trouble with mine was, probably, that they had already contracted the disease and I did not know it.

Mr. Convey—In what I said, I meant vaccination rather than inoculation. Vaccination is what should be used in a herd that is not already affected. If they are already affected with the disease, you had better use both.

Mr. Bradley—They tell us at the Station that it is not very much use to use the serum alone, excepting for about four weeks. You have to vaccinate the second time, and at the same time use the virus.

Mr. Convey—Dr. Detmers, of Missouri, twenty-five years ago recommended carabolic acid to prevent cholera, but they soon discovered that it was no security, no cure. It might prevent its coming on if used in time.

Dr. Lamley—I am not a breeder of hogs, but I can see by the questions asked here this afternoon that there is some skepticism in regard to the serum treatment. Now, the very fact that the serum seems to have an effect in the prevention of disease in the hog, or any other animal, means that it is an infectious disease, that it is a germ disease. I will say for the benefit of the farmers that the serum is not put on the market to sell as a cure, it is put on the market to prevent the disease.

Now, as to the effect of feeding or care as a help in preventing this infectious disease, just consider a moment the disease of diphtheria, for instance. How would you go to work to feed or care for your children to keep them from having diphtheria? You couldn’t very well feed them enough carabolic acid to keep them from having diphtheria. You will give them fresh air and good food and a good place to sleep. On the other hand, you cannot have the diphtheria without the germ being present any more than you can have corn without seed. You must have the seed, the germ. You cannot have hog cholera without germs in your neighborhood any more than you can have diphtheria if the germs are not in your family. I just say these few words in defense of the serum treatment. I know nothing about the use of it in hog cholera, but I do know something in general about it as a medical man. Of course, the hog is harder to handle than a patient in bed.

Mr. Bradley—Those who next year will be treating their hogs with this serum treatment should be careful in the manner of making the treatment. Remember, there has been more trouble through carelessness in the treatment than in the use of the virus or the serum itself. Now, what I mean by not taking proper care is in not properly cleansing the spot where you are inserting the syringe and not having that syringe thoroughly clean by dipping it in carabolic acid, or some other solution, to sterilize the instrument thoroughly. If the spot on the animal’s body is cleaned up good and the man is careful in handling the instrument, there will be no danger. I heard one man down in Rock county say that out of nineteen he treated, sows that had been vaccinated, every one of them died, because of blood poisoning; great swellings came and pus formed and they died, but that was not because of the serum, but because of the way it was administered, so we have to be careful in doing the work.

Mr. Convey—I think it is the safest thing to recommend that they have a professional man. It is hard to make people understand how necessary it is to be careful.
It needs a little study of how to guard against doing mischief. It is not a safe proposition, if you can get a medical man within a reasonable distance and cost.

Mr. David Imrie—The State authorities will not send out virus to any one to handle, because that is just the same as sending out hog cholera. I believe Dr. Hadley said they would have to send an experienced man to handle it.

Mr. Bradley—You can buy virus from Parke, Davis, or any of the big druggist firms, and there is no law to prevent any one from doing the work, but any one doing it must understand that the virus is simply hog cholera and you have got to be very careful not to spill it around, or anything of that kind. However, there isn’t anything about the work that any man with good common sense could not do, and sometimes a farmer will be just as careful, and perhaps a little more so, than some veterinarians,—the veterinarian may be in a hurry, you know. We have had trouble in the State of Wisconsin with veterinarians administering the tuberculin test. What I want to get at is this, that it is not a very serious matter to do the thing right. Any one can measure a quantity, put it into the syringe and administer it. The State of Minnesota is telling us to do it one way and the State of Wisconsin is telling us another way to do it. That controversy ought to be wiped out. The State of Minnesota says to give two treatments at once. The Wisconsin way of doing it is to put in half the quantity of serum in the first place and wait two weeks and then put in another dose of serum and the virus at the same time.

Mr. Corneliuson—Aren’t they losing a lot of hogs up in Minnesota on that treatment?

Mr. Bradley—Some authorities say they are; I do not know.

Mr. Convey—We know that where this double treatment has been used in Wisconsin and used right there has been scarcely any loss at all by the vaccine treatment.

A Member—Would you consider it profitable to raise hogs, ordinary commercial hogs, if you had to vaccinate them every year to prevent hog cholera?

Mr. Bradley—It doesn’t cost so much to vaccinate. Perhaps from fifty to seventy-five cents would vaccinate a hog that weighs less than a hundred pounds and it ought to last for a year or a year and a half, where you give them the full treatment. I say if there is no hog cholera in the country, do not vaccinate, but if it comes into the country, then get busy.

A Member—There has been hog cholera around Ellsworth and next year we expect a taste of it.

Mr. Bradley—Then you had better vaccinate. One of my neighbors told me he was going to vaccinate his brood sows so they will be immune. That will not make the pigs immune. But do not vaccinate pigs that weigh less than fifty pounds. From fifty to a hundred pounds is a good time to vaccinate those pigs.

Mr. Convey—I think where you have no disease in the neighborhood it is a mistake to introduce new stock into the country for feeders. I presume that practice has caused millions of dollars worth of damage this last season, and that is the reason hogs are worth nine cents a pound, because the cholera has been everywhere, and it has been spread so as to be everywhere by the contagion being introduced through buying stock from parties who have it, or perhaps you do not know where they came from.
MEAT PRODUCTION IN WISCONSIN

Supt. Geo. McKerrow, Madison, Wis.

For several years we have not discussed meat production very much in the Wisconsin Institutes, and especially beef production. We have discussed swine, pork production in connection with the dairy; we have discussed sheep a little. And why animals, and then, besides, save the fertility value of that feed on his farm. And so in that sense there is some encouragement in discussing meat production in Wisconsin.

Now, do not misunderstand the purpose of this. It is not to substi-


should we put this subject on the programs for this winter?

Well, in the first place, like any other topic, it is put there simply to set us thinking. We discuss it for the purpose of letting every farmer think for himself after he hears the viewpoint of the man who discusses it.

Another reason is that meats are comparatively high-priced, that is, as compared with several years ago they are high enough so that today the Wisconsin farmer can get paid for the feed that he puts into these substitutes beef production or mutton production or pork production for the dairy cow. Dairying has its place, and will continue to have it here in the State of Wisconsin, and there is no spot on the American continent, or, for that matter, I think, in the world, that has much advantage, if any, over the State of Wisconsin for dairy purposes. Our lakes, our soil, our water, our climate, everything, is favorable to the development of the dairy interest.

But there are farmers in Wisconsin not like my friend Nordman in
MEAT PRODUCTION IN WISCONSIN.

one sense, and yet like him in another, who have more land than they can handle well with a lot of dairy cows. Now, Nordman's pasture, you know, extends from Shawano to the North Pole—to Polar, I guess it is. If you noticed, when he was giving us a census of his live stock, he admitted he had a flock of sheep, and that means meat production, so we even find him, the man who advo-

produce meat as part of the business of our farms here in the State of Wisconsin, and the first thing is to do it the best we know how. The man who produces meat as a side issue, even in a slip-shod manner, will not get any money out of it. Some of our would-be statesmen, on account of the high price of meats and the high cost of living in our cities, have been introducing bills, and


cates the small, intensive farm, right in that line. He sees there is some money in that meat production side of farming for him and he also sees that the right thing for him to do is to feed out what he produces on that sixty-acre clearing and save this fertility to put into that sixty acres, to grow more corn to fill more silos, to grow more clover, and I think, while he may be a little off in some respects, he is pretty sensible in that respect.

Quality the First Consideration

There are a few things though that we must consider if we are going to there is one that went into our United States Congress and some very much of the same kind into the Legislature of some of the states, within the last year or two, bills demanding that farmers keep all the male calves until they are three years old, to rear them and feed them to reduce the cost of living in the cities.

Well, now, you and I who are farmers and stock feeders, know that those are fool bills which do not show much statesmanship, because we know that a great many of these male calves, bred on dairy farms, from dairy breeds, where only dairy
breeds are being used, will not pay for feeding until they are three years old, so we say those fellows, instead of being statesmen, are fools. We occasionally, you know, do send a fool to the Legislature, we generally find it out when it is too late.

The Wisconsin farmer who is going to produce meat must formulate his ideas, and if he is going to produce beef, then he wants an early maturing, good quality animal for that purpose. Whether he goes into the market and buys him, or whether he raises him, he cannot raise him from his specifically bred dairy cows, because they are not built that way. Now, he must settle that question for himself, whether he goes into the market and buys his beef animals or whether he raises them. If he is going to raise them, he must make up his mind that they must be of an ideal beef conformation,—any animal which he uses,—which means that he must have, or should have at least grade beef cows of such early maturity does not all depend on the blood, nor on the breed, but it also depends at least fifty per cent on the feed, and so this farmer has got to study the feed question, as well as the breed question.

Here in the State of Wisconsin some people say we cannot produce beef, pork or mutton, in competition with the corn-growing states, but I am just foolish enough to say I believe we can, and we can produce a better quality,—we are producing a better quality of pork. At the little packing house down at Cudahy they are producing a better quality of

meat than they are at the Chicago packing houses, because, if you will follow the records of the last year, you will find that the Cudahy Packing Company have obtained a little higher price in the foreign markets for their output than the Chicago packing houses, although the Chicago packing houses are better institutions and presumably in better and in alfalfa, and even in the kind of corn that we grow to put in our silos, cheaper than they can in the corn belt, because the soil and climatic conditions favor the growth of protein elements better than their conditions do farther south. That kind of feed, the protein muscle-makers, and ash, the bone-builders, are more plentiful in our feeds

Champion Southdown Ram, Wisconsin State Fair, 1914. Owned by Alex. Arnold, Galesville, Wis.

shape to sell. I find this by inquiry in the foreign markets.

Now, why is this? Because up here in Wisconsin we have the feeds that produce a little better quality than the feeds in the corn belt. That is true in the production of pork, and that is true in the production of beef. Of course it means that we will have to provide more shelter from the cold than they have to provide farther south, and that is all. We can produce protein feeds, such as we get in the clovers grown here, and that class of feed is what is needed to push an animal ahead for early maturity, to grow this muscle, this lean meat, and develop bone.

Then we can grow starch in our corn crop, and thus balance up the feed we give to our stock.

Years ago, when silos were first introduced into Wisconsin, the two men who had then got far enough ahead to be making baby beef and were making money out of it, sold some of the highest-priced baby beef
on the Milwaukee market that was sent into that market and produced under Wisconsin conditions. Those two men lived in southern Wisconsin, Mr. Hays and Mr. Bloor. They were among the first men in the State to put lots of money into silos, and, as I say, they made money every year in producing baby beef. I have in his yards today worth eighty dollars apiece at the same age. But this man studies the problem of breed, feed and early maturity, and every one of those calves is kept growing until he goes into the Chicago market as baby beef.

The same reasoning will apply to your lambs and your pigs.


done a little of that myself, and I know there is some money in it if you will only push right along to early maturity, that is the first consideration. That means that every one of these calves must be kept growing steadily every day of their life until they are ready to put on the market. I know of a little bunch of calves raised in Dane county last year that, at a few days less than a year old, brought seventy-four dollars apiece in the Chicago market. They were raised by Mr. Caldwell, and he has another bunch

The Financial Side of the Question

There is another reason, and that is the fact that it will pay us to raise this baby beef, lamb, mutton and small porkers that bring a good price on the market. You can make it cheaply. The first food that the animal takes out of the feed we give him is the food of support. If we have a lamb or a steer it takes a certain amount of feed to keep them at their weight. If we have an animal in our barn and beside him in the same barn we have one that weighs
Champion Oxford Ram, Wisconsin State Fair, owned by N. W. Harris, Lake Geneva, Wis.

twice as much, it takes practically twice as much to maintain him as it does to maintain the one at half the weight. Now, you can plainly see if you only feed this animal which weighs a hundred or a thousand pounds—enough to keep him just at the one hundred or thousand pounds, that feed is wasted so far as profit is concerned. If you feed to the smaller the same amount fed as food of support to the larger one every day, there will be a gain, where, in the other case, there would be no gain. So it is a sensible thing to feed that amount of food to the lighter weight animal.

Then there is another principle involved there, recognized by feeders all over the world, that the younger the animal, the more active the digestion. That doesn't cut a great figure, but it has been proven out time and time again by experiment that they will take just a little more of the nutrients and digest them a little better, and for that reason we ought to feed the young animal and not let him stop, because the minute he stops, he strikes that principle which covers the food of support, and then every time he stops his digestion gets out of order to some extent, he is not getting enough to keep the life machinery moving right and healthful, and every time the digestive organs are deranged, there is not only a loss of weight, but there is a loss in the health of the digestive apparatus, and it takes time to bring that back to health again.

We have got to keep all these things in mind. Now, when the grain markets go up and we can sell our oats at fifty cents a bushel, we think that is a pretty good price, a little too high to use the oats for feeding profitably; but if you have high-class stock, you can feed fifty-cent oats nowadays and get your fifty cents back. I have done it, and I know it can be done. I do not doubt there are other men in this audience who have done it. I wish I had the other fellows that do not do it to talk to today, the trouble is the other fellows aren't here. The fellows that have not thought about feeding for profit and the active digestions of young animals and early maturity, well bred, and all of those things, are not here, and there isn't much use of my wasting my time on you fellows. Of course, if you sell oats at fifty cents a bushel, that is very nice; you can deposit the fifty cents in the bank and it will be ready to pay taxes with next year. But suppose you feed those oats to a good dairy cow that is bringing in something like one hundred and twenty or one hundred and fifty dollars a year, as some of the cows are doing in Wisconsin, several of the best third of them. Won't you be paid back your fifty cents for those oats? Feed it to some of these early-maturing, meat-producing animals and they will pay you back fifty cents, if they are good ones. Then what have you got besides? You can deposit—that fifty cents in the bank—and bankers are getting so they would rather take the fifty cents that comes from a good cow or a good steer, because they are thinking a little bit about these things too; they know that a man who gets fifty cents from an animal through feeding his oats, is keeping up his farm and he is going to make a better customer for that bank as he goes on; while the other fellow who is selling his oats is going to make both a poorer depositor and a borrower. When you feed that fifty cents' worth of oats on the farm, you have saved at least seventy-five per cent of the fertility to your farm, and so you have deposited in two banks. It would be better for a good many of
Champion Hampshire Ram, Wisconsin State Fair, 1914, owned by Cooper Nephews' Co., Chicago, Ill.

Champion Hampshire Ewe, Wisconsin State Fair, 1914, owned by F. W. Harding, Waukesha, Wis.