UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

U. S. RADIO FARM FORUM Monday, Oct. 1,1928

Livestock Meeting No. 1

Subject: Trends of Livestock Production in the United States

Reading Time: 9 minutes

ANNOUNCEMENT: Today marks the opening of the United States Radio Farm Forum, conducted by the United States Department of Agriculture. This is a radio club for the discussion of farming problems. Today and each Monday hereafter will be devoted to topics of interest to stockmen. The Tuesday programs take up poultry problems; on Wednesday each week we talk over crops and soils matters; on Thursday, dairying; and on Friday we discuss farm economics, farm engineering, or farm forestry. At each meeting of the Farm Forum one member of the radio club will give us news and views of agriculture. There'll be information you'll want to keep on file. To help listeners in this respect, the Department of Agriculture has prepared a U. S. Farm Radio Record. A letter or postcard to this station will bring it to you. And now Tom Terrell today inaugurates the weekly livestock meetings with some facts on "Trends of Livestock Production in the United States."

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Speaking of livestock, Jed Hawkins passed my place last week with a new tractor. I was out near the road painting a sign; just to let passers-by know where they can get livestock, such as they see in my front pasture.

Well, Jed saw me -- and stopped that tractor. "Why don't you catch up with the procession," he called to me, "Don't you know that machines like this'll soon drive horses clear off the farm?"

"Never in this world," I said; but pretty soon he had me admitting that there are not so many horses around here as there were twenty years ago. I also had to admit that we don't get so much for them, everything considered. However, I wasn't convinced that horses and mules don't make a good investment, so after he had gone, I looked up the figures.

I found that there are still fifteen million horses on farms in the United States. That's without counting those in the cities and villages. Better still, I found that the country is beginning to realize we need horses. Comparing values of farm horses the first of this year with the first of last year, I found that horses were worth an average of five per cent more this year. Prices for horses have begun to go up. As for mules, there are more mules used today than before the World War. On the first of January this year, there were five and a half million mules on farms in this country. That's over a million more than we had before the War. However, it is true prices are not now so good as they were before the War------

But just look at beef cattle. The Department of Agriculture's Circular 241, shows that on January 1, 1919 we had about thirty-six million head of beef cattle, while on January 1, this year, we had only about twenty-three million. That's more than a third fewer beef cattle. We hit the bottom--but notice the way prices have been going recently. In the last two years values have gone up 40 per cent. Cattle and calves had an average farm value on January 1, 1928, of $54.12 per head as against $38.70 per head in 1926.

Dairy cattle have been on a sound basis for some time, and dairy-cow values are now at a higher point than any time since 1920. Folks are using more dairy products. Prices have been generally satisfactory, although we now have about one million more dairy cows than we had ten years ago. The total on January 1 this year was 33,604,000.

The number of sheep also has been increasing steadily in recent years. We now have more sheep than we have had since 1911, and the average farm value on January 1, 1928, was $10.22 which was 51 cents a head more than the year before. Prospects look good. Our people eat much less lamb and mutton than people in other English-speaking nations. There may be room for an increase there. We also import about a hundred million dollars worth of wool every year from other countries.

Taken all in all, as I told Jed Hawkins, the livestock business is moving right ahead.

Of course, we all have our ups and downs. Take hogs, for instance. After an unusually big corn crop, hog raisers grow more hogs; fact is, they usually raise too many. Of course, that results in unsatisfactory prices. Poor prices start a swing in the opposite direction. Then for a year or two, at least, hogs are scarcer until prices reach a paying basis again. That's what the experts call the corn-and-hog cycle.

When you consider that there are about six and a half million farms in the United States, and that most of them raise hogs, you can readily see how unwieldy the hog business is. Hog raising on several million unorganized units seems almost bound at times to overstep profitable production. Such periods of overproduction may come at irregular intervals a few years apart. Since 1900, however, the big peaks in production have actually happened at regular intervals of about 8 years apart; that is, in 1908, 1916, and 1923-24.

Following the usual course, hog prices were down in 1924 and 1925. Then prices went up again for a year or more. Those higher prices again led farmers to raise too many hogs. On January 1, this year, there were 61 1/2 million hogs in the United States. That is 5 million more than the year before, and 7 million more than two years ago. The big supply, together with a falling off in export demand for hog products, caused a 25 per cent decrease in hog prices compared with the year before. The slaughter during February and March this year was the biggest on record. But prices started up in April and now they're apparently on the upswing of a price cycle. Hog raisers are sitting better right now -- but they haven't forgotten the lean years.

All of us know that unfavorable conditions in livestock raising are not easy to overcome. There are some things we can do, however. Those of us who raise hogs, especially big hog raisers like the Squire there, should not forget to keep a sharp eye on the hog-corn cycle, and be careful not to help swell the hog supply too much. There are a number of recommendations on the management of livestock in a pamphlet which you can get for the asking. It is called "Recommendations of the Bureau of Animal Industry on Problems of Livestock Production." Among other things, the Bureau's reports show that wellbred stock pay better; financially and in every other way. It is not enough to be an expert feeder and manager. You can't top the market with poorly bred stock, no matter how skillfully you feed and manage it. You should have good stock, you should feed and handle it economically, and then you should study the trends of the markets.

In doing that, it is a good idea to work with the experts.. We need to get all the information we can from the authorities in our locality, and in the State, and from the Federal Government. We should cooperate, whenever we can; and whenever it is practical and safe to do it. Remember the old saying "In union there is strength." And what old King Solomon said: "In a multitude of counselors there is safety." By following market trends, and planning together to avoid under and over production, we can make livestock raising a much safer business.

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ANNOUNCEMENT: So closes the first meeting of the U. S. Radio Farm Forum. Tomorrow's session will deal with poultry problems. The Forum meets each day at this period, with the exception of Saturday and Sunday.. Any listeners who wish to read further on livestock production may send to Station ______ or direct to the Radio Service, United States Department of Agriculture, Washington, D. C. for the pamphlet, "Recommendations of the Bureau of Animal Industry on Problems of Livestock Production."

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UNITED STATES DEPARTMENT OF AGRICULTURE
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THE FARM FORUM

Tuesday, October 2, 1928

NOT FOR PUBLICATION

Poultry Discussion No. 1: Profits in Egg Production

ANNOUNCEMENT: At the second meeting of the U. S. Radio Farm Forum, we're to talk over poultry topics. Each Tuesday at this time keepers of flocks large and small will have their innings of information from the United States Department of Agriculture through this radio club. We start off the poultry Forum meetings with a talk by a member of the club, Walter Whittemore, who keeps a big farm flock. But before he gets the floor we want to remind you that the U. S. Farm Radio Record will help you make the most of the broadcasts. Your name and address sent to this station, or direct to the Radio Service, United States Department of Agriculture, Washington, D. C., will bring the Record. Now for Mr. Whittemore's discussion of "Profits in Egg Production."

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I was telling Bud Long the other day that chickens are one of the best paying crops on my farm. He seemed surprised at the money I've been making from eggs, and he asked me if I would mind coming up here and telling you all about it.

Since there's no secret about it, I told him I didn't mind passing on a good word. I got my plan from the Department of Agriculture. I guess most of you are doing some of the same things I am.

Anyway, all of you know that there are a lot of things to consider in producing eggs for market. I figure the chief things are: To keep down the death rate in the laying flock; to keep down the labor costs; to keep down the feed costs; to get the high prices for eggs; and last but not least, to get a good number of eggs per hen.

Of course, with a small flock such as I used to have you sometimes can get through the entire year without any losses in the laying flock. But they tell me that a death-rate of from 10 to 20 per cent of the layers in large flocks is not uncommon even on good poultry farms. With good management, however, you should keep it down to ten per cent, anyway. Losses among layers cut profits fast.

As for cost of labor, that's an important item on commercial poultry farms. The kind of houses and the arrangement of the houses have an important bearing on labor costs. Big houses for laying hens arranged to save

walking help keep down labor costs. Of course, such housing has to be planned so that the land doesn't become insanitary and infected with disease germs and worms.

With small flocks of chickens on general farms, such as most of us have, the labor isn't such an important item. Most of it is just incidantal to other work, and all in the family help.

Then, too, when you just have a few chickens, you can cut costs greatly by using scraps from the kitchen and waste products from the garden. But even with a flock of 50 to 400 hens, such as most of us general farmers have, we have to pay attention to feed costs. From one-half to two-thirds of the entire cost of producing eggs goes for feed. It takes about five and a half pounds of feed to produce a dozen eggs with Leghorn hens. With the general-purpose breeds, it takes about seven and a half pounds of feed to produce a dozen eggs. In feeding my chickens, however, I've found it pays to add milk to the ration. The extra cost with milk in the ration is much more than made up by the extra returns.

Milk in the ration at this time of the year is especially important. You know most commercial farms now use artificial lights to increase egg production from pullets in the fall and winter. In my case that's not convenient. But I do add milk to the ration to help stimulate fall egg production. As you all know from experience, we get the lowest prices for eggs in April or May and the highest prices in November. In fact, the highest price is usually more than double the lowest price. So you can readily see how important it is to get good egg production in the early fall.

Egg prices and feed prices, are, however, not so directly under your control as the number of eggs you get per hen. The number of eggs you get per hen is the big thing. When I was talking to Bud the other day, I told him that. And I also told the number of eggs I've been getting. I explained that a big part of the feed a hen eats goes for upkeep of the hen herself,as it were. The per cent of feed a hen eats above what she needs for her maintenance varies directly with the number of eggs you get. Flocks which give high average egg production eat more feed than lower producing flocks, it is true. But the difference in the amount of feed is not nearly so great as the difference in the number of eggs.

"Then it is all in the feed?" Bud said. "What do you feed them to get such good money out of them."

"No," I told him, "feed is important, but it is not all feed."

"Well, what is it?" he insisted.

"Get this in your head," I answered him, "Here are the three best ways I know to get high egg production."

First, I told him, you should keep bred-to-lay hens. You should hatch your chicks early, so the pullets will mature early in the fall, and you should use mostly pullets in the laying flock.

Hens laying over 300 eggs in their pullet year are no longer a curiosity. Of course, you can't expect to have your flock average anywhere near that number, but an average flock production of from 140 to 175 eggs a year per hen should give you a good profit.

It takes well-bred pullets to do that. High egg production is inherited, it runs in a chicken's family, as it were. The way to get it, is to buy stock from breeders who have made a success in building up high egg-producing flocks. I don't mean by that that you need to go home and wring the necks of all the hens which are not champion egg layers and then start all over again. But you can get egg production in your flock, by using roosters from high-producing flocks on your hens of average production. In that way, you can build up production at little expense.

Pullets should be well grown and hatched early to make good fall and winter layers as well as good producers for the entire year. The trouble with most general farmers is that they hatch their chickens too late in the spring to make good fall layers. Early hatched chickens will grow fast and mature in September or October when the hens are molting and not laying. The pullets which mature early in the fall are usually the best producers. And the early hatched pullets produce eggs in the fall when eggs are at their highest prices. High winter egg production is as important as high yearly production. The only way to get it is from well-bred stock properly managed.

Then, too, the keeping of old hens in farm flocks is where many farmers lose. Keeping old hens cuts down the average production for your flock and adds to the cost. Hens kept only for market egg production should not be kept more than two years, except in rare cases. How many farmers can tell whether their hens are 1 or 2 or 3 years old at the end of the laying year? All pullets should be toe-punched or branded before they are added to the laying flock. All flocks should be culled carefully at the end of their pullet year.

Pullet production is much higher than production of yearling or older hens. The breed and the breeding of the pullets and their management have a lot to do with how much egg production falls off after the pullet year. General-purpose breeds usually fall off more than do Leghorns. And pullets of all breeds which have been forced for egg production their first year usually fall off in egg laying their second year.

Saying it in a few words, the best way to increase the number of eggs per hen, and so boost profits, is to use early hatched pullets from bred-to-lay stock and manage them well.

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<u>ANNOUNCEMENT</u>: We have just closed the second meeting of the U. S. Radio Farm Forum which was a session for poultry keepers. Tomorrow at the Forum meeting we will turn to discussion of Crops and Soils problems. Tune in at this time for the third Forum meeting.

UNITED STATES
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THE FARM FORUM Wed. Oct. 3, 1928.

Crops and Soils Discussion No. 1: Stinking Smut in Wheat.

Reading Time: 10 minutes

ANNOUNCEMENT: Now for the regular session of the U. S. Radio Farm Forum of the United States Department of Agriculture. Today and each succeeding Wednesday this radio club will meet to mull over matters connected with the growing of field crops and the management of soils. Listener members are invited to send in their requests immediately for the U. S. Farm Radio Record, a convenient booklet for recording the points brought out in the discussions so that they may be had for future reference. Today's Farm Forum talk presents the viewpoint of a very moral wheat grower who thoroughly believes in anti-smut campaigns; Mr. Ned Wharton.

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I've found out one way to increase my net profits on wheat. When I tell you how I did it, I expect some of you will be able to make money the same way. Fact is, I found out how to do it from the Department of Agriculture's Miscellaneous Circular No. 108-M and Farmers' Bulletin No. 1540-F. To get to the point, I increased my net profit by preventing much of the loss from stinking smut ----------

And when I say "stinking smut", I mean "stinking smut; as many of you men, who have had experience with it, know. It not only deserves that name on account of the odor. It deserves a hard name for the way it robs us. Smut dockage cuts down the selling price of wheat from 2 to 30 cents or more a bushel.

Smut dockage, as you know, is the charge to pay the cost of washing or scouring the grain to get rid of the smut. That has to be done before the smutty wheat can be used to make flour. At terminal markets the wheat is inspected for smut, and the figures are recorded. Here are the figures from terminals in different parts of the country for the 11 months ending with May of this year. They will give you some idea of the seriousness of smut. Thirty-five per cent of the carload shipments of wheat received at Spokane, Seattle, and Tacoma, Washington, and Portland and Astoria, Oregon, were found to be smutty. At two inspection points in Montana over 20 per cent of the cars were smutted. Thirteen per cent of the carload lots of wheat inspected at terminals in Missouri, Oklahoma, Kansas, Nebraska, and Colorado were smutty. Over 7 per cent of the carload shipments in Ohio, Illinois, Kentucky, Indiana, and Michigan were graded smutty. At Baltimore, Maryland, 8 per cent of carload receipts were smutted. Durum wheat, you know, is considered very resistant to disease, but 19 per cent of the durum wheat received at Duluth, Minnesota, was graded smutty.

But that's not the whole of the sad and smutty story. Besides the definite loss from smut dockage, we also lose in the reduced yield of wheat due to smut. For every smutted head of wheat grown, the weight of one sound head is lost. If there are five smutted heads in every hundred heads grown, there is a five per cent loss in yield. On land which produces 20 bushels, that is a loss of one bushel to the acre. Bigger percentages of smut mean greater losses in yield.-------------- (As if interrupted by questioner) -- How's that? I didn't quite catch what you said? ---- Oh, yes ---- "How does the stinking smut get in wheat?"-----------Well -

As you probably know, stinking smut of wheat is caused by a little plant parasite which grows inside the wheat plant. You are likely to notice it first, after the wheat has headed and before it ripens. Smutted heads look bluish green instead of the yellowish green of the sound heads. Often the smutted heads look to be better filled than the others. In a short time, however the chaff is pushed back, and you see the smut balls or false kernels. As the crop ripens, those false kernels become black smut balls. If you crush those black smut balls, you find they are filled with a very fine black powder which looks like soot. During threshing, a lot of those smut balls are crushed and the smut powder is mixed with the wheat. Often you can see the powder on the seed.

Now, the point is, that each speck of that powder is a spore or smut seed. A smut spore produces a smut plant just as a wheat seed can produce a wheat plant. When you sow wheat with smut spores on the outside of the wheat seed, you can expect to harvest smut. Conditions which make wheat seed sprout also make smut spores grow.

The smut spore takes up moisture from the soil and sends out a germ tube, just as the wheat seed sends out its sprout. But the smut can't grow outside the wheat plant, so it grows into the wheat sprout. Then it keeps on growing inside the wheat seedling. You can't see it, so you don't know it is there.

But too often, you find it out when it is too late. About the time the kernels of wheat start to form, the smut also begins to form its spores. The smut balls grow and the wheat heads take on that bluish green color. Then you thresh the grain and so dust a new crop of smut spores on a new crop of wheat seed.

However, you don't have to do that. You can save yourself much of that loss from smut, because smut can be controlled by killing the spores on the outside of the wheat seed without hurting the seed itself. Copper carbonate dust will do the work. I treat my wheat seed by mixing two or three ounces of copper carbonate dust with each bushel of wheat seed in a tight container until each kernel is thoroughly coated with dust. When the treated seed is planted, the copper carbonate dissolves in the moisture around the seed and keeps the smut spores from growing. The treatment doesn't hurt the seed in any way.

I made my own mixer from an oil drum. It cost me less than ten dollars altogether, and I can treat twenty to thirty bushels an hour. I got the

plans for making it from the Department of Agriculture's Miscellaneous Circular No. 108. Of course, there are also a number of commercial treating machines for treating seed wheat with copper carbonate dust. Some of them are combined with a cleaning machine and the grain is cleaned and treated in one operation. They cost more and have a bigger capacity. They are suitable for farmers with big wheat acreages and for dealers.

The first time I treated seed wheat with copper carbonate dust, I got pretty sick. But that was due to my own carelessness. That won't happen, if you mix in the open air or where the draft will carry the dust away from you. You should wear a wet handkerchief or a protector over your nose, so you won't breathe in the dust. If you do that, you won't have any trouble. And by treating your wheat seed, you will get better yields of wheat and save yourself heavy losses from smut dockage. There may have been some long laughs in the smoking-car smut retailed by the old time drummers; but wheat smut is a serious proposition.

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ANNOUNCEMENT: Tomorrow is Dairy Day in the U. S. Radio Farm Forum schedule, and we're to have a talk on dairy herd improvement. The Friday meeting will center around a discussion of farm insurance. Again we invite listeners to send their requests for the U. S. Farm Radio Record, and, if they wish to study further the problem of preventing stinking smut of wheat, for Farmers' Bulletin No. 1540-F, or Miscellanoous Circular 108-M.

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THE FARM FORUM

Thurs. Oct. 4, 1928.

Dairy Discussion No. 1 Dairy Herd Improvement

Reading Time: 10 minutes

NOT FOR PUBLICATION

ANNOUNCEMENT: Today we open the dairymen's section of the U. S. Radio Farm Forum of the United States Department of Agriculture and Station ___________. Each Thursday meeting of this radio club will be devoted to talking over matters of interest to farmers who keep milch cows--and who want the cows' milk production to help keep them. This first session of the dairy division in the Forum is to be addressed by a member of Our County's dairy-herd-improvement association------- Fred Holt.

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Did you hear about Henry Holton and Jim Curry? They both keep records. They belong to the same dairy-herd-improvement association as I do. They told me this story themselves.

Henry has a herd of 19 high-producing cows. Last year his income over feed cost, for the entire year, was only $15.99 a cow. He bought hay at a high price, and it cost him an average of $214.69 a cow for feed. He also had to buy the concentrates. For each dollar he spent for feed, he only made one dollar and seven cents.

On the other hand, Jim's cows were not any better producers, but he fed more home-grown feeds. His feed cost $100.43 a cow, or less than half what Henry's cost him. His income for the year over feed cost was $112 a cow. In other words, by giving more attention to feed costs, Jim got two dollars and twelve cents for every dollar he spent for feed, compared with a dollar and seven cents Henry got.

Of course, it is an extreme case where a dairyman feeds an expensive ration so liberally that even with high production the cows can not show a profit. However, many go to the other extreme and limit the feed so much that cows of good inherent producing ability can't produce satisfactorily. The point is, that proper feeding of dairy cows requires careful study. It has been said that by proper feeding production in many dairy herds can be increased 25 per cent.

The production can be increased another 25 per cent by close culling. Some cows can not use feed profitably. Many dairy herds have unprofitable producers. The sooner you get rid of non-paying cows, the better it will be for your dairy business.

One member of our dairy-herd-improvement association found out by tests that two of his eight cows were not paying their way. He sold those two boarder

cows to the butcher and began feeding the rest of the herd according to production. In that way, he reduced the feed cost of producing butterfat from 46 cents to 25 cents a pound. That gave him as big a saving as he would have obtained from an increase of 21 cents a pound in the selling price of butterfat.

That is just one case. There are many cases where owners have sold low producers and then managed to get as much income over cost of feed from the rest of the herd; with fewer cows to feed and care for. Yes, sir, close culling is one of the first steps in herd improvement.

But if you can increase production in many herds 25 per cent by close culling, and another 25 per cent by proper feeding, improvement through breeding offers opportunities for even bigger increases in production.

The bull is the most important individual in the herd. A poor bull is one of the worst enemies to the development of a profitable dairy herd. If the herd bull can sire daughters that are higher producers of milk and butterfat than their mothers, he is improving the herd. If he cannot do that, the production in the herd will go down, even with careful selection and proper feeding.

The three big essentials in dairy herd improvement are breeding, culling, and feeding. If you give close attention to those three things, it is easily possible to put your herd on an efficient, economical, high-producing basis. But in order to feed, cull, or breed intelligently, you must know what each cow is eating and producing. To get that information for culling, feeding, and breeding, you must have properly kept records.

You can keep your own records, or you can join with others in a cow-testing circle or club, or better still you can be a member of our dairy-herd-improvement association.

As most of you know, a dairy-herd-improvement association is an organization of about 26 dairy farmers. The individual farmers cooperate in hiring a trained tester to test the cows of each member for economical production of milk and butterfat. The tester spends one day a month on each farm. While there he gets a complete record of the quantity of milk and butterfat produced by each cow in the herd. He also gets a record of the quantity and kind of feed eaten. Not only that, he makes a record of the cost of feed, the gross income, and the income over cost of feed.

With these records as a guide, the farmer and the tester figure out better ways of feeding, and managing the herd. All cows that do not respond profitably to intelligent feeding are culled out. Careful attention is also given to problems of breeding in the light of production records. In other words, the cow tester is not merely a tester, but a dairy-herd-improvement advisor.

And there is certainly room for improvement in most herds. Records show that many cows in the United States are actually kept at a loss. Many others return little or no profit. The high-producing cows are the most profitable.

But the average dairy cow in this country is not what you could call a high-producer. The average dairy cow produces about 4,500 pounds of milk containing 180 pounds of butterfat. Thousands of herds of dairy cows are below that.

Studies made from the records of more than 100,000 individual cows in dairy-herd-improvement associations show that cows producing 4,000 pounds of milk a year bring in on the average only $50.55 over the cost of their feed. Cows yielding 7,000 pounds of milk, which was about the average production of those in the associations, returned $89.96 after the feed had been paid for. That is a gain of $39 in income over feed cost and it was obtained at a cost of only $16 for feed.

In these studies such costs as labor, interest charges, and depreciation are not considered. On the other hand, no credit is given for the calf or the manure.

Now, if all the dairy cows of the country were 7,000 pound producers -- that is, if all the dairy cows of the country were up to the average in the dairy-herd-improvement associations -- we could get the same quantity of milk and butter-fat we are now getting from about seven million fewer cows. That would save a lot of labor and feed.

The road to such saving and such improvement is clearly marked out. It is through careful culling, breeding, and feeding on the basis of accurate records of the individual cow's feed cost and production.

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ANNOUNCEMENT: With this in-a-nutshell statement of dairy management principles ends the first meeting of the dairy section of our U. S. Radio Farm Forum. Others follow on succeeding Thursdays at this time. The Farm Forum meeting tomorrow considers farm insurance. Many listeners will want to make a permanent record of some of the facts which come before the Forum. They will find the U. S. Farm Radio Record valuable. It may be had by writing to Station_________, or direct to the Radio Service, United States Department of Agriculture, Washington, D. C.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
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THE FARM FORUM Fri. Oct. 5, 1928.

Economic Discussion No. 1: Farm Insurance.

Reading Time: 10 Minutes.

ANNOUNCEMENT: Friday it is. And a good day to talk about insurance, if you believe as a good many do about Friday's effect on affairs. So, appropriately enough, farm insurance is the subject up at today's meeting of the U. S. Radio Farm Forum of the United States Department of Agriculture. Today's meeting closes the first week of the Farm Forum. Meetings resume again next Monday at this time with a livestock session. And for today, George Harris, a member of the board of directors of Our county's mutual fire insurance company is going to tell us a few things about farm insurance.

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As you all appreciate, there are a lot of big chances in farming. We've cut down the chances in a number of ways, but there are some things we can't control. Drought, too much rain, hail, unusual frosts, and a number of other things often hit us and hit us hard. One of the biggest needs we've got is for real crop insurance. But where can we get it?

Many in the audience are, no doubt, members of farmers' mutual fire insurance companies. There are now about three and one-quarter million farmers in this country members of mutual fire insurance companies. There are now nearly 2,000 such companies in the United States. They are most numerous in the North Atlantic and the Middle Western States. They are fewest in the southern cotton states and the states of the Rocky Mountain region. Taken all in all, however, farmers' mutuals carry about ten billion dollars worth of insurance, at an annual cost which averages only about 26 cents on the hundred dollars. In fact, about 52 per cent of all insurable farm property is now insured against fire by farmers' mutuals. The farmers of this country have done considerable toward meeting their fire insurance needs.

But farmers need more different kinds of insurance than most any other people in the country. They need life insurance; They need sickness insurance. They need windstorm insurance and fire insurance. They need automobile insurance, They need livestock insurance. And last, but not least, they need crop insurance. The need is here. But the ways of meeting that need are not what they should be.

Most of the life insurance carried by farmers is in the same companies which protect other industrial classes. A few companies have been organized to write insurance exclusively for farmers. In general, however, farmers carry only relatively small life insurance policies, when they carry any at all.

Farmers need substantially more life insurance protection than they now carry. Much the same may be said of accident and sickness insurance for farmers.

About 13 per cent of the farmers' mutual fire insurance companies also write insurance against windstorm. Generally speaking, the practice of giving so-called combined protection is limited to the bigger mutual fire insurance companies. There are some smaller mutuals which do it, but it is not a wise policy.

About 50 mutuals limit themselves entirely to windstorm insurance. They write farm property either largely or exclusively. Those fifty windstorm mutuals carry insurance amounting to two billion dollars. In Iowa, Missouri, Indiana, Ohio, and North Dakota, we have fine examples of state-wide windstorm insurance companies working in very close cooperation with the more local farmers' mutual fire insurance companies. In that way, the burden from windstorm losses is spread over a big area and a big number of risks, as it properly should be. At the same time, the fire insurance is carried in the smaller local mutuals which can be run efficiently and cheaply on a real cooperative plan.

Even the most careful driver may get in an automobile accident. He may be blamed for hurting a pedestrian or somebody in another car. He may find himself subject to judgments amounting to many thousand dollars. Of course, there is not as much danger of such accident as there is with the man who runs his machine in city traffic every day. In a number of states, farmers are providing themselves with automobile insurance in mutual companies that limit themselves to farm automobile risks. By that plan, there are possibilities of savings in insurance cost as important as the savings made by farmers' fire and windstorm insurance companies.

In so far as losses of livestock are concerned, as you know, most American farmers now carry their own risk, without insurance protection. There is only a small amount of livestock insurance written by joint-stock livestock insurance companies. And only a few small mutual livestock insurance companies are in operation. Most of those mutual livestock insurance companies are found in Pennsylvania and Ohio.

And now, as for crop insurance, farmers are even worse off. The only form of crop insurance that is now generally available to farmers in this country is insurance against loss or damage by hail. At that, over twenty million dollars are spent annually by farmers for hail insurance. About half of that hail insurance is written by joint-stock fire insurance companies which write hail insurance as a side line. The other half is written by mutual hail insurance companies, and by four state hail insurance funds or departments, each limited to its own state, the states having these departments are North Dakota, South Dakota, Montana, and Nebraska.

Real crop insurance protection against all unavoidable hazards is, however, with minor exception, lacking. But real crop insurance protection against all unavoidable hazards is certainly needed by farmers. There have

been attempts to develop real crop insurance. And, the results of those attempts have proved discouraging to the companies that have made the experiments.

However, those attempts have been analyzed. From that analysis, it seems that the troubles of those companies could have been avoided. They could have been avoided by better and sounder plans of writing crop insurance.

Such crop insurance as is now written is limited largely to selected larger risks of fruit or truck crops and usually covers money borrowed on the basis of those crops. One of the most outstanding needs of the American farmer is crop insurance that will protect at least the biggest part of his investment in growing crops. Until such insurance against unavoidable risks is to be had, the individual farmer must shoulder the possible losses. In many cases, particularly with new and beginning farmers, that means either economic ruin or serious embarrassment. Crop insurance represents the biggest insurance field in the United States which is yet practically undeveloped. The annual crop-production investment of farmers in the United States amounts to upwards of ten billion dollars. That huge investment is being carried by farmers without insurance protection.

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ANNOUNCEMENT: There's something for an organizing financial genius to do something about--and something for listeners of the U. S. Radio Farm Forum to ponder over until the next meeting of the Forum on Monday at this time. And, by the way, to help farmers make the best use of these and other farm information broadcasts, the United States Department of Agriculture has issued a U. S. Farm Radio Record. A letter or post card with your name and address sent to this station or to the Radio Service, United States Department of Agriculture, will bring the Record to you.

UNITED STATES
DEPARTMENT
OF AGRICULTURE
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OFFICE OF
INFORMATION

THE FARM FORUM

RELEASE Mon. Oct. 8, 1928.

Livestock Discussion No. 2: Hog Cholera Prevention.

READING TIME: 9 minutes

ANNOUNCEMENT: As usual on Monday, the U. S. Radio Farm Forum of the United States Department of Agriculture and Station _______ is meeting to talk over livestock topics. Today The Old Stockman member of the Forum is to give us some practical points in hog cholera prevention.

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As I was just telling Bob Sloan, hog cholera has caused as much as seventy-three million dollars worth of damage in a single year. Even now it causes twenty million dollars' loss a year.

It shouldn't cause that much damage. Hog cholera is a preventable disease. However, it is up to hog growers to prevent it. Each one who doesn't is paying his part of that twenty million---perhaps with some of his best hogs.

But you can't wait until the fevered hogs have crawled under the house or hidden in the haystack, already marked for death with those dark purple blotches. You can't wait until they stand there with their backs up, their flanks tucked in, their tails straight, ears drooping and eyes gummed-up, and then expect to begin preventive measures. Hog cholera is often sudden and swift. It takes a heavy toll and takes it fast.

When I told Bob that, he asked me how to prevent hog cholera. I told him, as I tell you, if you live where hog cholera is likely to occur every year, the only safety is the immunizing treatment.

"Does that immunizing treatment really immunize?" Bob said with that doubting-Thomas air of his.

"It most certainly does," I let him know. "There is probably no other disease of animals against which immunization can be so firmly established, as

in the case of hog cholera."

Why, untreated hogs have been made sick with cholera by a shot of as little as one-five-thousandth part of a cubic centimeter of cholera virus. Immunized hogs, on the other hand, have been given as high as 500 cubic centimeters of deadly cholera blood without showing any signs of sickness.

Ever since the preventive serum treatment against hog cholera was developed by the Department of Agriculture, it has been getting more popular. Most hog growers know from experience that it's reliable when it is properly applied.

"But it costs so much," was another of Bob's objections.

I had to admit it is rather expensive -- if you wait until the hogs are full grown.--But why wait? Experiments have shown that any age pig may be successfully immunized against hog cholera. Now the dose of both the virus and the serum varies according to the size of the animal. Common sense, suggests giving the treatment when the animals are young. In that way, you save at least 50 per cent of the bill for immunization treatment. However, you should always leave the immunization work to a trained and competent veterinarian; one who can recognize cholera and tell it from other hog diseases.

If you live in a locality where there is no hog cholera, you may be able to keep the deadly hog cholera virus from getting to your hogs. It will take constant vigilance, however.

Cholera may reach your herd from new stock hogs brought to the farm or through hogs borrowed or loaned for breeding purposes. Hogs returned from fairs and shows may bring cholera with them. Hogs may be infected with cholera by eating bones or scraps of meat which may be infected. That makes it dangerous to feed kitchen swill and city garbage.

Cholera hogs running at large are another source of danger. If they get to streams or canals or ditches which pass your place, the infection may be carried to your hogs. Dogs roaming from farm to farm may carry home pieces of cholera carcasses.

But it is not only four-footed animals you should guard against. The infection is also sometimes carried by human beings. Agents, buyers, or other visitors, going from hog lot to hog lot, may, at times, carry cholera virus on their shoes. Old wallow holes may harbor the infection of cholera. In fact, the exchange of labor at threshing and silo-filling time has even been blamed for starting outbreaks of cholera.

So, you see, it is quite a problem to guard against such an easily spread disease. Nevertheless, you can do a good deal toward keeping the infection from reaching the herd. You can reduce the chances of infection tremendously by sanitation in the hog lot, in the shelter, and in the pen. Sanitary shelter and sleeping quarters and seeing to it that the hogs get clean feed and clean drinking water will undoubtedly add to the thrift of your herd. Hogs that have to fight flies, and lice, and other parasites on

the outside and have to share their feed with an army of worms inside, can't put on flesh fast, if they put it on at all. Neither are they resistant to diseases, as hogs kept under clean and sanitary conditions. Hogs which are in a healthy condition are likely to withstand an attack of hog cholera better than those which are unhealthy.

In case you do have an outbreak of hog cholera, you should take every precaution to make the premises safe for other hogs after it is over. You should burn all rubbish, litter, old troughs, and such like, from infected pens and yards. Keep susceptible hogs away from old straw stacks, and use the manure on fields which susceptible hogs can't get into.

After you clean the premises thoroughly, you should spray all walls, floors, and other surfaces of shelters, as well as troughs which are too good to destroy. Use a recognized disinfectant, such as common cresol solution in the proportion of one part of the solution to 30 parts of water. In case of small hog houses, turn them over and expose the inside to sunlight.

You should also see that wallow holes, and cesspools are filled in, drained and fenced off. Also board up all runs underneath buildings to keep the hogs out. Any hogs that do not recover fully should be destroyed. They may be carriers of infection.

If the sick hogs had access to places that you can't reach with disinfectants, you should immunize all swine brought or farrowed on your premises.

The Department of Agriculture has a bulletin on hog cholera. Ask for Farmers' Bulletin No. 834. Their Circular No. 11 will also tell you the comparative values of the different types of anti-hog-cholera serum. Write for that too.

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ANNOUNCEMENT: The bulletins mentioned by the Old Stockman to his friends of the Farm Forum may be obtained by request to this station or direct to the Radio Service, United States Department of Agriculture. Here are their numbers again Farmers' Bulletin 834-F, and Circular 11-C. Use the mailing slips in the U. S. Farm Radio Record, if you haven't one may be obtained by request to the station of the Department.

"Feeding the Layers" is the subject for discussion at tomorrow's Forum meeting.

UNITED STATES
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INFORMATION

THE FARM FORUM (Regions 1 and 3.) RELEASE Wed. Oct. 10, 1928.

Crops and Soils Discussion No. 2a: Fruits and Vegetables Standards.

READING TIME: 10 minutes.

ANNOUNCEMENT: At today's meeting of the U. S. Radio Farm Forum we're to hear one of our county's best truck farmers, tell someting about the changes in his brand of farming business which the adoption of standards for fruits and vegetables is bringing about.

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Speaking of standards of fruits and vegetables, I wish you could have heard us laugh at old Joel Scott. A few of us were sitting around the stove, as I remember it. It was down at Tompkins' store, fourteen years ago and we were having a more or less serious discussion. But when things drifted around to marketing vegetables, and old Joel suggested that we would some day have Federal standard grades for such things as fresh vegetables and fruit, we certainly did laugh at him.

The idea of Federal grades for such perishable stuff seemed downright foolish. In fact, up to ten years ago, the United States Department of Agriculture had recommended grades for potatoes and Bermuda onions -- but that was all.-------But now see what's happened. At present there are U.S. grades for over 40 fruits and vegetables. And they are all being used in practical commercial operations. Now it is almost a safe prediction that in ten years more, most of us will have forgotten that business was not always transacted on the basis of national standards.

It is not surprising that we have done so much toward standardization of fruits and vegetables, when you consider the conditions. The farm value of the 28 important fruits and vegetables in the United States is now well over a billion dollars. The trend has been to centralize production of many of our chief fruits and vegetables in parts of the country far from the markets. Since the big markets have been filling their needs without regard to distance, there has been a special need for studies of the preparation of crops for market and standardization of

grades. ----------- (As if interrupted) Well ------ Yes, I'm always glad to answer questions --------- (Pause as if for question)

Well, the two chief advantages of standardization are, the advantages of a common language between the buyer and the seller and the advantages of actually sorting the product into different grades of market quality.

Sorting the product into different market grades is especially important in cooperative associations. It gives a basis for pooling the products of various growers so that all may share alike in the season's pool. Actual sorting also makes for better distribution. By'better distribution' I mean finding the market which will give the farmer the biggest return for his product. To find that market involves reaching the widest territory which transportation costs and the perishability of the product will permit. Finding the best market also involves extending the market season, so as to allow the most time to get rid of the crop; and conforming to trade preference, so as to meet the broadest range of consumer demand; and keeping down the distributor's share of the profits.

The necessity for a common language is very evident. Standard grades which mean the same to both buyer and seller make dealing practical on the basis of future contracts, long range buying and selling, the settlement of claims, and the intelligent comparison of market prices.

In fact, it was the need for a basis of intelligent comparison of market prices which started the present national standardization of fruits and vegetables. In the process of establishing its telegraphic market news service, the Department of Agriculture found the need for a uniform basis of quotation, and so, in 1915, began the study of national standards of fruits and vegetables.

In 1918, the U.S. grades for potatoes were issued jointly by the U.S. Food Administration and the Department. During the war, the use of these grades was practically universal. And now, although there is no national authority to require the use of Federal Standards, they are still the only well-recognized grades in use.

The biggest boost to standardization was the establishment in 1917 of a Food Porducts Inspection service in the big receiving markets of the country. In 1922, inspection of perishables was extended to the point of origin.

Some of you probably know how that service works. Under the law, The Department of Agriculture is authorized to certificate the quality and condition of fruits and vegetables and certain other farm products when received in the terminal markets, or when offered for sale in interstate shipments. In practically all the leading markets, there is a staff of trained inspectors; and, either independently or in cooperation with state agencies, licensed inspectors under close supervision handle the inspections at the point of origin.

Certificates are issued by these inspectors regarding the quality,

size and condition of the product, with a description of the condition of the car and equipment, and method of loading, and so forth. Those inspection certificates are accepted as prima facie evidence in all Federal courts, and in some state courts. The certificates issued under joint authority of State and Federal Departments are usually receivable as prima facie evidence in the states where they are issued. You can all see the value of such documents in connection with sales at long range and as a basis for future delivery. They are also used extensively in fixing the responsibility for deterioration in transit.

As long as products were placed on cars and shipped to distant markets without inspection, they were subjects of controversy when they reached their distination. We are often inclined to think we have been treated unfairly. But with the establishment of this inspection service at shipping points, many of us come in direct contact with the inspectors. Where our stuff fails to make the grade, we get an explanation as to why. I know a number of cases, in which knowing the exact reason why products were found below the acceptable standard of market quality has stimulated the grower's interest in better methods of production. Such education is one of the best effects of the inspection service.

Of course, you understand, the use of the Department's inspection service is entirely optional. The inspection is made for a fee which will as nearly as possible cover the cost of the work. Last year over 210,000 cars of fresh fruits and vegetables were inspected largely on the basis of these optional Federal grades. The whole development of national standards for fruits and vegetables has been by educational means and in connection with commercial operations.

National and local farmers' organizations, banks, warehouses, crop insurance companies, educational institutions, and the trade in general, indorse the policy of standardization. For that reason, a tremendous pressure for improved practices is being brought on the more backward communities.

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ANNOUNCEMENT: The U. S. Radio Farm Forum, one meeting of which has just been concluded, is sent by the United States Department of Agriculture. Tomorrow is Dairy Day in the Forum schedule.

UNITED STATES DEPARTMENT OF AGRICULTURE
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THE FARM FORUM Tuesday, October 9, 1928.

Poultry Discussion No. 2: Feeding Layers

Reading Time: 10 minutes

ANNOUNCEMENT: Our daily farm club meeting, the U. S. Radio Farm Forum, brings us today some very timely facts on feeding laying hens right now. Perhaps you'll want to take down the rations that may be recommended during the discussion. If so, have the U. S. Farm Radio Record handy.-----Now we'll hear from George Brommell, poultryman of our county.

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The hen which lays the golden eggs is a pullet.

Only pullets -- and pullets which are well fed, and which are kept in good flesh -- will produce eggs at this time of the year. And this is the time of the year for golden eggs. In the fall and early winter, eggs bring the highest prices. This is the time of the year for special effort to produce eggs.

Many egg men are just beginning to realize that. We've had a number of folks ask how to feed fall layers. It seems that some of them have tried, but have not had much success in getting good egg production. They don't seem to realize that everything must be just right to get high fall and winter yields of eggs.

In the first place, you should feed your hens regularly. You should keep dry mash before them all the time. Good egg production goes with heavy eating of mash. The mash hopper should never be empty.

Our hens always go to roost with a full crop. I feed a scratch mixture twice a day; using about a third of the grain early in the morning, and the balance in the afternoon. I watch the condition of my hens. Then I regulate the proportion of mash and scratch according to their condition. In general, I regulate the ration so that by the end of the year the hens will have eaten about equal parts of mash and scratch. During the winter, I give them about equal parts. In the late spring and summer, I give them two-thirds mash and one-third scratch. On the other hand, about this time of the year, I give them two-thirds scratch feed and one third mash.---------(As if interrupted) All right --- What is it? (Pause as if listening to question)

--------- "What feed do I use" did you say? Well, the average egg, aside from the shell, contains over 13 per cent protein; so to produce eggs to advantage, the ration should contain some feeds high in protein. A mixture of corn, wheat, and other grains used in poultry feeding has about 10 per cent

protein. You should supplement them with a mash with meat scraps, fish meal, milk or tankage in it. Those high-protein feeds are the highest-priced feeds in the ration. But they make more eggs and cut down the price of production.

However, even if there is plenty of protein in the ration, lack of calcium or mineral in the ration will naturally cut down the number of eggs. Eggs shells make up about 11 per cent of the weight of the egg. Hens must have mineral to make egg shells. Meat scraps and milk contain considerable mineral, but oyster shells, limestone grits, and ground bone are needed to furnish enough.

Then the vitamins in eggs must be furnished in the feed. The easiest way to supply the needed vitamins is by feeding green feed, by the use of yellow corn and yellow corn meal in the ration, and by allowing the hens to get direct sunlight.

Kale, cabbage head, soy-bean hay, clover or a good grade of alfalfa are good sources of green feeds and roughage for use during the winter months. If you are short on green feed, it would be helpful to use alfalfa leaf meal in the mash. In case the hens are kept shut up in the house, it would be well to make one per cent of the mash cod-liver oil. However, cod-liver oil is not necessary where the hens get direct sunlight. (As if interrupted)---------- -- Oh, yes --- questions are always in order ---- (Pause as if listening to question) ----

In answer to that, I would say there is no best ration. There are a number of feeds which can be fed interchangeably. Which you had better use, will depend largely on which you can get, and what price you have to pay for them.

Here's the mash I feed. You can take it down if you want to. I've found it a good mash for laying hens in the fall. I'll give you the parts by weight. (SLOWLY) Yellow corn meal, 40 parts; Meat scraps or fish meal, 20 parts: Ground oats, 10 parts: middlings, 10 parts; Bran, 10 parts; Alfalfa leaf meal, 5 parts: Bone meal 2 parts; Ground limestone, 2 parts; Salt, 1 part.

Now with that mash, I feed a scratch mixture made up of 50 parts yellow cracked corn, 25 parts, wheat, and 25 parts heavy oats.

Or, here's another ration that's well balanced and a good egg producer. Yellow corn meal, 40 parts: Middlings, 20 parts; Bran, 10 parts: Meat scrap, 10 parts: Fish meal, 7 parts: Alfalfa leaf meal, 5 parts: dried milk, 3 parts: bone meal, 2 parts: ground limestone, 2 parts: and Salt, 1 part.

I see some of you are taking it down. Shall I repeat it, to make sure you got it? All right -- Yellow corn meal, 40 parts: middlings, 20 parts: bran, 10 parts: meat scrap, 10 parts: fish meal, 7 parts: alfalfa leaf meal, 5 parts: dried milk, 3 parts: bone meal, 2 parts; ground limestone, 2 parts: and salt, 1 part.

You can leave out that alfalfa meal if you have other green feed.

Now, with that mash, I feed a scratch mixture of 40 parts yellow cracked corn; 30 parts, wheat; and 30 parts, heavy oats. If a good grade of heavy oats is not available, you can leave that grain out of the scratch mixture. To supplement both those rations I've given you, you will find milk in some form will help materially to improve fall and winter egg production. Milk helps keep pullets in good flesh in the fall. It will help prevent their molting.

Recently, all-mash rations have been put on the market. They are used with good results. They are especially useful in experimental work, and their use in commercial poultry feeding is gradually increasing.--(As if interrupted) ---------------(Pause as if for question)

Yes, that's true----- When you only keep a few hens, it is simpler and more economical to use ready-mixed feeds. Home-mixed feeds are used for many big flocks. Home-mixed feeds may also be used to advantage for small flocks on general farms, where part of the ration is home grown.

But whatever feeds you use, please remember that only feeds of good quality and grains which are in good condition can be fed to laying hens with good results. Never use moldy feeds. Keep the feed hoppers clean. Discard the mash which gets wet in the hoppers and becomes sour or musty.

As I said in the beginning, if you expect to get good egg production during the fall and winter, see to it that all factors are just right.

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ANNOUNCEMENT: We've just concluded the second weekly poultry meeting of the U. S. Radio Farm Forum from the United States Department of Agriculture. Each Tuesday the Farm Forum deals with poultry topics. Tomorrow's meeting at this time will bring us a crops and soils discussion. All farmer hearers and listeners interested in farming are invited to join this Farm Forum by tuning in each day, except Saturday and Sunday, at this time, and to keep track of points they wish to remember in the U. S. Farm Radio Record, which will be sent upon request addressed to this station or to the Radio Service, United States Department of Agriculture.

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THE FARM FORUM (Region 2.) RELEASE Wed. Oct. 10, 1928.

Crops and Soils Discussion No. 2b: The Future of Timothy Hay

READING TIME: 10 minutes.

ANNOUNCEMENT: As usual at this period, the U. S. Radio Farm Forum meets. Today and each Wednesday this radio club considers Crops and Soils facts. This particular session brings us a talk by a member of the Forum, who's to tell us some highly important and interesting facts concerning timothy meadows and timothy hay, which he has secured from the United States Department of Agriculture.

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I see most of you came to this meeting in automobiles. I guess Ed Hankins, who runs the filling station down the road there, is not a bit sorry either. Things certainly have changed around here in the last few years. It's gasoline now, but twenty years ago, our chief motor fuel was timothy hay.

That was when the farmers around here were doing quite a business in timothy hay. Timothy was a mighty important crop then, but now we have more than there is any need for. That's what I want to talk to you about. What is best for us to do about our old timothy meadows? Some of us have already found that timothy meadows are no longer profitable to work, But what of the future? Will timothy hay come back?

It seems easy to forecast the future of timothy hay. At the present time, the hay acreage of the United States is overexpanded. Since 1919 the number of hay-eating animals has steadily declined, while hay acreage has steadily increased. And the least needed and least productive meadows in our over-expanded acreage are the old timothy meadows of the East North Central and North Atlantic States, and the prairie meadows in the North Central and South Central States. Back in 1919, timothy and timothy-mixed hay represented about 58 per cent of all the tame hay acreage in the country. In 1927, the acreage of timothy and its mixtures had decreased to but 42 per cent of the tame hay acreage. During the next ten years, there will be further decreases.

Some of our old timothy meadows will surely be abandoned or converted into permanent pastures. The demand for timothy in the cities and southern markets is not enough to absorb all the surplus hay possible of production on our timothy lands.

And, with all its good qualities, it is a logical forecast that timothy will never get back to the commanding position it once occupied in the hay industry of the United States. However, it will, no doubt, persist as a forage crop of considerable importance in that northern part of the United States between the Atlantic Seaboard and the Missouri River.

It is certain that timothy will soon be stabilized on a production basis for the next generation that will be somewhat lower than the average annual production for the years 1925, 1926, and 1927. It is also certain that in the future expansion of hay acreage in this country, alfalfa and the annual legumes will be largely used. Westward and southward the course of agricultural empire will surely make its way. In that future expansion, however, such hay crops as alfalfa and soybeans may be expected to play a more important part than timothy. These trends seem unmistakable. They have commercial value to farm seed dealers, hay dealers, and producers of market hay.

This seems clearer when you glance back and see what happened to the demand for timothy hay. For the past two hundred years, timothy has been the most important tame grass hay in North America. Timothy used to be the chief winter feed of all kinds of livestock. During the big period of fast growth of our cities and industries, between 1870 and 1910, there was a vast army of of horses in cities fed almost entirely on timothy hay and oats. The popularity of timothy was so great that the markets paid attractive premiums for high-grade pure timothy. Thousands of farmers in the timothy belt, especially in New York, Pennsylvania, Virginia, Ohio, Indiana, Illinois, and Michigan sowed a big acreage of straight timothy for a cash crop.

Then came the automobile. Between 1910 and 1925 the number of city horses decreased 71 per cent. Naturally, that decrease in horses cut down the demand for hay. All city markets which had an active business handling timothy hay before 1910 are now doing a small fraction of what they were. Take the hay car records of New York and Boston. The biggest part of all the hay in those markets has been, and still is, timothy hay. In 1910-1911 those two markets received 50,000 carlots of hay. In 1926-1927 they received about 9,000 carlots of hay. That's a decrease of 82 per cent since 1910.

And, as you all know, automobiles and tractors have also decreased the number of horses and mules on farms. In 1927, the number was about 20 per cent less than in 1919, and about 2 per cent less than in 1900.

However, the tractor and the automobile are not to blame for all the drop in the demand for timothy. Legume hays have been substituted for timothy hay in forage rations for all kinds of livestock, especially for dairy cattle. That substitution began in the late nineties, became very noticeable from 1910 to 1920, and is still going on.

The shift came when we began to find out that legumes can take nitrogen

from the air and fix it in the soil in forms the plant roots can use. Experience in feeding legume hays also demonstrated that we can get more milk and bigger gains in weight with legume hays than with pure timothy. Add to those advantages, the fact that clover and alfalfa meadows yield from 50 to 100 per cent more hay than timothy, and you can see why those hays have become popular wherever they will grow.

Even horse feeders have changed their hay demands in the last ten years. A few years ago, they thought clover hay was unsuited for horse feeding. They had the notion that it caused heaves and other horse troubles. Nowdays, many horse feeders prefer timothy and clover mixed to pure timothy.

The decrease in horses and the increased use of legume hays, has had a big effect on timothy hay acreage. In 1900 timothy represented 45 per cent of the tame hay acreage, and legumes of all kinds only 16 per cent. Now the situation is reversed. Last year 40 per cent of the total tame hay acreage was legumes, and only 15 per cent timothy.

For 30 years or more the south has been a heavy buyer of Northern-grown hay, especially timothy. Now, however, southern farmers are trying to make the south a self-supporting region, as to forage crops. And they are meeting with success, too. From 1910 to 1927 the acreage of tame hay increased 60 per cent. And most of that increase was in such annual legumes, as soybeans, cowpeas, vetches, and peanut vines. As local production of soybeans, Johnson grass, lespedeza, and other hays increases, the timothy trade is gradually growing less.

In light of these facts, we may well look to our meadows. We may well abandon many of our old timothy meadows or convert them to permanent pasture.

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ANNOUNCEMENT: You have just attended, via your loudspeaker, the 8th meeting of the U. S. Radio Farm Forum, conducted by the U. S. Department of Agriculture, and Station ______. Tomorrow's session, the usual weekly dairy meeting, will bring us a discussion of Preventing Tainting of Milk by Highly-Flavored Feeds.

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THE FARM FORUM (Region 4.) RELEASE Wed. Oct. 10, 1928.

Crops and Soils Discussion No. 2: Markets for U.S. Wheat.

ANNOUNCEMENT: Today the Crops and Soils section of the U. S. Radio Farm Forum of Station ______ and the United States Department of Agriculture meets for the purpose of hearing a word-picture -- if that is possible --of the progress of our wheat crop through the markets of the world. Mr. Ned Wharton, farmer of Our county, who frequently appears before this Wednesday session of the Farm Forum, will draw the picture, using materials supplied by the Government farm economists.

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As wheat growers know, wheat has its ups and downs. Of course, there are good crop years and bad crop years. The supply goes up and down. But the demand goes up and down, too. I never gave that much thought. It seemed natural to me; until I saw the statement that the folks in this country eat practically the same amounts of bread, and of other food made from wheat, when prices are high as they do when prices are low.

Well, that set me to figuring. I got interested to know just why that is, and just what becomes of all our wheat anyway. I knew we exported wheat-- and a lot of it -- but I didn't know just how much we ate here at home in comparison with what we sell overseas for other folks to eat. I wrote to the Department of Agriculture for the figures.

The statisticians in the federal department calculate that out of every ten bushels of wheat we harvest in this country, one year with another, we eat about six bushels right here at home. About another bushel out of that ten, we use for seed. And we feed almost another bushel to livestock or waste or use it other ways. That makes nearly eight bushels out of every ten used in this country. That leaves a little more than two bushels. We export more than two out of every ten bushels we harvest; either as grain or as flour and other products.

You can see from that six out of ten bushels people in the United

States eat, that our home-grown eaters are by far the best and steadiest market we have. But those foreign takings are important. The price we get for those two out of every ten bushels, has a considerable effect on the price we get for the whole crop.

Buyers in this country outbid exporters for some of the better grades of wheat. Nearly all the good quality Hard Red Spring and Soft Red Winter wheat is usually used in this country. A lot of Hard Red Winter is also used here and part of the Durum harvest is needed for our own macaroni and other products. In most years, however, we grow more Hard Red Winter and Durum wheat than we need in America.

The Hard Red Winter, the Durum, and the White wheat from the Pacific Northwest make up the bulk of the exports of United States wheat as grain.

For the past five years 1924-28, we have exported an average of about 191,000,000 bushels of wheat a year. It has gone to all parts of the world, but chiefly to Europe and the Orient. As I said before, we export about two out of ten bushels of wheat harvested in this country. One and a half of those two bushels, however, go to Europe, if you include the shipments through Canada. Almost a quarter of a bushel out of those two bushels, goes to the Orient. The other quarter bushel is scattered from Iceland and Labrador in the North to New Zealand and South Africa on the south.

The federal figures show that England is by far the biggest buyer of United States wheat and flour. During the past five years, we shipped 37,000,000 bushels of wheat or its equivalent in flour to England. Italy and the Netherlands are the next biggest buyers, but Italy only averaged 2,000,000 bushels and the Netherlands nearly 18,000,000 bushels a year. A little over 11,000,000 bushels were shipped to China, Hong Kong, and Kwangtung. Nearly 10,000,000 bushels to Germany and about 9,000,000 bushels were shipped to Belgium. Eight million bushels were shipped to France. About 6,000,000 bushels to Japan and Chosen. Cuba takes 5,000,000 bushels a year. The Irish Free State takes nearly 4,000,000. Brazil and Greece each average a little over 4,000,000. Mexico takes about 2,500,000 bushels. And the Philippine Islands take nearly 3,000,000 bushels. In addition, about 34,000,000 bushels of United States wheat were sent to Canada, practically all for shipment to Europe.

Now some of those countries buy our wheat mostly in the form of grain. Others take mostly flour. For instance, Italy, Belgium, France, Spain, and Portugal take nearly all their wheat as grain. So do Algeria, and Tunis in Africa and Japan in the Orient. England also takes much more grain than she does flour, although she takes fair quantities of flour.

On the other hand, Norway, Poland, Denmark, and Finland buy much more flour from us than they do wheat. So do most of the countries of Central and South America, and a number of those of Africa. Shipments to China, Hong Kong and Kwantung also consist mostly of flour.

As I remarked in the beginning, our folks eat about the same amount

of wheat products regardless of price and that gives us a steady market at at home. With exports, however, the market is not nearly so steady. Exports of wheat and wheat products not only vary with our supply, but they vary with the foreign demand for wheat and flour.

Why, within the past five years, our exports of wheat as grain have ranged from a little over 63,000,000 bushels up to over 195,000,000 bushels.

Exports of flour, macaroni, bread, and other products show less variations than those of wheat. That's partly because the countries which take those products do not produce wheat. They need relatively constant quantities of wheat products. The established trade in certain brands of flour also tends to steady the trade in flour. Then, too, that part of the flour known as "clear flour" is a by-product of patent flour milling and is not in active demand in this country. That also helps to keep down variations, but exports of flour have ranged from 9,541,000 to 17,253,000 barrels in the past five years.

Of course, all the wheat and flour shipped to a country may not be used there. Part of the wheat shipped to some countries may be re-exported because of a favorable combination of local and ocean freights, better markets, and other conditions. Or part of the flour, milled from imported wheat may be exported by some countries or an occasional cargo may be diverted to a more promising market while it is on passage. However, the imports of the various countries show the general movement of wheat. They at least give you a general idea of where our export wheat goes. They give you some suggestion of the tangled skein of influences which may affect our foreign, and to some extent, our home market.

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ANNOUNCEMENT: You have just attended, via your loudspeaker, the 8th meeting of the U. S. Radio Farm Forum conducted by the United States Department of Agriculture and Station ______. These brief gatherings for the discussion of farming topics are held on Monday, Tuesday, Wednesday, Thursday, and Friday of each week. Tomorrow at this time the dairy section of the Forum will hear a 10-minute talk on Preventing Tainting of Milk by Highly-Flavored Foods.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

FARM FORUM (Region 5)　　RELEASE: Wednesday, Oct. 10, 1928

Crops and Soils Discussion No. 2e: California Barley in the World Market

Reading Time: 9 Minutes.

ANNOUNCEMENT: The Radio Farm Forum of the United States Department of Agriculture and Station_______ meets today for a talk by the Crop Reporter, a member of this radio farming club, Our Crop Reporter member, through his contacts with the Federal Department and the State Department has a chance to get the most recent statistical information on crops prospects and the market analyses. Today he has some information on California Barley in the World's Markets from the Federal department.

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The other day I was down at the bus station in town. Hal Halloway and Sid Ayres and several other ranchers were talking there while they waited for the northbound bus. They were discussing the barley price [illegible] prospects. But they seemed to be rather uncertain.

Hal seemed worried about what effect on our prices would come from the competition of barley grown in the Eastern States. On the other hand, Sid was pretty optimistic about prices this year. He recalled that even with a record barley crop in this country last season, the market kept up pretty well.

The bunch knew that as a Crop Reporter I get the publications of the Federal Bureau of Agricultural Economics and so have a better chance than most to keep track of the farm production and price situation. So they asked my opinion. I told them as well as I could off-hand how the land seems to lie just now for barley growers, but they wanted more. Hal suggested that I talk to our Farm Forum about it. I agreed, and wrote to the State statistician and to Washington for the most recent crop reports and other facts. Now I'll tell you what the economists tell me.

As you all know, California is one of the leading barley producing states of the union, and its crop is an important factor in the world's barley market. Up until recent years, California produced around one-sixth of the entire United States crop and nearly one-half of our export shipments.

During the past two years, however, record barley crops in the north central states have reduced the proportion of California barley to about one-tenth of the entire United States crop. From 1921 to 1925 United States exports averaged about 550,000 tons. Nearly three-fifths of

those exports were from California. During the next two seasons, 1925-6 and 1926-7 about one-half our barley exports were from the Pacific Coast. But last season when United States foreign shipments totaled about 936,000 tons, California exports were less than one-fourth the total. In other words, while United States exports have increased, foreign shipments of California barley have apparently decreased.

Yet California barley is still an important factor in the world's barley markets. That's because of its good malting qualities. The best mellow malting types of California barley sell well above eastern barley and much of the native European barley in European markets. However, the feeding grades of California barley have to compete with Eastern United States barley and grain from Canada, North Africa, Australia, Argentina, and various European countries. Big crops in those countries usually cut down the demand for California barley.

It is hard to determine the premiums paid for various barleys in European markets. The various exporting countries have different standards. Sales in the London market during the past year, however, show that the chief competitors of California malting barley in that market are British, Chilian, and Indian barleys.

Of course, California feeding barleys meet competition in the European markets from more producing sections than the Malting types. Last season, the competition was unusually keen between barleys from the Pacific coast and barley from the north central states and from Canada. But, as Sid Ayres pointed out the other day, a short crop of feed grains in Europe caused a big export demand from foreign barley markets last season. That resulted in a firm market for United States barley in spite of our record crop at home.

Now lets look at the prospects for this season. The general market situation is somewhat different this year. Better crops are in prospect in European and most other important producing countries.

According to estimates about the first of September, the barley harvest in the Northern Hemisphere this season will be more than five million tons bigger than last year's harvest. The biggest increases are in the United States and Canadian crops. The United States crop will total about 8,305,000 tons. That's about 1,960,000 more than the record 1927 crop. The first of September estimate of the Canadian Crop is for 3,477,000 tons or about 1,150,000 tons bigger than last season.

Not only are the prospects for a big crop here, but increased production is also reported in Europe. Increases have been reported in Germany, Jugoslavia, Roumania and Poland. The total European production outside Russia for the current season will, if present prospects are realized, total around 17,880,000 tons or 1,536,000 tons more than last season's harvests.

But that prospective larger supply of barley in Europe may be somewhat offset by another short corn crop, since drought has been reported in

some sections. However, with such big supplies of barley in Canada and the United States, California growers may find their local market for feed barley better than foreign markets. The crop in Washington State is about 5,000 tons smaller than last season, according to estimates. A market for moderate amounts of California barley may be found in Washington and Oregon.

The supply of corn and other feed grains has an effect on the demand and price for feeding barley in the United States. Last season's corn crop was short. More barley than usual was fed, particularly in the Eastern corn belt states. The high prices of corn caused a bigger demand for barley in California, too. That may have something to do with our using more barley last year. This season, however, things are different.

The prospect this year is for a bigger corn crop than last year. The prospect is also for a better distributed corn crop than last year. That corn together with more barley and oats promises a supply of feed grains in the United States about 20 per cent bigger than last season.

But there may be a slight silver lining to the clouds for California barley growers. In California, Washington, Oregon, and Nevada, the supply of feed grains other than barley seems to be somewhat smaller than last year. If that is the case, California barley may again find an important home market this season.

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ANNOUNCEMENT: The Crop Reporter member of the U. S. Radio Farm Forum has just finished the analysis of the market prospects for California barley before today's meeting. The next Crops and Soils session of the Forum will come next Wednesday at this time, when we will hear from one of our old-timers on storage of fruits and vegetables. Tomorrow the Forum gathers in at this time for a dairy talk on Preventing Tainting of Milk by Highly Flavored Feeds.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM Thursday, October 11, 1928.

Dairy Discussion No. 2: Highly Flavored Feeds

Reading Time: 9 Minutes.

ANNOUNCEMENT: Henry Holton of Our County's Dairy Herd Improvement association has been reading up on the investigations into effects of highly-flavored feeds on milk. Today he's to give the dairy section of the Farm Forum--conducted by the United States Department of Agriculture and Station _____ -- the results of his reading and experience on this important subject.

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It's true. Folks in this country are drinking more milk than they used to drink. But they are more particular these days. They not only want their milk, but it must be pleasing to the taste. And sometimes I've thought some folks are hard to please. They even turn the milk right back to you, if its flavor doesn't just suit them.

Fact is, losses from producing milk which has any of a number of those not-so-pleasing tastes are pretty big. Taken all in all, those losses are probably as big in a year's time as the losses from sour milk. Most of us give considerable attention to stopping losses from souring of milk. But a good many dairymen don't seem to realize how much they are losing on off flavored milk. If they do realize it, they don't seem to know how to stop these losses.

In the first place, how do those off-flavors get in the milk? (As if interrupted from audience) What! --- Repeat that, will you? ---- (Pause) "Barn air" you say? ------ Well, I'll tell you. The Department of Agriculture tested out that question of feed odors in the air. Here's what the government investigators did.

They tied two cows in a stable. The stable had an air space of about 500 cubic feet. They closed the doors and windows tight. Then, an hour before milking, they spread 150 pounds of corn silage underneath those two cows. The silage was fresh from the silo. By the time they started milking, there was no question about that silage odor being in the air. At the same time, they milked a couple of other cows in the open air. When the judges of the test tasted the milk only in rare instances were they able to identify a silage flavor.

Of course, I'm not saying that feed odors in the barn don't sometimes effect the milk. They do. As a rule, however, the effect is slight. If you keep your cows and barns clean, and ventilate the barns properly, you won't lose much on account of barn-odors in the milk.

No, sir-ee. Feeds affect the flavor of milk, all right. But it is the feed inside the cow, and not the feed in the air that taints milk.

Federal fairy workers have found that if you feed dairy cows an hour before milking on green corn, green oats and peas, green soy beans, pumpkins, or sugar beets, you won't notice any effect on the flavor or the odor of the milk. However, if you feed them green rye, green cowpeas, potatoes, dried beet pulp or carrots, you may notice a slight effect on the milk. But if, an hour before milking, you feed your cows either silage made from corn, or alfalfa, or sweet clover, or soy beans; or feed them green alfalfa, cabbage, turnips, rape or kale, you are apt to find that those feeds affect the flavor and odor of the milk; and affect it seriously.

The Department of Agriculture has worked all this out. They've found the real secret of how to dodge those flavors and odors, to a great extent. You see the flavor and odor depend largely on when the cows eat those highly-flavored feeds.

You can feed highly-flavored feeds immediately after milking without seriously affecting the flavor of the milk produced at the next milking. Feed flavors and odors produced in milk usually are not so strong four hours after feeding. They practically disappear in seven hours.

However, there are a few exceptions to that. Unusually strong feeds, such as cabbage, or turnips, or rape, when eaten in large quantities, may sometimes be detected in the milk twelve hours after feeding. But the strength of the flavor has usually decreased so much by that time that the average milk-drinker wouldn't notice it.---(As if interrupted from audience)-- What's that? ------ (Pause)

That's a good point -----Some weeds often found in pastures are worse than most feeds for flavoring milk. Take the case of bitter weed, commonly found in the South. When cows have eaten any considerable quantity of bitter weed, the bitter weed taste may still be noticeable in milk produced nearly 27 hours after the weed has been eaten.

However, proper aeration will reduce strong feed or weed flavors in milk. It may eliminate slight feed flavors and odors altogether. By aeration, I mean running the milk over a surface cooler, so as to bring the milk in a thin stream in contact with the air.

Running the milk over the surface cooler helps in two ways -- it lets out some of the objectionable odor, and it cools the milk. The best time to do it, is right after milking, while the milk is still warm. Remember this, however. The same conditions which favor the escape of odors from the milk also favor tainting the milk with odors from outside. For that reason, you should aerate the milk in a milk room free from odors or dust; one which is well ventilated.

When proper aeration follows the practice of feeding immediately after milking, most highly flavored feeds may be fed without affecting the flavor and odor of the milk.

As for those weeds which were mentioned awhile ago, clean those out of the pasture. Until you can do that, you should take the cows out of the pasture as long as possible before milking. The longer time between taking the cows out of the weedy pasture and the time of milking, the less will be the strength of the weed flavors in the milk.

Some weeds will impart a bad flavor to milk several hours after the cow has eaten them. In such cases, it is just up to you to keep the cows off the pasture until you get rid of the weeds.

In the production of pleasant tasting milk, prevention is much better than cure. To prevent unpleasant flavors in milk, feed any highly-flavored feeds just after milking; keep the cows and barns clean and well ventilated; aerate the milk immediately after milking; and cool and store it promptly at a low temperature.

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ANNOUNCEMENT: That concludes the regular Thursday dairy meeting of the U. S. Radio Farm Forum. Tomorrow's meeting at this time will bring us a talk on farm forestry.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM (Regions 1, 2, and 3) Oct. 12/28.

Forestry Discussion No. 1a: Measuring Farm Timber.

Reading Time: 9 minutes.

ANNOUNCEMENT: Owners of woodlots who are planning to harvest part of their "crop" this year by selling off timber will be especially interested in this meeting of the U. S. Radio Farm Forum of the United States Department of Agriculture and Station __________. We're to have a talk by a Forum speaker who appears today for the first time, but who will be with us frequently hereafter.....The Farm Forester.

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Tom Freeman told me he sold some more timber from his woodlot the other day.

"How much did you sell, Tom?" I asked him.

He mentioned the lump sum he was paid for it. "But how much timber did you sell for that?" I said.

And I came to find out that Tom didn't have the slightest idea of how much he had sold or what it was actually worth.

"It is certainly good business for the buyer to get timber as cheap as he can," I told Tom, "but it is very poor business for a farmer to sell a crop from his farm without knowing how much he is selling or whether he is getting a fair price.

"I'd be surprised at you, Tom," I went on, "if there were not so many other farmers in this country doing the same thing. Every year, farmers lose thousands of dollars just that way."

"Well," said Tom, "I can measure cord wood and lumber in a pile, but measuring the board feet in sawlogs or a bunch of standing trees is little beyond my arithmetic."

"That needn't worry you, nowdays you can get measuring sticks for estimating timber almost cheap as dirt," I told him.

"How do you measure it?" Tom asked.

"In scaling logs," I said, "To find out how much lumber there is in them, you use a log rule. A log rule is one that shows how many board feet can be cut from logs of different sizes. Most commonly, you measure the diameter of the log in inches inside the bark at the little end of the log. Then you measure the length of the log, usually in even feet -----------"

"But what I want to know," broke in Tom, "is how to estimate standing timber?"

"Well," I went on to explain, "the volume of a tree is its contents, usually expressed in terms of board feet of lumber, cords of wood, crossties, or cubic feet. It is the custom to include only the saleable part of the trunk between the stump and the top that you leave in the woods. You cut sawlogs from a trunk down to 5 or 6 inches in diameter. Pulp wood or excelsior wood can include all pieces down to 4 inches. Firewood includes all down to 2 inches."

Tom got impatient. He pointed to a tree near us and said: "What I want to know is how to estimate the number of board feet in that tree, for instance?"

"First," I answered, "you estimate the top diameter, inside the bark, of each log you can cut from the tree. Then from a log scale stick or table, you just read the volume in board feet of each log and total the volumes. Then, you estimate the amount of defect there are in the logs due to rot or crooked trunk. Taking that from the gross volume gives the net volume. After that, you go to the next tree in the parcel of land and estimate it in the same way, and so on to every tree in the tract, or, as is often done, you can estimate the trees on 10 per cent or some such fraction of the land."

"Will partial estimate like that, give accurate results?" Tom wanted to know.

"Well," I told him, "that's the common method in general practice. It should give satisfactory results. Of course, in small tracts or with very valuable timber it may easily pay to estimate the contents of every tree."

Then I went on and explained that one method is to estimate one-quarter-acre plots evenly located over the tract. A circle with a radius of 59 feet covers a quarter of an acre. With a compass and tape or chain, you can locate those evenly, so as to get a 10 per cent or 20 per cent or any other desired percentage of the total area.

Another method in common use is to tally every tree within a strip two rods or 33 feet wide. Or within a strip four rods or 66 feet wide. A strip 4 rods wide and 40 rods long contains one acre. If you lay out such strips at regular intervals, it is easy to determine what percentage of the whole stand the estimate covers. An estimate of 20 to 40 per cent of the total is often necessary or, at least, advisable.

A few years ago, the necessary tools for estimating timber or scaling logs were too expensive for farmers to do this kind of thing. Now, however, you can get accurate sets of timber scale sticks for one dollar.

The Federal Land Bank of Springfield, Massachusetts, was the first to distribute a handy set of timber scale sticks. The log scale stick shows the contents of logs of various lengths and diameters in board feet by the International log rule. With the tree scale stick, you can measure the

diameter and height of trees and also read off the volume or contents of the trees in board feet. By applying percentages printed on the sticks the contents are found for white pine, hemlock, spruce and several of the northern hardwoods.

For estimating the contents of southern pines and for scaling logs of all species, The American Forestry Association of Washington, D. C., has a handy set of scale sticks.

That set of sticks is the same in principle and operation as the ones gotten out by the Federal Land Bank of Springfield, Massachusetts, but they differ in giving the contents of logs and standing trees in terms of both the Doyle and the International rules. In that way, you can get a comparison of the volume of trees or tracts of land by the antiquated but often used Doyle rule, and the International Rule. The Doyle rule is very inaccurate for small sized logs. The International rule is much more accurate and satisfactory. And while these tree scale sticks are intended primarily for the shortleaf and loblolly kinds of southern pines, and are so labeled, it happens that the figures are well applicable to the longleaf and slash pines, the two turpentine pines of the South.

ANNOUNCEMENT: Perhaps you'll want to set down in your Farm Radio Record the addresses of the agencies from which sets of timber scale sticks can be obtained. Here they are again, as given by the Farm Forester to the U. S. Radio Farm Forum: For white pine, hemlock, spruce, and northern hardwoods, use scale sticks of the Federal Land Bank of Springfield, Mass., price, $1 per set. For southern pines, sets of scale sticks are supplied, at the same price, by the American Forestry Association of Washington, D. C.

UNITED STATES DEPARTMENT OF AGRICULTURE Radio Service OFFICE OF INFORMATION

THE FARM FORUM (Regions 4 and 5) Friday, October 12, 1928.

Forestry Discussion No. 2b: Use of Summer Range

Reading Time: 9 minutes

ANNOUNCEMENT: Stockmen will be especially interested in the discussion at this meeting of the U. S. Radio Farm Forum, of the Department of Agriculture and Station ________. Ranger Bob of the U. S. Forest Service has agreed to tell Forum members something about "Use of the Summer Range."

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A few days ago, I was up to Ed Merrill's Camp. While I was there, we rode over some of the range his cattle used this summer. There were plenty of such weeds as tarweed and mustard. But you could only see dead or partly dead stumps of such useful forage as snowberry, and currant, and service berry, and mahogany. Many of the young trees were damaged, too. And there were also bare spots and a network of stock trails; where there had evidently once been a cover of grasses.

I looked at Ed. Ed guessed what was on my mind. "Pretty badly overgrazed," he said.

"Yes," I said, "You won't get much for feeders produced on this sort of range. If you expect to produce fat marketable stock, you'd better cut down on the use of this land hereafter. You'll have to give the valuable forage plants a chance to come back."

Ed did a little plain and fancy cussing. "But look at those weeds - flourishing as a green-bay tree," he finally remarked. "Why is it that useful plants are so easily killed, while the worthless weeds seem to have as many lives as a cross-eyed tom cat?"

"Of course," I told him, "Nature looks out after her own. Out here in this dry country, she has protected many plants from grazing animals by giving them spines or thorns. Others she has provided with juices that taste bad. As you know, many are poisonous. Generally speaking, however, the plants that livestock like best are the ones easiest killed by heavy grazing.

"when there were only game animals in the west, there wasn't much danger of us being eaten out of good forage plants. Since the livestock business has taken up all the range land, it is another story. The natural balance between plants and animals has been thrown off. Many first-rate forage plants haven't been able to keep up the fight against heavy grazing and a hard climate.

"The worst of it is," I explained to Ed, "the killing off doesn't stop when the best forage plants are wiped out. Heavy grazing soon takes the next best, and so on. Finally, you get range occupied by plants not much good for grazing and the soil exposed to the wear by wind and water."

As I told Ed, when the Government took over the lands now in National Forests about 25 years ago, many summer grazing lands had been heavily grazed. Their capacity to produce forage had been lowered probably 25 per cent. And the conditions were getting worse.

That was one reason why the Forest Service was given the management of the national forests. The foresters were instructed to keep up the soil cover to protect the watershed from washing and the streams from clogging up and to grow crops of timber and feed for domestic stock and game animals for all time to come.

But the job of bringing back western range plants is much harder than the job of restoring bluegrass or clover pasture in the East. Our native vegetation is used to these long dry spells we have in the spring and summer. It practically goes to sleep during the drought and then starts up when things get right again.

Plants from other regions that do not have our long dry seasons, just can't gain a foothold on our western ranges. Why, it is only exceptional years that seedlings from most of our native plants can sprout and get enough roots started to live through the first sure drought. Many plants have gotten around that by spreading from underground runners. While they are developing their own root system, they are getting their nourishment from the mother plant. Experiments have shown that we must rely on such native plants for future production.

For that reason, it is highly important that the plants still alive be allowed to grow vigorously each year. They must be protected against overgrazing. The question as to whether the summer range is being properly grazed is one of the most important the Forest officer must answer.

Upon his answer depends, in the course of time, not only the welfare of an important part of the livestock business, but the dependebility of water for many irrigation projects and the up-keep of soil fertility needed to grow forest trees.

To give that answer, the Forest Service maps the types of forage; showing the character of the topography and all fences, corrals, and ranch headquarters. Then the workers estimate the number of stock the range will support. They also figure the time of the year when the forage plants will be ready to graze, and decide how and by what means the grazing animals should be distributed.

From that information, they develop plans of management for the forest ranges. Those plans serve as guides for the forest rangers in supervising the grazing business.

That "Range Management in the National Forests" is described in a bulletin issued by the United States Department of Agriculture. It is Department Bulletin No. 790-D.

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<u>ANNOUNCEMENT</u>: Publications mentioned by Ranger Bob and other spokesmen of the Department of Agriculture at these Farm Forum meetings may be obtained by request to this Station or direct to the Radio Service, United States Department of Agriculture. We'll repeat the number of the one just given--Department Bulletin 790-D, "Range Management in the National Forests." Use one of the mailing slips in the U. S. Farm Radio Record to send for it. And if you haven't the Record, we'll be glad to supply you with a copy. Next Monday the Forum meets again in the weekly livestock session to hear about the Beef Grading Experiment which is throwing new light on our livestock industry.

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THE FARM FORUM

RELEASE Mon. Oct. 15, 1928.

Livestock Meeting No. 3: The Beef Grading Service

ANNOUNCEMENT: This is Livestock day in our Farm Forum meeting. We run these meetings in connection with the United States Department of Agriculture. Today my old friend, Sam McDowell, has agreed to lead the discussion. As you know, "Mister Mac" has been in the livestock business for more years than many of us have been here. Back in the old days, he rode the range as a cowboy. In his time, he's also worked at the stockyards, he's been a meat salesman, and now, he is one of our big livestock breeders. Yes, sir, "Mister Mac" knows this livestock business from one end to the other---- All right, go ahead, Mister Mac------

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Joe is right. In my time, I have been exposed to more things than bad weather. But I've found there are always new things to learn about the livestock business.

However, I do claim to know something about meat; either on the hoof, or on the table. Some of my friends often ask my advice. The other day, a lady friend of mine, in town, wanted me to help her pick out a good piece of beef. She knew there's a wide range of quality in beef. She wanted the best. But she couldn't tell which was the best.

"You don't need me, "I said, "If you want the best, just buy "Prime" beef or "Choice" beef.

"That's just the point, Sam McDowell," she snapped. "How can I tell when beef is "choice?"

"That's easy", I said, "just buy beef marked "Choice" with the U.S. Government grade stamp. Then you will be sure of getting "Choice" quality meat. That grade mark is the Government's guarantee that the meat is the quality shown on the mark."

"You mean the quality is marked right on the meat?" She asked sort of surprised-like.

"Sure, ma'am, if it is Government graded meat, it is," I told her. "The Government grade names are "Prime", and "Choice" and "Good" and "Medium" [illegible]

and "Common" Each of those names represents a definite quality as determined by experts. The "Prime" grade is the highest quality. "Choice" grade is the next highest, and so on down."

I thought that would help my friend. I thought after I told her that, she wouldn't have to hesitate for fear she might get fooled. But the very next words, I saw she was off on the wrong foot.

"Oh," she said, "I thought that stamp meant the animal was healthy when it was killed. I've been seeing that stamp for years."

"Not that grade stamp. That Government grade stamp is something new," I let her know. "That's the Federal inspection stamp, you're thinking about. The Federal inspection stamp and the Government grade stamp are two entirely different things. They serve two separate and distinct purposes. The inspection stamp insures the healthfulness of the animal at time of slaughter and the wholesomeness of the carcass, just as you said. But the Government grade stamp on the carcass insures a definite quality or grade on whatever piece of meat you see it on."

--She said, "I thought that must be something new."

"Pretty new," I explained, "the expert from the Bureau of Agricultural Economics told me, when I was in Washington, D. C., that the Bureau just started that service May 2 of last year. That is, they started grading and stamping as an experiment, then. It was made a permanent thing in July of this year."

"Then you've seen them grade the meat?" she wanted to know. "Tell me how they do it? You say, you saw it at Washington?

"Yes," I told her, "but the grader at Washington told me there are also expert official Government beef graders at Boston, New York, Philadelphia, Chicago, Kansas City, Topeka, and Omaha."

Then I had to tell all about how they did it. She seemed interested. Maybe you folks will be too. I explained how all the beef graders in each of those eight slaughtering centers knows his business. Each grader has had years of experience grading beef and is thoroughly qualified. Those beef graders are among the best experts in the country.

Those men are on the job every working day. They actually grade and stamp all beef carcasses and wholesale cuts offered for grading at each of their stations. In marking the grade on the meat, they use a roller stamp with letters about a quarter of an inch high. After they decide on the grade for a carcass of beef, they stamp that grade on the meat. They just begin at the hind shank, and roll that stamp right on up to the neck. That leaves a ribbon of grade marks printed on each side of the carcass. The stamp is put on so at least part of the mark will be left on each retail cut.

That stamp is for the benefit of the consumer. It enables him to select the particular grade of beef he wants. As I told my lady friend, there's no longer any need for you to rely on someone else's judgement in selecting beef. The Government stamps the grade on the beef. Those who want the best buy beef stamped prime or choice. Those who want less expensive beef, but still want to get beef of good average quality buy beef bearing the Government grade stamped good. Medium grade beef has comparatively little fat. It lacks in finish compared to good grade and all the higher grades. It lacks tenderness to a marked degree. You shouldn't expect the same satisfaction from medium grade beef as from the higher grades.

As I was telling this to that friend of mine, she was evidently still thinking about that stamping process. "How about the ink they use to mark the grade, is that safe?" she asked me.

I just laughed. "That's not ink and it is perfectly harmless. The stamping fluid is a harmless vegetable compound. Don't avoid it, hunt for it. It is the guaranty of quality. And," I added, "You don't have to worry about the expense of the Service to you, either. At present, a charge of $2.00 an hour is made for the beef grader's time at the grading centers. That amounts to about five cents a carcass. When that nickel is split up among all the cuts of a beef carcass, it can't add much to the price."

It does add a lot to the consumer's satisfaction. But that Government grade stamp is just as valuable to cattlemen. To cattlemen who produce choice beef it is insurance that your choice beef will be sold for what it is. It is the thing a lot of us have been wanting for years. Now then, we won't have to compete with the man who produces poor grade beef. The grade stamp tells its own story. Buyers can't be "sold".

As that expert of the Bureau of Agricultural Economics told me, they've tried this Government Beef Grading Service for over 17 months now. Results have proved that consumers are willing to pay for quality in beef, if they are sure they are getting quality. That automatically reverts to and benefits the cattle producer. Likewise it is a protection to both consumers and retailers. The Government grading and stamping service is an unquestioned guarantee of quality.

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ANNOUNCEMENT: This time next week "Mister Mac" will be back and talk with us some more. You may want to take notes on some of these Farm Forum talks we're having. Often speakers mention publications and where you can get them. Why don't you all write for the Farm Radio Record. You can get it through Station __________ or by writing direct to the United States Department of Agriculture. It's free and has spaces for notes.

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UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM

RELEASE Tues. Oct. 16,1928.

Poultry Meeting No. 3: Fattening Fowls for the Holidays.

READING TIME: 9 minutes

ANNOUNCEMENT: Come to order, please! -- This is a meeting of the Farm Forum. We are running these meetings, in connection with the United States Department of Agriculture. We've set aside Tuesdays to talk poultry. Today it's been suggested we talk about fattening poultry for the holidays. I've asked "Chick" Barnes here to take the lead in the meeting. "Chick" is young compared to some of us, but he's old in experience with chickens ------All right -- Go ahead, "Chick."

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As our chairman said, I've had some little experience with chickens. And with turkeys, and ducks too, for that matter. Anyway, I know, and you all know, around Thanksgiving and Christmas, there's a big demand for quality poultry. I've found it pays to fatten 'em for market. Fattening not only makes 'em bigger, but improves the quality of the flesh. During the holidays, there are a good many folks willing to pay more per pound for quality meat.

But I'm not going to stand up here and make this a one-man show. If any of you have any questions, don't hesitate to interrupt me. If you want to know how I fatten 'em or what I feed 'em, speak right up. I'll be glad to answer.

The way most folks fatten chickens is on the range. That is, all they do is give the chickens more feed and a bigger proportion of corn and corn meal in the feed. They start that extra feeding from one to three weeks before the chickens are marketed. (As if interrupted from audience)-------- What's that? ------"How much corn?"

Oh, in range fattening, the mash may be at least 60 per cent corn meal. The scratch feed should be only cracked or whole corn.

Now, well-fattened roasting chickens bring first-rate prices for the holiday trade. In supplying high-class table poultry for retail trade, you can use either pen or crate fattening. In pen fattening, I put 20 to 30 chickens in a pen and feed 'em heavily on a fattening ration. I feed all fattening mashes moist. Three parts corn meal and one part middlings, by weight, fed with skimmed milk or buttermilk makes a good mash. If you can't get liquid milk, 3 parts corn meal, 1 part ground oats, 1 part middlings and

1/4 part meat scrap or dried milk will make a good mash. Feed the fattening mash two or three times a day. In addition give 'em a light feed of cracked corn. If you don't use milk, you had better use some green feed. In pen fattening you can fatten chickens in 2 or 3 weeks. Keep water before 'em all the time. (As if interrupted from audience) Yes? -----

-----"Which is best, crate or pen fattening?" ----Well, crate fattening produces better-quality flesh than pen fattening. But it takes more work.

In crate fattening, you shut up the chickens either by themselves or in lots of 6 to 10 chickens in a crate. Then you feed buttermilk and ground grains mixed to the consistency of thick cream.-------

Here's a good ration for crate fattening: Feed 'em this three or four times a day in feed troughs: 55 per cent corn meal; 40 per cent oatmeal groats, ground oats without hulls or low-grade wheat flour; and 5 per cent middlings or bran. ---(As if interrupted from audience) What? --- Sure, I'll repeat it ---

55 per cent corn meal; 40 per cent oatmeal groats, ground oats without hulls or low-grade wheat flour; and 5 per cent middlings or bran.

I wouldn't try crate fattening unless I had milk. That mixture should have about 60 per cent liquid milk or 15 per cent dried milk. It will take about ten days crate fattening for big chickens. Small chickens take about 14 days, but they make the best-paying gains.

As a rule, heavier breeds crate-fatten better than Leghorns. And hens are usually in good flesh in the fall. They don't need any special fattening for market.

In fattening, I always feed lightly for the first day or two. Then I gradually increase the feed, until they are getting all they'll eat. I regulate the amount of feed by the chickens' appetites. Poultry should always be ready for their feed. Of course, any feed they don't eat, should be taken away before next feeding time. And the fattening quarters have to be kept clean and sanitary. Fattening quarters can get mighty dirty in a short while. (As if interrupted from audience) ----- All right ---What's your question, Mistor Brocton? ---(Pause) I was just coming to that --------

It takes from 3 to 4 pounds of grain to make a pound of gain in fattening. That is, if you feed considerable milk. If you don't use milk, it takes 6 or 7 pounds of grain to add a pound to the chicken. In fattening, you can add about 30 per cent to a chicken weighing about 3 pounds. You can add 20 to 25 per cent on roasting chickens. You can add 40 per cent on broilers. (As if interrupted from audience) What's that?----- "Turkeys?"

Why, turkeys raised on range, don't fatten well when penned up. You can best put them in condition, by range fattening. You should start usually about the first part of October. So if you haven't already started, start feeding your turkeys lightly in the morning and evening. Increase the feed

gradually; until you are giving them all they will eat three times a day.

Equal parts of corn, wheat, and oats will do to start. As the weather gets cooler and, you get along further with the fattening, you can increase the corn, until you are feeding your turkeys nothing but corn.

But be sure and use old corn. If you have to use new corn, feed only a little of it. Fattening mashes are used to some extent in fattening turkeys--that is, turkeys which have been raised in confinement and grown on mash feed. As I said before, turkeys raised on range don't fatten well penned up. (As if interrupted from audience) What's that? Did you have another question on turkeys? ---- Oh, "ducks" ---

Yes, ducks on commercial duck farms are put on fattening rations as soon as they are well feathered; that is, when they are 7 to 8 weeks old. Three parts, by weight, of corn meal, 1 part bran, 1 part meat scrap, 1 part low-grade flour or middlings and ½ part green feed make a good fattening mash for ducks. On general farms, however, ducks are not usually specially fattened. You might feed them the same as chickens in pen fattening, using only mash.

Now geese may be fattened in pens in flocks of 20 to 25. You can add from 4 to 6 pounds apiece to geese by ordinary pen fattening. The geese should be kept quiet in partly darkened pens. The pens should be bedded with oat straw to keep the quarters clean; also give the geese roughage to eat. The fattening ration for geese I use is: One feed of moist mash made of one-third shorts and two-thirds corn meal. Then I give two feeds a day of corn mixed with some oats and barley.

Of course, noodled geese will bring higher prices. You can get a gain of from 6 to 10 pounds by stuffing geese with noodles for 3 or 4 weeks. The noodles are made of ground grains put through a sausage stuffer and fed by hand to each goose. That takes a lot of work ----(<u>Sound as of chairman rapping for order</u>) Time's up -----

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<u>ANNOUNCEMENT</u>: Next week at this time we want Mr. Barnes -- our friend, "Chick" Barnes, to come back and tell us how he houses his layers. Now, for the benefit of our radio listeners, the United States Department of Agriculture has a Radio Record Book with blank spaces for noting down the rations and other interesting items "Chick" and the other Farm Forum talkers mention. Anyone wishing this U.S. Farm Radio Record can get it either through this Station or by writing direct to the United States Department of Agriculture.

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UNITED STATES
DEPARTMENT
OF AGRICULTURE

Radio Service

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THE FARM FORUM (Region 1, 2, and 3) Wed. Oct. 17, 1928

NOT FOR PUBLICATION

Crops and Soils Discussion No. 3a: Harvesting Soybeans for Seed

Reading Time: 8 1/2 minutes.

ANNOUNCEMENT: This is the Farm Forum of the United States Department of Agriculture---The Forum will now come to order!---Your program committee agreed we'd talk today about harvesting soybeans for seed.-- There's a lot of progress been made in harvesting soybean seed in the last ten years, and there are a lot of different ways of doing it. But we have an expert here today from the Department of Agriculture who knows them all.----- He can help us.--Some of us have lost heavily in handling soybeans.----

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I'm sorry to hear about those losses. Probably the most trouble comes from shattering of the soybean pods. But we don't have as much trouble from shattering as we did. Those non-shattering varieties, such as Manchu, Mansoy, and Biloxi, and Dunfield, have made harvesting easier.

Another trouble, especially of farmers who don't know much about soybeans, comes from trying to harvest a hay and seed crop together. That is, they cut the crop early to save the leaves. Soybeans should not be cut for seed until all the leaves have fallen, and the pods are fully mature.

If you cut when the leaves are still on, you get poor quality seed. The seed are harder to keep in storage, because there is too much moisture in the beans. You just can't cut soybeans so as to make good hay and good seed at the same time. For the best quality hay, you should cut soybeans three to four weeks before they are ready for seed harvest.

Now, as your Chairman just said, there are a number of successful ways of harvesting soybean seed. Some folks use a grain binder. Others use the mower, either with or without a windrowing attachment. Some use a self-rake reaper, some the clover buncher. Others use special soybean harvesters or the combine harvester and thresher.

Unless you use the combine or one of the special harvesters, you will find it best to harvest when the plants are damp and tough. By doing that, you'll avoid shattering and loss of seed.--(As if interrupted) Well--(Pause) I was just coming to those ways of harvesting.

Yes, the grain binder is quite generally used as a fast way to harvest which makes the handling easier afterward. The bundles should be small and tied loosely, so as to make curing easier. If the plants are lodged, a binder fitted with extension guards made for picking up lodged grain gives very fair results. When winter wheat follows soybeans in the rotation, some growers follow right behind the binder with a wheat drill. The bundles of bean plants fall on the drilled land, and do not interfere with the sowing of wheat. (<u>As if interrupted</u>) How's that? (<u>Pause</u>) "The mowing machine," you say?

No, the mowing machine without a windrowing attachment is not usually very satisfactory for harvesting soybeans. If you do use a mower, however, get the plants out of the way of the team at each round. Otherwise, the team will tramp and shatter the seed.----Now, with a windrower, the mower is one of the best machines for harvesting; especially where the growth is short.

The self-rake reaper has given very good results. It puts the bunches out of the way of the machine and the team.

When you cut soybeans with a mower or self-rake reaper, you can rake up the plants while they are damp into little piles or put them in shocks. Let those piles or shocks cure until the beans are fairly dry in the pods. If it should happen to rain, you should turn the piles often, so the plants won't stay on the ground too long at a time.

With a binder, you should shock the bundles 8 or 10 bundles to the shock. If they are properly shocked, you can leave them in the field until they are thoroughly dry. If you don't thrash right away, you can house them or stack them and thrash later.---(<u>As if interrupted</u>) Yes?----(<u>Pause</u>) Yes?--(Pause) Did you all hear that?

My friend down front here wants to know about thrashing soybeans with an ordinary grain separator. He complains that he gets a big percentage of split beans when he tries it.

That's not surprising, if he runs it as it is equipped for small grains. But an ordinary grain separator can be adjusted to thrash soybeans successfully. The chief cause of those split beans, is the high speed of the cylinder. To thrash soybeans, you should cut the speed of the cylinder to one-half the normal rate. But leave the speed of the fans and other parts of the separator just as they are. In some cases, a special set of thin concaves is used. In other cases, some of the concaves are taken out and a wood blank is substituted. Some manufacturers have special pea and bean hulling attachments for grain separators. But there are also bean and pea separators of different sizes on the market. Those machines do clean hulling and split practically none of the beans.

Then there are special bean harvesters. They are used quite generally in the Southern States. They harvest the seed from the mature standing vines. They are two-wheeled box-like machines pulled by two horses. They take one row at a time. As the machine passes over a row of soybean plants, four sets of revolving arms or a cylinder with long teeth shatters the beans from the plants

into the body of the harvester----(As if interrupted) Did you have a question?---(Pause)

Yes, of course, there is some loss of beans. But the loss of beans is more than made up for by the saving of time and labor. Under good conditions two men with a team can harvest an acre of soybeans in about two hours.

Now, in the Corn Belt States, it is becoming quite generally recognized that soybean seed can best be harvested with a combine. Several different types of combines have been used. And where they were properly operated they proved more satisfactory than any other method.

They all work on the same general principle. That is, they cut the mature soybean plants and elevate them to a cylinder where the beans are thrashed out. With a combine, a bigger percentage of seed is saved, the weather risks are lessened, man labor is saved, and the seed has a lower moisture content.

You know it is not safe to store soybeans having a high moisture content. They are likely to heat and mold. When they are thoroughly dry, there is no such danger. You can just sack the beans or store them in bins. But if the beans are at all damp, you should spread them out and stir them often until they are dry. Some farmers put the seed in loosely woven burlap sacks and cross pile the sacks in a dry well-ventilated room with plenty of air space around them.---(As if interrupted) How's that? (Pause)

Oh, no, You needn't worry about that. Except under conditions of heavy infestation, soybean seed is not affected by weevils or other stored grain insects.

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ANNOUNCEMENT: Before the Farm Forum adjourns for today, let me call your attention to the Radio Record book which may now be had for the asking from either Station__________ or from the United States Department of Agriculture. It is issued by the Department to provide ready space for listeners to farm programs to set down facts for future reference.

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UNITED STATES DEPARTMENT OF AGRICULTURE
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THE FARM FORUM (S--4 and 5) Wed. Oct. 17, 1928

NOT FOR PUBLICATION

Crops and Soils Discussion No. 3b: Winter Vegetables for Home Use and Marketing.

ANNOUNCEMENT: This is the Farm Forum of the United States Department of Agriculture and Station ____________. The Forum will now come to order! ----- Your program committee agreed we'd talk winter vegetable growing today.----I'm going to call on Tom Gardner himself to start the meeting. He has been able to make his garden pay dividends--maybe he'll tell us his secret.

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Sure, I'll tell you all the secret. It is simple. The secret of having plenty of fresh vegetables, especially for home use, is to plant often and keep something growing in the garden all the time.

Out here in the Southwest and most of California, we can do that better than most. The trouble is some of us still have the old ideas of gardening.

You remember when we used to say "Tomorrow, I'm going to plant my garden." And that's what we did, too. We planted the garden and that was the end of the garden planting for the season. The garden grew. When the vegetables matured, we used them. Then we left the garden to grow to weeds until the time to plant next spring.

There are some folks who still do that, but there is no reason for it in this climate. Everybody should keep the gardens growing.---(As if interrupted from audience) What's that? (pause)"How about frost and cold weather?"----

Well, of course, we can count on having some fairly cool weather. We may even lose some of the crops by frost. However, there are a number of crops that are not hurt by light frosting. Beets, carrots, cabbage, kale, Brussels sprouts, spinach, lettuce, radishes, turnips, onions and peas will stand light frost. Even among the more tender crops, it pays to take a chance on okra, squashes, peppers, and snap beans. If the snap beans should get nipped by frost, it doesn't cost much. Neither does it take much time to make another planting. Snap beans come up very quickly. (As if interrupted from audience) Did the man on the back row there have a question? Yes?----(Pause)

I see, you want to know about growing for market.----

Well, when it comes to growing for market, it pays to specialize on a few crops--two or three at the most. It also pays for everybody growing for market in a community or region to grow the same varieties, at the same time. That makes it easier to fill a car with one kind of vegetable and ship in carload lots. The markets prefer car lots. They sell quicker; and in general, at a higher price.

Northern consumers have come to expect a steady supply of a lot of different vegetables, at practically all times of the year. But each section should try only those crops that grow well and are dependable. And only those that can be produced in carload lots. For instance, the Imperial Valley specializes in the seasonal production of lettuce and muskmelons. And the Rio Grande Valley specializes in Bermuda onions.

But, let me warn you, before you go into the production of any of the vegetable crops on any considerable scale, investigate the market situation carefully. Better grow for home use first. Learn how to produce good crops before trying the market in a big way. The markets for our products in the north have been very much hurt by the sale of poor vegetables during the winter.

A neighbor of mine was asking me the other day about starting a garden. "What does it take," he asked me, "to grow good garden crops in this part of the country?"

"What it takes," I said, "is good land and high fertilization." And that's just what I would say to other southwestern farmers. Unless you have the right sort of land and are willing to give careful attention to the growing of crops, you had better not try to raise garden crops for market.

However, you can have plenty of fresh vegetables for home use throughout most of the winter. (As if interrupted) Yes?----(Pause) What to grow,"----Ah, that's the question. But you had better ask the different members of your family that. Grow what they like, as far as practical.

English peas quite often give good crops during the fall. That's especially true if you plant English peas about the time, or just a little before, the first cool days begin. I'd advise you to plant the early or quick maturing varieties.

Another thing which does well in the fall, is radishes. A package of radish seed sown about now will often supply you with radishes for the table until Christmas.

Carrots and beets, planted in rich soil during October, will supply your table all through the winter in many parts of the southwest. (As if interrupted) What's that? (Pause) "How should they be planted?" Why, plant them on low, flat beds for good drainage.

Of course, it goes without saying that spinach is an important crop for your fall garden. But, remember, spinach will not grow on acid or sour soil. You may need to use a little lime, not a great amount, to put your soil in condition for spinach.

Plow the land in a flat bed about four feed wide and plant about five rows on top of the bed. Spinach needs rich soil. Be sure to add plenty of fertilizer to the spinach bed.

Kale and collards stand cold weather. They are good crops for the late fall and winter in the Southwest. Brussels Sprouts are another hardy crop that it sometimes pays to grow. Plant them all in rows on top of slight beds and irrigate them where it is necessary.

An ounce or two of Bermuda onions sown about this time, that is, about the middle of October, will give you young pulling or green onions during the winter. If you don't eat all of them that way, what are left will be there as mature onions in the spring.

There are still a lot of people living out of tin cans in the winter. It is not necessary. It is not wise. Hang up the can-opener, and take down the hoe.

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ANNOUNCEMENT: Before the Farm Forum adjourns for today, let me call your attention to the Radio Record Book prepared by the United States Department of Agriculture. It has spaces for making notes on farm programs. Mail your requests to Station_____ or direct to the Department for this booklet.

UNITED STATES
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THE FARM FORUM (N--4 and 5) Wed. Oct. 17, 1928.

NOT FOR PUBLICATION

Crops and Soils Discussion No. 3 c: Storage of Fruits and Vegetables for Home Use.

ANNOUNCEMENT: This is the Farm Forum of the United States Department of Agriculture---The Forum will now come to order! ----Your program committee agreed we'd talk home storage of fruits and vegetables today----I'm going to call on Tom Gardner over there to start the meeting. I happen to know Tom Gardner has been unusually successful in keeping stuff on his own place----And then, too, he gets around a good bit in his automobile and keeps his eyes open. Maybe he can tell us how some of the others are doing it----

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I'll admit, as the Chairman says, the fruits and vegetables I store usually keep well. I hope I've learned something. Goodness knows, I used to have enough trouble. I found it was no easy matter to keep these products. That's especially true in the fall and early part of the winter, before the weather gets cold.

You can keep fruits and vegetables under farm conditions, if you store them properly. But different things require different storage.--- What would you like to hear about first?---(Pause as if for reply)

"Apples" you say?----All right, let's take apples first, and see what the specialists and the growers have worked out in the way of satisfactory farm storage.

Please remember this: Storage of apples starts at the trees. How apples keep depends a lot on how they are handled, before they go into storage. In the first place, apples shouldn't be over-ripe. In the second place, you should pick them carefully. Avoid bruising them. Avoid punctures of the skin of the apples. And gather only sound apples for storage. After you pick them, cool them and keep them just as cool as possible---- (As if interrupted from audience) --What's that?---How to cool them?"

Stacking them in crates and keeping them shaded for several days is a good way. I stack mine in an open shed where the sun won't hit them and where plenty of air can circulate around them. Some folks move theirs direct from the orchard to the cellar or storage house where they keep them. My house cellar is too warm and too poorly ventilated for the storage of apples. Most cellars are.

You see the big idea is to store apples where the temperature is as low as possible without freezing, but where you can keep out the cold when the temperature out doors gets down where there might be danger of freezing in the storage.

If you store apples in the cellar, all the windows and doors should be opened, so as to let the air circulate. Sometimes it pays to close the doors and windows during the daytime and open them at night. It all depends on the temperature of the outside air. (as if interrupted from audience) How's that? (pause)

No. In building apple storage houses sawdust filled walls are not as good as the walls with an air space. The best apple storage houses are built with thick or double walls with several layers of paper and an air space for insulation.

I've been keeping my apples during the fall on a layer of straw on my barn floor. I leave them there until severe freezing weather sets in. Then I move them to my cellar. (As if interrupted from audience) Well, what's the next question?-----(Pause) Oh, "potatoes".

Well, potatoes and all the root crops such as carrots, beets, and turnips store best at a temperature between freezing and 40 degrees, but they do not want to be kept too dry. The actual freezing temperature is a little below the freezing point of water. So, if you just put a tub of water in the storage room, it will make you a good thermometer to tell when actual freezing takes place. However, it is a good plan to have a good reliable thermometer hanging in the storeroom. A little frost doesn't hurt cabbage, beets, turnips, or carrots; but the least freezing ruins potatoes. (As if interrupted from audience)---Yes, this is an open meeting-- fire away (Pause)

"What do I think of pits in the open ground?" Why, that old fashioned way of burying turnips, carrots, beets, cabbage, and potatoes in pits has much to recommend it. The only trouble is that the stuff is mighty hard to get out, when you want to use it.

However, you can get around that feature of it. You can build a special storage cellar underneath a building or partly under ground and cover it over with earth. We used to build ours from sods. But I now have a permanent storage cellar. If you can get stone or gravel, you will find it much better to build a permanent storage cellar, than to rely on one of more temporary material.

In building your cellar, remember this: Be sure it is well drained and there is no chance of water settling in it. That also goes for outdoor storage pits where cabbage or other vegetables are buried in the ground.

Here's the way to build an outdoor storage pit. Pick out high ground, then level a space about 8 feet in diameter. Lay a few old boards or a layer of straw on the ground to pile the crops on.

In the case of turnips or carrots or beets, cut the tops off, leaving about a half inch of leaf stem on the roots. Then pile up the turnips or whatever you are storing, in a round conical heap with a stove pipe, a wooden box, or a tile sticking up through the center for ventilation.

Then you cover the stuff over with straw or corn fodder or something of that sort. As cold weather comes on, you throw a light covering of soil over the blanket of straw or corn fodder. As the weather gets colder, you add more soil. In some cases a second layer of straw or fodder is put on to act as insulation between the two layers of soil.

You must keep the top of that stove-pipe or wooden-box ventilator open until very cold weather sets in. And it is also a good plan to put boards or a piece of roofing paper over the crown of the pit so water can't run inside. However, most of us don't have to worry about that.

You can make it easier to get vegetables out during the winter, by putting a box without a bottom in one side of the pit. You could use it as a doorway or opening to get the vegetables out any time. You can close the opening by stuffing it with bags filled with straw.

Another way is to bury a big storebox in a protected place in the open ground. Divide the box into compartments. Then fill each compartment with a mixture of different vegetables. Provide a little box or tile opening in one corner for ventilation. Then cover the box of vegetables with straw and earth. You see, by filling two or three such improvised store houses with mixed vegetables, you can open one at a time as needed. Take out the vegetables and move them to the house cellar for use.

In all this storage of both fruits and vegetables, remember that a lot depends upon the condition of the product before you put it in storage. All vegetables should be well grown, well matured, and should be handled carefully before storage.

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ANNOUNCEMENT: Before the Farm Forum adjourns for today, let us call the attention of all radio listeners to the Radio Record Book which can now be had for the asking either from Station___________ or from the United States Department of Agriculture. It is issued by the Department to provide ready space for listeners to farm programs to make notes, take down rations mentioned in lectures take the number of bulletins containing fuller information on farm subjects, and so on. Please address requests to Station_________ or to the United States Department of Agriculture.

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THE FARM FORUM Thursday, October 18, 1928.

Dairy Discussion No. 3. Legume Hays for Dairy Cows.

ANNOUNCEMENT: This is dairy day in our Farm Forum. We're running these Farm Forum meetings in connection with the United States Department of Agriculture. At each meeting, we try to take up some important farm problem -------- Ah! there's our "Big Milkman" now! --- We'll ask him to come on down front, and take charge of the meeting. He promised to talk to us about "Legume Hays" --- and about that prize cow of his, "Betsy Ann."

****

Well, Mr. Chairman -- and fellow dairy-farmers: -----

My cow, "Betsy Ann" likes legumes.

I like to give "Betsy Ann" what she likes. I try to be good to "Betsy Ann" and all my other cows. And when I weigh up the milk, I realize that "Betsy Ann" is good to me.

Then, too, the more she likes a roughage, the more of it she eats. "Betsy Ann" has a stomach built for handling a big lot of rough feed. So I feed her and her sisters all the legume hay they'll eat.

"Betsy Ann" likes it. And I like it; because that means I have to buy or raise less grain feed, to go with the roughage.

Legume hays have more protein in them than grass hays. So, by feeding "Betsy Ann" legumes, I don't have to buy so much expensive high-protein feed, such as oil meals. In fact, I'm now growing all my own grain feed. I can do that, because I have plenty of good legume hay.

I feed the average one of my cows about 15 pounds of alfalfa. Well, 15 pounds of alfalfa has as much usable protein in it as 15 pounds of timothy hay plus almost 4 pounds of linseed meal.

But that isn't all. Milk can't be made without lime, any more than it can be made without protein. If I didn't give my cow, "Betsy Ann" enough lime in her feed, she'd take it out of her bones and put it in the milk. I'm fond of that animal. And she seems to care for me. But she wouldn't keep that up, even for me. To save her own life, Betsy Ann would cut down on the milk---- (As if interrupted) How's that? ------- (Pause) "Couldn't I give her some ground limestone or bone meal along with timothy hay?"

Well, in answer to that, some dairy farmers do. But there is almost 8 times as much lime in alfalfa hay as there is in timothy hay. And the lime in legume hay is in a form the cows can use it, better than that fed with

timothy, in the form of limestone or bone meal.

But, let me caution you to do everything practicable to keep legume hay from getting wet during curing. Legume hay, which has been exposed to too much sun, or rain, or dew after cutting, may be no better than a well-cured grass hay; so far as the lime is concerned.

Just because a hay is a legume, doesn't necessarily mean that it will be satisfactory. It may be poorly cured, or it may be too coarse and stemmy. Neither "Betsy Ann" nor any of my other cows like coarse, stemmy hay. They waste a lot of it. I try to give them only fine, leafy, tasty hay.

Coarse, stemmy hay is likely to develop if the plants are not thick enough in the ground. I plant my legume thick enough so that heavy stems won't develop.

Then, as you all know, as plants get toward maturity there is usually an increase in the woody, indigestible parts of the plant. As a rule, there is also at the same time an increase in the food material in the plant. Some farmers, for fear of not getting all the food material, let the hay get too mature before cutting. Or they let the leaves get shattered off during handling and curing. I cut the legume hay for my cows, before many of the lower leaves drop off. I also cure the hay in the windrow or cock instead of in the swath.

By curing in the windrow or cock; by cutting before many of the leaves drop off; and by planting thickly enough so heavy stems won't develop, I make fine, leafy legume hay which "Betsy Ann" appreciates. She shows her appreciation by the quantity of milk she gives -------------- (As if interrupted) Yes? (Pause) I hope you all heard that question?-- My friend over there on the left, wants to know which legume hay is best.

That will depend a good bit, on which you can grow best. Where it will grow well, alfalfa is the best hay to raise. However, some say that soy bean hay is just as good, for producing milk. As a rule, though, alfalfa has finer stems. There is less waste in feeding alfalfa. Alfalfa is also easier to cure and to handle. Besides that, under favorable conditions, alfalfa will outyield soybeans and doesn't have to be seeded each year as soy beans do.

On the other hand, soy beans fit into the crop rotation better than alfalfa does. And you sometimes have to harvest alfalfa when you can't very well spare the time from other work. Farmers' Bulletin No. 1283-F which has just been revised, will tell you "How to Grow Alfalfa."

Soy beans, as a rule, don't have to have such favorable climatic conditions as other legumes do. Soybeans will grow on almost any well drained soil of at least medium fertility. Soybeans will grow on fairly acid soils as well as on sweet soils. Soybeans are gradually replacing cowpeas as the standard legume in the South. And soybeans make a surer crop than either alfalfa or red clover. But soybeans take more work in preparing the ground. They are also harder to cure than either alfalfa or red clover.

Red clover is the dairyman's standby in some sections. It fits well into crop rotations. Red clover is usually sown in the small grain in the spring. It is sown without any previous preparation of the soil. That makes it an easy crop to raise. Red clover makes a very satisfactory hay. But, pound for pound, it is not quite as good as alfalfa. "Red Clover Culture" is explained in Farmers' Bulletin No. 1339-F.

They say, cowpeas do better on poor soils in the South than soy beans. Alsike clover makes a good legume hay for wet soils. Sweet clover is a good legume, but you should cut it in the early stages of maturity. Lespedeza makes a fine hay. The only trouble is, as a rule, it doesn't make enough of it. It doesn't yield heavily.

However, if you harvest at the proper time and cure carefully, any of those legumes will make good cow feed. I wouldn't hesitate to feed the one I could grow to best advantage. I know that "Betsy Ann" would rather have legume hay, than grass hay. She will eat more of it. I can feed it to her more cheaply, because I don't have to feed so much grain. For that reason, I don't raise grasses. Why raise grasses? Legumes produce more milk. The legumes have in them what's needed by the cow. Your cows like legume hay as well as mine. And the milk record shows how much "Betsy Ann" appreciates good legume hay.

--oooOooo--

ANNOUNCEMENT: Those bulletins just mentioned are Farmers Bulletin No. 1283-F on "How to Grow Alfalfa" and Farmers' Bulletin No. 1339-F on "Red Clover Culture." You can get them for the asking either through this station, or by writing direct to the United States Department of Agriculture. The Department also has a Radio Record book for handy use in noting down bulletin numbers, etc. We will send you that too if you ask for it ---- And, now, next week at this time our Big Milkman has promised to come back.

UNITED STATES DEPARTMENT OF AGRICULTURE
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THE FARM FORUM Friday, October 19, 1928.

Economics Discussion No. 3: Silage Harvesters.

ANNOUNCEMENT: This is a meeting of the Farm Forum. We carry on these Farm Forum meetings in connection with the United States Department of Agriculture. Today, we've asked our farm engineer friend from the Department to tell us how to save work in silo filling ------ Here he is now. I'll just turn the meeting over to him. Go ahead. We're all waiting --- We all want to know how to do it --------

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---- Yes, Mr. Chairman, you've given me quite a big job. Filling a silo is a big job. But making silo-filling a smaller job is not any small job either.

A bunch of us were talking about this the other day. I was bragging about the number of jobs American farmers have shifted from farm hands to machinery. Then somebody spoke up and said: "How about silo filling?"

Well, of course, he had me in a corner. I never said we are running everything by power machinery, anyway. But I went ahead and called his attention to the fact that the corn binder, the bundle loader, and the silage cutter do a big part of the work.

"Yes," he admitted, "but with all that, there's still a lot of heavy, disagreeable work about filling a silo. And, what's more, silo filling takes big crews of men."

"Give us time," I said. "We'll make it simpler in time. The silage harvester has already done something along that line."

"You mean one of those combined corn binders and silage cutters?" he asked.

"Yes," I agreed, "or, as some people might say, the silage harvester is a corn binder with cutter and elevating attachments. At any rate, the silage harvester reaps the standing corn, it cuts the corn into the right lengths, and then it delivers these pieces into a wagon. Then at the silo, all you have to do is to transfer from the wagon to the silo."

"I've heard of those silage harvesters," he remarked, "but would it pay to buy one? Are they really practical machines for the average farmer?"

Even for the average farmer," I told him, "a silage harvester makes silo filling a much simpler job. It cuts down the size of the crew and cuts out the heavy hand work.

"But, I'll admit," I went on, "That the silage harvester is at present best suited to the big farm. That is, a farm where the amount of silo filling is enough to cut down the running costs, and where you have a number of men working, and where you have two engines you can use to run it ---" (As if interrupted from audience) What's that? --- speak a little louder --- (Pause)

Oh, I understand now,----- you want to know how the cost with a silage harvester compares with the cost by the old way, of cutting at the silo?

There's a study been made in Canada throws some light on that. That study shows that where the silage harvest runs to 650 tons or more a year, the cost of operating the silage harvester is less than that of the old methods. Where trench silos are used, it takes only 400 tons of silage to cut the cost with a silage harvester.

There are some farmers in Pennsylvania who handle 800 tons of silage a year with the silage harvester. They claim the saving in labor will pay for the machine in three years.

So you see from those figures, that you have to fill several silos before a silage harvester gets to be a paying investment.

Since the average farmer seldom has over two silos, to make a silage harvester pay, Mr. Average Farmer would have to get jobs filling other folks' silos. Either that, or he might go in with a couple of the neighbors in buying the machine. It would take something like that for him to show an actual money gain. But, of course, you want to take into consideration the value of easing up the heavy, disagreeable work.------ (As if interrupted from the audience) ---- You, standing up over there ------- did you have a question? ----------- (Pause)

----- Oh ----- "How do we get the silage into the silo?" -------- Well, for tower silos, a special dump blower has been developed. You have to have the power of a small tractor or some other motor to run the blower.

The dump blower is somewhat like an ordinary corn elevator. There is a hopper for catching the silage, and the front end of the wagon may be raised to make the silage flow easier from the wagon box. It takes at least one man to work the blower, and help the driver feed it properly. The blower can handle about 15 tons an hour. That is plenty to take care of the silage harvested by the present machines.-----(As if interrupted from the audience) ---- Yes? -- (Pause)

"Trench silos"? As I understand you, you want to know how the silage is handled from the harvester for trench silos? Is that it?

Well, where trench silos are used, the silage is dumped directly from the wagon into the silo. A simple way to unload at a trench silo is to put a piece of wire fencing as a false bottom in the wagon box. Then after you load the silage and bring it to the trench, you take the wagon team, or a snatch team, to the opposite side. By pulling out the false bottom, you carry the load of silage along and unload it quickly. (As if interrupted from the audience)----- Here's another question over here --------------(Pause)

Yes, the silage harvester is usually operated by a tractor with a power take-off. A small farm tractor, or general-purpose tractor, will run the silage harvester and cut about 100 tons of silage a day. The tractor is generally run at slow speed. That prevents overloading the cutter and allows enough power for the take-off to work the cutting and elevating machinery. Some harvesters are run by an auxiliary engine. In that case, the outfit is pulled by either horses or a tractor.

The wagon for catching the silage is pulled alongside the harvester. Sometimes a wagon box, much like a hay float, is used with a three horse team. Such a wagon bed holds about three tons of cut silage. That cuts down the number of wagons and drivers needed. Three such big wagons will handle the silage when the haul is short. --- (As if interrupted from audience) --- Sure --- I'm glad to answer questions ------------- (Pause)

"How many men does it take with a harvester?" ---- Well, the size of the crew depends to a large extent on local conditions. To keep the silage harvester running under favorable conditions it takes at least six men. However, there is little heavy hand labor. A part of the crew might be boys or older men.

Of course, as time goes on, silage harvesters will probably be very much improved. Silage harvesters are not used very extensively at present. However, they fit in well with power farming. There is quite likely to be an increased demand for such machines since they help cut down the heavy, disagreeable work and big crews of men now needed for silo filling.

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ANNOUNCEMENT: Next week at this time, we hope to have a timber expert lead this Farm Forum discussion. In the meantime, however, you might write for that handy U.S. Farm Radio Record. It has blanks where you can put in the schedules of this station on forum broadcasting and make notes on some of these meetings. You can get the U.S. Farm Radio Record by writing to this Station for it, or by writing direct to the United States Department of Agriculture which gets it out.

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FARM FORUM PROGRAM.

Region 1

October 22 to October 26

RADIO STATION DIRECTORS: Topics of the U. S. Radio Farm Forum talks will from now on be sent to you with each week's mailing, for your convenience in sending programs to your local press.

DATE	TOPIC.
October 22	Pork on the Farm: Killing, Curing and Dressing
October 23	Good Housing for the Layers
October 24	Chemistry as Related to Farm Life
October 25	Legume Hays for Dairy Cows
October 26	Marketing Farm Timbers

UNITED STATES DEPARTMENT OF AGRICULTURE
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FARM FORUM PROGRAM.

Region 2

October 22 to October 26

RADIO STATION DIRECTORS: Topics of the U. S. Radio Farm Forum talks will from now on be sent to you with each week's mailing, for your convenience in sending programs to your local press.

DATE	TOPIC.
October 22	Pork on the Farm: Killing, Curing and Dressing
October 23	Good Housing for the Layers
October 24	Chemistry as Related to Farm Life
October 25	Legume Hays for Dairy Cows
October 26	Marketing Farm Timbers

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FARM FORUM PROGRAM.

Region 3

October 22 to October 26

RADIO STATION DIRECTORS: Topics of the U. S. Radio Farm Forum talks will from now on be sent to you with each week's mailing, for your convenience in sending programs to your local press.

DATE	TOPIC.
October 22	Pork on the Farm: Killing, Curing and Dressing
October 23	Good Housing for the Layers
October 24	Chemistry as Related to Farm Life
October 25	Legume Hays for Dairy Cows
October 26	Marketing Farm Timbers

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FARM FORUM PROGRAM.

Region 4

October 22 to October 26

RADIO STATION DIRECTORS: Topics of the U. S. Radio Farm Forum talks will from now on be sent to you with each week's mailing, for your convenience in sending programs to your local press.

DATE	TOPIC.
October 22	Pork on the Farm: Killing, Curing and Dressing
October 23	Good Housing for the Layers
October 24	Chemistry as Related to Farm Life
October 25	Legume Hays for Dairy Cows
October 26	Utilizing Timber Land

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FARM FORUM PROGRAM.

Region 5

October 22 to October 26

RADIO STATION DIRECTORS: Topics of the U. S. Radio Farm Forum talks will from now on be sent to you with each week's mailing, for your convenience in sending programs to your local press.

DATE	TOPIC.
October 22	Pork on the Farm: Killing, Curing and Dressing
October 23	Good Housing for the Layers
October 24	Chemistry as Related to Farm Life
October 25	Legume Hays for Dairy Cows
October 26	Utilizing Timber Land

UNITED STATES DEPARTMENT OF AGRICULTURE
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THE FARM FORUM

Tues. Oct. 23, 1928

NOT FOR PUBLICATION

Poultry Meeting No. 4: Good Housing for Layers.

Reading Time: 8 1/2 minutes.

ANNOUNCEMENT: The Farm Forum of the United States Department of Agriculture will be in order! -------- Is "Chick" Barnes in the house? -------- Ah, there he is ----- Come on up here, "Chick" ----- We are going to talk about houses for layers ---- As you've collected the eggs, and the money for them, you ought to know the kind of houses it pays to build ---- What do you think about the effect of housing on egg production, anyway? -----

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There's no doubt about it. Laying hens need comfortable houses. That is, they need comfortable houses to produce well. That's especially so in the winter, when they spend so much time indoors.

I don't mean by that anything fancy. Houses don't have to be elaborate or expensive. Good houses make for healthier hens --- and for more eggs. (As if interrupted) (Pause)

Sure, fire away ------ (Pause)"What do I call a good house?"

Well, a good house for laying hens should be comfortable for the hens; and convenient for the one who has to take care of the hens. And furthermore, it should be easy on the bankroll; in the long run.

To make a house comfortable, you have to give the hens room enough. It also has to be dry and well ventilated. Allow about 4 square feet of floor space for each of the hens of the bigger breeds. And allow about 3 1/2 square feet of floor space for Leghorns. That is, where you keep them in flocks of 35 or more. In smaller flocks, allow at least one more square foot to the hen.

The house must be dry; for comfort and health. The building should be tight. Arrange the openings so as to keep out the rain. The moisture from the chickens must be carried off by good ventilation. You should arrange the openings and handle them so as to give good ventilation all through the year ---- (As if interrupted) What's that? (Pause) --You say "What is good ventilation?"

Well, the house should be free from drafts in cold weather. That means that there should be no cracks in any of the walls. Windows and curtains should be opened only on the south side of the house. Never close the house absolutely tight at night, unless you use muslin curtains which let in some air.

Sunlight is also needed. For the health and comfort of your chickens, you should see that they get as much sunlight as possible. Plan the house so the sun will shine as far back into the building as possible---- (As if interrupted) Yes? ---- (Pause) "How deep should the house be?"

Well, the size of flock largely determines the size and dimensions of the house. A long, narrow house is inclined to be colder than a deeper house. But don't build it so deep that the sunlight coming through the openings can't reach practically the whole inside. Generally houses should be between 15 and 24 feet deep.

The hens should have a chance to get direct sunlight every day the sun shines. However, too many windows make the house warm in the daytime and cold at night. The house should be as warm as possible without interfering with good ventilation.

I handle my layers in units of from 150 to 225 hens and have long laying houses, but there are partitions in them about every 40 feet to prevent drafts. And I have partitions on the roosts and dropping boards at least every 20 feet. (As if interrupted from audience) What's that? --(Pause) ----There is no "best" style of hen house. There are many styles used successfully in all sections of the country. You can usually get detailed plans of houses from your State College of Agriculture. The United States Department of Agriculture also has a Farmers' Bulletin on "Poultry Houses and Fixtures" It is Farmers' Bulletin 1554.

A well-built house is more economical than a flimsily put up shed. (As if interrupted from audience) Did you have a question? (Pause)

Yes, wood is most commonly used for building hen houses. But the wood should be well seasoned, so cracks won't develop in the walls of the house. I build my hen house walls with narrow matched lumber. And I cover the roof with prepared roofing. I sometimes use glass substitutes in place of window glass.

(As if interrupted) What's that? -- "The foundation?"

Certainly, it matters what sort of foundation you have! Concrete foundations and floors are part of a good chicken house. Chicken houses should have concrete floors; except, of course, portable houses. Portable houses should have wooden floors. But dirt floors just won't do. A dirt floor is hard to keep clean, besides being damp during the winter.

You want to keep in mind your own convenience as well as the comfort of your hens. Naturally, you want to cut out unnecessary work. And, of course, you want to build your house so it is easy to clean. Every chicken house should be conveniently located and be arranged so that it is easily cared for. Work that is hard to do is very apt not to be done at all; or, at least, not as often or as thoroughly as it should be.

If a house is not cleaned thoroughly and often, it will tell on your hens' health. Pretty soon it will result in a slump in egg production, if it doesn't lead to worse trouble. That would be just too bad --- (As if interrupted) All right -- What is yours? (Pause)

"How often should you clean the house?" -- Well, my answer to that would be; often enough to keep it in good condition. You should clean the dropping boards regularly at least twice a week. The litter on the floor may have to be renewed in 4 to 6 weeks; or it may last 2 or 3 months. That depends on the weather. It should be kept in good condition.

If you make the inside fixtures of the house simple, they will be easier to clean and won't cost so much either. Put the roosts next to the back wall where they will be out of the way; and where the hens will be back from the openings in the front of the house when they are roosting. Fix the nests above the floor and on the side walls rather than under the dropping boards.

But, you men who are just starting to build or just thinking about building, remember that the fixtures or the house itself is not the first thing. The location is very important. The house should be located where there is good water and air drainage, so the floor and yards will be dry. The floor should be 3 or more inches higher than the outside ground level. Never build a henhouse or put one in a low pocket or hollow where cold air tends to settle. In most parts of the country, the laying house should face south.

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ANNOUNCEMENT: That bulletin on Poultry Houses and Fixtures is Farmers' Bulletin No. 1554. You can get it either through this Station or direct from the United States Department of Agriculture. The Department also has a record book with blanks for noting down the numbers of bulletins and the like. That too may be had for the asking.

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UNITED STATES
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THE FARM FORUM Monday, October 22, 1928.

Livestock Meeting No. 4: Cutting and Curing Pork

Reading Time: 9 minutes.

ANNOUNCEMENT: The Farm Forum of the United States Department of Agriculture is now open for discussion. As I told you members, I've asked Sam McDowell to lead the meeting again this time. "Mister Mac" knows livestock from A to Izzard. And that includes how to dress, and cut, and cure pork. I know that from experience. Don't I, "Mister Mac"?---------

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Yes, but Joe's ungrateful. I have him a big piece of good old country ham! And how did he appreciate it?--Why, right away he wanted me to come here, and tell you all how I cured it.----- But I still insist that was good meat!--

I've always stuck to the old practice of curing my own pork. A lot of farmers have quit it. But I notice a good many are coming back to it nowdays. They've found it pays. But, Joe tells me that some of you got out of practice.

Of course, you all realize, that in selecting hogs for slaughter, you should choose only those in thrifty condition. Aside from that, you should select with an eye to the use which the meat is to be put.

Hogs under 100 pounds are very tender, but they are not so good for curing as heavier hogs. On the other hand, extra big or fat hogs run heavily to lard. Hogs weighing between 180 and 225 pounds produce curing cuts more nearly family size.

How much you get out of a hog depends on the hog; and on how you cut it. The trimmed ham will ordinarily weigh about 7 per cent of the live weight of the hog, and the bacon strip about 5 per cent. Hogs averaging about 200 pounds will produce between 10 and 14 per cent of rendered lard.

Now, in hog killing, you don't need a lot of tools. But there are a few which make it a lot easier. I use a six-inch skinning knife, a 12-inch steel, a 24-inch meat-saw, a bellshaped or candle-stick hog scraper, and a thermometer and a salometer. (As if interrupted) (Pause)

"What's a salometer?" ----- Why, a salometer is an instrument for measuring the saltiness of the brine in which you cure the meat. You can measure the water or test with an egg, but the salometer is more satisfactory. You can get one from any butcher's supply company for about a dollar.

You all know about the table, barrel, and block and tackle you need for scalding and dressing hogs. The best temperature for scalding is 142 to 144 degrees. If you get the temperature higher than that the hair has a tendency to set. Temperatures below 140 scald too slowly.

If you are just killing one hog in the winter and the family likes pork, the way you cut it up doesn't make so very much difference. But if you are handling five or six hogs and putting down a summer supply of meat, you want to cut the hogs so as to get the most meat for curing and the least which you must use fresh.

It is always better to split the hog carcass through the center of the backbone rather than on each side, if you are putting down the meat. (As if interrupted from audience) Yes? ----- (Pause)

Yes, that's true. That "center split" doesn't leave that savory backbone cut. But it exposes the two loin muscles in such form that you can make them into roasts and chops or bone them out easily for canning.

I follow the cutting method laid down in Farmers' Bulletin No. 1186.

Cutting that way, from a 200 pound hog I get a three-rib shoulder; a full strip of bacon; a short or full-cut ham; the loin for canning; and 10 to 14 per cent of rendered lard. That leaves me only a little headcheese or scrapple, 3 to 5 per cent of sausage trimmings, and from 3 to 5 per cent of the live weight of the pig in spareribs. The spareribs are the only part that needs to be eaten promptly.

In trimming meat for curing, I always try to trim smoothly. I cut off the loose pieces and uneven edges. If you leave such short cuts on the hams and shoulders, they get harsh and dry from overcuring. They are much better if they are trimmed off and put in the sausage. And the smoothly trimmed cuts are much neater and more attractive.---- (As if interrupted) What's that? (Pause) "What is the best way to cure pork?"

Well, hold your horses, brother, I'm getting to that! Of course there is no one best way to cure.

There is a best temperature for curing meat, however. The best temperature for curing meat is from 36 to 38 degrees. Getting the pork equally sound and good one barrel or one year with another is largely a matter of temperature; the control of temperature.

You men who have fought disease or innoculated your land for alfalfa or made buttermilk, know about bacteria. Bacteria play a big part in curing hog meat. There are bad bacteria, which cause the meat to spoil. And there are good bacteria which give color and maybe flavor to the meat. The main idea in curing is to kill off the bad bacteria and at the same time give the good bacteria a chance to develop. The way to do that is by the control of temperature.

From 34 to 36 degrees is the ideal temperature for the center of a hog carcass 24 to 48 hours after slaughter. It is not desirable to freeze

the carcass. As I said, the best temperature for curing is from 36 to 38 degrees.------

Now, as for the best method of curing, there is no one best way. I use a standard mixture. For 100 pounds of meat, I use 8 pounds of salt, 2 pounds of sugar, and 2 ounces of saltpeter. (Repeat)

You can either put that on dry or dissolve the mixture in 4½ gallons of water and put the meat in the pickle. For hams and shoulders, I add enough water to the curing mixture to give me a 70 degree brine, as shown by the salometer. For bacon, I use a 65 degree brine. Ordinarily, you will find it more satisfactory to cure the bacon in brine. That makes a milder product. (As if interrupted) Yes? --- Did you want to ask another question? ------- (Pause)

"The time for curing?" -- Well, the standard curing time with the dry cure is two days to the pound. It takes four days to the pound for the sweet pickle method.

In other words, a 15 pound ham will dry cure in about 30 days or pickle cure in about 60 days. Ten pound bacon strips will brine cure in 20 to 25 days. After curing my hams, I give them a long cool smoke. I keep the smokehouse at between 70 and 90 degrees. I start a smoke fire of clean hickory or other hard wood under them each day or every other day for a period of several weeks. Then I bag my hams, so as to protect them from insects and hang them back to age for about a year. During that time, they take on that keen flavor of old ham, which Joe here likes so much.

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ANNOUNCEMENT: That Bulletin about Killing, Curing, and Canning Pork on the Farm is Farmers' Bulletin No. 1186. If you want us to, we'll get it for you or you can write direct to the United States Department of Agriculture for it. They also have a Radio Record book for noting down such things as bulletin numbers, and that curing mixture "Mister Mac" was talking about, etc.

UNITED STATES DEPARTMENT OF AGRICULTURE
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THE FARM FORUM. Wednesday, October 24, 1928.

Crops and Soils Meeting No. 4: Chemistry and Farm Life

ANNOUNCEMENT: The Farm Forum will be in order! Today we will have a talk by an expert in the Bureau of Chemistry and Soils of the United States Department of Agriculture. He is going to tell us where chemistry ties up with farm life ---- Alright, Mr. Chemist ---------

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---Mr. Chairman ----- and fellow-chemists ----------

Yes, that's what I meant; "fellow-chemists" -- You farmers are chemists. Each of you, who operates a farm, runs a big chemical factory.

Sunlight, water, carbon dioxide, oxygen, nitrogen, and various inorganic salts are the raw materials of your farm chemical factory.

The operations of the plant and animal life on your farm are the chemical processes. The final output of your factory are the products of the farm; such as grain, and fruit, and vegetables, and cotton, and sugar, and chickens, and milk, and wool, and meats, and hides, and so forth.

Why, compared with the infinitely varied and complex processes of plant and animal chemistry, which take place on your farm, the operations of an industrial chemical factory, such as a sulfuric acid or sodium carbonate factory, are very, very simple.

Lucky for you, the chemical raw material you need most, you get free of charge. The sunlight, without which there could be no life and no farming, is at your disposal. The air furnishes you an inexhaustible supply of carbon dioxide, the basis for the frame-work of all crops and animals, and of oxygen, the basis of all vital energy, and of nitrogen, which is an essential constituent of all living matter.

In the soil on your farm, you have great chemical forces working for you. Your soil also has in it billions of microscopic organisms. Those unseen little "hired hands" work to convert the useless remains of plant and animal life into substances your crops can use.

But farmers, as chemists, must supply the brains to direct the running of Mother Earth's big chemical factory. We must understand those hidden helpers, of ours. By proper tillage, fertilization, mulching, irrigation, drainage, and rotation of crops we must do the work which gives them a chance to do theirs to best advantage.

We have to understand the special food needs of each of our crops. In one case, we may have to supply a fertilizer rich in nitrogen. In another case, we may have to supply a fertilizer rich in potash, or maybe phosphoric acid. If our soil is too acid, we have to add lime. If our soil lacks humus, we have to make up the lack by spreading manure or by plowing under cow-peas or clover.

But all the farm chemistry is not confined to the farm. Chemists in the laboratories, are doing part of the job. In this matter of fertilizers, for instance, they have helped. Farming owes to our laboratories the discovery of chemical manures and improved ways of converting potassic and phosphatic minerals into fertilizers.

Twenty-five years ago, we were threatened with a famine of nitrogen fertilizers. It looked as if the world's supply would soon fail. But chemists came to the rescue with the invention of processes for taking the nitrogen from the air, and making it available for crops in the form of nitrates, ammonia salts, cyanamid, urea, and other combinations.

Nor are fertilizers the only chemicals the laboratories have supplied to the farm. We are all the time trying to find new insecticides. Insecticides that will be cheaper and more effective in preventing the losses farmers suffer each year from such insects as the cotton boll-weevil, the grain weevil, the codling moth, the peach borer, and scores of others which might be named. Those insects cause damage amounting to hundreds of millions of dollars a year, and the only effective method available to the farmer for fighting them is insecticides.

Blights and other plant diseases cause almost as big losses to farmers as insects, And there again, chemists in the laboratory supply chemists on the farm with the fungicides, fumigants, sprays and other germicidal mixtures which they must have.

Scientific feeding of livestock is based on many years of careful experimental work by chemists; chemists in the laboratories have also worked out better ways of using the raw materials of farming to make butter, cheese, vinegar, sirup, sugar, dried fruits, canned vegetables, and many other things.

Inspection by chemists of fertilizers, insecticides, cattle feeds, paints and other things also protects farmers against adulteration and deception when they buy those products.

Millions of dollars are lost each year by American farmers from the deterioration of farm products and such things as leather, cloth, wood and metal which go into the various articles farmers buy. Chemists of the Department of Agriculture, however, have shown how such losses can be cut down by suitable processes of storage, weatherproofing, and preserving.

But the help we in the laboratories give chemists on the farm does not stop even when crops and livestock leave the farm. The successful marketing of farm products is becoming more and more a question of chemistry. The markets for particular varieties of fruits, and grains, and vegetables are widened by chemical selection in the breeding of new varieties richer in sugar, or starch, or acid, or essential oil, as the taste of the public may dictate.

Chemical standards of maturity, such as have been developed in past years by the Bureau of Chemistry, determine the best time to pick fruit for market. The Boyce Thompson Institute has demonstrated that if you want new potatoes for an early market certain chemicals will do away with the delay caused by the dormancy of the potatoes used for seed. If the market for lemons is depressed by too big a crop, the situation is corrected by using the surplus to make citric acid, lemon oil, and pectin.

So you see, the ways in which chemists and farmers cooperate are almost without number. Chemical engineers of the Department of Agriculture have devised improved appliances for eliminating dust from threshing machines, grain elevators, and other establishments where dust explosions every year cause millions of dollars damage.

Chemists also help farmers by discovering new medicines, serums and antitoxins for the treatment of livestock and human diseases; by devising better methods of sanitation in the home; by safeguarding the purity of food and water; and in many other ways.

Yes, friends --- all farmers are chemists. And many of us chemists are also farmers. That is, we are working on chemical problems directly connected with the farm. Any of you farmers who are faced with chemical problems should write to your State Agricultural Experiment Station or the U. S. Department of Agriculture. We may be able to help you.

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ANNOUNCEMENT: Tomorrow at this time, we will have another meeting of The Farm Forum. We hold these meetings every day except Saturday and Sunday.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service

THE FARM FORUM Thursday, October 25, 1928.

NOT FOR PUBLICATION

Dairy Meeting No. 4: Some Facts About the Dairy Industry

READING TIME: 8 minutes.

ANNOUNCEMENT: In these Farm Forum meetings, we dairymen have been talking about our own farm problems. In order to understand our business better, we occasionally like to see where we fit in the big picture --- We like to get a general view of the dairy business -- so today we've asked a Marketing Specialist of the United States Department of Agriculture to give us some facts about the supply and demand for dairy products in this country as a whole.

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Dairy farmers are part of a big business. Maybe some of you do not realize just how big.

The dairy industry of the United States is in the billion dollar class. It outranks such important farm crops as corn, or cotton, or wheat.

Why, don't you know, the total estimated annual value of dairy products in the United States is nearly three billion dollars.

The whole of that vast amount is entirely dependent upon supply on the one hand, and demand on the other. The demand comes from millions of consumers. The supply comes from hundreds of thousands of individual dairymen.

Dairying is not a localized business, as are some other brances of farming, such as orange growing, for instance. There is no part of this country where milk is not produced. To be sure, there are some sections, such as Wisconsin, where most of the cheese is made, or Minnesota and Iowa, where most of the butter comes from. But butter is made in every State in the Union. And there are only 15 States in which no cheese is made. New York State leads all other States in the production of fluid milk for city consumption. But go to any small town in practically any State. You will be able to buy fresh milk to drink there if you want it.

In this country, we produce practically all our own butter. That is, we produce enough to give each person in the country 17-1/2 pounds of butter a year. That is, the amount we average per capita. But while we are self-supporting in the matter of butter, we import nearly a fifth of the cheese we use.

However, most of the imports are foreign varieties, such as Swiss, Roquefort, Limburger, Edam, etc., of which we don't make enough to supply our needs. Now, last year, cheese production in the United States was about 6 per cent lighter than the year before.

That seems strange; until you know the reason. As I said before, most of our cheese is produced in Wisconsin. But the demand for market milk in cities which draw upon Wisconsin for their supply is growing. Then, too, a number of condenseries are located in Wisconsin. Since they pay more for milk than cheese factories can pay, they also cut in on cheese production. Another influence tending to cut cheese production, is the long distance shipment of sweet cream not only from Wisconsin, but also from Minnesota and other middle western states.

Last year, New York City and nearby territory got 24,720 ten gallon cans of cream from the State of Wisconsin. And they got just as much from other States almost as far away. That long-distance shipment of sweet cream has proved practical. Many localities in the so-called butter sections have found that it pays.

That gives you some idea of the changes taking place all the time in the dairy business. Of course, if condensed milk, and fluid milk for cities, and sweet cream for far-away markets offer better prices than cheese factories can pay, the cheese factories have to hunt new territories.

That is just what has happened in the past few years. New cheese factories have been established in certain parts of the South and in the Northwest. In the next ten years, you may see some interesting developments along that line.

Roughly speaking, a little over half of all the milk produced in this country is used as fluid milk; mostly for household uses, with a little fed to calves, and some unavoidably wasted. The other half, or little less than half, is used in manufactured products; butter, cheese, condensed milk, and ice cream. Among the manufactured products butter is by long odds the chief. Cheese uses only about 4 per cent of the total milk production of the United States. Condensed milk and ice cream also use about the same amount; that is, about 4 per cent each. Butter absorbs 36 per cent of the total milk produced in this country. That is, over one third of all our milk goes into butter.

You can readily see from that, that butter prices naturally have a big influence on dairy products prices in general.

Speaking of prices, however, the consumer of dairy products wants his money's worth. That means he wants quality. He has shown time and again, that he is willing to pay for quality. Of course, I don't mean by that, that the consumer is on a spending spree. He is not anxious to spend his money. However, he has come to recognize the value of dairy products from a food and health standpoint. It is estimated that about one-fifth of all the money which consumers in this country spend for food goes for dairy products in one form or another.

The producers of dairy products who recognize that consumers want quality, and who are successful in giving them quality, have two advantages. They get the higher prices which quality goods demand. And they also increase the demand for their products. The consumption of high-quality goods always stimulates demand.

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ANNOUNCEMENT: This time next week we'll have another dairy discussion in our Farm Forum meeting. We are going to talk about the care of cows at calving time. You may want to make some notes, on some of these talks. That Farm Radio Record Book is a handy book just designed for that purpose. You can get it free of charge by writing to this Station or by writing direct to the United States Department of Agriculture.

UNITED STATES
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THE FARM FORUM (Regions 1,2, and 3) Friday, October 26, 1928.

Farm Forestry Meeting No. 4a: Marketing Farm Timber

Reading Time: 9 Minutes.

ANNOUNCEMENT: (Raps on desk as if for order) Come to order, please! -- This Farm Forum will be in order! --- We have the Farm Forester from the United States Department of Agriculture with us today --- He's promised to tell us how to market farm timber --- According to what he tells me, we don't always get paid for all the wood in our woodlots ------- but he will tell you all about that himself -----

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Yes, woodland owners should keep in touch with market conditions. That is, they should, if they expect to market their timber to the best advantage.

Some time back, a farmer friend of mine asked me about selling some of his standing timber.

"Sell it," I told him, "when the opportunity and the market are most favorable. Remember that standing timber is a crop that can wait for good prices."

"That's the question," he said, "I'm afraid it is going back. They say that a lot of my trees are dying or rotting fast."

" Well, I've never seen that fellow "They-say" on the witness stand," I remarked, "Who told you that your timber is dying fast?"

Finally, he admitted he got that idea from the man who was trying to buy it.

"I thought so," I said, "Naturally, he wants to buy as cheaply as he can. But, as a rule, timber doesn't 'go back' very fast. Unless your timber is over-mature, it is getting bigger and worth more every year. Often, the farmer who cuts his trees young cuts himself out of real money."

"What age should trees be before they are cut?" he asked.

"That depends on the tree," I told him, "The age at which trees should be cut to get the highest net money returns a year is very different for different species. For instance, cottonwood, and ash, and yellow poplar reach the best market age much earlier than white oak and black walnut."

"Well, I guess that doesn't make so much difference the way I'm going to sell mine," my friend remarked.

"How's that?" I asked.

"Oh, I'm just going to lump it off, and sell it for so much an acre," he said.

"I thought so," I laughed, "You got that idea from that buyer too, didn't you? As a rule, that's the way they like to buy. Knowing more about timber yields and what timber is worth, they've got an advantage over the average owner.

"If you sell that way," I advised him, "there are three things you should do beforehand. First, it is very important before you sell to get a good estimate of the amount of each kind of wood in the stand, the quality of it, and the value of it. Second, you should get bids from as many buyers as possible. And third, you should have an agreement and specify clearly the restrictions in regard to how much shall be cut and how it shall be cut, so as not to injure the producing power of your woods. You can have the sale include only trees above a certain diameter, or such trees as you have marked for cutting."

Suppose I don't lump it off," he hesitated, "What other ways are there of selling timber?

"Except when timber is sold by the lot or lump," I explained, "sales are based upon a measure by log scale or lumber tally or upon an individual count of trees of a certain size or kind."

"Just how do you mean?" he asked.

"In selling by log scale," I told him, "you sell the timber at a certain price per thousand board feet, measured in the log. Sometimes it is sold 'in the tree'. In that case you would just take into consideration the value of the standing timber. Sometimes it is sold in the log, cut and delivered, at some designated point. In that case, of course, you have to base the price on the value of the standing timber, plus the labor of cutting and hauling.

"The chief thing in selling standing timber is to find out before hand the real value and the price you should get per thousand feet. You can sell just the trees you select and mark, or you can sell all the trees above a certain diameter. Or, of course, you can sell all saleable trees, if you want to; but that's the worst way, if you want to get a future crop of timber from the same land."

Selling standing timber, to be paid for on the basis of the amount determined by scaling the logs when cut, is a common method, I told him, especially in the case of small sales of the higher-priced woods such as white ash and black walnut. In selling by the log scale, the owner who measures and grades his timber, even though he does it roughly, has an advantage over one who has to accept without any check the scale and inspection of the buyer."

I think I got that idea across to him. Right away, he began asking more questions about the details of measuring and selling. Then he asked about the smaller sizes. "How do they sell poles, piling, crossties, and small mining timbers, and cordwood, and stuff like that?" he wanted to know.

"They are usually sold by individual count of units of certain specified sizes," I explained, "for instance, the smaller sizes of bolts are sold the same as fuel wood, by the cord. Selling by the number or by the cord, or other unit has much in its favor, for selling that sort of timber. It is simple and easy to apply."

But some owners not only don't know how to sell their timber. They don't know when to sell it, and when to use it on the farm. In some localities, it unquestionably pays the farmer better at all times to sell his standing timber, particularly the more valuable kinds.

In the central hardwood region, farmers sell their select yellow-poplar trees profitably, and with the money they buy and haul back to the farm, for distances of from 4 to 8 miles, southern-pine siding for their houses and barns. On the other hand, you can often find choice white oak of the best quality for veneer and furniture stock sawed up into posts for the farm.

Most farmers pay less attention to marketing their farm timber, and know less about it, than anything else on the farm. They wouldn't think of marketing other crops that way. Just because timber is not measured with bushel baskets or weighing scales like potatoes or corn or cotton, is no reason farmers should fail to find out how much they have and what it is worth.

Remember, timber is a valuable farm crop. Grow it as a farm crop, and market it as a farm crop.

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ANNOUNCEMENT: This concludes the Farm Forum meeting for today. But remember, the Farm Forum meets each day except Sunday and Saturday. And we talk over different problems at each meeting. Also, remember, you can get that Farm Radio Record book for making notes on these radio meetings, either by writing to this Station or by writing direct to the United States Department of Agriculture.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
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THE FARM FORUM Friday, October 26, 1928.

(Regions 4 and 5)

Farm Forestry Meeting No. 4-b: The Use of Fall Range

Reading Time: 9 minutes.

ANNOUNCEMENT: It's time to start our Farm Forum, men! ------- And, thanks to the United States Department of Agriculture, our old friend, Ranger Bob, is with us again ----- He's going to tell us what the Forest Service has found out --- on this question of range for livestock in the fall ------ All right, Bob -----Go ahead -------

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We want to get down to the roots of this range question -------- before the entire range is gnawed to the roots ---------

You cowmen and you sheepmen, all of you, know what fall feed means.

With plenty of fall feed, livestock get in hard, fat condition. Those you sell, bring good prices. The stock you keep over winter makes thrifty growth. That thrifty condition makes them go through the winter better. And what's more, good thrifty condition of breeding stock tells in the high percentage of increase. The increase is the main basis for profits from breeding stock.

Some of you are probably saying, under your breath: "Sure, ---- Of course, we want good fall range --- but try and find it!"

I'd say to that, don't trust to finding it, in the fall. Shut off part of the range and keep the livestock off it until fall. If you do that, the best forage plants will have a chance to grow well during the summer growing season. Plants, you know, depend on their leaves to produce their own food. The amount of food stored determines the amount of forage the plants yield. So you see, the extent to which the leaves are grazed in the summer has a lot to do with what forage there is in the fall. (As if interrupted from audience) What's that? (Pause) You say, "The weeds dry up in the fall?" ------

Yes, that's right. Weeds dry up in the fall and their value as forage is largely lost. Some grasses also are only good for forage, when they are young and tender. Of course, I wouldn't advise you to reserve a piece of range for fall use where most of the plants are that kind. It's best to use such range in the summer, when the weeds are juicy and green.

However, many grasses cure their foliage on the growing stalk, and are good feed, well into the fall and winter. A number of browse plants are also best in the fall, when other vegetation has begun to dry. ---- (As if interrupted from audience) What? ---- (Pause)

"What kind of range would I shut off for fall use?" --- Well, the ideal type of forage to keep for fall grazing is a range with grasses that cure well, or a combination of grasses and palatable browse.

When you reserve range like that, don't graze it until the feed on the summer range has been properly grazed. In that way, you will give the growing plants on your fall range the best possible chance to mature and scatter their seed, so as to keep up the stand.

Most fall ranges are in the foothills from which it is often best to move the livestock into cooler, higher country for the summer. That's another reason for protecting the fall range until it can be used to best advantage. Where the range vegetation is vigorous enough, the fall range may ordinarily be grazed moderately in the spring, then be allowed a summer rest so there will be plenty of growth for fall.

Recent studies at the Great Basin Range Experiment Station in central Utah show that fall cattle will graze such browse as birch-leaf, mountain mahogany and bitter brush just as readily, or more readily, than they will dry wheat grass and other valuable range plants. They prefer the herbs in the spring and summer. When you let cattle graze such range moderately in the spring, they use the grasses and weeds and take only a little of the browse. But with a good summer's growth of grass, cattle grazing browse in the fall seldom graze the grasses close enough to hurt them; unless you have too many cattle on the range.

Studies by the Forest Service on semi-arid southwestern browse and grass-browse ranges show that grasses and weeds make considerable growth in the summer and early fall. On such ranges, it is best to graze moderately in the fall so as not to hurt the herbaceous plants. Then, the fall range can be grazed again in the late winter or spring when the browse is worth more than the dry grasses and weeds which grew in the summer. In that way, both the browse and herbaceous plants can be grazed without hurting either. (As if interrupted from audience) How's that? --- (Pause)

"Suppose you have to use the range all spring, summer, and fall"? --- Well, if it is not practical to reserve part of the range for special use in the fall, you had better just stock the range more lightly. The important point is to make sure that plenty of good feed plants will be left on the range after summer grazing is over. (As if interrupted from audience) "How close should fall range be grazed?" you ask.

Well, some folks seem to think that once the plants are mature, the foliage can be completely grazed without hurting the range. But it just doesn't work out that way. The first thing, you should get as vigorous and dense a stand of the important forage plants as you can. If those plants are grazed properly, the less valuable plants will seldom be grazed so close as to injure them. (As if interrupted from audience) Yes? (Pause)

Oh, I see ---- You want to know just how close grasses should be grazed, eh? -- I was getting to that ---

Good bunch grasses can be fall grazed to within two or three inches of the ground. Such grasses usually average about 10 to 12 inches high. Leaving 2 to 3 inches of stubble will mean grazing about 80 per cent of the growth when you use the range properly. Closer grazing than that is apt to expose the plant crowns to too much trampling. Dashing rains or high winds may take the soil from around the roots and cause too much drying. All that tends to sap the vigor of the plants, and the fertility of the soil. All that lowers the grazing capacity of the range.

Now some turf-forming grasses can be grazed closer; say to within two inches of the ground. On the other hand, some of the coarser bunch grasses shouldn't be grazed closer than 4 to 6 inches of the ground. Of course, there may be considerable low value vegetation left, but to try and use it would mean heavier grazing and injury to the more important plants.

You all understand, of course, we are talking about range livestock are taken off of in the fall. If you expect to use the range the rest of the year, it should be grazed only moderately in the fall. On yearlong range on which the forage starts growth in the spring not over 50 per cent of the feed should be grazed by the beginning of winter. On range where the main growth of forage is made during the summer, such as on the semi-desert southwestern ranges, not more than 35 to 40 per cent of the feed should be used by the close of fall grazing.

The main point is that the character of the vegetation, the soil, and the possibilities of using all parts of the range uniformly should be considered in deciding on correct grazing for each range.

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ANNOUNCEMENT: The Farm Forum meets again next Monday, at this time. Any who have not received their Farm Radio Record for making notes on these meetings, should write to Station __________ for it.

UNITED STATES DEPARTMENT OF AGRICULTURE

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TOPICS FOR THE U. S. RADIO FARM FORUM TALKS

REGION 1.

October 29 to November 2

Date	Topic
October 29	Value of Records in Animal Breeding.
October 30	Our Poultry Industry.
October 31	Barberry Eradication Benefits Grain Growers.
November 1	Care of Cows at Calving Time.
November 2	Mechanical Corn Pickers.

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TOPICS FOR THE U. S. RADIO FARM FORUM TALKS

REGION 2.

October 29 to November 2

Date	Topic
October 29	Value of Records in Animal Breeding.
October 30	Our Poultry Industry.
October 31	Barberry Eradication Benefits Grain Growers.
November 1	Care of Cows at Calving Time.
November 2	Mechanical Corn Pickers.

TOPICS FOR THE U. S. RADIO FARM FORUM TALKS

REGION 3.

October 29 to November 2

Date	Topic
October 29	Value of Records in Animal Breeding.
October 30	Our Poultry Industry.
October 31	Oriental Persimmons for the Gulf States and California.
November 1	Care of Cows at Calving Time.
November 2	Mechanical Corn Pickers.

TOPICS FOR THE U. S. RADIO FARM FORUM TALKS

REGION 4.

October 29 to November 2

Date	Topic
October 29	Value of Records in Animal Breeding.
October 30	Our Poultry Industry.
October 31	Barberry Eradication Benefits Grain Growers.
November 1	Care of Cows at Calving Time.
November 2	Care of the Storage Battery.

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TOPICS FOR THE U. S. RADIO FARM FORUM ITEMS

REGION 5.

October 29 to November 2

Date	Topic
October 29	Value of Records in Animal Breeding.
October 30	Our Poultry Industry.
October 31	Oriental Persimmons for the Gulf States and California.
November 1	Care of Cows at Calving Time.
November 2	Care of the Storage Battery.

UNITED STATES DEPARTMENT OF AGRICULTURE
Radio Service
OFFICE OF INFORMATION

THE FARM FORUM

Monday, October 29, 1928.

(NOT FOR PUBLICATION)

Livestock Meeting No. 5: Records in Animal Breeding.

Reading Time: 8 1/2 Minutes.

ANNOUNCEMENT: You stockmen will please come to order! -- This is the Farm Forum of Station_______, the United States Department of Agriculture --- The Program Committee says talk about the value of keeping records in animal breeding --- If there is anybody here knows about that it is Sam McDowell --- Come on, Mister Mac --- Tell us about it ----------

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There shouldn't be any question about that! But some of you here may be like I was, years ago. I used to think records were all well and good for an experiment farm. I used to pity anything in the way of a "book-keeper farmer", as we used to call 'em.

But I found out better. I got to looking around, and checking up. I found that farmers who were most careless about record keeping, were the ones who had the poorest records to keep. Most of the men who kept itemized accounts seemed to be the ones making money. I tried it. And I found out why.

The reason is that you learn, through your records, just what pays and what doesn't pay. And just which animals are pulling back on the business. You have to know your costs these days. Yes, sir, records are a great ---- (As if interrupted from audience) What's that? --(Pause) --- I see --- You want to know which records to use in breeding; pedigree records or records of performance?

Well, I refuse to say, "which". The pedigree tells what an animal should do. The record of performance tells what the animal does. To tell what to expect of its offspring, don't take either.---- Take both.

Some breeders make the mistake of counting too much on pedigree. I've seen a man pay extra for a bull because the pedigree showed some champion cow or bull ten generations back. Yet in a pedigree covering ten generations there are 2,046 ancestors; and half of them are in the tenth generation. Even in a four-generation pedigree there are 30 ancestors, maybe all of them different. The chance of any one of the ancestors back in the fourth generation dominating the inheritance of a mating is less than 1 in 30.

If you are sure of the parents, and know what is in the first three or four generations of an animal's pedigree, you know the most important facts about the pedigree. As a rule, only the ancestors which are "close up" are of practical importance.

Now, on the other hand, if you find a beef bull from a good blocky cow of about the ideal beef type, and if you find he has also produced a few daughters which show a big improvement over their own dams in beef type, you are safe in saying you have a "proved bull."

Inheritance sometimes shows up in strange ways. But the record of results tells the story. It may be hard to explain why one bull may produce good bull calves and poor heifer calves. But such facts are worth recording. They often prove a big help in interpreting pedigrees.

The U. S. Animal Husbandry Experiment Farm at Beltsville, Maryland, practices pedigree breeding with chickens. But they interpret the pedigree in the light of the performance of the individuals that go to make up the pedigree. They not only keep a record of the number of eggs laid, but the size and quality of the eggs.

For instance, one of their experts told me that last season that one of their best-laying Rhode Island Red pullets laid 306 eggs. But they culled her out ---- And why? -- Because her eggs were small and poorly shaped. They've found it much easier to breed more eggs in a flock than to improve the quality of the eggs; so that pullet had to go. But they could never have done that, without the records.

Records are valuable with any line of stock. Take pigs. Records often show how to cut down losses of little pigs. A few years back some records were kept on farms in Iowa and Illinois, and showed nearly one out of each ten pigs was killed by the mother sow's lying on them. Just that record brought out the fact that a simple guard rail in the farrowing house would prevent most of that loss.

Yes, even a simple set of records, showing the number of pigs farrowed and raised by each sow on the farm, will prove of big value. When increasing your breeding herd, you can then save gilts from those sows which have proved good mothers. Or you can fatten and market the sows which are losing you money by raising only three or four pigs to the litter.

And records are doubly important to you sheepmen. You raise two crops; a crop of wool, and a crop of lambs. Some of you specialize in mutton. Others pay more attention to wool. Probably the most successful sheep raisers realize that the paying sheep are those which produce a good fleece and one or two good meaty lambs a year.

In the breeding experiments at the U. S. Sheep Experiment Station they keep accurate records of not only the fleece and lambs produced by their flock or range ewes, but also the cost of keep. They are trying to find out which is the best paying sheep for western range conditions. -----(<u>As if interrupted from audience</u>) What's that? (<u>Pause</u>) "For the average farmer," you say? ---------

No, that's true. Of course, it wouldn't be practical for the average farmer to keep minute records of that sort for each one of his sheep.

However, it wouldn't be hard for you to keep records like that for your whole flock. With such records, you could compare your average results this year with those of other years, and with those of flocks kept by your State University.

The point I want to make is that without that information you can't hope to know whether you are running your business on a sound basis.

If the average wool and lamb production for your flock is low, then you need a rigid system of culling. And there, again, records pay. You should cull ewes which produce light fleeces, or weak lambs, or which seldom twin. You can add to the flock with lambs from ewes which have good records of lamb and wool production. A few years of such culling will make any flock of sheep a better paying proposition.

The value of any herd or flock is the aggregate worth of its individual members.

Any herd or flock can be improved by weeding out the poor producers and keeping and breeding from the high producers. To do that you must keep records. Careful, simple records, honestly interpreted and rigidly followed in breeding operations will always pay any breeder for his trouble.

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ANNOUNCEMENT: The next Farm Forum meeting will be tomorrow. And, we still have some of those Radio Farm Record Books for making handy notes on farm radio talks. If you haven't had one of those Record Books, write to Station______ for one. They are free. Or you can write direct to the United States Department of Agriculture. They get them out.

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UNITED STATES DEPARTMENT OF AGRICULTURE
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THE FARM FORUM Tues. Oct. 30, 1928.

(NOT FOR PUBLICATION)

Poultry Meeting No. 5: Our Poultry Industry

Reading Time: 9 Minutes

ANNOUNCEMENT: The Farm Forum will be in order! Our Program Committee has asked a Specialist of the United States Department of Agriculture to tell this meeting something about the poultry business as a whole. Something to give us a glimpse of the big picture of which our farm flocks are a part ------ All right, Mr. Specialist ---- I'll just turn the meeting over to you, now ----------

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I take it, most of you farmers raise some chickens. Some of you may also raise some turkeys, or even ducks or a few geese.

Just for the moment, I want you to think of that home flock of yours. Now, in your mind's eye, you may have a peaceful picture of a few hens scratching around the barn yard. Others of you, may see fifty, or a hundred, or even a few hundred chickens.

Indeed, some of you may have quite a flock. Poultry may be your chief business. But with most of you, that's not the case. Most farmers think of chickens as a side line. Maybe, you gather a few eggs, or a few dozens eggs. But probably your next-door neighbor is doing the same thing. Over in the next county or the next township it is the same. You go over in the next State, and maybe you find the farmers over there doing the same thing. Fact is, though you may never have thought about it, there are more persons concerned with the production of poultry than with any other single farm product.

Why, there are more than five million farms in this country carrying poultry flocks. Taken all together, we produce in the United States nearly two billion dozen chicken eggs and over 500 million chickens a year. And we are not counting important quantities of turkeys, ducks, and geese, not to mention guineas and pigeons.

The total value of the poultry products on those five million farms scattered throughout every state, every county, and every township in the United States amounts to well over one billion dollars a year. And, I said "Farms" mind you. That doesn't take into consideration the poultry and eggs produced by city and village flocks.

In fact, the value of farm poultry products is exceeded only by that of five other farm activities: Dairying, corn, cotton, hay and forage, and swine. Then comes poultry.

The poultry business as a whole is made up of producing flocks ranging in size from 4 to 5 hens, such as you find in villages, to flocks of as many as 40 thousand hens found on specialized egg farms.

Most of those big specialized egg farms are on the Pacific Coast and along the Atlantic Seaboard. Some are acattered throughout the country. But the farm flocks are still the backbone of the poultry business; especially the general farms in the Middle West. More than half of all the poultry and eggs produced in this country are produced in twelve States: Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Iowa, Missouri, and Kansas.

General farmers keep chickens to supply the family and also to produce a surplus of poultry and eggs for sale. The eggs probably bring more than the poultry, but not much more. Both are important.

On specialized egg farms, however, the eggs are the important money-makers. On specialized egg farms, the poultry sold is largely old stock and the surplus of young roosters.

Until the last two or three years little has been done in the way of developing specialized farms for the production of poultry meat. But lately quite a little progress has been made along that line. That's especially true of specialized production of winter or out-of-season broilers. But even that business is still small yet.

But the whole poultry industry is not confined to raising chickens or producing eggs. A big part of those products must be moved from sections where they are produced to the big city markets. Large quantities of eggs and poultry must be hauled from the Middle West, or even from the Pacific Coast, to the big cities of the East. Often, they have to be hauled 1,000 miles or more.

Why, New York City alone takes over 200 million eggs and nearly 200 million pounds of dressed poultry each year. And that's not all. In addition New York City needs about 12,000 cars or in the neighborhood of 200 million pounds of live poultry for its big Jewish population.

It takes an army of workers just to handle the poultry and eggs for market. In fact, it takes two armies. The chickens and eggs for market must be collected at country concentration points. There they must be candled and graded ready for shipment. And there the poultry must be fattened, slaughtered, graded and packed for shipment to its final market. Then at the terminal markets there are the numerous activities in connection with receiving those chickens and eggs.

Nor is that all. The bulk of the eggs is produced and marketed from March to July, and the bulk of the poultry from July to January. That causes a surplus those months, and a deficiency other months. But folks are eating about the same all the year round. So, part of that fat supply of eggs and chickens has to be carried over into the lean months. On that account, the poultry business is an important part of the cold storage business. At the top of the cold storage season, there are normally about 10 million cases of shell eggs and 80 million pounds of frozen eggs in storage. Dressed poultry goes to well over 100 million pounds in storage.

And then just think of the many other industries partially or entirely dependent on the poultry business, such as,commercial hatchery operators, feed manufacturers, incubator and brooder manufacturers, poultry box and egg case manufacturers, poultry publishers, and others.

When you take all these branches into consideration; and then think of those more than 5 million farms, which are practically five million factories, scattered throughout every state, every county, and every township in the United States; and equipped with 400 million egg machines, which are the hens on those 5 million farms, you begin to realize how vast a business we have in our poultry industry. Is it any wonder our roosters crow, as if they were so proud of themselves?

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<u>ANNOUNCEMENT:</u> The next Farm Forum meeting will be tomorrow. This time next week we will have another meeting especially for poultrymen. At that time, we will have a talk on artificial lighting. In some of these talks there are apt to be references to bulletins or rations or whatnot, you may want to note down. The United States Department of Agriculture is getting out a Radio Record Book just for that purpose. You can get it free by writing to Station ------------ for it.

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UNITED STATES
DEPARTMENT
OF AGRICULTURE
Radio Service
OFFICE OF
INFORMATION

THE FARM FORUM Wednesday, October 31, 1928

NOT FOR PUBLICATION

Regions 1, 2, & 4

Crops and Soils Meeting No. 5: Benefits from Barberry Eradication

READING TIME: 9 minutes.

ANNOUNCEMENT: The Farm Forum will be in order: --- Today we have with us our old friend, "Rusty" Bush, one of the Barberry Eradicators of the United States Department of Agriculture. We call him "Rusty" because he has been fighting stem rust for ----- eleven years, isn't it, Rusty? -- Yes, eleven years he's been salting down or digging up barberry bushes ----- Go ahead -----

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You can call me "Rusty." You can joke all you want to. But black stem rust is no joke, I'll tell you. And I'm proud of the part I've had in fighting it.

It's a big fight, too, I'll tell you. Black stem rust is the most destructive disease of small grains in the United States. It is the greatest single peril to the food supply of this country!

Some of you may remember back in 1904, or in 1916. The weather was right for the spread of rust those years. We lost more than 200,000,000 bushels of small grains in each of those seasons.

Why, in the last 14 years, we have lost 673,000,000 bushels of small grain from stem rust in the 13 north-central States of Colorado, Illinois, Indiana, Iowa, Michigan, Minnesota, Montana, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin, and Wyoming. That means that we've lost an average of 48,000,000 bushels of grain each year. You men who have had your whole year's work and investment swept away by rust, know what I'm talking about. But that loss hits not only grain growers. It affects every man, woman, and child in the United States. It boosts the cost of our daily bread. And a big epidemic of stem rust might cause an actual shortage of foodstuffs.

I was giving these figures to a farmer friend of mine the other day, and he said: "Rusty, you've been giving us figures like that for years now; but what are you doing about it?"

Regions 1, 2 & 4

"That wasn't a new idea," I explained to him. "Campaigns to eradicate barberries have been carried on by many countries in Europe in the last 200 years."

"Did they work?" he asked.

"Yes," I said. "As a result they have effected positive local control. Where the eradication has been thorough, as it has in Denmark, the result has been control of stem rust."

"Well, why pick on barberries?" he asked.

Of course, I was surprised. I thought everybody knew by now how barberries spread black stem rust. But I explained to him that black stem rust is caused by a moldlike fungus which is so small you have to have a microscope to see it. Stem rust is a plant, but a plant without leaves, stems or roots.

When I told him that, my friend said, "Well, what is there to it, then?"

"Enough to cause all the damage we've been talking about," I told him. "The rust plant is a very branchy growth of tiny threads or tubes. Those tubes produce big numbers of spores or seeds. In doing that the tubes grow into the tissues of the grain plant and steal the food from the grain. That makes those little shriveled kernels; or no kernels at all."

"Yes, but where do the barberries come in?" he insisted.

"Well," I went on, "that's a peculiar thing. In the spring the rust that lived through the winter on the grasses and grain stubble produces a set of spores or seed that can't grow on the grains and grasses of the new year. The only place they can grow is on common barberry bushes."

"How do they get to the barberries?" he asked.

"The seed or spores are blown by the wind. Any that land on a barberry bush may grow on the leaves of the barberry and reproduce a thousandfold. One infected barberry bush may produce millions upon millions of tiny rust spores. Then those spores produced on the barberry bushes may in turn be blown to the grain in a near-by field or a distant field."

"Once on the grain again the spores grow. In ten or fifteen days brick red pustules of stem rust show up on the grain plants. From those pustules millions of red spores of stem rust are spread to the grains and grasses further away. In about seven to ten days there is a new crop of rust spores on the newly infested grain; and so on, and on. Many generations of stem rust may develop and the disease continue to spread from field to field until the grain begins to ripen. But we can stop that spread before it starts by destroying the barberry bushes."

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ANNOUNCEMENT: The next Farm Forum meeting will be this time tomorrow. All of you be on hand, especially you interested in care of dairy cows.

"Well," I said, "you know about the campaign to reduce stem rust, by destroying all the common barberry bushes, which spread the rust. The United States Department of Agriculture in cooperation with the 13 north-central States eleven years ago declared that 'we of right ought to be free and independent' of barberry bushes."

"Since then we've hunted barberry bushes along fence rows, through woodlands, groves, thickets, brier patches, up steep bluffs and down river banks. We've destroyed a grand total of over 17,000,000 barberry bushes."

That friend of mine laughed. "I believe I've heard you say something about barberry eradication before," he said, "but what good has it done?"

"What good?" I repeated. "A lot. We've cut down the stem-rust losses. In Ohio, Indiana, Michigan, Illinois, and Wisconsin we don't have the severe local epidemics of stem-rust we used to. Stem-rust losses have been cut down materially in all those States. And, in the western States we've cut down the damage considerably."

Then I gave him the figures. I just compared the losses during the last seven years with the losses during the seven years before that. From 1915 to 1921 in the 13 rusty States the average loss of wheat was nearly 46,000,000 bushels. During the seven years since, the average losses to wheat have amounted to a little less than 16,000,000 bushels.

"Yes, but," my hard-headed friend objected, "we are still having pretty big losses yet. 16,000,000 bushels is a lot of wheat. And there's no telling when it may be much more. Conditions might be just right-----"

"That's true," I said, "and 17,000,000 barberry bushes is a big number, too. But the job of getting rid of every common barberry in these thirteen States is not yet half finished. In this war against the black stem rust, these thirteen States may have reached Saratoga, but we must push on to Yorktown-----"

The work we have done already has repaid the cost of the campaign to date, many times over. Less grain is being lost each year from the rust. Grain of better quality has been raised because stem rust has caused less shriveling of the kernels. As some of you know, in many districts where farmers had quit trying to raise grain on account of the repeated attacks of stem rust, good grain is now again being raised.

That's the reason, I said I was proud to have had part in this campaign against barberries. But I'm not too proud to keep on fighting. After I had shown my friend just what we have accomplished, he asked where we got the idea of fighting stem rust of grain by going after barberry bushes.

UNITED STATES DEPARTMENT OF AGRICULTURE

Radio Service

OFFICE OF INFORMATION

THE FARM FORUM

Wednesday, October 31, 1928

NOT FOR PUBLICATION

(Regions 3 & 5)

Crops and Soils Meeting No. 5: Oriental Persimmons

ANNOUNCERS: Here are notes on pronunciation of the persimmon varieties mentioned in this talk:

Hachiya -- In general, the a's in all of these varietal names are like the a in 'father' and the i's are like ee in 'bee.'

Tanenashi -- The e in Tanenashi is short.

Fuyu -- The u's in Fuyu are pronounced like oo in 'zoo.'

Tamopan -- The o in Tamopan is long, like the o in 'go.'

ANNOUNCEMENT: Members of the Farm Forum will be in order! We have a specialist from the United States Department of Agriculture with us. He is going to talk to this meeting on the subject of persimmons -- Japanese persimmons -- and he will be glad to answer any questions, any of you may care to ask ------- Alright, Mr. Simmons -------

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Some of you here grow persimmons. Some of you do not. I'll get around to you folks who don't appreciate persimmons later. But first, I want to say to you persimmon men that I've noticed Japanese persimmons reaching the market in almost all kinds of containers.

I've seen them in bushel and half-bushel baskets, six-basket peach crate four-basked flats, and one and two-layer peach crates.

Recently, I've been seeing a very attractive package for two dozen persimmons. It is a corrugated paper box with corrugated paper partitions. Each persimmon fits in a separate compartment, and each is wrapped separately with a very tough, attractive green wrapper. That wrapper stands moisture; so that occasional leaky fruits don't spoil the looks of the others.

I've noticed there are three sizes of those boxes for three grades of Japanese persimmons. And the sizes of the individual compartments are varied to conform to the size of the persimmon.

We've been thinking about that package. It seems to us that a smaller retail package built the same way for about six persimmons would be better. Along with it should go information about the need for properly ripening the persimmons and a few good recipes. Such a package would insure better delivery with a minimum loss of fruit, and it would be more satisfactory to the consumer. The smaller packages could be packed in bigger ones for shipping. That's the type of retail package now coming into use in some of the apple-growing sections.

What I want to emphasize, however, is the importance of care in handlin and grading and selecting the proper way of packing. In most cases, those are the things which determine the difference between profit and loss. Carefully graded fruit appeals to the consumer.

Of course, the color and degree of ripening are of highest importance. But the color necessary to insure a first-class product on the retail market varies with the variety.

The Hachiya, for shipping, should be picked when the pink tinge gets to the basal half; that is, when at least one-third of the surface of the persimmon is well colored. By the time the persimmon is offered for sale, the coloring will be completed.

Now, with the Tanenashi variety the yellow coloring should extend well down toward the calyx when the persimmon is picked for market. The Tamopan variety should be well colored before picking, and so should the Fuyu variety. Although the Fuyu is never puckery, and you can eat it any time, the longer it stays on the tree the better the coloring and quality.

In all cases, take care not to pick persimmons too green. The more yellow on the persimmon when it is picked the better the color will be when it is put on sale.--(As if interrupted from audience)--Certainly, I'm glad to answer questions ---------(Pause)

You say you have some persimmons, but don't just know which variety? ----Well, more than 90 per cent of all the plantings of Japanese or Oriental persimmons in this country have been Hachiya and Tanenashi. They were among the first importation of grafted trees made in 1870. There were some raised from seed sent here by Commodore Perry after he visited Japan in 1856, but those died off.

The Hachiya variety is now the most common variety in California, and the Tanenashi is found most commonly in the Gulf States.

You can tell the Hachiya variety by the big, oblong, conical fruits that are reddish-orange when they're ripe. They are seedless, and have a rich flavor and first-rate quality. But until they are very soft, they will pucker your mouth.

The Tanenashi also has to be soft before it loses that astringency, or "pucker." The Tanenashi is a good-sized persimmon; roundish, conical in outline, light yellow-orange in color, and also seedless. It has a somewhat tougher skin than other varieties and is somewhat drier and more mealy.

The Tamopan, a Chinese variety, has been occasionally planted in both the Gulf Coast and California. It is not as rich as Hachiya or Tanenashi, yet it has good quality. In some sections it bears well, while in others it is a light bearer. It has a tough, thick skin. That makes it of value from a marketing standpoint. You can recognize a Tamopan persimmon, because it has big, more or less four-sided seedles fruits that have a distinct constriction, which goes all the way around the fruit from one-fourth to half-way down the side -----(As if interrupted from audience) What's that? ----- (Pause) Yes, that's right.

You understood me correctly. I did say a while ago what there is a variety which won't "pucker" your mouth, no matter how green it is.

That's the Fuyu persimmon. It is a round flattened, tomato-shaped yellowish-orange variety of medium size. It has been planted in limited quantities in both California and the Gulf States, and there has been a steady demand for trees. The flesh is good quality and you can always whistle after eating a Fuyu persimmon. It doesn't pucker your mouth. For that reason, it may one day be one of the most important varieties ----- (As if interrupted from audience) ----- How's that? ----(Pause) -- "Food value?" --- Sure ---

Yes, the persimmon is ahead of the apricot, the plum, and the peach when it comes to amount of sugar it contains. It has high food value. And it will add variety to a meal.

Yes, sir, there are some delicious ways of serving persimmons. Japanese persimmons are fine, sliced up nicely and served for breakfast with sugar and cream. And, of course, they can be used in all kinds of combinations in salads.

The Missus tells me a few drops of lemon juice adds to the flavor in salad. Another thing she does, is use lemon gelatin in salads with persimmons. That's a very refreshing combination. I've tried it.

But my favorite is Japanese persimmon ice cream! In making that the Missus used thoroughly ripe persimmons. She used two cups of persimmon pulp to one of thick, sweet cream. She beats the cream and persimmon pulp together and then freezes like ordinary ice cream ---- or rather, the old man has to do that freezing.

In Japan and China, I'm told, dried persimmons are used in big quantities. After drying they are cured in piles where they go through a sweating process which brings the grape sugar to the surface.

But ripe persimmons are good, no matter where you find them.

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ANNOUNCEMENT: The Farm Forum will now adjourn until this time tomorrow. We hold these meetings every day except Sunday and Saturday.

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