show that if our statistics are not to be credited, that we are not to blame for their condition, but that the blame rests back of us, and with the assessors of the several counties of the State.

Recess till 9:30 A. M., next day, Thursday, February 4th.

The Convention met at 9:30 A. M., Thursday, February 4th. Mr. McKerrow: Please be in order. I shall call to the chair this morning to preside over the discussions of the forenoon a member of our Board and one of your well known institute conductors, Mr. L. E. Scott of Stanley, Chippewa county.

Mr. Scott: It is an inspiration to me to see this fine body of young men. It means so much, it impresses one with the greatness, the grandeur of the future of our already grand and great State of Wisconsin.

Talking to your Dean last night, the remark was made that we had just begun here in Wisconsin. Of course we are in the lead, we believe it, we feel it, but there is so much more to do that comparatively, we have just commenced along agricultural lines. The southern part of the State of course is pretty well developed, but when we look out at the great expanse of good land in the northern part of this State, we wonder whether we have any conception of Wisconsin’s future, agriculturally.

Now, we want to get right down to the business of the morning, and the first subject of the program is that of production of swine. We have with us this morning a man that needs no introduction to the younger members of this audience, and yet who has had a large experience upon one of those great large farms in Northwestern Wisconsin, Grant County, and still has been your instructor here. He is not only theoretical, but has had a practical experience. I am glad to introduce to you Mr. John L. Tormey, who will talk to you upon Swine Production.

PRACTICAL SWINE PRODUCTION.

JOHN L. TORMEY, Madison.

Before entering into the main discussion of this paper, I deem it somewhat advisable to give a few introductory remarks upon the early history of swine in America, not only to show the different factors that have been instrumental in building up the
paying type of hogs we have today; but also to throw some light upon economic conditions which have conspired to place the production of swine in the rank of a national industry.

Although perhaps not bearing directly to any great extent upon "Practical Swine Production," it is interesting to note that the introduction of swine into America was undoubtedly coeval with the introduction of the people and as each section along the Atlantic coast was colonized, we learn that hogs were introduced as an article of food. The first swine were undoubtedly brought by Columbus in his second voyage, but the first hogs in America were introduced in 1538 by the Spanish, and we find the English bringing swine to Virginia in 1609. These hogs we understand were not bred wisely and consistently as we think we are doing to-day, but were allowed to run at large and reproduce at will.

The Revolutionary War marked—as in all our industries—an epoch in the swine industry. As a purely American production, the hog here received his first impetus; but the hog was the last class of animals to receive attention from the improvers of live stock.

Railroads were then unknown and the means of transportation up to 1850 were limited. Corn was becoming popular as an agricultural plant, and the people naturally began to cast about for some means by which the crop could be cheaply conveyed to a market. The hog soon showed his ability and usefulness in converting the crop into pork, and at the same time in being able to carry the carcass to market. Naturally, the early type would be a large-bodied, muscular, long-legged, traveling hog; but people were not long in discovering that this hog was a slow developer. It took two, three, or even four years to mature them, and the meat was coarse, tough, and scarce on the carcass.

The natural outcome was that about 1800 the people were anxious for a change and about that period we find our first attempts at improving the type of hogs, when the Duke of Bedford sent three hogs to General Washington. The hogs are described as a splendid breed; fine in their points, of deep, round carcass, short legs and thin hair. They kept easily and matured early; were light of offal; and the meat was of first quality. At about this time there were introduced the Chinese, Spanish, Norfolk, Lincolnshire, Leicestershire, Hampshire, English and Irish Graizer, the French, the Swiss, the German, the Neopolitan, the
Russian, the Calcutta, and various other breeds. The paramount item of interest here perhaps is to note that at that time the reformers had our modern idea of a profitable type well in hand; the time was ripe and environment only was necessary to develop the type.

A striking and peculiar feature of this early day breeding was, that none of the breeds were kept pure—they were crossed and intercrossed upon one another and upon the common stock of the country. The farmers at that time seemed to view the breeding of hogs as an experiment. Baltimore and Philadelphia had, at that time, quite well established markets, and the hogs was becoming more and more a factor in industrial circles. The time was then at hand for more systematic work in its breeding and development.

The period from 1830 to 1840 was one of the most important in American swine breeding, and importations of improved stock were frequent. The block, however, is the final test of the worth of meat, and without an outlet for consumption and a strong central market to supply a constant demand, there would be no call for extensive pork production and no demand for systematic breeding. So about this period we read of shrewd buyers driving hogs long distances to market, and allowing them to graze and grow fat en route. The demand for a market nearer the center of production drew the great packing business then in its infancy, from Baltimore and Philadelphia to Cincinnati, and we read that in 1841 over 250,000 hogs were slaughtered there. Many of them were exported and in addition 12,000,000 lbs. of lard were put up there, worth nearly $500,000. We may correctly assume that at that time Cincinnati was to 1849 what Chicago is to 1900, only of course on a diminutive scale.

The constant growth of manufacture, and the improvement of transportation facilities, caused a centralizing of the population in the great cities. This population had to be fed and the food must necessarily come from the soil in the most condensed form. Hence, the beginning of the real swine industry.

A glimpse at the Chicago market alone will serve as an index to the stupendous industry which has evolved from the work of the one time humble swine herd.

In 1900, Chicago's meat product reached a valuation of $256,527,949, or 32.7% of the total value of the annual meat valuation
in the United States. February 10, 1908, 87,716 hogs were handled in one day; in one week ending Jan. 11, 1908, 302,070 hogs were received; in the month of January, 1908, 1,179,233 hogs were received and in 1898, 8,817,114 hogs were received. The Union Stock Yards, made famous by the hog industry, now consist of over half a section of land. The property is now worth over $10,000,000 and the capital invested in and around the yards in slaughtering amounted to over $67,000,000 in 1900 and the men employed numbered over 50,000. There are over 200 acres of yardage, 20 miles of street, 20 miles of water troughs, 75 miles of drainage and water pipes, and 150 miles of railroad track within the limits of the Yards.

There has been in the past half century a steady consistent growth in the demand for pork. This demand has steadily reflected upon the supply—both increasing means an increase in capital involved and an increase in wealth to producer and packer. Without this lucrative compensation no industry can stand as such. In view of the great money gains in swine production we can hope for nothing but a steadily growing industry for swine producers.

The value of swine to the producer, and the returns expected therefrom depend, of course, upon: (1) The man backing up the proposition. As in all other industries and callings no man can expect results worthy of mention unless he be a man of sound judgment and have a knowledge of his own business. Any industry or occupation is above a man without character, but no honest labor is beneath a good man. The success or failure of any project must of necessity depend upon those engaged in the work.

(2) He must also have a knowledge of the market classification of hogs if he expects to become successful, and his success will be measured largely by the dollars and cents cleared up.

The Chicago market divides the receipts into a great number of classes, but for convenience we will classify the market hogs (and let us bear in mind right here, that the hog industry is an industry, because of the money made from the commercial hog to go directly to the consumer and not from the raising of breeding stock) as:

1. Butcher hogs (common; barrows and prime hogs; heavy)

2. Packers (inferior, piggy, etc.)
3. Light (bacons, inferior in size and quality)

4. Prime heavy hog (almost extinct)

1. The majority of hogs which go to market may be ranked as butcher hogs. As a class they are mostly barrows and a general average puts their weight at 225 to 250 pounds, although they may range in weight from 180 to 350 pounds. A few good young sows may go into the drove without detracting from value. As a general statement we may say that our fed shotes ranging in age from 8 to 10 months are butcher hogs. There hogs as a general rule are most in demand, bring highest prices on market, and are commonly used for dressed meat trade. Extreme range in price for 1908 was $4.00 to $7.50 per cwt.

2. The packing hogs range in weight from 200 to 500 pounds and differ greatly in quality from the butcher hogs. They are poorer in quality and in this class we find our inferior stuff such as old brood sows, and other hogs not good enough for butcher stuff but heavy enough for this class.

Where the butcher hog has been sent along at a good rate toward the finish, the packing hog may have suffered setbacks and we find that, weight for weight, the packer is usually the older hog, not having the quality to turn feed into money as readily as does the butcher hog. Due to scarcity, prices were good the past year and ranged from $4.00 to $7.60.

3. Light hogs in general include all hogs ranging from 125 to 220 pounds in weight. This class includes bacon hogs ranging in weights from 155 to 220 pounds. Light mixed weighing from 150 to 220 pounds and light pigs and hogs weighing from 100 to 150 pounds or even lighter than 100 pounds.

The majority of hogs sent to market the past year were light hogs, due to the high price of corn. This explains to a certain degree how it was possible for the Chicago market to handle the extraordinarily large runs and also how the price was kept up in the face of such record breaking supplies. The idea is that a certain total number of pounds is necessary and the lighter the hogs, the greater the number that is necessary. Prices for 1908 ranged in extreme from $4.00 to $6.85.

4. Prime heavy hogs range in weight from 350 to 500 pounds, and are a type so nearly extinct on the Chicago market as to almost warrant our not mentioning them. Time was when barrows were not sent off as shotes, but were kept over until they were over a year old and carried good fat backs and clean bellies
of fat. The demand on the market for a lighter hog and the desire on the part of the producer to turn hogs into dollars as quickly as possible has put the prime heavy hog out of the running.

Besides these classes there are also runts, stags, and government "throwouts" not worthy of consideration in practical production.

Besides a knowledge of market classes and conditions, the successful swine producer must early fall upon some type and breed and stick to that type and breed, if he wishes to get the steadiest returns from his swine producing operations.

By breeding either pure breeds or high grades of some particular breed he can almost bank upon a consistent and constant profit. An outercross is always dangerous; although increased litters are often the result, we often sacrifice quality and type—the two important factors in determining market value. Then again we find that after our second outercross we obtain almost a nondescript and all our efforts at grading have availed us almost nothing.

The Chicago market does not discriminate either in favor of or against any breed of the lard type, but it does discriminate against white hogs and mottled nondescripts, claiming that a white skin is always associated with a white coat and that the white skin is more susceptible to disease; but commission men do advise selecting a certain breed and becoming familiar with it, because the greater and more intensive the knowledge concerning one breed, the more successful will be the producer.

To be a successful producer of swine the man must have a knowledge of the market, as the time of marketing means either loss or gain in the season's operations.

The producer ought to know something about:

1. When to market,

2. Some of the more important factors influencing market values, and,

3. How to market.

In discussing market types we learned that the most approved hog on the Chicago market was the butcher hog of about 225 pounds to 250 pounds. Now we hold that a hog should have a pound of weight for every day it has lived, and so our butcher hog is generally a shote about 8 or 10 months old. The majority of these shotes throughout the country are farrowed about
April and May and come upon the market as the best quality hogs from Dec. 15 to Feb. 1, every year as an average. We also find our old sows beginning to come to market about the last of October, so that every year we note a dropping in price from about Nov. 1 until February. Along about the last of February, we note a rise and in April, May and June we usually have good prices. The same is true in September when we usually have our highest prices. The fall shotes are then all sold off, the sows that have failed to breed have gone in, the young pigs are keeping cheaply, and are too young to ship, and the old sows have not yet recovered their lost flesh. Feed at this season is comparatively cheap on the farm, old corn is almost all gone, and the new crop is still an unsafe proposition as feed.

As a growing proposition there is nothing more profitable than the spring pig. Every day is getting longer and sunnier, the grass is getting better, and the pig is getting stronger. The fall shote which would strike a better market and is a good adjunct to both the steer and dairy industries, is rather a precarious proposition, but if dropped before Sept. 1, and provided with good bed and shelter he can be made to win out at a good profit by consuming what would otherwise be injurious to our brood sows and by landing on an up market.

Then again if the pig could be farrowed earlier, run onto feed and weaned as soon as possible, the old sow could be got into shape, and sent to market in October before the majority begin getting onto the market. Of course the factor of feed again enters in, the farmer does not like to keep his corn too long as it is good business ethics to turn your crops into cash or the equivalent as soon as possible.

There are several factors influencing market values. The most important factors are supply and demand in spite of the fact that the big packers are being constantly accused of cornering and controlling the market. The supply, of course, is a variable, depending primarily upon the hog crop and disease; but scarcity and cost of feed may rush them to market, and following a rush we get a decline. The demand is controlled to a great degree by prosperity. Meat is what might be termed a necessary luxury and in hard times the laborer cuts meat off his bill of fare about the first thing. The packer has a harder time controlling the pork market than any other market due to the ease with which pork can be slaughtered and every year we
read of more and more "down town" and home butchering being done. A splitting up of the demand due to competition prevents cornering.

The prices of other meats are a factor in controlling the price of pork. When beef and mutton are cheap, pork must necessarily drop in price as the demand then turns toward the cheaper meats.

The price of feed also controls to a certain extent the cost of production and thus has quite an influence on the price of pork. The higher our price of corn, the higher must our price of pork go, and statistics show there is a more or less constant ratio between corn and pork prices. When corn is high the people sell corn and supply that demand, but in doing this, they tend to cut down supply of pork and raise its value and the rule works both ways.

In any industry the money made is always the surplus over and above cost of production and expenses, so that the raising and keeping down expenses are matters of consideration almost as important as striking a good market.

When it comes to the question as to how to market, there are two general methods, viz., selling to a local buyer and shipping directly to the large market. The first method has as perhaps its strong argument the fact that the producer knows just what he is going to get for his hogs and what his year's profit will amount to. Then again, the strain of speculation is eliminated.

But in spite of the above, we maintain that the better method is for the farmer, if he have enough hogs for a load, and if not, for a number of farmers, to cooperate, pool their interests, and ship on their own responsibility, and to accompany the shipment. Of course, we admit the shipper or middleman does not get rich at his business, but year in and year out the producer will win out with a little more money on the long run. Not only that but it puts the farmer upon a plane with a man of the world, and takes him away from home, which is often a good thing. He has the opportunity to see what other men are doing, gets new ideas as to doing things, and above all, he gets an insight into the system of classifying his product, and gets some wisdom as to what his product is really worth.

We know of several instances of communities where farmers have cooperated and where individual shipping is done—some
one or more of the owners accompanying the shipment and the custom is growing—where once tried it is not dropped.

The American hog has well been termed "The Mortgage Lifter," and to the swine industry as such our nation owes much of its present flourishing agricultural condition. The stock farm, without argument, surpasses the grain farm, and the men who have advanced along agricultural lines have been improvers of live stock.

Hog raising has given to the farmer:

1. A quick cash return for the feed without robbing the farm soil.

2. The highest return on labor and capital invested in any branch of the live stock industry, and

3. A connection between the farm and the large markets, making the hog raising proposition not a physical drudge, but an industry calling for skill and thought.

To the nation it has given the distinction of being the home of the greatest meat growing and curing establishments in the world; and adds to the nation's wealth about $300,000,000 annually.

DISCUSSION.

Mr. Richards: At the price of grain and corn, can a farmer raise hogs and make enough upon them to pay for his labor at the market price of grain feeds?

Mr. Tormey: I think he can any time.

Mr. Convey: We have heard considerable about the bacon hog, I was very much surprised not to hear that mentioned in this fine paper.

Mr. Tormey: The Chicago market does not discriminate in favor of the bacon hog. I think you will find out that the best lard hog that has been sent from this Station cooled out about 87 per cent. We find our bacon hog cooled out upon the average about 10 per cent less. Now, if we send in our bacon hog in competition with that lard hog, you can see how the thing is going to line up, can't you? The buyer at the Chicago market will discriminate in favor of the lard hog every time. I think that as a general thing we will find that our lard hog puts on more gain for a dollar's worth of cost of production than does the bacon hog. There are perhaps two or three markets in the country, I think there is one at St. Paul, and there is a little packing establishment down in Ottumwa, Iowa, and I don't
know about. Jones out here, whether he discriminates or not, but those places do give a little premium on bacon hogs, but if we are not offered a premium on bacon hogs, we can't afford to raise them in competition with lard hogs.

Mr. Convey: While I am a producer of the lard type of hog, I wouldn't be at all certain that they are the most economical of production. Would not a straight bacon type of hog make a better type of pasture hog?

Mr. Tormey: It may be.

Mr. Cunningham: When you refer to bacon hogs, would you also refer to a certain breed as a bacon hog?

Mr. Tormey: No, sir, I am not referring to any certain breeds at all.

Mr. Houser: Do you mean to go on record as asserting that hogs can be produced at a profit at any time?

Mr. Tormey: What do you mean, from the time they are farrowed, Mr. Houser?

Mr. Houser: Oh, no, I mean with reference to prices and the price of feed that they consume.

Mr. Tormey: Well, of course, you have to take several things into consideration. I don't know whether I am very clear on that or not. Define your question a little more, I won't promise to answer it, anyway.

Mr. Houser: Can you produce and sell hogs at a profit when they are selling for five and a half cents in the local market and corn is worth 65 cents in the local market?

Mr. Tormey: Well, that depends upon whether you have to buy your own corn or raise it. A bushel of corn is worth just as much whether you raise it or buy it. At home we always buy corn. We have never sold a thing off the farm, except live stock during all the time we ran it, my father and I, down to the present, and that is almost sixty years. Of course, there is a question there, you find that in a good many neighborhoods they are selling off their corn when the price gets high, but I think that at seven and a half cents, you could probably make a fair profit on raising hogs if your early cost of production is not too high.

Mr. Scribner: I think that is one trouble; too many people are depending on the other fellow to grow the hogs. I don't think it is profitable to feed exclusively on what you grow on the farm. I am in the dairy business, and I cannot raise a
profitable ration on my farm to feed cows, and I think it is the same with hogs. I think a man will make a profit in buying some mill feed, etc.

Mr. Roberts: In order to grow hogs profitably during the summer, you want to provide plenty of green feed, and in that event you probably can make a profit on live and a half cent pork and 60-cent corn, but if they have to be fed exclusively on grain or any other feed, an equivalent, the margin is too wide to make a profit.

Mr. Houser: I am sure that no intelligent feeder of live stock would advise the raising of hogs entirely upon corn and my question contemplated the usual manner of feeding hogs, of course, missing them as you have to do it in order to reach the demands of the market in the proper way, with corn, and the building in of the marble.

The Chairman: And assuming that other feeds are in proportion.

Mr. Houser: Yes, assuming that other feeds are in proportion. There is a very great doubt in my mind whether any profit can be realized upon live and a half cent hogs when corn and other things in proportion are worth 60 cents a bushel.

Mr. Roberts: That is a point I wish to get at. Other feeds are equivalent in price, they are all high priced.

Mr. Houser: I want to commend the paper and to speak of it particularly in reference to the very live wire that it touches on the matter of marketing hogs; that is the meat in the coconut, and it raises some of the most stupendous questions that the farmers of America have to contend with. It is a matter that influences and controls profits. Even our government is interested today in probing into the little things to find how it is that the price of hogs on hoof do not seem to harmonize or compare with the price of hogs on the hook. There is an influence in there that is not controlled entirely by the legitimate law of supply and demand; in other words, the trust enters into it, and that is a question for the farmers to think of.

Mr. Cunningham: Speaking of raising hogs, do you contemplate or have you in mind the raising of your hogs on grass during a part of the summer, or replacing that as best you can with the best intelligence you know how to use in feeding and care?
Mr. Tormey: I don't think you can run any interest on a farm without having sufficient pasture. The hog, as well as all other animals, needs pasture and shade and good, clean water. You hear about the hog being dirty; I think he is one of the most particular animals around the farm. He will appreciate every bit of cleanliness that you furnish him. I like to see a hog with plenty of pasture, good, clean running water, if possible, and plenty of shade, and if you are running a dairy farm, you have all the advantage in the world. The man that can't make money with hogs on a dairy farm better quit farming. The man that can't make money on hogs on a steer farm, there is something radically wrong with that man, I think, if he is attending to business.

Mr. Houser: Isn't it more appropriately a complement to the dairy farm than to the steer farm?

Mr. Tormey: I don't know, you can't make any money at all on a steer farm without hogs; you can do it with both on a dairy farm.

Mr. Convey: I think the strong feature of this paper is the advice as to marketing hogs at the proper season. We have to steer clear of the low market of hogs with high-priced grain. We must take advantage of the high market and market our hogs when we can get the value for the food consumed, and in that, there is always profit.

The Chairman: I was glad to hear Mr. Tormey say that although he is a young looking man, "we have been farming for about sixty years." Boys, that means something. Mind you, he doesn't say "I," but "we have been farming for about sixty years."

Owen Meredith, that great English writer in "Lucile," his highest piece of work and probably the greatest love story that was ever written, a story I used to read when I was many years younger, made a wonderful contribution to the literary world, a great deal of good philosophy, and I remember one thing is this,

"What to our sires was X Y Z is to us A B C," which simply means that we should profit by the experience of our fathers. Fortunate is that young man who has had a father who has been successful along agricultural lines. Twice fortunate is the father who has a son who takes an interest in his work
as Mr. Tormey has in his father’s work, and follows right along the line, associating himself in that work.

Now, we have another. You have been familiar with the work that Superintendent McKerrow and his son have been doing along the lines of sheep husbandry. They have not only become noted importers and breeders, who have done a great deal toward developing this industry, but have been in close touch with the industry throughout the State and farther, and I am happy at this time to introduce to you Mr. W. A. McKerrow, the younger member of the firm, who will talk to you upon the sheep industry in Wisconsin.

THE SHEEP INDUSTRY IN WISCONSIN.

W. A. McKerrow, Pewaukee, Wis.

The historical or evolutionary method has been applied to all classes of industries, institutions, plants, animals and man. By this method we may understand the factors entering into present accomplishments and conditions. Industries have come into existence contemporaneous with the development of new wants and greater ingenuity in man, demand to giving use to production principally, but being partially created and assisted by production. Plants have taken on a wonderful capacity for variability under changes of environment and modification in treatment, and animals have been changed in character and differentiated in accordance with utility, or the purpose for which man has cultured them. Man has developed a wonderful social nature and a vast capacity for organization under modern conditions of dense population, and along with this has developed the intellectual and spiritual side of his nature above the physical. The study of this is highly interesting, but it is more than interesting; it is profitable. The continuity or indestructibility of evolutionary tendencies and processes or rather the appreciation and recognition of them is a light to the future in respect to which these industries and processes are studied. For example if modern conditions show a tendency for the development of mind, rather than muscle, the perfection of the mental ideal, spells success, for it is the type which assimilates most