, vol. 58, no. 1510, p. 465. December 7, 1923.

Hoves, Dr. L. I. (Public Roads.) What Federal aid is doing to build western roads. Western Highway Builder, vol. 5, p. 13. November, 1923.

Jones, D. B., and Gersdorff, C. E. F. (Chemistry.) Proteins of wheat bran. I. Isolation and elementary analyses of a globulin, albumin, and prolamine. Jour. Biol. Chem., vol. 58, no. 1. November, 1923.

Kelley, E. F. (Public Roads.) Protecting highway bridges from colliding vehicles. Engineering News-Record, vol. 91, p. 892. November 29, 1923.

Lincoln, Frederick C. (Biological Survey.) White-footed mice as camp companions. Jour. of Mammalogy, vol. 4, no. 3, pp. 185-186. August, 1923.

MacDonald, Thomas H. (Public Roads.) The functioning of Federal aid in the development of highway transportation. Florida Highways, vol. 1, p. 1. December, 1923.

Uncle Sam's valuable interest in our State highways. (Abstract of address before annual convention of Virginia Good Roads Association, Roanoke, Va. Georgia Highways, vol. 1, p. 9. September, 1923.)

McKay, J. G. (Public Roads.) McKay reports important facts on road financing. (Report of Committee on Highway Finance, Advisory Board for Highway Research.) Automotive Industries, vol. 49, p. 1011. November 15, 1923.

Motor-truck transportation in New England. Engineering News-Record, vol. 91, p. 886. November 29, 1923.

Sources and expenditure of highway funds. Engineering News-Record, vol. —, p. 854. November 29, 1923.

Ramser, C. E. (Public Roads.) Kutter's n for rough rock channel excavated by explosives. Engineering News, vol. 91, p. 936. December 6, 1923.

Schopmeyer, C. H. (Office of Extension Work.) Analysis of the management of a farm business. Federal Board for Vocational Education Bulletin no. 88, agricultural series no. 16. October, 1923.

Sherman, Caroline B. (Agricultural Economics.) Increasing the homing powers of money in perishables. Jour. American Bankers' Association. December, 1923.

Smith, Earl B. (Public Roads.) Accelerometer for measuring impact on pavements. Highway Engineer and contractor, vol. 9, p. 43. October, 1923.

Walker, Ernest P. (Biological Survey.) Definite breeding record for the Aleutian tern in southeastern Alaska. The Condor, vol. 25, no. 4, pp. 113-117, figs. 35-38. July, 1923.

EXPERIMENT STATION PUBLICATIONS

The Office of Experiment Stations received for its library files copies of the following publications of the State experiment stations

during the week of December 10-15, 1923. These publications can be obtained only from the stations issuing them.

Harvesting and storing sweet potatoes. J. C. C. Price. (Alabama Sta. Bul. 220, pp. 14, figs. 6. November, 1923.)

Avocado culture in California: Part I, History, culture, varieties, and marketing, K. Ryerson; Part II, Composition and food value, M. E. Jaffa and H. Goss. (California Sta. Bul. 365, pp. 573-638, figs. 19. June, 1923.)

Bacterial decomposition of olives during pickling. W. V. Cruess and E. H. Guthrie. (California Sta. Bul. 368, pp. 15, figs. 5. July, 1923.)

Selected list of references relating to irrigation in California. R. Venable. (California Sta. Circ. 260, pp. 62. April, 1923.)

Analyzing the citrus orchard by means of simple tree records. R. W. Hodgson. (California Sta. Circ. 266, pp. 20, figs. 11. June, 1923.)

The pit silo. J. W. Sjogren. (Colorado Sta. Bul. 288, pp. 12, figs. 9. October, 1923.)

Clostridium botulinum type C. A pathogenic anaerobe associated with a limbernecklike disease in chickens and ducks. R. Grabam and I. B. Boughton. (Illinois Sta. Bul. 246, pp. 34, figs. 9. October, 1923.)

Begin to fight the corn borer now. W. P. Flint, J. C. Hackleman, and F. C. Bauer. (Illinois Sta. Circ. 274, pp. 8, figs. 6. November, 1923.)

Feeding for egg production. L. E. Card. (Illinois Sta. Circ. 275, pp. 12, figs. 5. November, 1923.)

Meteorological observations at the Massachusetts Agricultural Experiment Station. J. E. Ostrander and H. H. Shepard. (Massachusetts Sta. Met. Bul. 419, pp. 4. November, 1923.)

The septic tank and tile sewage disposal system. H. H. Musselman and O. E. Robey. (Michigan Sta. Spec. Bul. 119, pp. 23, figs. 14. August, 1923.)

Improvement of the farm woodlot. A. K. Chittenden. (Michigan Sta. Spec. Bul. 122, pp. 22, figs. 7. September, 1923.)

Second growth hardwood forests in Michigan. P. L. Buttrick. (Michigan Sta. Spec. Bul. 123, pp. 19, figs. 5. September, 1923.)

Seed-potato investigations. H. O. Werner and R. F. Howard. (Nebraska Sta. Research Bul. 24, pp. 58, figs. 23. December, 1923.)

Nitrification and acidity in the muck soils of North Carolina. L. G. Willis. (North Carolina Sta. Tech. Bul. 24, pp. 12+ [1]. November, 1923.)

Corn breeding. E. W. Lindstrom. (Wisconsin Sta. Bul. 356, pp. 38+ [1]. August, 1923.)

J. A. Larsen, of the Forest Service, recently returned to the United States after a six-months' trip abroad. Most of his time was spent in Norway, where he studied the methods which are being used by the Norwegians in the management and handling of their forest lands. It is believed that many of the methods which the Norwegians are using at the present time are practicable for the United States, as we get to the point of more intensive utilization of our forests.

To correct the use of local and frequently confusing or contradictory common names for tree species, a committee composed of members of the Forest Service has been at work for some time endeavoring to standardize these terms. The committee, headed by George B. Sudworth, a recognized authority on tree species and author of numerous bulletins on forest trees, has just completed the task of going over the entire list of tree species of the United States to decide upon standard common names to be used in all Forest Service publications, and its final report is expected to be ready before the first of the year.

PRINCIPAL LIBRARY ACCESSIONS

RECENT BOOKS.

- Die blattwespengattung *Tenthredo* L. Von Eduard Enslin. Wien, 1920. (Abhandlungen der Zool.-botan. gesellschaft in Wien. bd. 11, hft. 1)
- Chemical calculations. 3d ed. By R. H. Ashley. New York, D. Van Nostrand co., 1923.
- Concrete roads and their construction, being a description of the concrete roads in the United Kingdom. 2d ed. London, Concrete publications ltd., 1923.
- Co-operative movement in India. 3d ed. By Panchanandas Mukerji. Calcutta, Thacker, Spink & co., 1923.
- Cultivation of sugar cane in Java. By R. A. Quintus. London, N. Rodger, 1923.
- Dietary of health and disease. By G. I. Thomas. Philadelphia, Lea & Febiger, 1923.
- Diseases of glasshouse plants. By W. F. Bewley. London, E. Benn, ltd., 1923.
- Economics of the hour. By J. St. L. Strachey. London, Hodder and Stoughton, ltd., [1923?]
- Insekten und blumen. Von Fritz Knoll. Wien, 1921-22. (Abhandlungen der Zool.-botan. gesellschaft in Wien. bd. 12, hft. 1-2.)
- Manual of information on city planning and zoning. By Theodora Kimball. Cambridge, Harvard university press, 1923.
- Die neueren chemotherapeutischen präparate aus der chininreihe. Von Ernst Laqueur. Berlin, J. Springer, 1923.
- Our common sea-birds. By P. R. Lowe. New York, C. Scribner's sons, 1913.
- Practical fruit culture. 7th ed. By Joseph Cheal. London, G. Bell & sons, 1909.
- Practical plant ecology. By G. A. Tansley. New York, Dodd, Mead & co., 1923.
- Reinforced concrete. By R. J. H. Hudson. London, Chapman and Hall, ltd., 1922.
- Roses and how to excel with them. By R. V. G. Woolley. New York, C. Scribner's sons, 1923.
- Stabilisation. An economic policy for producers & consumers. By E. M. H. Lloyd. London, G. Allen & Unwin, ltd., 1923.
- Standardized plant names. American joint committee on horticultural nomenclature. Salem, 1923.
- Studien über die turmförmigen schnecken des Baikalsees und des Kaspimeeres. Von B. J. Dybowski und J. Grochmalicki. Wien, 1917. (Abhandlungen der Zool.-botan. gesellschaft in Wien. bd. 9, hft. 3.)
- Studies in vaccinal immunity towards disease of the bovine placenta due to *Bacillus abortus*. By Theobald Smith and R. B. Little. New York, 1923. (Monographs of the Rockefeller institute for medical research, no. 19.)
- Taming the wildings. By Herbert Durand. New York, G. P. Putnam's sons, 1923.
- Vegetable crops. By H. C. Thompson. New York, McGraw-Hill book co., inc., 1923.
- Vegetationens årliga utvecklingsgång i Svealand. Av H. W. Arnell. Stockholm, 1923.
- Vocabulaire manuel d'économie politique. By Alfred Neymarck. Paris, A. Collin et cie, 1898.

OLD BOOKS.

- Étude des fleurs, botanique élémentaire. 5. ed. Par Antoine Cariot. Lyon, 1872.
- Lexicon rei herbariae tripartitum. [By] G. R. Böhmer. Lipsiae, 1802.
- Pratique raisonné de la taille du pêcher. 5. ed. Par Alexis Lepère. Paris, 1860.
- Turnip fly. Doncaster agricultural association. London, 1834.
- Types de chaque famille et des principaux genres des plantes croissant spontanément en France. Par François Plee. Paris, 1844-64.

THESES.

- Beiträge zur sterilitätsbehandlung in abortusbeständen. Von Hermann Strothoff. Berlin, 1922.
- La vache laitière dans la banlieue parisienne. Par André Bonal. Argentan, 1922.

CURRENT PERIODICALS.

- Actividad; el monitor del comercio y de la industria [monthly?] Monterrey, Mexico, 1923.
- Canadian insect review [monthly] Canada. Dept. of agriculture. Entomological branch. Ottawa, 1923.
- Engineers and engineering [monthly] Philadelphia, 1923.
- Outdoors-South [monthly] Atlanta, Ga., 1923.
- Potato news bulletin [monthly] n. p. 1923.
- Zoologischer bericht. Jena, 1922.

MANY AGRICULTURAL BILLS ARE PENDING

(Continued from page 2.)

wheat flour, semolina, crushed or cracked wheat, and similar wheat products, to \$1.17 a hundred pounds; and on bran, shorts, and milling by-products to 22½ per cent ad valorem. Representative O. B. Burtness, of North Dakota, is author of a bill making the duty on wheat 50 cents a bushel.

Representative Frank Clark, of Florida, has introduced a bill to put calcium arsenate on the free list. Representative C. H. Brand, of Georgia, has introduced a bill authorizing the President to buy stocks of nitrate of soda and calcium arsenate and sell them at cost to farmers. The bill proposes an appropriation of \$10,000,000 for this purpose.

Cooperative System Is Proposed.

Appointment of a commission to investigate and report to Congress on a "plan or bill for a comprehensive system of cooperative marketing of all, or the principal, farm products, including grain, dairy, and horticultural products," is provided for in a bill introduced by Representative J. H. Sinclair, of North Dakota. It contemplates a commission of three members, one having expert knowledge in the cooperative marketing of grain, one similarly equipped in regard to dairy products, and one having knowledge and experience in the handling and marketing of horticultural products.

Representative M. B. Madden, of Illinois, has introduced a bill directing the Secretary of War to sell the Muscle Shoals plant to Henry Ford.

Representative J. E. Raker, of California, has introduced a bill "to create a national department of highways and a national highway commission therein, to increase the economy and efficiency of transportation, to assist industry and commerce, to improve the facilities for postal service, and to provide additional means for national defense."

Representative C. A. Newton, of Missouri, has introduced a joint resolution "providing for the relief of distress and famine conditions in Germany and Austria." Declaring that there are now in the warehouses and graneries of the United States millions of tons of surplus grain and other food products which can not be consumed in this country, it proposes that \$70,000,000 should be appropriated for purchasing and shipping food products to relieve the situation in central Europe. It provides for distribution of the relief supplies by the American Red Cross, with the assistance of the

German Red Cross and the Austrian Red Cross.

Warehouse Constructions Sought.

Representative F. B. Swank, of Oklahoma, has introduced a bill "to provide that the United States shall build warehouses in conjunction with the several States, and in cooperation with duly and legally organized farmers' cooperative associations in said States, for the storage of farm products not perishable." Provision is made in the bill for insurance and Government loans on stored products.

A bill to grant a bounty of 10 cents a pound for long-staple cotton produced within the United States has been introduced by Senator R. H. Cameron, of Arizona. It provides for payment of the bounty to any person producing cotton having a staple of 1½ inches or more in length.

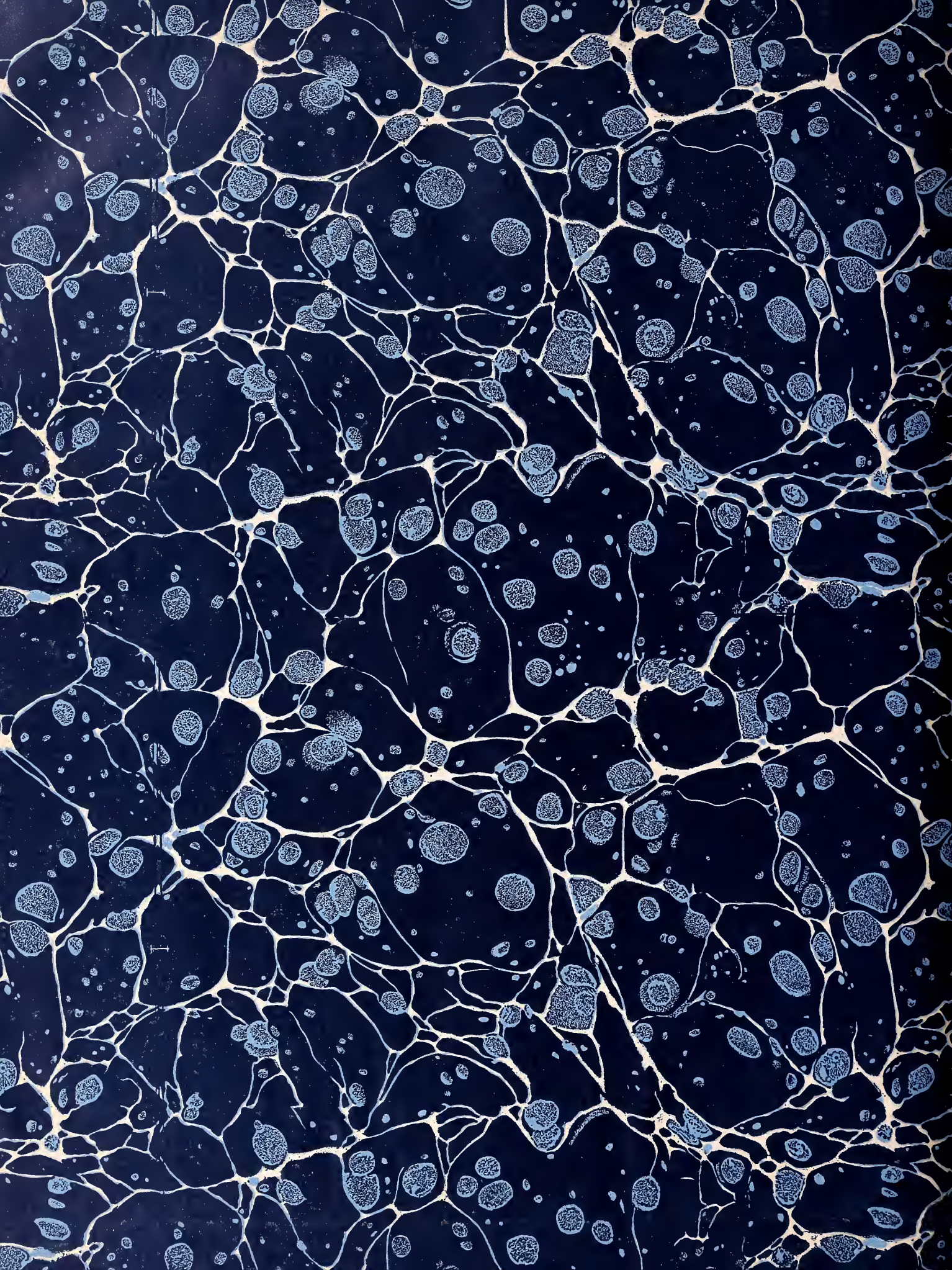
Representative F. S. Purnell, of Indiana, is author of a bill providing additional appropriations for agricultural experiment stations. Representatives B. L. French, of Idaho, and J. E. Raker, of California, have introduced "truth in fabric" bills.

Senator Kenneth McKellar, of Tennessee, is author of a bill to enable the Secretary of Agriculture to carry out investigations of the causes and means of preventing fires and dust explosions in industrial plants.

During the fiscal year 1923, 96,267,920 pounds of tea were entered for importation and examined by the tea inspection service of the Bureau of Chemistry, under the tea inspection act. Of this total 277,104 pounds, or 0.29 per cent, was rejected by the examiners, all of which were for quality, except one shipment which was rejected for impurity. Statistics show that 8,869,699 pounds more of tea was imported during this fiscal year than was imported during the previous fiscal year, and that only 1,002,441 pounds more of tea was exported during this fiscal year than was exported in the last fiscal year.

At the thirty-sixth annual meeting of the American Economic Association, to be held at Washington, December 27-29, several representatives of the department will speak. Dr. H. C. Taylor will preside at the joint meeting with the American Sociological Society Thursday evening. Louis G. Michael will speak on "The Outlook in the United States." The headquarters for this meeting will be the New Willard Hotel.





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Bureau of Entomology and Plant Quarantine

