AFTERNOON SESSION.

The convention met at 2 o'clock, Wednesday, January 4th, 1905.
Vice-President Aderhold in the chair.

OUR CHEESE INDUSTRY AS IT IS AND AS IT SHOULD BE.

Prof. W. J. Carson, Madison, Wis.

At one time a large proportion of the cheese made in this state was exported and sold upon the British market, but as time has advanced our home consumption has become almost equal to the supply, therefore we no longer cater to the markets of Great Britain so far as our cheese is concerned. Cheese intended for export must be of the same quality throughout; it matters not whether the cheese is going to Liverpool, Bristol, Dublin or Glasgow, the quality demanded is the same. But there seems to be more variation in the quality of the cheese intended for home consumption. I happened to have an opportunity of visiting a dozen or more of the best warehouses in Chicago, during the past summer, most of whom handle cheese from the state. Among other questions I asked to be shown a cheese that was considered to be of No. 1 quality, and exactly suited for the home market. I was very much surprised to find such a difference of opinion. While one buyer wanted a cheese clean in flavor, firm and close in body, and smooth in texture, others told me they cared not how open the cheese was so long as the flavor was clean, while others wanted cheese decidedly acidy, claiming that that kind of cheese would sell faster in certain cities than would cheese of No. 1 quality. This is a regrettable fact, for so long as we lack uniformity among our buyers, so long will we have lack of uniformity among our makers, and until remedied, this will prove a serious hindrance to an improvement in quality. Cheese intended for home consumption do not require to be so firm in body as those for export, but in endeavoring to make a soft cheese some of our makers have overdone things and are trying to sell water for cheese. They therefore have gone to the other extreme. Many of our makers seem
to be under the impression that in order to make cheese soft in body the milk must be ripened low and the curd left soft at the time of dipping, the result being that the curd is not sufficiently cooked. By allowing an excess of whey to remain in the curd the maker gets a cheese which, when partly broken down, becomes acidy and mealy in texture and decidedly open. To make a soft body cheese as much time is required, if not more, than for a firm cheese, because a greater amount of care is required in order to get rid of the whey and prevent danger of the cheese becoming acidy after being placed on the shelf. No matter what market the cheese is intended for, it should have that characteristic smoothness of texture, and this can be got only by proper cooking and allowing sufficient time in the whey. In order to make a cheese of first-class quality, at least eight hours are required from the time of putting in the rennet until the cheese are dressed, yet it is a common occurrence to see our makers leaving the factory at 12 and 1 o'clock, having finished work for the day. To do this he must over ripen his milk which means a loss of quantity as well as the quality of the cheese so made.

I understand our makers are not held responsible for the quality of the goods they turn out, therefore they do not take the same interest in the work as they would were they held responsible for the quality of their work. I do not mean to say that the maker should be held responsible for the flavor of the cheese, but texture, and body, uniformity of color, and the general makeup of the cheese are things that are within his control; therefore he should be held responsible for them. A good maker, in selecting good milk, and being careful about his work, need have no fear of giving a guarantee, while the poor maker would soon be driven out of business, and the sooner the better.

The one to ten pound system, so common in this state, which compels the maker to give one pound of cheese to ten pounds of milk, has been indirectly the cause of a great deal of inferior cheese. The maker knows that that amount of cheese during May, June and July is not in the milk, and to save himself as much as possible, he uses an excessive amount of rennet and makes a soft cheese. The warm weather comes on, and using the term of one of the most prominent buyers, "he has a lot of soft, open Swissy, unmerchable goods, that are rejected by buyers and bought at a low price."

EXISTING AND SANITARY CONDITIONS.

The existing conditions at many factories demand that much and careful attention be given to this important subject, for there is no place where sanitary conditions are more essential than the place in which cheese is manufactured. Many of our factories are so situated that it is almost impossible to get proper drainage, having to depend upon the natural drainage of the soil around them. Some of the worst conditions may be described as follows:

- Water impure, and unfit for use.
- Gutters, whey spouts and tanks leaking and filthy.
- Floors rotten, leaking and dirty.
- Dirty water barrels from which the water is used.
- Walls and ceilings dingy, dirty, and hanging with cobwebs.
- Leaking vats and unclean utensils.
- Surroundings untidy and the building without any provisions for the exclusion of flies.
- Untidy makers and dirty clothes.
- Lack of modern machinery.
- Poorly built and ventilated curing rooms.

We have too many such factories operating in direct opposition to one another, and as a result the profits are so small that one-half of them cannot afford to pay a good maker decent wages. It would be a grand thing for the cheese industry if one-half of these small unsanitary factories were destroyed. The factories then remaining would be sufficiently patronized to enable them to provide proper machinery, curing rooms, etc., and employ a maker who could turn out goods that would be a credit to himself and the state. Running a factory is like feeding a cow; it requires so much for keeping expenses over and above which is profit. With a fair milk supply, say 10,000 lbs. daily, our manufacturers could well afford to make cheese for less than is now charged, thus adding considerable to the profits of the patron.

BRANDING OUR CHEESE.

It seems to me that our makers should adopt a suitable brand which should be attached to both the cheese and the box. By branding each day's make, the maker who made a first-class article would get credit for his work, and the man who made
an inferior article would get only the credit to which he is entitled. Under present conditions a good maker has no chance to work up his own product, therefore, his reputation, so far as the public is concerned, extends no farther than the factory door.

**NEED OF A REFEREE.**

Our manufacturers are entirely at the mercy of the buyers. I do not mean to say that our buyers are dishonest, but I know they will protect their own interests before they will those of the manufacturer. The manufacturers' interests could be protected if we had a referee, an expert who could be called in and report on the quality of the cheese that are in dispute. It is an easy matter to find fault with a lot of cheese, especially in a declining market and under the present state of conditions, who is to be the judge?

**OUR INDUSTRY LACKS CO-OPERATION.**

Too many of our factory men are in the business solely for their own benefit. Where self-interest is the only bond between the manufacturer and the producer, there is no co-operation, and the business is not a success. Co-operation is as old as the human race. The first co-operation we read about was when Adam, Eve and his Satanic majesty went into the fruit business. And we are told they did not succeed very well. Co-operation requires the efforts of two or more persons, but in the cheese industry there are four classes who should co-operate, namely: the producer of milk, the manufacturer, the carrier, and the distributor. The latter two are hard to approach, but if we can bring about the co-operation between the first two, we will have made a long step towards success. Co-operation has an educational influence in itself, as it teaches a man a knowledge of the business, broadens his mind, and helps make men more neighborly, courteous and sociable. In order to promote co-operation the manufacturer must gain the confidence of his patrons. He must deal honestly and fairly with them, treat them politely, and show them that he is interested in their work as well as his own.

These are only a few of the different lines along which we should endeavor to improve, but the question now is, what can we do, or how best may these changes be brought about? Some
have advocated licensing the factory owners and operators. To do this we must have a law passed by legislature compelling these parties to live up to certain requirements. This would have a tendency to bring about a marked improvement in the condition of our factories and creameries, but when we undertake to drive people by force of law, we do not induce co-operation, and this is something we must not lose sight of. In my opinion, the law should be the last resort, and only when everything else has failed. To bring about any marked improvement, we must begin farther back than at the factory or maker; the producer of the milk is the man we must reach. I believe that two-thirds of our cheese is spoiled before it ever reaches the factory. Teach the patron how to produce first-class raw material and our cheese will soon show a marked improvement. Most of our makers can make good cheese out of good milk, but there are few of them who can make good cheese out of milk in bad condition. How often we see the poorest goods coming from the cleanest factories simply because the raw material was not right. If we have to license the factory and operator, why not license the patron as well? We would not be establishing a precedent in this respect, for it is not long since that I read of a patron in one of the foreign dairy countries having paid a fine for allowing his milk to stand too close to the barnyard.

**SYNDICATING FACTORIES.**

I am strongly in favor of the syndicating system of instruction similar to that adopted by Ontario and Quebec. In these provinces the factories are grouped in twenty-five and thirty each, and a competent instructor is placed in charge of each group. The instructor visits the factory each day and makes it a point to be at the factory in the morning in time to receive the milk, so that he can examine each sample of milk as it arrives. Each instructor carries his own outfit which includes a curd test, an acidimeter, a standard thermometer, etc. He makes a curd test of each sample of milk of which the quality is doubtful, and also assists the maker provided he should need instruction. During the afternoon or after the work in the factory is pretty well advanced, the instructor visits some of the patrons, especially those who have not been sending the milk in proper condition. Usually meetings of the patrons are held at the factories in the evenings. Over all the instructors is one chief instructor who travels from district to district to
see that the instructors are doing their work properly. These instructors have no power any more than to suggest any improvements that are necessary. They fill out a report of the condition of the milk, the building and surroundings, the quality of the cheeze, and the work of the maker, a copy of which is hung in the factory each visit and a duplicate sent to the government. These instructors are given a course in the dairy school in the winter, therefore they all go out preaching the same gospel. To defray the expenses of these instructors each factory contributes $15 which is sent to the government, who in turn pay the instructors salary. By contributing this $15 the patrons or manufacturers, as the case may be, are taught to help themselves.

During the season of 1903 Ontario had 22 instructors of which I happened to be one, and in looking over the report of the work done that season, I find that 576 factories received in all 3,600 visits, or an average of over 6 visits for each factory. There were 2,200 patrons visited and 12,000 curd tests made. The total attendance of patrons at the meetings held was 5,000, and there was $50,000 expended for improvements on the 576 factories visited. To carry on this work, the cost to the government was $8,000.

This system has been in force in Ontario two seasons, and I believe that the quality of their cheese has improved more during these two seasons than it has in any 15 years previous. What can be accomplished in Ontario, can be done here, for I cannot believe that our farmers or manufacturers are any less energetic or slower to help their own interests than are those of Ontario.

Our legislature does not usually grant money until it can see sufficient returns for the same. To prove what can be done, two districts of say 25 factories each, could be selected and a competent instructor placed in charge of each. If the work was properly handled I venture to say that sufficient improvement in quality and uniformity in the cheese could be brought about before the end of the season to warrant some of our buyers in offering a premium of ¼ to ½ a cent for all the cheese from these districts. This would serve as a test case and a starting point; from that we could branch out to something larger.
REGISTRATION OF FACTORIES.

With a view of encouraging and assisting improvement in the condition of our cheese factories and creameries, I think we might profitably copy the Irish system of registration of factories. In Ireland the Department of Agriculture hold themselves prepared to consider application for the registration of creameries from managers who desire to have the creameries and management recognized by the department as efficient. The conditions under which the registration is granted are:

"That the manager is capable.

That strict cleanliness and order are manifest everywhere, around the creamery, in the creamery, and in the persons of the manager, employees and pupils.

That apprentices and pupils receive efficient training and instruction.

That there is a proper system of bookkeeping and business methods.

That the equipment is sufficient.

That the premises and methods are at all times open to inspection of the department.

That defects indicated by the department's inspector be remedied.

That the creamery is entered for the department's surprise butter competition."

This system, if adopted, could be modified to suit local conditions. For instance, on complying with the requirements of registration and paying a fee of $10 or $15, which could be used for instructional purposes, the factory could be given a suitable brand which, when attached to the cheese, would serve as a public guarantee as to the condition of their manufacture. Such a system would tend to discourage the establishment of small and poorly equipped factories, also overcrowding of factories, both of which is a positive curse to the cheese industry. Competent makers would then be given a proper standing and it would serve as security and encouragement to proprietors to erect larger and better equipped factories.

In order that we may improve this great industry we must have five things; the most important, and the one that should be first and foremost in every mind, is education,—not coercion, not law. If we can get our patrons and manufacturers to take hold of this work without invoking the power of the law, we will be much farther ahead and in a better position to ad-
vance continuously. There is no reason why Wisconsin should not produce the best cheese in the world and I know it is only a matter of time until she will, but to do this we must have more instructional work; our patrons must have more teaching along the line of economy in the production of milk, the proper method of caring for and handling milk, and in the details in the management of our cheese factories and creameries.

The second thing that is needed is unity. Our Dairyman's Association, Dairy and Food Commission, Cheese and Butter Makers' Associations, and the Dairy School should work in perfect harmony. An annual conference between the officials of these various organizations should be productive of much good. Our bacteriologists and chemists should be brought more in touch with these associations as these branches of science are very closely allied to the dairy industry. Unity between our associations and those of sister states, unity between our patrons, manufacturers, transportation companies and buyers, and unity between sister factories and makers. Our makers should visit each other oftener and compare notes.

The third thing we need is diligence. Each officer and member of this Association should have a part to do and he should aim to do it well. This does not mean only working, but working all the time. Some of these makers who get through making cheese at 12 o'clock each day and who do not even take time to clean up things before they leave the factory are not doing the part which has been given them to do.

The fourth point is perseverance; that is, continually keeping at it. Wisconsin cheese is rapidly coming to the front and it is only by the constant work of the members who take an interest in this industry.

The fifth thing is enthusiasm. We must get the farmers roused for unless he is reached things will hang fire. We should have more dairy meetings with good live subjects,—something that will interest the farmers and get them out. It seems to me that one evening meeting of this Association could be very profitably devoted to the benefit of the city people. They are to a large extent the consumers of our cheese and we must have their co-operation too if we are to make a success of this great industry.
DISCUSSION.

The Chairman: I would like to ask Professor Carson whether he thinks that all cheesemakers and patrons of cheesemakers can be persuaded by education?

Prof. Carson: From my experience on the Canada side, I believe they can. Before we adopted the syndicating of factories we had inspectors going around, testing milk, and I happened to be the first man that went on the road as a syndicate instructor, and I found in my experience that the first three months of my time were spent in gaining the confidence of my patrons. I have seen them ducking around the barn, I have even had men come out with pitchforks in their hands and forbid my coming on the land. Now, by talking with that patron, asking how many cows he had, how he fed them, working around, talking to them kindly, I finally was invited in to see his barns and one thing and another, and the men that will act in that way at first will turn out to be your best friends, and will be the men that will introduce you to the neighbors. I believe by taking the proper manner and going about it kindly, that you will get any man to work for his own interests.

The Chairman: Wasn’t there something behind, in case a farmer would not be educated and continued to bring unclean milk? For instance, it would be rejected, would it not?

Prof. Carson: Well, the makers on the Canada side make a rule that if one man rejects it, the other man rejects it.

The Chairman: That was behind that education, that is a pretty good club. Could you educate them without that?

Prof. Carson: It is not a law, it is a common law among them.

Prof. Emery: It has all the force of law.

The Chairman: I think we may do a great deal more in the way of education through cheesemakers if we do not accept dirty milk. They would have to bring clean milk, whether they wanted to or not, but the suggestion is good.

Mr. Marty: I would like to ask Prof. Carson whether this method of education of patrons has brought about any better conditions among factory plants? I know in our section that a great deal of our cheese is spoiled directly through poorly equipped factories, where factories are not sufficiently equipped so that the maker can apply his skillful methods for the manufacturing process, more so than with any poor milk that we
receive. Therefore, the poorly constructed buildings are the first thing that we must get after in our section to see whether that method would bring about better conditions in the way of improvement of factories.

Prof. Carson: The first year I went out on the road I was sent to the worst district in the whole Province of Ontario, and by pointing out the defects and holding meetings and explaining enabled in many instances to induce those patrons to tear down the old factory and build a new one and we had no law behind us, I had no more power than to suggest, and by gradually working up a sentiment we were enabled to do that.

Prof. Emery: I feel quite sure that Professor Carson has given us some most excellent thoughts in urging more education. I believe perfectly in the potency of ideas, they are what give us progress and we cannot have too much of it if we get the right kind, but I feel quite as sure upon the other hand that Mr. Carson minimizes in this state the benefits and the force of law. Now, we have some experience here, as well as our Canadian brethren. For many years the Wisconsin Dairyman’s Association employed instructors to go into the field and instruct in the matter of cheese making and no doubt that high quality of our cheese as compared with the quality of our butter today is due to the instruction that has been given, by these men during these many years. But a few years ago a law was enacted authorizing the Dairy and Food Commissioner to appoint one or more persons as his agents, clothing them with the same power that he possesses to go into a creamery or cheese factory. He appointed Mr. Aderhold, Mr. Marty and others. Mr. J. G. Moore was the first man appointed as creamery inspector under that plan. Now, it is the uniform testimony of these men of experience that when they themselves have power given them by the law of Wisconsin, that their efficiency was thereby greatly increased; that, good as their work was, that they could do before, they could do distinctly better and stronger work, when they were clothed with the police power of the state. Now, I had engaged these men, I tried to frame a policy of procedure to go not upon a theory in the air, but to go down to things that were to be worked out and definite conclusions reached. Mr. Aderhold will remember the interviews I had with him on this point, Mr. Moore will remember the same, and Mr. Baer, who was, I believe, the first man employed by the Wisconsin Dairyman’s Association as traveling chief instructor is emphatic in his statement, when comparing his previous expe-
rience with the experience he has now as Assistant Dairy and Food Commissioner, when he has the right arm of the law to back him up, that he can do infinitely more work and more satisfactory work than he could simply as instructor. He goes as both now, in the capacity of instructor and inspector, with the right to go, and the right to ask, and the right to instruct. We have had an example given of what can be done by instruction and by law together, an example of my own experience; rather an exceptional example, possibly, but it was very clearly an object lesson in this matter. In one of the counties where cheese is being made an instructor who had been to the place had been roundly abused by the owner of the factory, a man worth $100,000 or $200,000, a man who was manufacturing cheese to put upon the public’s table in a factory that was absolutely in a worse condition than the hog pen only a few yards away, a factory where the inspector had to take an axe and chop down through the dung on the floor in order to reach down to find out what the character of the floor was, and this man, when appealed to to clean up his factory, simply scoffed and attempted to drive the men from the premises. But when Mr. in that factory, I will prosecute you,” that had the desired effect, for he had the law behind him. We have factories in Wisconsin that are clean, that are wholesome, that are a source of pride to the cheesemakers, but we have factories in Wisconsin that are indecent and it will take the strong force of law to compel these people to put upon the public’s table decent and cleanly food.

Mr. Marty: I wish to say that in the section that I have inspected for the last two years, that we have districts there where I can assure you that a man going in there without the right of the state to inspect, that he would never reach the building, he would not be allowed to enter upon the premises. We have down there such ignorant men from way back that if a man were to stop and make his compliments, take off his hat, by that time he would land somewhere else.