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Extension Service Review



Vol. 5, No. 10

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MORE THAN 5,000 COUNTY PRODUCTION CONTROL COMMITTEES, SUCH AS THIS ONE IN LAMAR COUNTY, TEX., HAVE LABORED WHOLE-HEARTEDLY TO HELP THEIR GOVERNMENT ADMINISTER THE ADJUSTMENT PROGRAM FAIRLY.

ISSUED MONTHLY BY THE EXTENSION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

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In This Issue

A SOUND national program for the future use of our land is of vital concern to the general welfare of the entire Nation. In his editorial Secretary Wallace shows why a consistent land policy is needed and summarizes some of the activities now under way which will contribute to the development of such a policy. He cautions us, however, that any plans must be considered as tentative until America decides definitely whether it will pursue a course of intense nationalism, internationalism, or some planned intermediate course.

His article on "Tariff Bargaining for Agriculture" concludes the series of three articles on the pursuit of that foreign trade policy which he calls "the planned middle course". In his article, the Secretary indicates that tariff bargaining offers large possibilities to agriculture and discusses some of the concessions that might be offered in return for concessions that would increase the foreign demand for farm products.



THE efforts of the Bartow Citrus Production Credit Association to relieve the financial distress of citrus growers in the 16 citrus-producing counties included in its territory have been much appreciated. After 3 or 4 years of unprofitable citrus seasons many growers who had reached the end of their resources readily availed themselves of this easy-term money. They were thus able to obtain and apply sorely needed fertilizer, spray their trees, repair tractors and other grove equipment and have their trees pruned.

How is the agricultural industry as a whole measured? Improved methods used by economists of the Bureau of Agricultural Economics for estimating farm income and computing index numbers showing change in farm prices are discussed in "New Measures of Farm Income and Prices."

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MICHIGAN farmers are using a simple, as well as economical, method of furnishing water to their crops in dry weather. O. E. Robey, research assistant in agricultural engineering, who was a pioneer in Michigan extension work, found that by using a pump to lift and force water to a length of canvas hose, which was laid between crop rows, the water would seep through the pores in the fabric and soak the ground for a foot or more on each side. Farmers improve the quality and yield of crops by this method.



On The Calendar

International Livestock Exposition, Chicago, Ill., December 1-8.

Fifth Annual Session of the National Cooperative Extension Workers' Association, Chicago, Ill., December 6.

Tenth Annual 4-H Club Baby Beef Show, Union Stock Yards, Nashville, Tenn., December 12-14.

American Association for the Advancement of Science, Pittsburgh, Pa., December 27-January 2.

Thirty-Eighth Annual Convention of American National Livestock Association, Rapid City, S. Dak., January 9-11.

National Western Stock Show, Denver, Colo., January 12-19.

As a result of organized work in rural electrification initiated in New England in 1925, New Hampshire now leads the Nation in the percentage of electrified farms. Research on seven farms in different sections of the State, which were selected as representative of dairy, fruit, poultry, and general farming, showed farmers what work could be profitably done by electricity.



THE conditions caused by the drought brought to light some interesting stories regarding the value of certain extension practices in drought-stricken areas. Such practices as the use of trench and pit silos to save feed for livestock, terracing to conserve moisture, the use of home-made concrete tile to irrigate gardens, planting of drought-resistant wheat, and many others have proved their worth under the severe test of abnormally dry weather. Emergency hay and pasture crops, as well as the grasshopper campaign, in which Federal bait was used, also played their part in saving food and feed crops. How farm men and women took advantage of these practices is brought out in stories from Minnesota, North Dakota, and Texas.

THE EXTENSION SERVICE REVIEW is issued monthly by the EXTENSION SERVICE of the United States Department of Agriculture, Washington, D.C. The matter contained in the REVIEW is published by direction of the Secretary of Agriculture as administrative information required for the proper transaction of the public business. The REVIEW seeks to supply to workers and cooperators of the Department of Agriculture engaged in extension activities, information of especial help to them in the performance of their duties, and is issued to them free by law. Others may obtain copies of the REVIEW from the Superintendent of Documents, Government Printing Office, Washington, D.C., 5 cents a copy, or by subscription at the rate of 50 cents a year, domestic, and 75 cents, foreign. Postage stamps will not be accepted in payment.

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Tariff Bargaining for Agriculture

H. A. WALLACE
Secretary of Agriculture

THE tariff bargaining program offers large possibilities in the way of increasing the foreign demand for our agricultural products. We have recently had a little experience in such bargaining for increased exports of farm products through quotas on liquor imports. The thing which stands out most in this experience is the fact that in order to obtain valuable concessions from foreign countries we must be in a position and willing to make valuable concessions in return.

What concessions are we prepared to make in connection with our new tariff-bargaining program?

It has been suggested that we could make painless concessions by encouraging imports of noncompetitive goods, such as coffee, tea, or rubber. But we can, in fact, make no concessions on such products. They are not dutiable under our tariff, and our consumers already buy as much of them as they can afford to at world market prices. In order to make a real concession we must make it on some commodity of which our Government is now hindering or restricting the imports to the detriment of the foreign producer, and we must make it by removing such hindrances and restrictions. We are going to ask foreign governments to remove some of the duties and other restrictions which they place on our exports, and they will rightly expect us to make similar concessions in return.

There is, however, a very considerable number of minor commodities on which high rates of duty are imposed by our tariff although we produce them in insignificant quantities or not at all. The Tariff Commission has recently listed more than 350 types of commodities (the majority being manufactured commodities), which are described as "dutiable articles more or less noncompetitive and with respect to which foreign countries possess advantages." For 19 of these items the rate of duty in 1932 was more than 100 percent ad valorem.

It has hitherto been a part of our traditional method of tariff making that if

any group or interest, however insignificant in the economic life of the Nation it may be, demands a tariff duty on some product, the request is usually granted forthwith. As a consequence, we have a great many duties that are largely futile and which could be eliminated with little sacrifice of domestic interest, but with substantial benefit to our own consumers and to our export producers.

"Tariff bargaining offers large possibilities for agriculture, but we cannot expect something for nothing," says Secretary Wallace in the third and last of this series of articles on reopening foreign markets for farm products. The first article described the general export situation; the second discussed the export possibilities of the principal farm products; and this final article of the series takes up what may be done to accomplish the desired end through tariff bargaining. He asserts that no concession that amounts to anything can be entirely painless and describes those concessions which he feels will be of benefit to the Nation as a whole.

Important Concessions

But if we really want to get anywhere, we shall have to make more important concessions than any I have suggested thus far. Besides those minor industries which tariff protection has failed to develop because they are not suited to American conditions, we have a number of industries which are capable of successfully meeting foreign competition in the domestic market, but which are nevertheless protected by high tariff duties. Of the products of such industries the imports are extremely small in comparison with domestic production.

A substantial reduction of tariff duties on these products would not prevent the domestic industry from supplying most of the domestic consumption. Imports would still be small in relation to domestic production. Nevertheless, foreign producers would in many such cases obtain a considerable advantage from being able to gain even a small part of the American market, since our total purchasing power is very large in comparison with that of any other country. If, for instance, our imports of a commodity increased from 2 to 8 percent of our domestic consumption, the gain

might be great to foreign producers but the loss relatively small to our domestic interests, and even this loss would promptly be made good by a higher national purchasing power. The Tariff Commission has listed over 1,000 dutiable articles of which imports represent less than 5 percent of domestic production. In the case of more than half of these, our imports in either 1931 or 1932 were 1 percent or less of domestic production.

Naturally not all of the products coming under this category can be regarded as being specially suitable for concessions. Here we need some guiding principles to aid us in the selection of those which are most suitable.

Selecting Commodities

One such principle would be to select commodities of which the consumption responds readily to a change in price—commodities for which the demand is relatively elastic. A reduction of tariff duties on such articles will permit a real expansion of imports without a corresponding reduction of the outlet for domestic production. Generally speaking, the demand for most manufactured products is more elastic than the demand for most agricultural products.

Agriculture hitherto has always been given the worst of the deal in tariff manipulations, and at the present time I think it should be pointed out that a reduction of the tariff duties on some, at least, of our agricultural products would result in significant reduction of price with but a relatively small increase of imports. The sacrifice which domestic producers would need to make would be greater, in proportion to the gain made by the foreign producer, than in the case of many manufactured products for which the demand is more elastic.

Another important guiding principle will be to choose commodities which are produced in this country under conditions of monopoly or partial monopoly. We have in the United States a number of tariff-protected monopolies, cases in which the tariff duty is higher than would be necessary to enable the domes-

tic producer to meet foreign competition. Such duties have enabled the monopolists to maintain prices at unduly high levels and to restrict output—and hence also employment—unduly.

Those commodities of which the prices have been held relatively high during the depression owing to inadequate competition should be among our first choices for sacrifice in tariff bargaining. The producers of these goods will be forced to lower their prices in order to meet foreign competition, but at lower prices they will be able to sell a larger volume of goods. Hence employment in the industries producing these goods may actually increase.

Such considerations will apply to more than a mere handful of exceptional cases. I doubt whether the extent to which competition has been limited in American industry for a number of years is adequately realized. That the prices of farm products declined more from 1929 to 1932 than those of manufactured products is partly owing to the relatively inelastic demand for farm products. But in a very long measure it has been due also to the fact that there is more competition in the production of agricultural than of manufactured products. There has been excessive competition in agriculture the world over, and in the United States we are attempting to remedy this by our adjustment program. To a large extent, however, it has also been due to excessive limitation of competition in other industries. The evils of competition in our most highly competitive industries, such as agriculture and coal mining, have been greatly increased by the limitation of competition in the more or less monopolistic industries.

Eliminating Disparities

An important aim in our economic policies must be to eliminate disparities between the prices of commodities competitively produced and commodities produced under monopolistic conditions. Tariff reduction can probably do more for us in this way than our antitrust legislation has ever done. To the extent that it does so it will make our economic system run more smoothly. Tariff-protected monopolies should certainly be among the first interests to be sacrificed in the making of trade agreements. McKinley preached this doctrine the night he was shot at Buffalo, and Woodrow Wilson made lower tariffs a prominent part of his attack on monopoly in his new freedom campaign speeches.

It must not be supposed, however, that the interests of manufacturing industry as a whole will be sacrificed. Some of

our largest and most important manufacturing industries have in the past found profitable outlets for their products in foreign markets and can regain a part, at least, of what they have lost in exports by the reduction of foreign trade barriers. The new tariff policy should not be regarded as one of favoring agriculture at the expense of industry but rather as one of favoring those industries in which our productive capacities are most effective. This includes, in addition to many important branches of our agriculture, some of the most important branches of our manufacturing industry.

Effects of Tariff Reduction

Many people are afraid that a reduction of our tariff would tend to lower the level of wages in this country and bring it nearer to the levels prevailing in many foreign countries. Most of us know that this is a fallacy. Nevertheless, I wish to make some observations on the point. Those industries which have led the way in the trend toward higher wages in this country are the very industries which have shown the greatest ability to meet foreign competition both at home and abroad. These are the industries producing automobiles and various kinds of machinery and those in general which employ mass-production methods. These industries have raised the level of wages in the United States above the levels of wages in foreign countries because our productive capacities in them have been exceptionally effective. Our tariff, by fostering the growth of other industries in which our capacities are less effective, and in which wages are lower, has retarded the long-time tendency toward higher wages and better living conditions.

It is not generally realized how small a part of the wage-earners in this country have their employment protected by the tariff. Census data show that there were nearly 50 million "gainfully employed" workers in 1929. More than half of these were employed in non-manufacturing industries with which imports cannot under any circumstances compete, such as internal transportation, gas and electricity, banking and insurance, building, public service, and others. Of the remaining half, a considerable part was employed in industries for which profitable outlets exist or can be made to exist in export markets, industries which have been injured by our high tariff and the foreign import restrictions that it has tended to encourage. Another important group was em-

ployed in industries which could not substantially be affected by imports. These include various purely domestic industries, such as most printing and publishing; industries producing bulky materials such as coal, bricks, and cement which are largely protected against foreign competition by high freight costs; and industries using methods of mass production such as ordinary textiles, pottery, and clothes, in which foreign competition could not undersell the efficient American producer.

Competition of Wage-Earners

At the most generous estimate, not more than one American wage-earner in six is competing directly with a foreign wage earner. As our tariff system has worked, the one has received a subsidy paid for by the five. To remove that subsidy quickly, however, would be disastrous; whatever is done must be done gradually and only after the workers and industries involved have had an opportunity to make necessary adjustments.

Finally, I wish to emphasize that, subject to certain qualifications already indicated, we should be most ready to make concessions on those commodities in which our productive abilities are least effective. Our most ineffective industries are those which need the highest degree of tariff protection to enable them to meet foreign competition. In general, therefore, our aim should be to reduce those tariff duties which have the highest ad valorem equivalent. The Tariff Commission has compiled a list of over 650 articles on which tariff rates exceeded 50 percent ad valorem in 1931. In nearly half of these items the rate exceeded 75 percent, and in nearly 100 cases it exceeded 100 percent. In 1932, when prices were lower, the number of cases must have been greater. I will surely not be called an extremist if I say that a rate of duty which is more than 50 percent ad valorem places a very heavy burden of proof on the industry which tries to justify it.

Since the increase in foreign purchasing power resulting from these tariff negotiations will be slow at best, the farmers of the United States will have to hold fast to the present adjustment machinery until that foreign market is reopened. Whether that will be 2, 5, or 10 years, no one can predict. But unless and until that does happen, it would be disastrous to revert to the old happy-go-lucky way of plowing up the fence corners and shipping the product off to Europe, for whatever it would bring.

Missouri Saves Unusual Fodder Crop

WITH PRACTICALLY no corn to harvest as grain this fall, Missouri farmers are using all standard methods and even some very unusual devices to save all their corn fodder and to provide safe storage for it. By the first week in September, 78 percent of all Missouri's drought-stricken cornfields had been cut for silage, for fodder, or for immediate feeding. This total included about 2 percent fed to livestock and 8 percent put into silos. The remainder was standing in shocks. With work still going forward in the greener cornfields, estimates from all parts of the State at that time indicated the eventual harvest of about 5,500,000 tons, or fully 90 percent of this year's corn crop as forage.

"Fortunately for Missouri farmers", says W. C. Etheridge, head of the department of field crops at the Missouri College of Agriculture, "the same circumstances that robbed them of their grain crop left on their hands the largest and most valuable forage crop the State has ever produced. Analyses of this immature corn fodder in the experiment station laboratories show that it has a feeding value nearly or quite equal to that of ordinary mature fodder including the ears and contains more than one-half as much digestible protein—ton for ton—and only slightly less carbohydrates than alfalfa hay.

Several of the feeds commonly used in Missouri were included in these comparative analyses on a dry-weight basis, giving shelled corn a rating of 100. The corn fodder examined was this year's fodder, the growth of which had been stopped by the drought just before the formation of ears. The results of the comparison are reported by A. G. Hogan, head of the department of agricultural chemistry, as follows:

Feed	Digestible protein	Total digestible nutrients	Rating
Corn, shelled.....	7.1	81.7	100.0
Corn fodder.....	5.76	58.31	72.5
Corn silage.....	1.1	17.7	21.0
Wheat.....	9.2	80.1	101.7
Alfalfa hay.....	10.6	51.6	73.1
Barley.....	9.0	79.4	100.6
Oats.....	9.7	70.4	92.0
Bran.....	12.5	60.9	86.2
Linseed meal.....	30.2	77.9	133.4
Cottonseed meal.....	33.4	75.5	136.0
Tankage.....	56.2	71.4	168.6
Wheat straw.....	.7	36.9	41.1
Oat straw.....	1.0	45.6	51.0

It is pointed out that such a rating ignores any special properties of feeds such as completeness of consumption, palatability, and vitamin or mineral content. It assumes that when necessary, protein supplements will be supplied from a cheap source, such as cottonseed meal. These various factors cannot be evaluated, so the ratings take into account only the protein and energy value of the feeds.

High Feed Values

As soon as the surprisingly high feed values of this immature fodder had been verified, the College of Agriculture



Jackson County farmers fill an emergency trench silo with fodder.

launched a State-wide campaign to impress upon the farmers of the State the immediate necessity of cutting for fodder or silage the maximum possible percentage of this great forage crop. Information was forwarded to all county extension agents for use in local newspapers and at meetings. Similar articles were prepared and circulated through the metropolitan press. Representatives of the departments of field crops, dairy husbandry, and animal husbandry were given time on the daily morning radio broadcasts of the Extension Service from Station KFRU at Columbia to explain the actual and strategic values of this unusual forage crop in retaining on Missouri farms the better-breeding herds of beef and dairy cattle.

When the analyses of this fodder crop—all the nutrients of which have been retained within the stalk—were laid before Director Wallace Crossley, of the Missouri Relief and Reconstruction Commission, fodder buying was adopted as one of the State relief projects. Mr. Crossley's commission put into effect a

plan to buy 150,000 tons at approximately \$7 per ton, shredded and baled. Agents of the commission started on this million-dollar fodder buying program during the last week of August, confining their operations to areas not having enough livestock to use this forage locally and contracting to take the fodder when thoroughly cured, shredded, and baled.

With most of the State's fodder crop standing in the shock on September 15 the college centered its educational campaign on the necessity of thoroughly curing this material, then shredding or otherwise processing it, and finally putting it in safe storage protected from the weather.

"Missouri empty cornercribs provided ideal storage for this material," says Dr. Etheridge, "since adequate ventilation was there combined with weather-tight cover. The greatest obstacles to the success of the campaign to save this crop were (1) the difficulty of getting farmers to realize how great its feeding value really was and (2) the difficulty of getting it shredded and into safe storage in a region where farmers were neither accustomed to this practice nor provided with adequate machinery."

In this emergency the college recommended the use of fodder shredders wherever possible, with the assurance that other types of feed cutters, ensilage cutters, or even threshing machines could be used successfully. In using the threshing machine most of the concaves were removed and the fodder merely torn into strips to facilitate complete curing and convenient storage.

The importance of the fodder shredding and storage campaign becomes all the more apparent when it is stated that only 4 percent of Missouri's farmers have permanent silos, with possibly an equal number using trench silos, papersack silos, and even empty cisterns during this emergency. The product from fully 80 percent of the State's cornfields this year must be saved—if saved at all—as fodder, cured thoroughly and stored in barn, crib, shed, or stack. So urgent is the feed situation in the State as a whole that even farmers who have little or no livestock left on their farms have been persuaded to cut and cure their fodder so that it may be moved to farms where it is needed.

New Measures of Farm Income and Prices

TWO METHODS of measuring the agricultural industry as a whole are being used by the Bureau of Agricultural Economics; first, estimates of income; second, index numbers showing change in farm prices. During 1934 two important forward steps have been taken with regard to such estimates.

As a new measure of income, a monthly estimate of cash income from farm products marketed has been issued since January 1934. This estimate gives a better measure of farmers' income from month to month, than has been obtained heretofore. No monthly estimates were made in the past, such estimates being confined to annual analysis of the values of total crops of each year. These monthly marketing income reports have been estimated for earlier

years back to 1924. These monthly marketings when shown by index numbers cover the principal groups of farm products by months for each year since 1924. This series gives a very good picture of the seasonal variation of farm income as well as the yearly average trend. As illustrated by the chart on income from sales of farm products this series of estimates is on a calendar year basis and covers the marketing of 37 of the more important agricultural products which ordinarily constitute about 90 percent of all cash income received by farmers from the sale of products. These estimates

meet the demand which has been growing for a number of years for monthly estimates of income on a calendar-year basis.

It is important to properly distinguish these estimates from the other series previously issued annually by the Bureau of Agricultural Economics. The other series which can be identified by the title of "Income from Farm Pro-

Adequate information is necessary for the adjustment of agriculture. Knowing this, the Agricultural Adjustment Administration and the Bureau of Agricultural Economics have been making every effort to improve and strengthen available information on which are based parity prices and the whole adjustment program. Many trained economists are constantly studying these figures. Some improvements recently made in the measurement of farm-income prices which are described in this article will be of special interest to extension agents.

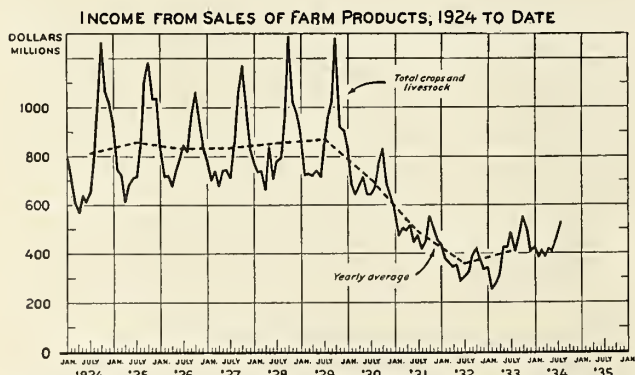
duction" instead of "Marketings" is based on farm value, gross income and cash income of the production of crops and livestock in the calendar year. These estimates of gross production are published for each State and each crop and class of livestock, and show the details of distribution of the value of various crops for each State. Similar analysis was made for earlier years so that there now are available estimates in considerable detail back to 1924 and estimates of the single item "gross" income back to 1909.

Using prices of farm products as an indicator of changes in purchasing power of farm products, the index series of prices received by farmers has been quite generally used as a measure of farm prosperity or depression. In the Agricultural Adjustment Act the index number was recognized when it was made the basis of estimating "parity" or the relationship of prices farmers receive to prices they pay, compared to the same relationship in the base period 1910-14. The index number issued by the Bureau until September 1934 has been developed gradually since 1924, on the basis of the best available farm prices. As the price-gathering facilities of the Bureau expanded, however, it was recognized that this index was no longer fully representative and should

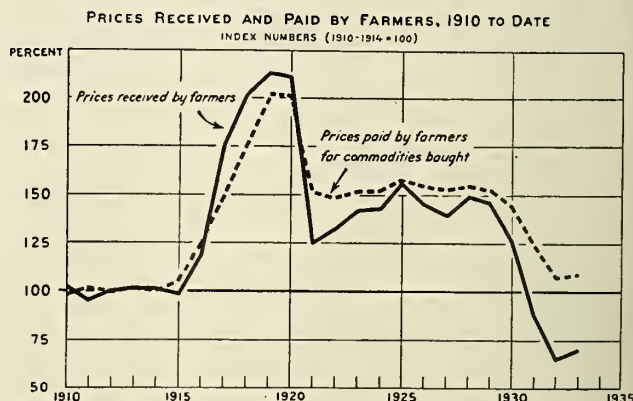
be revised. Beginning in 1931, utilizing the 1930 census data, this revision was started and was brought to a completion in 1934. The price series which have been revised were utilized in calculations after the Agricultural Adjustment Act was passed.

This revision presents new price series for dairy products and tobacco and adds a group of truck crops. The weights for marketings are changed from a base of 1918-23 to a base of 1924-29. The new index covers 34 major farm products and 13 commercial truck crops, whereas

(Continued on page 158)



The tendency to market a large proportion of most crops soon after harvest results in a marked seasonal variation in the monthly cash income of farmers. About 50 percent of farmers' cash income is usually received in the last 5 months of the year.



The revision of the index of prices received by farmers changes the relationship to prices paid only slightly. It reduces the disparity in 1925 and also since 1929. The low point in 1932 under the revised index is not as low as was shown by the old index.

Citrus Fruit Growers Organize Credit Association

PROGRESS of production credit in Florida—where the short-term agricultural financing program of the Farm Credit Administration has taken a firm hold—is marked by at least one outstanding performance of a production credit association. Florida has 25 of these production credit associations, but obviously it would be impracticable to relate here the experiences or accomplishments of all of them. One, however, the Bartow Citrus Production Credit Association, has made such a remarkable service record that it might be well to set forth briefly the manner in which this association has helped Florida citrus growers and show the reason for its prominence in the southeastern district.

The territory of the Bartow Association includes 16 citrus-producing counties, the association making loans only on citrus crops. By the latter part of August the association had handled nearly 200 applications for loans, aggregating more than \$300,000. The majority of these applications were received and disposed of during a period of less than 12 weeks.

The extent to which the association has been of help to the citrus growers can best be understood when it is remembered that the past 3 or 4 citrus seasons have been anything but profitable for the orange and grapefruit grower. Low markets have been the rule rather than the exception and have been aggravated by rather severe droughts, augmented by tree pests and diseases, and general "tough breaks." This era of disheartening set-backs had left hundreds of citrus growers in acute need of financial help.

Financial Aid

Into this situation came the Bartow Association with its systematic method of relieving financial distress. Growers who had reached the end of their resources eagerly availed themselves of this short-term money. Groves that otherwise would have gone without sorely needed fertilizer and spraying received their food and immediately responded; tractors and other grove equipment, long in need of repair, were given prompt attention; dead and fruitless branches in drought-injured trees were pruned off by crews of laborers who once again found welcome pay envelops

awaiting them; growers who had been bound to unsatisfactory marketing methods obtained funds with which to gain selling freedom. In short, life in the State's citrus belt took on its oldtime customary activity. Production credit was proving its worth.

The Bartow Association is fortunate in the personnel of its board of directors. All of these men—seven in number—are active citrus growers and prominent in the industry's affairs. In fact, they are men who have had many years of experience in citrus growing and hence are well fitted to handle their job of helping their neighbors. It would be pointless to tell of the Bartow Association without explaining that a large part of its successful administration has been due to the fact that its secretary-treasurer, Sam J. Overstreet, has had considerable experience in agricultural credit work and consequently has been able to handle intelligently and capably the many complicated problems of financially assisting the citrus growers who merit such help. Secretary Overstreet can truthfully be said to be the primary "why" of the association's excellent record.

Agents Assist

Secretary Overstreet will tell you that hard work and genuine interest in helping the growers along sound financial lines are the real reasons that the association has made a name for itself. He quickly gives credit too, to the county agents in his territory whose help, he points out, has been a vital factor in the all-important job of acquainting the growers with the fact that production credit is available to them. The recital of how his association forged ahead and of the help given it by county agents can best be told in Overstreet's own words.

"One of our earliest problems", Overstreet says, "was to inform the citrus growers of the workings of our association, who were eligible for loans, and how to proceed. We first contacted each county agent in our territory and explained to him in detail how the association would function. We explained also what the qualifications of a borrower must be as well as the type of borrower with whom we wished to deal. What we meant was that the eligible borrowers must be individuals, partnerships, or cor-

porations whose financial affairs were not such that they would be unable to give adequate security for their loan and also that they must be persons or concerns who consistently honor their obligations.

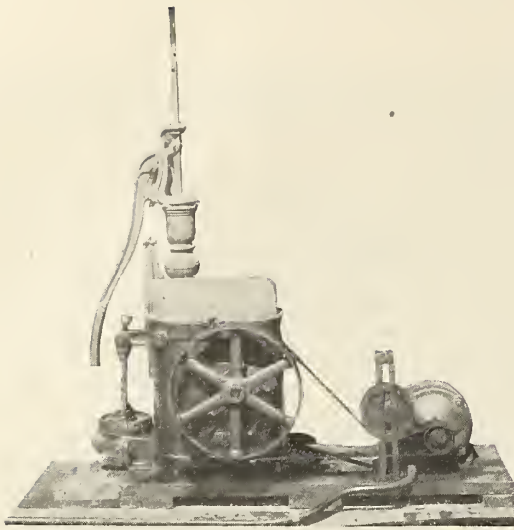
"We then asked the county agents to call special meetings of citrus growers in their respective districts so as to give us an opportunity to explain the workings of our association. These meetings proved to be effective and satisfactory methods of acquainting the growers with both the purpose and the procedure of the organization. About 25 of these meetings were held in this manner, the attendance at many of them indicating a genuine and intelligent interest on the part of the growers.

Meetings Held

"The county agents tell us that the meetings have been extremely helpful to them, in that only growers who are eligible for loans have sought their assistance and advice in making applications for loans. From our own viewpoint also we find that the association has been saved considerable time and expense by this method of contact, as practically all the applications we have received have come from eligible borrowers who knew and understood our collateral requirements and general procedure. In view of the fact that this phase of our work was brought about largely through the efforts and whole-hearted cooperation of our county agents, we cannot help but express our sincere appreciation for what they have done. They have reason to be proud of the part they have played in helping develop the Farm Credit Administration's production credit program in Florida.

"We do not contemplate lending more than a half million dollars this season. We are concerned primarily with making only sound loans that will maintain our stock in an unimpaired condition. We have endeavored, and we believe successfully, to deal only with growers who expect, and who are in a position, to repay their loans in full on or before the date due. We believe this is the only method by which a sound and permanent association can be built. Eventually, of course, the stock will be owned exclusively by the growers themselves, this being the purpose and plan of the Farm Credit Administration program."

Nine Years of Rural Electrification



Modern convenience for the farm and home.

NEW HAMPSHIRE leads the Nation in percentage of electrified farms, according to the latest survey of the Edison Electric Institute. The figure is 61.3 percent, which is a lead of only one-tenth of 1 percent over California. Approximately 1,200 miles of rural electric line now carries electrical energy to nearly 10,000 farms in New Hampshire.

This is the accomplishment of organized work in rural electrification initiated in New England in 1925 by the National Committee on the Relation of Electricity to Agriculture in cooperation with the New Hampshire Experiment Station, New Hampshire Farm Bureau Federation, seven representative New Hampshire farms, and public-utility corporations throughout New England.

One of the first discoveries in this new field was that the farmer's cash share of the cost of the line extension to his farm frequently drained his ready capital so that he had little left to wire his premises and develop uses for the current. Out of this defect grew the farm bureau 5-year plan which provides for a minimum monthly guarantee for 60 months, sufficient to protect the company against loss while the subscriber is installing household and farm equipment and building up his current consumption to the point where the extension line is self-supporting.

During the early years of this rural electrical development, research was conducted on seven farms in different sections of New Hampshire. These were selected as representative of dairy, fruit,

poultry, and general farming but were considerably above the average in productiveness, man power, and industry, enabling the investigators to try out a greater variety of operations. They were equipped with 60 major and 40 minor pieces of equipment covering 36 or more distinct operations and involving 60 or more different makes. Each piece of equipment was metered to provide individual monthly records of current consumption. In some cases comparative

the equipment which the farmers bought, 65 percent was put into their homes and 35 percent used for farm operations.

The farm women were particularly appreciative of the coming of electricity. One in Grafton County, New Hampshire, wrote "Electricity now lights our house and barn, milks the cows, washes and irons our clothes, and cooks our meals. Our electric radio brings us the voice of our President, concerts, lectures, and entertainment. A 1,000-watt sun bowl helps to heat the house and also dries our hair. The children undress before it. Heat is instantly available when we

reach home, tired and cold from a long drive. With the aid of electric appliances we accomplish more; we live better; and in all probability we shall live longer."

The use of electricity for light, heat, and power usually results in lowered production costs and relief from monotonous routine, raises the standard of living, and develops pride and renewed energy through the use of more modern equipment and methods.

W. T. Ackerman, of the New Hampshire Experiment Station, has been in charge of the research phases of the project. J. C. Kendall, director of the Experiment Station; F. A.



Electrical appliances in the farm kitchen aid in the preservation and preparation of healthful foods.

tests were made with other forms of power.

The aim of this research was to determine what percentage of human, animal, and machine labor on these farms could be profitably performed with electricity as energy, what appliances could be economically used, how much of an electric load could be built up on representative New England farms, and whether this would pay adequate returns on lines extended into rural sections. The result was the finding of a very considerable amount of work that electricity could profitably do on farms and the electrifying of about 60 percent of the farms in the State.

During the first 5 years on the test farms, the use of electricity increased an average of 228 percent per farm. Of

Belden of the Edison Electric Illuminating Co. of Boston; and George M. Putnam, president of the Farm Bureau Federation, were three of the more active members of the project committee.

Publications on this project include the preliminary report issued at the close of the first 2 years' work, a research bulletin on electric dairy cold storage, a circular on building such a storage, a research bulletin on electric household refrigeration, and a research circular on electric laundry equipment, and a 6-year final report.

THE first man in Arkansas to pay this rehabilitation debt under the rural rehabilitation program of the Federal Emergency Relief Administration did it with 900 cans of wild plum preserves.

Pastures for Eastern Kansas

PASTURE acreage in 12 eastern Kansas counties increased from 1,723,589 acres in 1924 to 2,074,634 acres in 1929. The difficulty with this indicated increase is that it is due to the increase of submarginal land which has been abandoned. In its present state, this so-called pasture is worthless, yet taxes must be paid on it.

The situation in those 12 counties is representative of much of eastern Kansas. Overgrazing, neglect, and excessive breaking up of native sod are listed by extension agronomists as being responsible for the poor condition of many eastern Kansas pastures.

During the past 2 years, the Kansas Extension Service has been carrying on a pasture-improvement program in this region of the State. As a result, the old "sod buster" plow, once a symbol of progress, has become a symbol of a type of agricultural expansion much overdone.

This program has as its main features the elimination of overgrazing, seeding of crop land to pastures, reseeding of depleted pastures, seed control, fertilization, and pasture management. Under the heading of management, the agronomists refer to the use of supplementary pasture crops, rotation grazing, and delayed spring grazing.

The pasture gospel is being carried to farmers through leader training schools, local meetings, result demonstrations, the press, and radio.

Additional stimulus has been given to the program through the cooperation of the Kansas City, Mo., Chamber of Commerce with the extension service in carrying on a pasture-improvement contest. This contest offers, each year, 10 gold medals and \$270 in cash prizes to eastern Kansas farmers. A new division was added in 1934 dealing entirely with the use of contracted wheat and corn acreage for growing pasture crops. Although recent drought provisions, liberalizing contracted acreage rulings, have lessened interest in that phase of the contest to some extent, agronomists are of the opinion that agricultural adjustment and pasture improvement will work together very well in eastern Kansas.

Altogether, the pasture-improvement program has met with considerable success. Farmers are realizing more and more the need for more and better pastures. There has been some difficulty encountered because of lack of money with which to purchase seed. However, several good result demonstration plots have been established, and interest over

the entire eastern section of the State is increasing.

Since the A.A.A. programs have been adopted, the extension service has been encouraging the planting of contracted corn and wheat acreage to permanent pasture. To solve the problem of lack of seed, the leaders in each county are being encouraged to sow their contracted acreage not to mixed grasses for pasture, but to single grasses for the sole purpose of seed production.

"Scars on the face of nature" is the phrase used to describe the ill effects of continuous cropping. Nature created the landscape so that it normally has a pleasing effect upon the eye. Man has abused the soil by excessive cultivation to such an extent that no matter which way you look, the hillsides and slopes are gullied, and the soil is badly depleted.

Much land in eastern Kansas was once fertile, but now is almost worthless. Nature's way of remedying this situation is to grow pasture grass on these areas.

That is the reason the extension service is carrying on an extensive program for increasing pasture acreage in the eastern section of the State. Agronomists in the service believe that the present acreage of 6 million can well be doubled.

The extension service is advancing a program whereby the scarred and gullied slopes may in time be covered with grass, a check made to the washing of valuable topsoils into streams and rivers, and restoration be made of grazing capacity of Kansas pasture lands.

Good Business at Curb Market

The Fort Smith Arkansas Producers' Curb Market recently celebrated its fourth anniversary sales day with an attendance of more than 500 customers. During the 4 years the curb market has been in operation, 544 different farmers from eight Arkansas counties near Fort Smith and two Oklahoma counties have sold products with a total value of \$88,560.32, according to W. B. Proctor, county agricultural agent, North Sebastian County.

Since the curb market was organized it has been running 3 days each week, and during that time the average sales have amounted to \$162.79 per day, or \$7.19 per person selling products on the market each market day.

Ninety-two percent of the money received for farm products at the market

was spent in Fort Smith for staple products such as hardware, clothing, shoes, furniture, automobile accessories, staple groceries, and other miscellaneous articles, according to replies from a questionnaire Mr. Proctor distributed among the producers.

The Fort Smith Producers' Curb Market was organized by 31 North Sebastian County farmers in May 1930, and the annual sales have ranged from \$14,623.31 in 1932 to \$31,153.76 in 1930. Last year's sales showed an upward trend and amounted to \$5,000 more than the total for the previous year, with farmers selling \$19,687.64 worth of produce in 1933. If it were not for this outlet, most of the produce sold at the market would be a total loss to the farmers.

Each market day, patrons of the market are given a list of suggested prices, in line with other produce prices, for the various products they have for sale. The people of Fort Smith demand quality fruits, vegetables, meats, flowers, poultry, and dairy products fresh from the farm, and the demand has been greater than the market has been able to supply.

During the 4 years the market has been in operation there has been a marked improvement in the quality of products. Farmers are now familiar with trade wants, and are striving harder to produce the kind and quality demanded by the people of Fort Smith, declares Mr. Proctor.

REPRESENTATIVES from every major agricultural organization in Louisiana met recently at the Louisiana State University under the auspices of the Louisiana Farm Bureau Federation. They agreed to coordinate all of their activities so as to present a united front with regard to important matters relating to agriculture.

Instead of forming a State agricultural council as was at first proposed, those attending the meeting decided to add members to the executive committee of the Louisiana Farm Bureau and to allow the executive committee to decide the major policies of the different organizations.

The organizations represented at the meeting were the American Sugar Cane League, Jersey Cattle Club, Louisiana Potato Association, American Rice Growers' Association, Louisiana Farm Bureau, American Cotton Cooperative Association, Louisiana Dairy Association, Louisiana Sugarcane Producers' Association, and the following representatives of the Louisiana State University: Dean J. G. Lee, Dr. C. T. Dowell, and J. W. Bateman.



Subsoil irrigation with home-made tile has saved many a Texas garden

Drought Defeated by Texas Demonstrators

IN GENERAL, it may be said that those farmers and ranchmen survived the disaster best who were in the habit of conducting their affairs with the aid of what has been learned through scientific study and experiment", observes Minnie Fisher Cunningham, Texas extension editor. To prove her point Mrs. Cunningham cites first the story of the pantry demonstrators.

"Here is a typical story from Haskell County in the plains, where in spite of the drought, Ruby Stodgill canned more than 100 quarts of vegetables besides having fresh vegetables for the family and some to give to her neighbors. She gathered 1½ bushels of onions, 100 cantaloups, a gallon of cucumbers, and large amounts of radishes, lettuce, beets and squash.

"A summary from Navarro County in central Texas shows 96,580 quarts of food conserved by home demonstration club women in the county.

"Mrs. J. E. Ferris, of Archer County, in the north Texas area, canned 236 quarts of fruits and vegetables, 33 quarts of pickles, and 60 pints of jellies and jams. Her garden was made without subirrigation, but the soil was thoroughly cultivated and every means used to conserve moisture.

"By June 30 Mrs. Herman Schneeman, Tom Green County in west Texas, canned 470 containers of meats, vegeta-

bles, and fruits for her family of three. This more than fills her canning budget, which calls for 450 containers. These reports all come from counties which were early affected by the drought. They are not selected as being exceptionally good but as typical. There are hundreds like them and many better. It requires no imagination to perceive that the tables where these ladies preside over the coffee urn are better served than are those where no systematic attempt was made to plan and assemble the year's food supply when the season was favorable.

But don't think that mention of a "favorable season" means dependence on having such a season. In sections where there is a late spring, home gardeners made 4,116 hot beds last year; so that they and often their neighbors could have plants which were started early. Subirrigation and even "gyp" water, or water from the kitchen sink, can be used this way without harming the plants.

So many home gardeners have put and are putting down a hundred feet of the home-made concrete tile, which is a cheap and successful way to irrigate a small patch of garden when water is scarce, that any figures used in this article would be out of date by the time this is published.

Farm Practices That Helped in an Emergency

To what extent have extension practices adapted to normal seasons been of benefit during recent unfavorable weather conditions? Here are offered some concrete examples of how certain phases of the regular extension program proved of real value in safeguarding farm families against extreme losses and privation.

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These reports all come from counties which were early affected by the drought. They are not selected as being exceptionally good but as typical. There are hundreds like them and

And so tantalizing did it prove to see these green garden spots growing in the midst of the drought-stricken land that relief authorities turned their attention to the matter and with relief labor constructed tile for relief gardens.

One of the most ambitious of these ventures was in Scurry County on the Plains where 4,000 tile were made and put down. Another was in Hemphill County in the Panhandle where a sub-irrigated plat 50 by 150 feet kept on producing vegetables in the face of complete disaster to other green stuff all around the region. There may have been others equally as large and many smaller.

Good seed justified itself too under the fiery testing of the drought of 1934. One J. J. McCarthy, of Cameron County, testified that an acre of tomatoes from good seed gave him an income of more than \$200 better than that yielded by an acre planted with cheaper seed.

In Haskell County common red oats produced only 30 bushels per acre against 60 bushels of Nor-Tex oats and 50 bushels of the Spivey variety; but there was another factor in this difference besides



Fodder corn planted as a drought emergency crop on the Minnesota farm of Edward and Anthon Huseth.

Investment in Extension Practices Paid Dividends When Most Needed :: ::



Trench silos for saving feed and home canning to insure the winter food supply for the family have been much in evidence this fall.

good seed. Those Nor-Tex oats went on land where green cotton was plowed under last year in the plow-up campaign.

Those who deplored the wastefulness of that procedure would be comforted if they could have access to county agricultural agents' reports this year. Over and over again comes the same story. This is a sample: "Walter Walker, Unity community in Lampasas County, told the county agent that he harvested 66 bushels of oats per acre on land where he plowed under cotton last year and only 40 bushels per acre on the land that grew grain last year."

And here is another, "Farmers continue to profit from the cotton plow-up last year, according to E. B. Isham of the Deep Creek community in Shackelford County. Mr. Isham reported a yield of

the cotton was plowed under last year and only 10½ bushels per acre on 15 acres of similar land."

D. F. Eaton, county agent of Shackelford County, also reported that F. W. Alexander had an average yield of 76 bushels of oats per acre on 110 acres of last year's cotton plow-up land. From every section of Texas came similar reports showing the value to the land of plowing under this green and growing crop. Apparently, instead of Providence frowning upon this practice, as was threatened, it met with an especial blessing as all good husbandry seems to do.

Two more of the practices that the drought brought into sharp relief as good and profitable were the trench silo and terracing. County agricultural agents' reports for June, July, and August were full of stories of farmers and ranchmen who had put their drought - deteriorating corn, or grain sorghum, or even grass into such silos and saved themselves a total loss while providing for their livestock a feed which they prefer above many others.

Junius Furrh in Harrison County in east Texas put his corn in a trench silo. His corn was drying up and would not make any grain, but by making silage out of it he has a good supply of

roughage for his cattle. George McClaren filled his trench silo for the fourth time. He was still feeding silage that he put down last year when he began filling the trench again this year. Pasture shortage did not bother his dairy business this year; the shorter the grass got the more silage he put out for the cows. Webb Rogers is filling his silo for the fourth time also. He states that he can grow and put down corn silage at \$2 per ton.

The county agricultural agent in Brazoria County reported that there were 2 trench silos in his county in 1932 and 75 in 1934, with about 150 tons of silage put down in 1932 and 11,250 tons this year. In Atascosa County the agent persuaded John Kopecky of Pleasanton to dig a 30-foot trench and save 5 acres of feed that was burning up. Mr. Kopecky thought that the feed was so satisfactory that he has dug a 125-foot trench and intends to put down all his fall-raised feed. Stories of trench silos come from every section of the State, indicating that the method is usable in different climates and soils.

Terracing at this late date, needs no special explanation. Texas, chiefly through the leadership of the Extension Service, has put nearly 7,000,000 acres under the protection of terracing and has no idea of stopping until the whole job is done. Even last year, a year replete with emergency jobs, county agricultural agents broke all records with the number of individual farms that had received some help on terracing. The valuation placed on the 1933 terracing done on 15,465 farms in Texas was \$1,814,562.

Terracing values were subject to pretty good proof last year in the cotton plow-up. Time after time a terraced field brought its owner a greater return than surrounding acres when rented to the



Minnesota sweetclover harvested for seed instead of being plowed under for summer fallow.

Government because its crop was obviously so much better than that standing on the unterraced land. This year the drought tested the terraced fields and found them good because they had conserved every possible bit of moisture. There isn't a section of the State that hasn't provided a story of crops made on terraced land while the adjoining unterraced fields went bare.

And so we have the tale of the things which showed up as golden successes against the black background of the year's disaster.

Father and Son Outwit the Drought

The farming operations of Anthon Huseth and his father, Edward Huseth, give a good example of how many north-west farmers are using technical knowledge obtained from the United States Department of Agriculture and the Agricultural Extension Service of the University of Minnesota, coupled with industry and good common sense, to meet successfully the drought emergency. Edward Huseth, the father and one of several Huseth brothers, who have made homes and raised fine families in Grant County, Minn., is owner and operator of a 266-acre farm a few miles south of Elbow Lake in Grant County. Anthon owns 80 acres adjoining his father's farm and lives with his father. They operate their land as one unit. The West Central Minnesota School of Agriculture at Morris, which is a branch of the Department of Agriculture of the University of Minnesota proudly numbers Anthon as one of its graduates.

The usual crop rotation on the Huseth farm consists of 1 year of corn, 1 year of barley followed by 1 year of barley, oats, or wheat, seeded with sweetclover, the sweetclover being plowed under in May or June and the land summer fallowed for 1 season in preparation for another corn crop. Acid phosphate is applied occasionally, usually before wheat or corn. This rotation is varied, of course, to meet conditions which arise from time to time. It is this ability to vary the rotation to meet existing conditions, the good state of fertility maintained by plowing under sweetclover and applying phosphate, and especially the conserving of moisture through summer fallowing that have put the Huseths in a position to keep their farm on a paying basis even during an exceptionally dry season like this.

The Huseths have been regular readers of the various bulletins issued by the Extension Service. Anthon has made good use of the knowledge gained at the school of agriculture. In particular, they have been leaders in adopting new vari-

eties of grains which have been introduced by the agricultural experiment station in recent years. The farm is covered by a wheat-allotment contract, by a corn-hog reduction contract, and eight head of cattle were recently sold in the drought emergency program.

In an average year there are 30 or 40 acres summer fallowed on the Huseth farm. In 1933, 70 acres were fallowed because of the low price of grain and the shortage of moisture. When, in mid-June of this year it became apparent that a real shortage of hay and other feed was faced because of the extreme lack of moisture, and when the Agricultural Adjustment Administration relaxed its rulings on the corn-hog contract to allow the planting of unlimited acres of fodder corn, the Extension Service urged upon farmers the wisdom of planting various types of emergency hay and pasture crops. The Huseths responded by taking a considerable acreage of their summer-fallowed ground for that purpose. An accompanying photograph, taken August 16, shows Anthon and his father standing in a splendid piece of fodder corn which was planted on July 5. In the background can be seen three stacks of millet hay, which contain between 12 and 15 tons of good forage which was produced on 6 acres of land.

Another piece of land which was to have been summer fallowed produced a heavy growth of pigeon grass. Because of the shortage of hay, this grass was cut, producing 8 or 10 tons of good forage. To be sure, the Huseths have been fortunate in that their farm has been in a district which had the benefit of several local rains in late June and early July. However, some of the neighbors who have had as much rain, some even more, do not find themselves in as satisfactory a position as these men who have had the ability to put good technical advice to real practical use.

The second illustration shows a field of sweetclover cut for seed. This is a 30-acre field which was to have been plowed under and summer fallowed. As a result of the extreme drought of early spring the clover blossomed out when it was less than a foot tall. The stand was rather good, however. On about June 15 this clover was clipped off and left on the ground, rather than plowing down as would have been done in a normal year. The latter part of June brought one or two rather good rains, and the clover was cut for seed. The stalks are not very coarse, and considerable grass is held in the bundles, so that it is planned to use the straw for roughage after the seed has been threshed out.

One crop, which Anthon Huseth has produced this year, will provide a good cash income. Last spring the agronomy division at University Farm, St. Paul, released for the first time a new variety of spring wheat named Thatcher. This wheat is as rust-resistant as, and a little more productive than, Marquillo, the variety being widely grown at present. Furthermore, it is as desirable for milling and baking as the older and established variety, Marquis. This last characteristic was not possessed by Marquillo. Anthon bought 12 bushels of Thatcher at \$1.50 per bushel and seeded it on 11½ acres of land which had been summer fallowed the year before. Before seeding he top-dressed the field with 100 pounds of acid phosphate per acre. Two hundred and forty-seven bushels of Thatcher were threshed and certified as to purity by the Minnesota Crop Improvement Association. This makes a yield of 23.2 bushels per acre, which is a good yield for any year and really remarkable for this dry season. Most growers of the new wheat this year were not so successful and the demand for seed of this variety should be good next spring.

Extension Advice Aids Pembina County Farmers

"The drought has changed farming practices to a marked degree in Pembina County, N. Dak., this spring and summer", reports H. Earl Hodgson, agricultural adjustment agent. Seedsmen estimate that the planting of emergency pasture and forage crops has increased 25 percent over last year. This increase is a result of a determined effort on the part of Pembina County farmers to combat the drought along lines recommended by the Extension Division. Trench and pit silos are being dug to make feed supplies go as far as possible.

They have poisoned grasshoppers to save feed and crops and are practicing crop rotation to conserve moisture.

"I'm harvesting one of the finest fields of wheat this year that I ever pulled a binder into", reports Herb Simons, a farmer living near Bathgate, "and I would like to let you fellows know I wouldn't have got the seed back if we had not poisoned the hoppers early this spring. Why honestly, Mr. Hodgson, those hoppers were so thick along the fences and roadsides, I didn't think we had a chance; but we used that Government bait like you told us to, and we sure got results."

Pembina County is harvesting a drought-hit crop this year that is 70 percent of normal. Without the grass-

(Continued on page 159)



(Above) County Agent O. H. Phillips, formerly of Stanly County, N. C., examines a sample of Korean lespedeza in that county.——
 (Right) County Agent G. C. Hodge looks over a field of *Lespedeza sericea* on a Florida farm.



The Spread of the Lespedezas

THE ANNUAL lespedezas have come to play so important a part in the agriculture of the South and as far north as southern Iowa that many county agents will be interested in knowing where they came from. This is the more true because no single agency has been more effective than the county agent service in pushing these plants where they could be useful.

It may be well to note here that the lespedezas are cultivated in the United States only; nowhere else in the world are lespedezas cultivated. This is the more interesting since the annuals we use here are oriental species. We have a dozen wild perennial species but none are useful.

So far as we know, common lespedeza was introduced early in the nineteenth century, probably at Charleston, S. C., or Savannah, Ga. The first plant was found in 1846 at Monticello, Ga. This was collected by the roadside and the species must have spread gradually, perhaps helped in its spread by the movement of troops during the Civil War. At any rate, it was all over Alabama in 1867; in South Carolina in 1866; in North Carolina in 1867; in Missouri about the same time; and in Tennessee in 1870. Long before 1880 it was known in Louisiana and in that year McGehee began to sell hay and seed.

Since seed has become commercially available, the common lespedeza has spread north until it is now naturalized as far as central Indiana. Of course the

main area of usefulness for common lespedeza is still in the deep South. Farther north than North Carolina it seldom grows tall enough to cut for hay, but in many places it makes excellent grazing.

Improved Varieties

The history of the improved varieties is more accurately known than that of the common lespedeza. In 1912 Prof. S. H. Essary of the Tennessee Agricultural Experiment Station, observed that common lespedeza was widely variable and he started a program of selection. In the course of the work he selected a great many forms, all of which were discarded except his no. 76. This is a variety that grows more upright than the common and gives a larger yield. It has become the leading variety in central Tennessee and is extensively grown in certain parts of North Carolina. It is a late-maturing variety and unfortunately the seeds are indistinguishable from the seeds of common lespedeza.

The Korean was the next important variety introduced. Seed of this was received at the Department of Agriculture in 1919, and because the package was not addressed to any individual, it was passed around from hand to hand until the spring of 1921, when it was seeded

Every movement of any magnitude represents the efforts and sacrifices of many men; and so it is with the wave of lespedezas which has swept the South and parts of the Middle West to the great advantage of agriculture. A. J. Pieters of the United States Department of Agriculture, who has been associated with the introduction and development of lespedeza from the beginning, has reviewed this history in the following article written for county agents, who, as he says, have been so effective in "pushing these plants where they could be useful."

at the Arlington Farm under F. P. I. No. 47027. It was at once seen that this was a new species of lespedeza and all the seed was saved for increase. The following year the Department of Agriculture produced 240 pounds of seed at Arlington Farm from one-fourth pound of seed and we began to distribute the seed to experiment stations and certain interested individuals. For several years after that the Department distributed 2,000 or 3,000 pounds of seed annually. Because of its early maturity it was felt that this variety was more suited to the belt of country including Virginia, Kentucky, and Missouri than it was farther south. Lespedeza was not grown very much in those territories because the common lespedeza is too small to be useful.

As was to be expected, people were slow to take hold of it at first but in the course of time—partly through the efforts of the county agents, partly because when the seed was first placed on the market it sold for more than 50 cents a pound—people began to take an interest in it. After it once got under way, it spread with amazing rapidity. In the

course of 10 years from the time the species was first introduced, it had spread pretty well over Kentucky, over the Piedmont of North Carolina, eastern Tennessee, central Missouri, northern Arkansas, and had been used quite extensively as far north as Champaign, Ill., and Lafayette, Ind.

Kobe Introduced

About the same time the Department introduced Kobe. The seed of this was obtained by J. B. Norton, near the city of Kobe, Japan, in 1919. Unfortunately, the office with which he was then associated was not interested in lespedeza at that time, and he took the little seed of Kobe he had to Hartsville, S. C., where he became connected with the Coker Seed Co. of that place. They grew seed for a few years but not finding a sufficiently profitable market, ultimately abandoned it. The Division of Forage Crops and Diseases obtained some seed from this stock and made several distributions, which resulted in the firm establishment of the variety particularly in Virginia, North Carolina, and western Tennessee.

While none of the varieties occupy anything like the acreage occupied by Korean, each one has its place and it is not wise to say, in any one instance, that one variety or another is better suited for a certain section, unless it has been tried.

About 1920, the Division of Forage Crops and Diseases procured some seed of *Lespedeza sericea*, which is a perennial plant with somewhat the habit of alfalfa. While this new species has not yet become well enough established to permit a final word as to its value, it is highly regarded in parts of Tennessee and North Carolina and has done remarkably well on the sour lands of the Ozark regions in Missouri. We believe that it is worth trying wherever alfalfa and red clover cannot be grown without excessive liming.

After this species had been on trial a few years at Arlington Farm, it was learned that Dr. Seaman Knapp, the father of the whole county agent system had sent some seed of this species from Japan as early as 1899. The plants had been grown at Arlington Farm for some time but workers at that time were trying to fit the land for alfalfa rather than to find the plants that would be adapted to the sour soils without liming. It is interesting to note that the first introduction of this plant which may become highly important, was made by Dr. Knapp, and I have found a notation in Dr. Knapp's handwriting made when he sent the seed to the effect that this looked to him as if it might be a good forage crop.

Work of Extension Agents

I have indicated above that the county agricultural agents have been very important in the spread of lespedeza. It is impossible, of course, to name all the county agents who have been active in this work. There would not be room here, even if I knew them all. I want, however, to mention a few who have done outstanding work, Oscar Philips, formerly of Stanly County, now of Mecklenburg County, N. C., laid the foundation of improvement of Stanly County through common lespedeza. T. J. Broome, of Union County, N. C., also did a great work with this species. W. G. Yeager of Rowan County, N. C., and R. D. Goodman of Cabarrus County, N. C., have been active in developing Korean and Kobe. H. A. Powers of Henderson County, Tenn., has been one of the most active in pushing Tennessee 76, while Prof. Ralph Kenney of Lexington, Ky., has done more than any other one man to spread the gospel of Korean lespedeza in that State. Without the active assistance of the county agents, the spread of these varieties would have been much slower; but the county agents could not help seeing that these varieties had a value to their farmers and they were not slow in putting the advantages of lespedeza before the farmers of their counties.

Measuring Irrigation Water

Impressed with the great value of irrigation water by recent years of drought, farmers and irrigation companies in many sections of Colorado are planning to measure water more accurately by installing the famous Parshall measuring flume.

This flume was developed under the supervision of Ralph L. Parshall, senior irrigation engineer for the Colorado Agricultural Experiment Station and the Bureau of Agricultural Engineering, of the U. S. Department of Agriculture. It has been installed during recent years in many foreign countries as well as in several States in this country.

A number of farmers in northern Colorado, particularly ranchers in North Park, are now installing these accurate and comparatively inexpensive measuring flumes in irrigation ditches in preparation for next year. Tests have shown that these flumes often will pay for themselves in a few days of use by actually delivering to the user all of the irrigation water to which he is entitled.

Many Parshall flumes are in operation in California, Utah, Nevada, Montana, Arizona, New Mexico, British Columbia, and Alberta. These flumes also have been installed in Peru, South Africa, Argentina, Honduras, and several hundred are in use on large sugarcane plantations in the Hawaiian Islands. Requests for information concerning the flumes have been received from China, Japan, Russia, and Italy. The flumes also are used in sewage disposal plants in Los Angeles and Pasadena, Calif.; Syracuse, N. Y.; Newark, N. J.; Providence, R. I.; and cities in South Carolina.

Agent Assists Students

There are 130 farm boys attending the Texas Agricultural and Mechanical College this winter on a self-help basis. They are living in farm houses that were vacant near the campus, and eating three regular meals a day from food furnished by themselves, their families, or by friends. The pantry shelves are filled with canned goods for their use this winter. Some of the boys were working in relief canning centers, and they took canned goods as pay; some of them actually canned the food themselves. The boys are divided into 12 groups. The cost per student under the plan ranges from \$5 to \$15 per month.

The county agricultural agents have been of help to more than one of the groups. In Houston County, C. E. Bowles interviewed boys in his county who could meet the entrance requirements and a group of 12 was organized. During the summer they planned their activities, canned their food, and collected odds and ends of furniture for their new home. A truck was obtained to transport the food and furniture to the school, and a young man and his wife went along to take care of the house and do the cooking. Each month the county agent takes a trailer load of food to the boys. Open houses were held in the home community at which offerings of food, furniture, cooking utensils, and other accessories were assembled.

FARMERS in Colorado have drilled more than 200 irrigation wells since the drought conditions became severe. W. E. Code, associate in irrigation investigations of the State experiment station, has advised farmers to make adequate tests before drilling in order to assure water in supplies large enough to be of value in irrigation work.



Porous hose in action; water seeping from sides and bottom of hose.

Porous Hose Irrigation Profitable

to appeal to farmers in general. The method which Mr. Robey perfected has now been under trial for 3 years in the field. Two of the years were nearly normal in rainfall, and the 1934 season saw Michigan go into the secondary drought classification.

The Robey irrigation method is simple, the essential of the system being a pump to lift and force water to a length of a canvas hose. In

practice, iron pipe is used to connect the pump and the hose, and in some cases an iron header pipe long enough to reach across the side of a field is used.

The water supplied to the hose seeps through the pores in the fabric and soaks into the ground for a foot or more on each side. The hose is laid between crop rows, left long enough to supply the needed water, and then moved to the next row. Water can be carried over rather abrupt slopes. Heavier grades of canvas are used for the end of the hose nearest the pump and on slopes where the water is being carried up.

Many Michigan farmers have been able to buy second-hand pumps and piping and have kept installation costs at a minimum. The canvas hose can be made at home from 8- or 10-ounce duck by sewing strips with a lap seam. This hose is also manufactured commercially. The College of Agriculture has applied for a patent on the idea and has leased manufacturing rights, but Michigan farmers are permitted to make their own hose if they wish.

The results of the system can be best visualized by reading field reports of

extension men. The yield data for 1934 are not available now, so the 1933 report of George Amundson, extension specialist, is used.

Mr. Parmalee, Allegan County, irrigated 15 acres of potatoes. He is the only man south of the Straits to obtain a yield of 400 bushels per acre. He says the equipment doubled his yield and improved the quality of the potatoes. His total investment in equipment was \$300.

Mr. Pakes, Montcalm County, irrigated 12 acres, started late, and increased his yield about 100 bushels per acre.

Mr. Gray, Ogemaw County, increased yields 150 bushels per acre on 12 acres of irrigated potatoes.

One of the most startling examples of results from irrigation was on red raspberries on the farm of Mr. Yuill, Otsego County. Three acres out of a 28-acre planting were irrigated. The three acres yielded 6,000 quarts of berries; the non-irrigated 25 acres yielded 2,000 quarts. He now plans to irrigate 15 acres.

The Cadillac Potato Growers Exchange has asked the agricultural engineering department to help a group of growers plan irrigation systems so that their products can be marketed separately as high-quality stock.

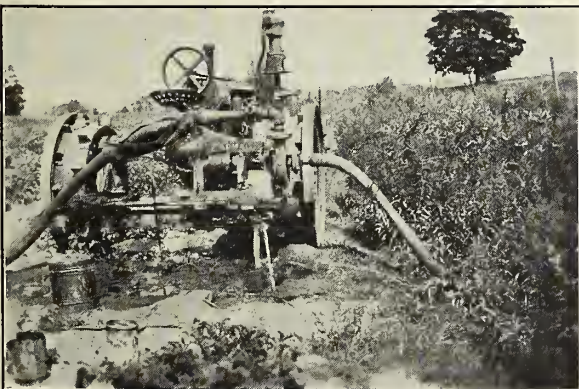
Rainfall in Michigan in 1933 was nearly normal so the increased yields obtained could be expected in a majority of the crop seasons in Michigan. Conditions have been much different in 1934, but a report from one of the county agents shows how the porous hose irrigation system works in times of drought.

A CURSORY examination of maps or of weather reports would lead one to believe that Michigan would be one of the last States to need irrigation for crops. The Great Lakes almost surround the two peninsulas and the interior is dotted with thousands of lakes which range from mere dots on the landscape to 15 miles in length.

Both maps and weather reports are deceptive because in years of normal rainfall, there has been a deficiency of water in Michigan during the period of plant growth in many of the years since weather reports have been kept. Heavy rains in the fall and early spring are of little value in late July and August.

Most of Michigan has such an uneven surface that the western method of irrigation is impractical even where water supplies can be reached readily. The State's field crops are not of the type which give acreage returns high enough to make overhead irrigation attractive.

O. E. Robey, a pioneer in Michigan extension work, and an agricultural engineer, went to work on the problem of perfecting a means of furnishing water to crops by a method economical enough



Pump installation, Mason Parmalee demonstration farm, Allegan County, Mich.



Moving hose to next row.

William Murphy, county agricultural agent in Macomb County, says, "Roy Stroup, a farmer living north of Mount Clemens, first heard of a canvas hose irrigation last year at our demonstration on a nearby farm. It did not take him long to see the worth of the idea, and although it was late in the summer he installed the system and made enough extra money on a few acres of potatoes to pay for his entire investment.

"Stroup was so enthusiastic about his irrigation system that he invited a reporter from the Mount Clemens Monitor and me out to his farm to see it in operation. It was a scorching hot day; there had been but two light showers in the past month. The countryside was burned a uniform brown, but not on Stroup's irrigated land, where a turgid hose was distributing warm water from the nearby river. From a luxuriant patch of strawberries, Stroup had marketed fruit at top prices and had already realized a total of \$134 from a half acre. Nearby were several rows of unwatered plants, and he said that there had not been a quart of salable fruit from the entire stretch.

"The total investment of this farmer has been only \$38. He went to a junk yard and bought some used 2-inch pipe. A second-hand centrifugal pump was 'picked up' for \$20 and he already had a 3-horsepower, 2-cycle gasoline engine. Canvas hose was made to order at a city department store for \$0.08 per foot."

New Measures of Farm Income and Prices

(Continued from page 148)

the previous series included only 27 major farm products.

This revision does not change the individual price series now in use for "basic" commodities and does not change "parity prices" of these products. The revision of the dairy products prices was completed before the Agricultural Adjustment Act became law and was used in computing parity prices for these products.

The revised index numbers of all groups of farm prices combined range from 2 points lower than the old index in 1915 to 10 points above for the year 1928. (See chart on prices received and paid by farmers.) The new index number of September 1934 is 102 compared with 95 for the old index number. The index for cotton and meat animals remains practically unchanged; the index for grains is slightly higher. The old fruit and vegetable index is replaced by

Child Care in Oklahoma

Twenty-eight counties in Oklahoma are carrying a project in parent education as one of their major extension programs in home demonstration work. This project was established in 1930 at the request of rural parents for help in meeting the responsibility of the farm home in rearing healthy, wholesome children. E. Faith Strayer, specialist in child development and parent education, devotes much of her time to demonstrations before home demonstration clubs and to the preparation of informational material. Frequent conferences with county home demonstration agents, local leaders, and interested "demonstration" parents strengthen the program.

The most valuable results of the projects are intangible and immeasurable, yet reports show material gains in all phases of the work. During 1932 health examinations were made of 750 children, in 1933 of 1,609. In 1932, 454 physical defects were corrected, and in the following year, 1,464 corrections were made. Four hundred and eighty-three homes reported new practices in care and training in 1932, while 1,071 homes reported new practices in 1933. The number of selected books on the subject of child care and training which were read by parents almost doubled. The number of homes in 1932 in which furnishings were adjusted to meet the needs of the children was 340, this number increasing to 638 in 1933.

separate indexes; one for fruits and another for truck crops. Potatoes, sweet potatoes, and dry beans have been added to a miscellaneous group in which tobacco, hay, and potatoes are the most important commodities. The revised index numbers for chicken and egg prices are from 2 to 3 points higher.

The most significant changes in the revised index relate to dairy products. For many years it has been recognized that this index number series was unsatisfactory. New data have been gathered by the crop estimates service so that the new index now includes four dairy products sold by farmers; namely, wholesale milk, butterfat, retail milk, and butter. The old index included only wholesale milk and butter. The addition of these prices to the dairy index lowers the series 2 points in 1920 and raises it a maximum of 11 points in 1932.

In the September issue of "Crops and Markets" in the general chart on the back page will be found a chart showing the revised and old index numbers together in a manner which shows the

changes that the revision has made. The new index is being published in "Crops and Markets" and "The Agricultural Situation." The revised series for earlier years is available and is being prepared for publication in a separate printed book. Outlook charts which involve the use of index are being revised for use this fall in the General Outlook Conference.

Farmers Attend Credit Conferences

Extension workers in Georgia will have ample opportunity to learn of new developments in farm credit. Special emphasis was placed on the new farm credit organizations and facilities during the recent farm and home week. Representatives of the Federal Land Bank of Columbia, S. C., addressed conferences of Georgia farmers and extension workers on the loans available to farmers, explaining the operation and organization of the farm credit system. Open discussion followed, giving the farmers and agents an opportunity to learn how the loans might be applied to their credit needs.

Methods of improving farm income, developing markets, and efficient farm operation were discussed in view of their bearing on the repayment of loans. Extension workers have been active in aiding farmers to organize credit associations and in explaining the steps necessary to obtain the farm credit loans.

The University of Georgia and the College of Agriculture are offering regular courses in farm credit studies. Opportunity will be given students to gain actual experience in inspecting farms, in making appraisals, and in the determination of credit needs on individual farms.

FORTY turkey growers in 11 Colorado counties have caponized about 2,000 young tom turkeys this season in an effort to develop a new and profitable phase of turkey production. Most of these birds have been caponized in demonstrations arranged by O. C. Ufford, Colorado extension poultryman, who first introduced turkey caponizing into the State last year.

THE Cooperative Wool Growers of South Dakota handled well over 4 million pounds of the 1934 wool, between 4,000 and 5,000 growers marketing through the association this year. This is the record year since the association was formed in 1920.

New Film Strips

FIVE new film strips as listed below have been completed by the Division of Cooperative Extension in cooperation with the Bureaus of Agricultural Economics, Agricultural Engineering, Animal Industry, Biological Survey, Dairy Industry, Entomology and Plant Quarantine, and Plant Industry. They may be purchased at the prices indicated from Dewey & Dewey, Kenosha, Wis., after first obtaining authorization from the United States Department of Agriculture. Blanks for this purpose will be supplied upon request to the Division of Cooperative Extension.

Series 301. The How and Why of Pastures in the Northeastern and Corn Belt States. This series is designed to awaken an interest in pasture improvement and to supply information on common pasture problems; 56 frames, 45 cents.

Series 335. History and Development of Agricultural Implements and Farm Machinery. Illustrates the history and development of some farm implements and machinery; 54 frames, 45 cents.

Series 342. Diseases of Flue-cured Tobacco. Illustrates the more important diseases of flue-cured tobacco and should be useful at meetings of tobacco growers in the States of Virginia, North Carolina, South Carolina, and Georgia. Certain of the slides are applicable in other States, but the notes were written for the flue-cured tobacco district; 49 frames, 45 cents.

Series 346. First Lessons in Beekeeping. Illustrates standard equipment and a simple, practical method of procedure in handling bees for the production

of honey for home use; 45 frames, 36 cents.

Series 351. The Screw Worm and Related Flies. Illustrates the methods developed by the Bureau of Entomology and Plant Quarantine for control of the screw worm and related blowfly maggots; 39 frames, 36 cents.

Revised Series

The following series have been revised:

Series 150. How to get Rid of Rats. Supplements Farmers' Bulletin 1533, Rat Control, and illustrates the damage done by rats and methods of control; 57 frames, 45 cents.

Series 305. Wheat Outlook Charts, 1933-34. Supplements the 1934 outlook chart report on wheat, and illustrates selected charts with brief titles. The explanatory notes should be supplemented by consulting the agricultural outlook report for the current year issued by the Bureau of Agricultural Economics and the States; 58 frames 45 cents.

Completed Localized Film Strips

The following two localized film strips were completed by the Division of Cooperative Extension in cooperation with county extension agents, specialists, and other extension workers. The photographs used were all local pictures, either selected or taken by the agents themselves.

Series 1137. The Home Demonstration Agent at Work (Maine); 42 frames, 36 cents.

Series 1138. Club Work in Cavalier County (N. Dak.); 43 frames, 36 cents.

Farm Practices That Helped in an Emergency

(Continued from page 154)

hopper poisoning campaign, using Federal bait, crop yields would have been low indeed. Extension entomologists noted a 30 percent infestation of grasshopper eggs in the total crop acreage. Local farmers who observed conditions believe that this estimate was rather low.

Fred Farrow, a farmer living northeast of Cavalier, is not a master farmer or an inspiring leader in his community. He doesn't work as hard as some of his neighbors, but he "uses his head", as the expression goes, and if he notices an agricultural practice that isn't bearing fruit he quickly discards it for a better one.

"Back in the early days we raised Fife and Bluestem wheats, but they

didn't yield very well. Then we changed to Marquis, but the rust hit that pretty hard in wet years," Fred told me one evening while we were talking about farming, the weather, Secretary Wallace, and the Agricultural Adjustment Administration, and other things in general. "Then the North Dakota Agricultural College came out with this Ceres wheat, the stuff with the beards on it. I didn't try it at first. Instead I switched over to Reward wheat after Marquis, and that's mighty good in wet years, ripens before the rust hits it. But for the past 2 years I have been growing Ceres and Reward. I'm saving only the Ceres for seed for next season. Last year my Reward yielded 25 bushels to the acre and the Ceres 30. This year the Reward went 20 while Ceres went 28 bushels to the acre.

"Oh, no! I put both varieties on the same kind of land, sweetclover ground. Me for Ceres from now on; it doesn't seem to need as much water as the Reward does. The hoppers don't bother it so much either."

Mr. Farrow is an ardent enthusiast of the old school of soil scientists, believing soil tillage conserves moisture. Keep the soil well mulched on top and the air can't get down to the moisture, is his explanation.

Fred's main cash income is obtained from the raising of State and Government certified seed potatoes. Using an 8-year crop-rotation practice to conserve moisture and increase soil fertility, he gets yields of certified cobbles averaging 250 bushels to the acre, without the application of commercial fertilizer. Even this year, his 22-acre field will yield 150 to 175 bushels to the acre.

His crop rotation, based on his own experience and the advice of the county agricultural agent, is as follows: First year, barley seeded with sweetclover; second year, sweetclover; third year, wheat; fourth year, oats. He plows the field shallow in the fall. The next spring he disks early, cross harrows, plows 4 inches deep the first of June, double disks, harrows crosswise, and plows 6 inches deep in the fall. This plan conserves moisture and kills weeds. The sixth year he cultivates and harrows the field crosswise, then plants potatoes from the 15th to 20th of May. Wheat and then flax complete the rotation.

"I spread about 2,000 pounds of hopper bait on the farm this spring, during the last of May and the first part of June, in the pasture, along fence lines, roadsides, and on the hatching beds", continued Fred. "You know, in growing potatoes we have to watch out for grasshoppers. They spread mosaic fast. If a hopper takes a bite out of a diseased plant leaf, he can spread the disease to any number of healthy units. And that hopper poison sure saved my oats and barley this year. Got a yield of 20 bushels on the Swedish select oats and 25 bushels on the Trebi barley. I wouldn't have got the seed back if we hadn't stopped the hoppers."

FIVE HUNDRED and fifty-four dairy farmers in New York are regularly keeping records of production. "The dairyman's change of attitude toward keeping records when milk prices are low is due to a desire for greater production efficiency", says C. G. Bradt, extension specialist in animal husbandry. This is the largest enrollment the club has had in recent years.

Motion Picture Equipment

A marked increase in the number of motion-picture projectors available to extension workers has taken place during the period 1922-33, as indicated by the following figures taken from a compilation of replies to questionnaires:

	1922	1933
Agents reporting.....	982	1,588
Projectors available.....	165	973

The States of Illinois and Iowa lead with 90 projectors each; Indiana, second with 76; and Ohio, third with 66. Other States ranking high are Kansas, 46; California, 42; Missouri, 41; Michigan, 35; and New York, 29. Since less than half the agents in the service reported on the 1933 questionnaire, it is probable that the actual total number of projectors accessible to county agents is considerably in excess of the 973 reported.

Of the reported projectors in 1933, only 5 were of the 16-millimeter width. In 1933, there were 113 of that size. Sound projectors had not been perfected in 1922. Four were reported in 1933. About 500 more agents answered the last questionnaire than replied to the earlier one.

The above figures indicate a healthy expansion in the use of motion pictures by extension workers and a growing appreciation of the value of the motion picture as an aid in furthering the agricultural and conservation programs of the Government.

Sound has added greatly to the value as well as to the interest in motion pictures. Several worth-while sound projectors are now on the market at reasonable prices and a library of sound films is rapidly being built up. Any extension worker contemplating the purchase of a sound projector should obtain the latest information from the Division of Motion Pictures, Extension Service, Washington, D. C.

THE attendance of farm women at the thirteenth annual farm women's camp at Jackson's Mill broke all previous records. There were 408 women from 36 of the 55 counties. About one-half of the campers were newcomers. Five of the women had attended all of the previous 12 camps. A new feature of this year's camp was the study of handicrafts. Many women were interested in this as a new source of income as well as a way to add beauty to the home.

LOUISIANA has a strawberry cooperative. It is farmer-owned and farmer-controlled and is made up of a central cooperative association with affiliated organizations at 11 shipping points in the berry-producing area. All of the associations are organized under identical cooperative charters, having met the requirements of the Federal lending agencies, and conforming with the Federal Cooperative Marketing Act and the Louisiana Marketing Act. It is believed that the total membership for the coming season will be approximately 3,000 producers. Some of the units have already signed more than 400 members. The association is planning to handle other commercial perishable produce.

WILD sunflowers, which grow in large numbers along the roadways in New Mexico, have been harvested and put into pit or trench silos as sunflower ensilage to help tide cattle over the shortage of feed due to drought. Other emergency feeds being saved are soapweed, Spanish-dagger, sotol, and beargrass. When these are cut in lengths similar to silage they make a good maintenance feed. Yucca is used after burning the dry leaves off and finely chopping the stem and tuft of green leaves. Even cacti are being utilized by singeing off the spines with a torch, after which the cattle eat them with apparent satisfaction.

National 4-H Club Radio Program

Annual Theme: 4-H Club Work Influences the Farm and Home

Twelfth Phase—4-H Leadership

Saturday, December 1, 12:30 to 1:30 p. m., Eastern Standard Time

My Club's Cooperative Undertakings..... 4-H Club Boy Winner of Moses Leadership Trophy.

What My Club Would Like to Do for Our Community..... 4-H Club Girl Winner of Moses Leadership Trophy.

How 4-H Clubs Develop Leadership Ability_ State Extension Worker.

Agriculture Under Rural Leadership..... Federal Extension Worker.

National 4-H music identification test: Conclusion of the 1934 national 4-H music hour. The United States Marine Band will play a selected list of compositions chosen from the numbers played during the year. All 4-H club members and their friends will be urged to identify these compositions as they are played, by writing the name of the composition and the name of the composer. The correct list will be announced at the close of the broadcast.

PIONEER Farm Homes is the subject of a new educational illustrated film-strip series which the Division of Cooperative Extension has under consideration for use by 4-H clubs. Although some very interesting illustrations on this subject have been collected, a few more photographs or drawings of farm homes that have historic backgrounds are required to complete the series. It would, therefore, be appreciated if extension workers possessing such photographs would lend them for a short time to the Division of Cooperative Extension of the United States Department of Agriculture. They should be accompanied with a brief explanatory legend. The pictures would be returned if desired. Only prints of good quality would be suitable.

THERE are two wayside markets now being operated by farm women in Tennessee that have proved both successful and profitable. One is located at Gatlinburg in the heart of the Smoky Mountains and the other near Chattanooga on Signal Mountain. They are open every day and cater to tourist trade and people in summer cottages.

FROM 5,000 to 7,000 families on the tenant farmer lists are being rehabilitated by the Federal Emergency Relief Administration's program of rural rehabilitation in Alabama, Arkansas, and Mississippi. The average expense, covering land lease, equipment, and livestock, for each family ranges from \$86 in Mississippi to \$126 in Arkansas.

NEEDED—A Unified Land Policy

H. A. WALLACE

Secretary of Agriculture

Careless Policy Pursued in Past

THERE is a need for a unified, consistent national policy of land use, a policy that will test the use of every acre in terms of the general welfare. During the past 150 years in the United States we have managed our lands in ways that indicate destructive possibilities. Over large areas we have made no real effort to restore to the soil the fertility which has been removed. Year after year, we stood by while our public lands were despoiled. What happened to privately owned lands, meanwhile, was nobody's business. All of this has been careless, thoughtless, wanton, and to the disadvantage of nearly every one.

Action Now Imperative

WHEN this administration came into power, it was no longer possible to content ourselves with research on the problems of land use and hopeful advice; there had to be action. Partly as a result of drought, partly as a result of adjustment programs, the surpluses have been in most cases disposed of, and that problem now becomes one of controlling expansion; on the problem of submarginal areas, on the necessity for providing new opportunities for the unemployed, we have taken certain tentative experimental steps.

Most of the activities now under way can be summarized about as follows: (1) We are inducing producers of major crops to keep some of their land out of production temporarily, but we are encouraging them to use this opportunity to build up fertility on these idle acres; (2) we are buying several million acres of submarginal land (submarginal for farming) to be kept out of commercial production permanently; (3) we are offering thousands of distressed families, both rural and urban, an opportunity to relocate in areas where they can at least produce their own food, and eventually obtain their cash income from industry; and (4) we are trying to make secure our vast assets in publicly owned land, not only because of the effect on that public property itself but also because of the effect on private property within the sphere of influence.

Agriculture's stake in these activities is obvious. Our hopes for an agriculture properly balanced in relation to industry and to the world market are in large measure bound up in this land program. Even now many are asking, "When the emergency task of keeping good farm land out of production is finished, will our land policy be such that it can serve as the foundation of our whole agricultural program?" For our new land policy will not be concerned merely with conserving; it will have a great deal to do with wise utilization of our lands; it will affect not only the public domain but the private domain as

well. And agriculture, it goes without saying, has the chief interest in this private land domain.

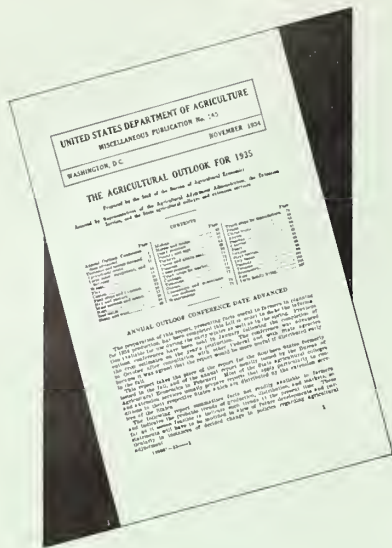
Federal-State Cooperation Helpful

AS TO the means of translating a land policy into action, the emphasis has wisely been on the largest possible measure of local initiative and local autonomy. For that reason, among others, the continuous cooperation of the Department of Agriculture with State colleges, experiment stations, and State agricultural departments has been a significant and hopeful fact. In this cooperation, it seems to me, we have at hand a means of effectuating national land-use policies in a way most likely to prove impartially scientific and in the public interest. But of course the Federal share in that cooperation must be sufficiently unified to be consistent and efficient, something which has not always been true in the past.

America Must Decide

IN ALL of these many activities, whether of local, State, or Federal origin, we are of necessity proceeding under a handicap; we do not yet know the answer to one fundamental question. We do not know whether our agriculture and our industry are to move toward nationalistic self-sufficiency, toward internationalism, or to some planned middle course. America has not yet chosen. The administration is doing everything in its power to induce a choice, but as yet the answer is fragmentary and confused. The efforts of the Agricultural Adjustment Administration are, as you know, an attempt to hold the fort for agriculture until some decision is made by the people themselves.

Until the answer to that question comes clear and loud, agriculture cannot say definitely whether it needs 325 million or 375 million acres in cultivation. No one expects, of course, that submarginal land purchases alone will keep farm production in balance with supply, but these purchases in conjunction with other elements in a national land program can be determining factors over a period of years. Pending this fundamental choice, we can, of course, advance a good distance in a land program, as we are advancing now, but I hope the people realize how tentative all our plans must continue to be until America makes up its mind which way it prefers to go. Painstakingly, but surely, we are finding a way to put our lands in order. I know it is the hope of all that we may soon agree upon a unified, consistent national policy of land use, and stick to it through thick and thin. The alternative is to maim and misuse our basic heritage, and thereby to destroy our civilization.



OUTLOOK IMPORTANT IN BALANCING PRODUCTION

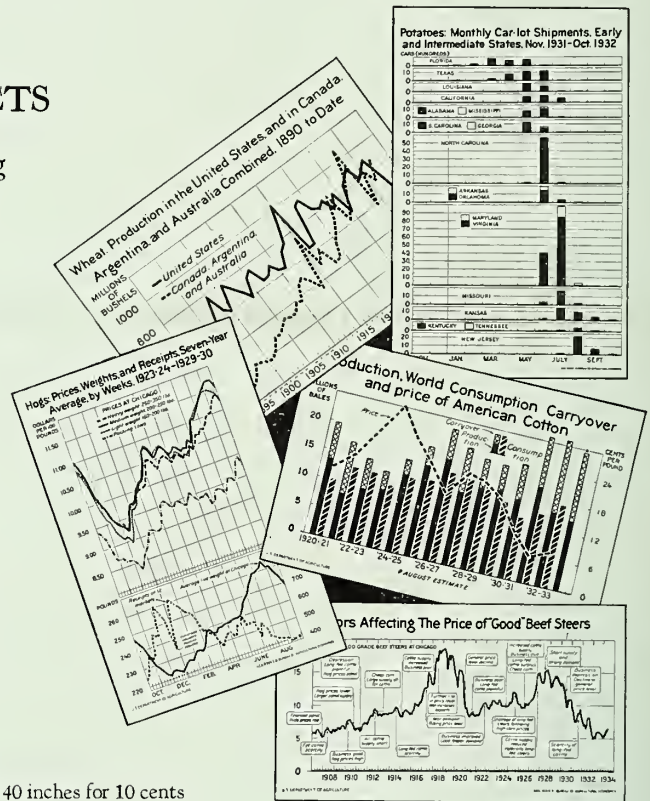
SOUND planning requires careful analysis of probable production next year.

THE Agricultural Outlook Report for 1935, prepared by the Bureau of Agricultural Economics and State extension economists, provides the facts and forecasts for intelligent planning by individual farmers as well as administrators.

OUTLOOK CHARTS PROVIDE A SHORT CUT TO FACTS

Outlook Chart Books for 1934-35, illustrating charts most suitable for extension use, discuss the production, demand, credit, and prices of the following commodities:

- COTTON
- WHEAT
- CORN, OATS, BARLEY, RYE
- TOBACCO
- BEANS, PEANUTS, RICE
- POTATOES AND TRUCK CROPS
- FRUIT AND NUTS
- BEEF CATTLE
- HOGS
- SHEEP, LAMBS, AND WOOL
- DAIRY PRODUCTS
- POULTRY AND EGGS



Outlook charts illustrated in these books will be made to order in size 30 x 40 inches for 10 cents each on blueprint paper, 20 cents each on black-line paper, or for \$1.00 each on cloth.

The outlook report and chart books are distributed to all extension workers when they are issued.

EXTENSION SERVICE

U. S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.