FARM SCIENCE NEWS OF THE WEEK

A radio talk by M. S. Eisenhower, Director of Information, delivered in the Department of Agriculture period, National Farm and Home Hour, Friday, January 6, 1933, broadcast by a network of 48 associated NBC radio stations.

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Hello, everyone.

The scientific news of the week for agriculture will especially interest northern seed potato growers, western alfalfa growers and intermountain irrigation farmers. Then I have two items of scientific news for you that will be of general interest to everybody concerned with farming.

The Northern seed potato growers -- that is, the ones who grow certified seed -- the news of the week is that the plant disease men have developed a formula for a new homemade copper spray that will control late blight of potatoes as well as Bordeaux, and that has the advantage over Bordeaux of not covering the leaves of the plant so heavily as to make it hard for the men roguing the field to pick out the mosaic-infected plants.

I suggest that any of you Northern seed potato growers interested in applying this new spray write to Dr. W. P. Raleigh, Bureau of Plant Industry, U. S. Department of Agriculture, for the formula. I'll repeat that address for you Northern growers of certified seed potatoes -- Dr. W. P. Raleigh, Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.

Now the news for alfalfa growers in the West Central part of the Mississippi Valley and in the Rocky Mountain section. The news is that Turkestan alfalfa seed imported into this country this year will be stained a distinctive color. It will be stained purple-red so that you can identify it. As most of you Westerners know, the Turkestan alfalfa variety resists the serious bacterial wilt disease of alfalfa -- in the West Central part of the Mississippi Valley and in some of the Intermountain States. But you people in the sections where it is useful will find it stained a distinctive purple-red color after March 27th this year, under the terms of an order issued by Secretary Hyde. Let me say it will be a good thing to consult your county agricultural agent before deciding to plant any variety of alfalfa and find out from him the ones best adapted for your section.

Now the news for irrigation farmers of the Rocky Mountain section. This news is that the Department engineers have announced success in the tests of new types of barriers to keep the floods in mountain streams from washing quantities of sand, gravel and heavy debris generally into irrigation canals. They have installed barriers of the new type on 18 streams in Utah, and have found that the supply of irrigation water from these streams has been double and the expense of cleaning the canals and ditches has been cut down very much.

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Now the general news of advance in agricultural science. This first item really encroaches on Dr. Knight's field, but as he is going to talk today about soil microbes I doubt if he will have time to mention a recent development in fertilizer technology made by the chemists of the Department. Briefly, this development is a method for the manufacture of a new sort of fertilizer that bears promise of finding use in farming. The new fertilizer material, they call ammoniated peat. As its name indicates, they make it by combining ammonia with peat. The product combines some of the fertilizer characteristics of the organic nitrogen carriers such as cottonseed oil and animal tankage with some of the characteristics of the quicker acting chemical nitrogen such as sodium nitrate. As the possible use of this new fertilizer material becomes better established, we will report to you.

Finally, we have a report from Dr. F. C. Meier, the Department plant pathologist, who has talked with us a number of times in these programs. Dr. Meier has been going up into the air in airplanes and dirigibles on regularly scheduled flights of the Army and Navy aircraft forces, and trying to see if he could collect the spores of plant diseases. He announces that he has found plant disease spores in heights all the way from a few hundred feet up to 18,000 feet. This research by Dr. Meier once again indicates the possibility that plant diseases may travel over considerable distances through the transportation of the spore forms of the organisms cuasing the diseases by air currents.

FARM SCIENCE NEWS OF THE WEEK

A radio talk by M. S. Eisenhower, Director of Information, delivered in the Department of Agriculture period of the National Farm and Home Hour, Friday, January 13, 1933, broadcast by a network of 48 associate NBC radio stations.

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Hello, everyone.

I am going to tell you today about the results obtained during the past week in one research project, and in three surveys on practical farm problems. The research item will be of especial interest to potato growers. The surveys, to fruit growers of the Eastern States, to farmers in the Northwest, and to farmers in the Rocky Mountain States who may be tuned in through Station KOA at Denver.

The men who carried on the potato research were Peacock, Wright, and Whiteman. You may recall that last fall they and Beattie held a Farm and Home Hour round table discussion of the results up to that time of investigations into the best temperature for storage of potatoes. They explained to you why potatoes stored at temperatures above 40 degrees were better for making potato chips and French fries. Briefly, they found that at temperatures below 40 degrees some of the starch in potatoes changed to sugar, and that when the potatoes were cooked in deep fat this sugar caramelized. The effect was that the French fries or potato chips were off-color and also had a disagreeable, sweetish taste.

Well, these three men have now developed additional facts of value to all of you who have anything to do with storing potatoes. Here are the facts: Storage temperatures of around 60 degrees will cut down the losses from shrinkage of bruised or skinned potatoes. Furthermore, skinned potatoes stored at temperatures above 40 degrees will heal over their skinned places with the natural color of the skin of the potatoes. On the other hand, potatoes kept at temperatures below 40 degrees develop a dark brown or black scab on the skinned place. These scientists discovered, too, that the general cooking quality of potatoes stored at the higher temperatures is superior to the cooking quality of ones stored at lower temperatures.

Now, I know that you practical potato growers and storage operators are wondering how Peacock and Wright and Whiteman avoided the danger of excessive sprouting of the potatoes stored at the higher temperatures. Well, they avoided this danger by keeping the temperature high until about the end of the rest period of the potatoes, and then as the time approached when the potatoes would naturally sprout, the temperature of the storage was gradually reduced.

So there's the report for you potato growers. Now, some news of interest to you Eastern fruit growers. The Biological Survey of the Department asked me to give you this warning. Deep snows and low temperatures this winter threaten damage to fruit trees because field mice and rabbits, unable to burrow through the snow crust or the ground to get their normal food, turn to the roots and bark of fruit trees. No need to tell you fruit growers about the harm that these gnaw-

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ing animals can do, nor to give you directions on the standard methods of protecting the trees. The horticulturists do send along the reminder that this is the time to cut scions to use in spring bridge grafting to save badly damaged or completely girdled trees. Hold the scions in cold storage from now until time for the grafting operation.

For you Northwestern farmers, I have the results of a survey on the prospects for damage from grasshoppers in 1933. In general, the entomologists say that the outlook is much less alarming than a year ago. Only North Dakota shows an increase in the number of eggs now in the ground over the number deposited in the fall of 1931. But if the weather this spring and during the early summer happens to be favorable for grasshopper growth, farmers in eight Western States may have to apply poison bran to more than 5 1/2 million acres in order to save grain and feed crops from ravages of the hoppers.

State and Federal entomologists have made detailed surveys in sections where the 1932 crop of grasshoppers laid eggs heavily. These surveys have revealed possible big hatches of grasshoppers in six counties in Colorado, 10 in Idaho, 55 in Minnesota, 23 in Montana, 42 in Nebraska, 50 in North Dakota, 48 in South Dakota, and 4 in Wyoming. The number of acres that may need poisoning in each State ranges from 35 in Colorado to over 3 million in North Dakota. Let's hope that 1933 repeats the history of 1932 so far as the grasshoppers are concerned. Last spring there was a threat of extensive damage, which subsequently disappeared because the weather early in the season was cold and damp and held the hoppers in check. But where the weather favored grasshopper growth, farmers, with State or county assistance, took advantage of warnings broadcast by entomologists, and spread the poison bait over their fields in time to destroy the young hoppers.

Well, I've now given you the reports on research of potato storage temperatures, and on surveys of possible damage by rodents to Eastern orchards and by grasshoppers to Northwestern grains and forage fields. The final report for today gives the results of a survey of the Intermountain States of the West. It was made to determine the possibilities for increasing the crops of red clover seed. The United States does not produce enough red clover seed to supply its own needs in an average year. In the last ten years, the United States has annually imported an average of more than 7 million pounds of seed. Here is a crop that is small in bulk and high in value. That's the sort of crop that meets some of the needs of some of the Intermountain section, because it is a long way from market, and freight costs are an important item.

Federal and State agronomists have found that the Western two-thirds of Colorado, most of Utah, and the Western third of Wyoming, and some small sections of Northern New Mexico, as well as some of the other Rocky Mountain States, are sections where red clover seed production might profitably be increased.

Of course, your county agent will be able to supply you with the facts about planting, handling, and harvesting methods satisfactory in your section, if any of you listening in out in the Intermountain section of the West want to investigate further the possibilities of red clover seed production.

And that's all for this week. I'll return again on next Friday, January 20, to give you the reports of the scientific findings announced by the Department during this coming week. Until then, goodbye.

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FARM SCIENCE NEWS OF THE WEEK

A Radio Talk by M. S. Eisenhower, Director of Information, Delivered in the Department of Agriculture Period of the National Farm and Home Hour, Friday, January 20, 1933, Broadcast by a Network of 48 Associate NBC Radio Stations.

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Hello, everyone.

In reporting to you this week some of the results of the Department's scientific research, I feel like being a little bit professorish, or academic. I hope you don't mind if I give you a few firstlies and secondlies. Anyway, here they are:

As you no doubt know, the general aim of research work by the Department of Agriculture is to contribute to the sound development of farming in at least five ways:

First, by helping to reduce costs of production;

Second, by widening markets and cutting out wastes in distribution;

Third, by finding new uses for farm products and by-products - (By the way, I understand Doctor Knight is going to talk with you later on about results of that kind of research).

Fourth, by adjusting production to demand; and

Fifth, by improving the quality of farm products.

The underlying purpose of all of these, of course, is to raise family living standards.

From time to time I've been reporting to you results of research which help to accomplish one or more of those five purposes. But now and then some results come along that simply can't be classified under one of those professorish headings. In fact, I have some reports for you today of just that sort. These reports are about the results of research that you might cram into that second class - research that widens markets for farm products. Still being professorish, here's how I would get today's report under that heading:

One of the ways science helps to increase the demand for goods is by preserving human life and making it richer. Science has fostered the growth of our population and has raised our standards of living. In the last 200 years the population of the world has increased nearly three times as much as during many previous centuries. In most civilized countries, the well-being of the average man has also increased at the same time the population was increasing. But in those countries where populations have increased without a rapid development of scientific knowledge, living standards have not improved. So I doubt if anybody will argue with me when I say that if it weren't for science, the well-being of the average man would be likely to decrease as the number of people increased.

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Now, coming down to the report that I want to give you today, let's all agree that science does contribute much to human health and long life. And one way that science does this is by fighting insects that carry from one person to another micro-organisms that cause many diseases. So here is my report. Which is, that entomologists of the Department, investigating the insects that trouble man and animals, have recently made the following three findings:

Finding No. 1. - A mite that attacks the tropical rat, transmits endemic typhus fever to human beings. This is a debilitating disease of man which has been occurring more and more frequently in the Eastern and Southern parts of the United States. Now that entomologists have discovered the insect that carries the disease, the way is open for ultimate control of endemic typhus fever.

This is another discovery to add to the long record that started back in the five years from 1888 to 1893 when Department scientists showed the a micro-organism causes splenetic fever or Texas cattle fever, and that the cattle tick carries this little organism from one animal to another. This finding of Department scientists was the first demonstration that a microbial disease can be transmitted by insects. It led to the knowledge that yellow fever, malaria, African sleeping sickness, Rocky Mountain fever, and other maladies are transmitted by intermediate hosts. That knowledge has saved hundreds of thousands of lives.

But let's get back to current results of research on insect pests:

Discovery No. 2 is that a small gnat causes pink eye or conjunctivitis. This disease has become a serious scourge in many parts of the United States, especially among school children. After entomologists determined that the gnat was responsible for the disease, they went ahead and developed a fly-trap which gives promise of making living conditions much more bearable in sections where those gnats are abundant.

And finding No. 3 is a method of control for the sand fly, a notorious pest of man and livestock, especially along the Atlantic Coast. Anyone who has spent a few days on Atlantic Coast beaches will agree that this is a highly important finding. Sand flies, you see, are so small that they pass through ordinary window screening. The new method of contolling them, developed by Department entomologists, is to spray the marsh lands where the flies breed with a very cheap waste material from creosoting plants.

And so, there are three important results of recent research on insects affecting man and animals - the discovery that a mite attacking the tropical rat is responsible for the spread of endemic typhus fever; that a small gnat causes pink eye; and that the sand fly can be controlled economically by spraying its breeding places in Eastern marsh lands.

Now, next Friday you're to hear from farm management specialists of the Mid-West on the methods farmers are using to cut their production costs this year. I'm cancelling the farm science news for next week so that you may hear these very important reports. So until Friday, February 3, goodbye.

FARM SCIENCE NEWS OF THE WEEK.

A radio talk by Morse Salisbury, Office of Information, to be delivered in the Department of Agriculture period of the National Farm and Home Hour Friday, March 3, 1933, broadcast by a network of 49 associate NBC radio stations.

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Hello, everyone.

The Department of Agriculture scientists and extension workers ask me today to send some facts that are timely and important to farm people in the North, in the Northwest and Middlewest, and in the South. The facts for northern people are about making maple sirup and sugar, one way of cutting down on the family cost of living this year. The facts for the farmers of the Northwest and Middlewest are about cutting down losses of small grain by treating seed oats and wheat to control smut. The facts for southern farmers are about adapted varieties of oats for seeding this spring.

A member of the Farm and Home Hour audience who lives in Auburn, Michigan, made the suggestion that people living in the sections where sugar maple trees grow probably would welcome some information this year about the production at home of maple sirup and sugar. I referred this matter to Mr. S. F. Sherwood, in the sugar plants office of the Bureau of Plant Industry, and now I am going to give you very briefly the facts that he suggested you might find most useful. First, he says that the sugar maple and the black maple are the trees that yield the sap for sirup and sugar making. The sap of the ordinary shade maple isn't suitable. The sugar maple and the black maple grow as far South as Tennessee and as far West as Missouri. A tree of average size will yield about 3 pints of sirup or about 3 pounds of sugar.

Now our correspondent in Michigan pointed out that most of the people who asked him about making maple sugar and sirup were especially anxious for the facts about methods of tapping the tree and evaporating the sap to sirup or sugar. Well, here are Sherwood's remarks on those points:

If you're going to tap only a few trees, you can use the equipment that you have on the place or can make. You start the work in late February or early March by tapping the trees, that is, boring a hole in the trunk 3 or 4 feet from the ground. Make the hole three-eighths of an inch to a half inch in diameter and from 1 1/2 to 2 inches deep. Slant it slightly upward. If the tree is no bigger than 9 or 10 inches in diameter, bore only one hole in it. Big trees can carry 2 or 3 tap holes.

Put a spout in each tap hole. You can make the spout at home by boring a hole in a short wooden cylinder. Insert the spout to a point just above the bark layer. Of course, you hang the bucket in which you are going to collect the sap on the spout. Sherwood said to be sure to caution you to empty the buckets at least twice a day, oftener on warm days, so the sap won't sour.

Now about boiling down the sap. If you're boiling just a small quantity, you can use a shallow pan such as a large dish pan. Keep the sap boiling vigorously. Remove the scum from the surface frequently. Keep up the boiling until the sirup has a density of an ordinary table sirup. Of course, if you

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want to make maple sugar, you have to boil the sap on down until it is dense enough so that it will become a solid mass when it is cold.

Well, there you are, and Sherwood asks that you remember just one more thing -- you can't make good maple sugar or sirup out of maple sap collected late in the season when the buds are ready to open. Then the sap will have the unpleasant so-called "buddy" flavor. Quit collecting it when it gets to that point.

Now, the plant disease fighters have asked me to remind you grain growers on the Northwest and Middle West of the cheap insurance against losses of oats and wheat from smut disease that is given by the formaldehyde or copper carbonate methods of treating the seed. The formaldehyde method costs about half a cent for each bushel treated. The copper carbonate method costs about 4 cents for each bushel treated. If you're planning to grow oats or wheat this year and are not familiar with the details of applying either seed treatment for smut control, your county agricultural agent will be glad to give them to you.

Now the information about seed oats for you farmers of the South. Reports have come to the Department of Agriculture that high quality Northern white oats seed is being shipped into the South. The Department agronomists have asked me to warn you southern farmers that if you sow these northern varieties, even though they are of high quality in the North, you are almost certain to get low oat yields and grain of poor qualities. The agronomists say to grow the red oats, commonly grown in the South, such varieties as Fulghum, Red Rustproof, and Burt. Don't sow seed of northern white oats.

Now there are my 3 reports to you today -- maple sugar making methods for northern people, a reminder of the standard methods of treating seed wheat and oats for Northwestern and Centralwestern small grain growers; a caution to use adapted red oat varieties for southern farmers intending to plant oats this spring.

FARM SCIENCE NEWS OF THE WEEK

A radio talk by M. S. Eisenhower, Director of Information, delivered in the Department of Agriculture period, National Farm and Home Hour, Friday, March 24, 1933, and broadcast by a network of 49 associate NBC radio stations.

Hello, everyone:

The Department of Agriculture is experiencing a great influx of mail - in fact we're receiving thousands of letters every day. Most of these concentrate on three important topics.

The first topic is the new farm bill. The second is the matter of credit for crop production this year. The third is the likely effect of beer legislation on markets for barley.

Now, as Secretary Wallace and Assistant Secretary Tugwell told you in their talks on the Farm and Home Hour earlier this week, we shall be glad to send any of you who wish it, a brief explanation of the provisions of the farm bill as it passed the House of Representatives day before yesterday. So if you write about that, ask for the explanation and summary of the bill, and address your letter to the Office of the Secretary, Department of Agriculture, Washington, D. C. So much for topic No. 1.

As for topic No. 2, credit for crop production this year: Four weeks ago I explained what a farmer must do to obtain a loan for crop production from the 90 million dollar fund made available by Congress through the Reconstruction Finance Corporation. The gist of what I told you then and what I want to repeat now is: Don't write to Washington for information on a crop production loan. Handling all the letters here takes too much time, and only delays your getting the information you want. Your county agricultural agent is the man to see. If there is no agent in your county, then get in touch with a member of your local loan committee. Either one will tell you the procedure to follow in applying for a loan. He also will go over the whole matter with you, tell you whether or not you can obtain a loan, and, if so, how much. And that's that for topic No. 2.

Now, I'm going to devote the rest of my report today to answering questions that have come in to the Department on whether farmers in different sections of the country should plant malting barley this spring.

Dr. H. V. Harlan, barley specialist of the Department, has outlined the situation, pointing out the possibilities and the probabilities. Here are the facts he has provided.

At present we cannot make an estimate of the probable demand for malting barley from the 1933 crop. But, even if the country used for malting as much barley of this year's crop as it did of the 1917 crop, it would use less than a quarter of the average annual barley production.

Let's put that into figures. The 1917 barley crop was 211 million bushels. About 72 million bushels of barley went into the production of malt that year. Now, malting barley usually commands a premium over feed barley. But since only

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about a third of the 1917 crop went into malt, the barley grower's chance of getting a malting premium was only one in three. Barley production has increased since 1917. Last year's crop was more than 300 million bushels. So, if this year's crop is as big as last year's, and if the demand for barley for malting this year is about the same as it was in 1917, the chance for getting a malting premium would be only one in four.

That's about as close as you can come in estimating your mathematical chances of getting a premium on barley this year.

However, other facts affect your chances of getting a premium and if you will study these closely, you may reduce that mathematical hazard of one in four. One fact is whether your land is adapted to producing malting barley. Farmers in certain favored sections can grow barley as a cash crop with good expectation of success. But outside of these favored areas, growing barley in the hope of malting premiums is a highly speculative enterprise.

The reason why our total barley production has jumped in the last 15 years is because of increased use of barley as a feed. Now, where the feed varieties yield more than the malting varieties, it still seems a better risk to grow the feed varieties, if, of course, there is a need for feed. In some sections,- for example, Northwestern Kansas- the varieties of barley grown for feed in a good barley year will also make acceptable brewing barley on some markets.

The general principle to guide your decision if you live in a section where malting barley varieties will produce as much per acre as feed barley varieties, is to grow malting barley. That's not much of a gamble. You may sell the crop either for feed or for malting, whichever is the more profitable.

Doctor Harlan points out that the sections now growing barley are the ones best adapted to the crop. If you plant barley in other sections, you are likely to be handicapped by hazards of disease, low quality grain, and so on. The most favorable barley sections are Western New York, Northern Illinois, and parts of Wisconsin, Minnesota, South Dakota, North Dakota, Iowa, and Kansas. Remember, that in the barley sections of each of these States, the sections best adapted for malting barley production are rather limited. There are some even more limited areas in other States where malting barley can be produced.

Now, I've been talking mostly in generalities. If you want more specific information about the varieties of barley, if any, that are adapted to your section, and about methods of growing that will produce good yields of good quality grain - in fact, if you want specific information that will enable you to figure out your chances for growing malting barley this year, as well as information on how to grow it, let me suggest that you consult your county agricultural agent or an agronomist of your State Agricultural College.

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FARM SCIENCE NEWS OF THE WEEK.

A radio talk by Morse Salisbury, delivered in the Department of Agriculture period, National Farm and Home Hour, Friday, March 31, 1933, and broadcast by a network of 49 associate NBC radio stations.

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Hello, everyone.

The scientists of the Department of Agriculture this week have announced results of 4 experiments that will be of practical interest to some or all of the farm people in this audience. I shall report the results to you briefly.

The first item of farm science news is important to growers of livestock who have been buying mixed livestock feeds containing cod-liver oil. Three chemists of the Department have completed a two-year investigation of the effects of long periods of storage upon the Vitamin D content of such livestock feed mineral mixtures. They found that after the mixtures under test were stored for several months, they lost much of the valuable vitamin D -- the sunshine vitamin so extensively used in modern livestock rations.

These facts are now before the officers of the Food and Drug Administration, and they will use them in drawing up regulations to protect farmers and other buyers of livestock feed from getting mineral feed mixtures which do not contain vitamin D because they have been too long in storage. Once again, let me repeat to you the Food and Drug Administration's slogan for buyers of foods, feeds and drugs -- read the label. The label gives you information on the exact quantity of the product contained in the package you buy, and also on the exact composition of the food, feed, or drugs in the package. By reading the label you apply the results of the scientific work of the chemists and others who gather facts to be used in the enforcement of pure food and drug legislation.

Now the other 3 items of scientific news I have for you today will inform you about progress made in the development of better varieties of farm crops.

First, an important announcement for Louisiana listeners who grow sugar cane. I can now inform you that experiments carried on during the last two seasons by the Department have shown that the sugar cane variety Co. 281 has shown remarkable ability to maintain its purity when windrowed for as long as several weeks. Perhaps you listeners outside Louisiana are curious to know why that is important information for the cane growers of Louisiana. Well, they are the only cane growers in the United States who cut the crop and leave it lying in the fields in windrows if there is danger of freezing. Now the old standard variety of sugar cane, D. 74, widely grown in Louisiana before the mosaic disease threatened to wipe out the industry in that State, stood the windrowing treatment very well. But the mosaic disease invasion made it necessary for the scientists to bring in new varieties that resisted the disease. They did bring in the new varieties and reestablished the sugar cane industry in Louisiana. But, it turned out that some of the newer varieties lose their sugar purity rapidly when left in the windrow. Now we have established the

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fact that the Co. 281 variety keeps very well in the windrowing treatment, as well as resisting the mosaic disease. This is important news to Louisiana sugar cane growers.

Now just a brief report about the results of the past year's tests on different varieties of fruits to show how well they are adapted to preservation by the modern frozen pack process. When the fruit packed last year was examined this month, the scientists found that one of the new seedling varieties of strawberries, a variety not yet given a name, ranked among the best strawberries for frozen pack processing. So once again the promise of specialized new varieties of strawberries coming from the extensive plant breeding operations described to you last winter by George M. Darrow finds fulfillment. But I do ask you to remember that the Department does not have this seedling variety ready for distribution yet. I am just reporting to you the recent progress made in this strawberry breeding work.

I also want to report to you progress in the potato breeding work. The men carrying on this project just announced this week that they are going to make the final field trials this year on the Chippewa, a new potato developed by the Department for the region from Michigan to North Dakota. They also are going to try out in 10 States -- Florida, Iowa, Kansas, Louisiana, Maryland, Michigan, North Carolina, North Dakota, Rhode Island, and South Dakota, -- they're going to try out in these States a new yellow fleshed potato variety which doesn't have a name yet. This new variety is a hybrid of our own potato varieties and the native South American potatoes. It has given phenomenal yields -- up to 500 bushels to the acre -- in preliminary trials in Maine and it contains larger quantities than other potato varieties of vitamin A -- the vitamin which promotes growth. The scientists aren't yet ready to put out either of these varieties for general planting because they want to give them further tests, but the results so far do indicate that each of them has great promise.

And there you have the farm science news this week from the Department: Results of experiments on how long storage affects the vitamin D content of livestock feed mineral mixtures containing cod-liver oil; experiments which have found that the new sugar cane variety, Co. 281, will stand the windrowing method of harvesting sugar cane in Louisiana; experiments which have established the promise of a new strawberry variety as yet unnamed; and experiments which will give the final tests to the Chippewa potato developed for the region from Michigan to North Dakota; and a new high yielding potato containing vitamin A.

FARM SCIENCE NEWS OF THE WEEK

A Radio Talk by M. S. Eisenhower, Director of Information, delivered in the Department of Agriculture Period, National Farm and Home Hour, Friday, April 7, 1933, and broadcast by a Network of 49 associate NBC radio stations.

Hello, everyone:

This week's output of farm science and business news from the Department of Agriculture is headed by especially good news for Southern farmers. And here it is:

Department chemists have found a way to prevent the development of soil acidity caused by the use of complete fertilizers containing the new and cheap synthetic nitrogen compounds. These synthetic nitrogen compounds are the ones made by the new process from the nitrogen in the air. The fact that such compounds - which are desirable because they are cheap - do cause soil acidity, has presented a perplexing problem to farmers, manufacturers, and scientists, and makes the Department's present discovery of real importance.

Now, it was some years ago when German scientists discovered that fertilizers including synthetic nitrogen were increasing the acidity of the soil. It was readily understood that this was very serious, because acidity cuts down crop yields.

But the discovery of the German soils men didn't concern us much because most of the nitrogen fertilizers we were using were from natural sources. Then men learned more about taking nitrogen from the air and making it available in such forms as ammonium sulphate for use in fertilizers. That nitrogen is cheap. Hence we are using it. But we would pay a heavy price for it eventually if it made our soils acid.

So the current discovery of K. C. Beeson and Dr. W. H. Ross - fertilizer chemists whom you have heard in Farm and Home programs - is highly important. And now I suppose you are a bit impatient to know what their discovery is.

Well, it's very simple. They have found that by adding dolomite or dolomitic limestone to complete fertilizers containing ammonium sulphate they can prevent the fertilizer from making the soil more acid.

Beeson and Ross first tried another method - treating the soil separately with suitable applications of limestone to correct the acidity caused by the ammonium salts. That worked for some crops, but it didn't do so well for cotton, which is sensitive to excessive applications of lime. So Beeson and Ross turned to treating the fertilizer itself. And there is where they found that they had to use dolomitic limestone. Ordinary limestone added to some mixtures caused a serious loss of the ammonia - the nitrogen-carrying chemical in the fertilizer. But the dolomitic limestone didn't cause such a loss, and it also prevented the mixture from making the soil acid.

Well, there is your item of good news for the South. Our scientists have found that by adding dolomitic limestone to the mix, they can counteract

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the acid tendencies of fertilizers containing synthetic nitrogen salts.

Now, in recent weeks we have been receiving so many letters raising pertinent, seasonal questions, that I'm going to answer three or four of them in bulk right now. I've secured the answers to these questions from different members of the Department staff.

The first one usually reads something like this: Give us a recipe for preserving eggs in water glass or lime water. This question seems to be coming from all sections this spring. We answer it simply by mailing the formula. I can't take the time to repeat that formula for you now, but it is being mailed to those of you who have already written. If others of you want it, send to the Department, or ask your county agricultural agent. He will have the standard formula suggested by your State extension service.

Another question that crops up frequently these days, in the mail from the Southwest, is how to prevent failure in seeding this year's crop of grain sorghum. Our men at the branch experiment stations in the Great Plains agree that the three main requirements for success are good seed, well-worked mellow seed bed, and planting in shallow but wide furrows.

Finally, the question of how to cut down expense of cultivating corn this year. Our agronomists say that you should cultivate lightly with a wide tool such as a harrow, or weeder, or rotary hoe just before the corn comes through the ground, or after the plants are three or four inches high, or both times. This will save later cultivations and will get the corn off to a good start.

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FARM BUSINESS NEWS OF THE WEEK

A radio talk by M. S. Eisenhower, Director of Information, Broadcast Friday, September 22, in the Department of Agriculture Period, National Farm and Home Hour, by a Network of 48 Associate NBC Radio Stations.

Hello, everyone.

In this week's report on agricultural adjustment activities I have news mainly for dairymen, hog raisers, and tobacco farmers. You wheat growers have had daily reports on the progress of the sign-up campaign, and are to have another one from George Farrell later on today. To you cotton farmers, I can report only that the cotton adjustment plan for 1934 and 1935 still is being worked out in detail.

Before making the reports to dairymen, hog raisers, and tobacco farmers, I want to say that the Adjustment Administration has suffered a considerable loss in the decision of Coadministrator Charles J. Brand that he must return to his work with the National Fertilizer Association. Secretary Wallace and Mr. Peek both expressed great regret at Mr. Brand's inability to continue longer his work with the Adjustment Administration, to which he had been loaned by the National Fertilizer Association.

Now the report to dairymen. Last week, Morse Salisbury told you briefly of the new plan for handling marketing agreements on each milk shed -- the plan which has been developed to protect producers and consumers within a trial period, while audits are being carried on to find out how much of a spread between the price paid the producer and the price charged the consumer is justifiable.

This plan is intended to accomplish two purposes: First, to assure producers prices approaching parity as soon as possible; and second, to provide the proper information as to what should be a fair spread between producer and consumer prices in each milk shed where agreements are asked. In other words, conflicting opinions on the distributing side of the market are not to interfere with the advancement of prices to producers, or delay the establishment of consumer prices which are just and reasonable.

To accomplish these purposes, the provisions in each marketing agreement will be on trial for 30 days. In that period, the license of distributors will not specify a full schedule of prices, but only maximum prices to consumers and minimum prices to producers. The full license, including complete schedule of retail prices, does not go into effect until the end of the 30-day trial period. In the 30 days, Government auditors will go into distributors' books and other records to determine how fair the agreement prices are. It's been found necessary to have such an audit in the Chicago and Philadelphia milk sheds for which agreements already have been approved.

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Dr. King mentioned some of these facts to you Tuesday, but I give them here at a little greater length so that you may understand more fully the new policy on milk marketing agreements. This new policy has intensified the work of the dairy section. They have increased their staff, by borrowing dairy specialists from the Bureau of Dairy Industry, and from 13 State Colleges of Agriculture. These men are reviewing proposed milk marketing agreements and are helping delegations from various milk sheds prepare agreements in proper form for hearing.

So far, the record on milk shed marketing agreements show: Four ratified and in effect, hearings concluded on 20, and 70 agreements or requests for agreements on hand. Seven cities now have agreements ready for hearing, the preliminary conferences having been concluded. These are Indianapolis, Columbus, S.C.; Oklahoma City; High Point, N.C.; Kalamazoo, Mich.; Shreveport, La.; and Birmingham, Ala.

Well, now we'll have to move along to the news for hog raisers. You know that the quota for pig purchases has been raised to nearly 6 million head. Permits to ship the extra pigs are to go primarily to farmers in the drought areas, or to farmers elsewhere who were not able to secure permits to sell under the original quotas.

The agricultural economists have been surveying the statistics on hog numbers, and looking at reports on probable consumer demand for pork and lard, and have just issued a statement on prospects for the next few months. They know, of course, that the emergency purchase plan will cut down the number of hogs marketed in the coming year; and they know that most of the decrease will come in the numbers of hogs sent to market after January 1, 1934. They don't look for much if any reduction in slaughter supplies of hogs during the months from October on to January. They believe the fall pig crop this year will be smaller than intended when farmers made their reports in June, because since then the corn-hog ratio has swung around until it is unfavorable for hog production.

Now the news for you tobacco growers. This morning, representatives of the flue-cured tobacco industry are meeting with Adjustment Administration officers here in Washington. They are conferring on the proposed marketing agreement for flue-cured tobacco that we told you about last week. If and when the proposed agreement is adopted, it will supplement the farmers' program for reduction of flue-cured tobacco production. That campaign wound up Wednesday with a high percentage of growers signed for reduction.

Under the terms of the proposed marketing agreement, buyers would agree to pay growers a minimum average price for tobacco bought during the remainder of this season. This average price would be established with the approval of the Secretary of Agriculture and would be subject to change only with his approval.

The conferences are still going on. I'm told the prospect is hopeful for an accord on an agreement.

It's time for your station announcements, and I've covered the main news of the week in the adjustment effort of farmers and the Government. Until next Friday, goodbye.

FARM SCIENCE NEWS.

A radio talk by Morse Salisbury, chief of radio service, broadcast Monday, August 27, 1934, in the Department of Agriculture period, National Farm and Home Hour, by NBC and a network of 50 associated radio stations.

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I was going to talk with you today about some of the recent announcements of results of research work carried on by Department scientists, but when I sat down to go over the facts and pick a few that I thought would be of interest to you, the first thing I ran onto was not a research report at all. It was a report of what farmers are planning to do, or ought to be planning to do in order to meet the crucial problem of the drought. That is the problem of providing enough hay and forage to go around and getting it into the hands of the men who must have it.

I have decided that this report would be of more interest and value to you than anything else that I could give you, so I'm summarizing it now.

The report is from the Extension Service in the Department. Director C. W. Warburton of that Service has been in touch with farm leaders and State extension workers. They have told him what the farmers in their sections are thinking about hay and forage supplies and what they are planning to do about the situation.

From some sections come reports that farmers may go into a buying panic, scrambling after limited supplies and paying very high prices. In other sections leaders fear that hoarding may take place. The first thing that farm leaders want brought home to farmers in all parts of the country, therefore, is that THIS NATION HAS ENOUGH HAY AND FORAGE TO CARRY ITS LIVESTOCK THROUGH THE WINTER IF THE SUPPLIES ARE WISELY PRESERVED AND RIGHTLY DISTRIBUTED AND FED.

So then, the second thing to bring home to farm people everywhere is how the enterprising farmers are planning to preserve and feed hay and forage, so that everyone may follow these methods. Dr. Warburton has gathered from the reports from all sections of the country a list of methods that leading farmers are following, in and outside the drought areas. We are going to give you that list. Perhaps it will help you. Perhaps you think of some other things to do not mentioned here. If so, send them in to Dr. Warburton through your county agent. Now for these things to do to meet the hay and forage shortage.

First, farmers everywhere are gathering and saving all hay and forage, including straw, wild hay, corn fodder, or stover, and other material that often goes to waste. They are going to save oats hay for feed, and not use it for bedding. Wherever possible, they are putting up temporary silos to preserve roughage, and are filling existing silos to capacity. For farmers in the drought areas such measures are necessary in order to carry livestock through the winter. For men outside the drought area, these measures lower feeding costs, and allow the release of supplies of good quality hay for shipment into the drought areas. That's the only kind that should be shipped in. But more of that later.

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The second thing farmers are doing is to obtain information on using roughage to the best advantage. Some State extension services are getting out sheets showing how to make up emergency rations using the feeds on hand. The Department beef cattle research men have been urging the use of stock molasses to make low-grade feeds more palatable.

The third method that farmers were using to solve the problem of short hay and forage stocks is to sow pastures for fall and spring use. They are getting information on preparation of the ground for sowing pastures, varieties of grasses to use, seeding rates, and so on.

A fourth thing, which some farmers already are planning to do, and which farm leaders believe everyone should plan to do is this; If you have supplies of good quality hay and forage, reserve at least part of them, by feeding more home-grown substitutes. In this way, you will save the better quality forage, which is much needed in the parts of the country where the drought has depleted the supply of feed. The farmers in those parts of the country can't afford to pay transportation charges on poor hay or forage of low feeding value. In the drought of 1930 there was a good deal of money wasted in paying freight charges on low quality roughage.

And that leads to a fifth point that farmers in the drought area are observing. That is to study closely the kinds, grades, values, and prices of forage offered for sale.

The Federal Extension Service is suggesting that agricultural agents in the counties where farmers are going to have to buy hay and forage help in making surveys that will reveal how much hay, forage or feed each farmer will need. This will help in working out a more orderly system of buying and distributing supplies.

There is another type of county-wide survey that's being found of value in some places. This is a survey of the existing supplies of such things as cannery wastes, by-products, and other sources of feed that farmers' don't ordinarily draw upon. This year farmers could draw upon these things and save other feeds for later use. It's important that they do so right away, because available feed of such sorts as cannery wastes won't be usable unless it's fed at once.

Finally, the men who have supplies of hay of good quality are getting information on how to prepare and sell it, and the dealers in each part of the country are being asked to give the kinds and quantity of hay and forage which they can sell for shipment.

Quoting Dr. Warburton:

"The people in the States not affected by the drought should realize that they are not free from its effects and that it presents a national problem the solution of which calls for their cooperation. Feed can be made available for the feeding of livestock on the farms in drought affected regions, if farmers elsewhere will join in meeting the problem. Otherwise, men in the

drought affected areas will lose much good foundation stock or even be completely deprived of livestock. Then it would take several years to re-establish normal conditions of farm operation. Everything should be done locally to take stock of the real situation and needs, and to convince producers and dealers that the problem should be met calmly and intelligently in an organized manner. The Government will cooperate to the fullest in bringing about this much desired result." (end of quotation)

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FARM SCIENCE NEWS

Broadcast by Wallace L. Kadderly, Chief, Radio Service, in the U. S. Department of Agriculture portion of the National Farm and Home Program Tuesday, September 27, 1938, by the National Broadcasting Company and a network of associated radio stations.

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Here's some of the important farm news issued within the past 24 hours by the United States Department of Agriculture.

First, news from the storm area. Long Island, hard hit by the hurricane a week ago, is a great truck farming center. Its crops were just about at their peak when the blast of wind and water -- worst in a century -- hit the island countryside. Today comes an estimate of the damage done to the crops------ Cauliflower, not severely hurt, but harvest will be delayed about two weeks.... Potatoes, about one acre in 30 ruined; Sweet corn, nearly a total loss; Tomatoes, severe damage, little fruit left.

Now, after expressing sympathy for the people in the storm area, let's take out for the woods. The farm woods first. In North and South many farmers are growing acreages of young pine for a long-time crop. Here are scientific findings about how to make the crop pay better. The scientists say ----Prune off the lower limbs. Limbs not pruned off may cause knots in the mature timber and reduce its value. So prune, brothers, but prune with care. Consult your State forestry authorities for directions. The method is given in a new publication just issued by the Forest Service and sent to State Foresters and Extension Foresters.

Now we're coming out of the woods, but the U.S.D.A. news keeps us in the Gulf Coast and South Atlantic States. Here's news for the growers of sugarcane for use in making sirup. Good news. News of new varieties ready for distribution next season. They bear no names ---- just numbers ---- C.P. 29/116 and Co. 290. But in the field they will bear more heavily per acre and be easier to handle for sirup making, say the Federal scientists who developed them.

For northern growers of potatoes -- here's a report on results of an experiment conducted in Maine last year. There's generally a heavy loss, as late potato growers know, from freezing of the spuds in shipment. The scientists found that you can cut down that loss materially by a simple method of packing the sacked potatoes in the freight car. Arrange them so that warm air from the heaters in the car bunkers may circulate between the sides of the car and the load. That's all. County agents in heavy shipping areas have had the report of the results along with specifications as to how to load cars for protection against freezing.

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