C. E. Lee, of Madison, then addressed the meeting, as follows, the subject of his address being "The Future of the Wisconsin Creamery Industry under the License Law."

**THE FUTURE OF THE FACTORY INDUSTRY UNDER THE NEW LAW.**

By C. E. Lee.

The factory industry of Wisconsin has long since passed the experimental stage. Those present who have watched its progress for a quarter of a century or more can well picture what the future has in store. The dairymen are milking the cows very much the same as when the first factory was built.

The same question as to whether or not it is worth while is still being asked by those who have not had an eye on progress. Some of the young men have left the farm because the opportunity in a creamery seemed greater. Others have followed in the footsteps of their fathers and become leaders in an industry that has reached a magnitude beyond expectation.
The landmarks of some twenty years ago are still in existence, and even at the present time there is at least one factory in Wisconsin that has not adopted new methods or even considered whether or not the Babcock test as a means of determining the per cent of fat in cream is practicable. The cream haulers of this factory still stop at the farmer’s door and determine the amount of cream by depth in the pail, measured by the yard stick. The value of that product is determined by the oil test method.

The individually owned and the co-operatively managed factories have come and gone and will continue to form a net work over the entire state to handle the product of some 1,700,000 cows.

It is everywhere evident that the farmers have built more substantial homes, their barns and farm buildings are of the modern type and even the garage has become a necessity.

In many communities where these improvements have been made the farmers continue to deliver their milk or cream to a factory operated in a building that has long ago outlived its usefulness. This is true more of the factories owned by the farmers than of those operated by individuals.

The men connected with the Dairy School have for years encouraged the building of more substantial plants. The Dairy and Food Department for some ten years has had its men in the field conducting a campaign for better conditions. In a measure this method has not brought the results that were expected, because no one could authoritatively say to a body of men that the building was not in a suitable condition to receive, manufacture, handle and store human food. The buttermakers who lacked pride in their work and who did not possess the underlying principles of cleanliness, continued in their chosen profession.

_A New Beginning._

The year 1916 will go down in history as a mile stone in Wisconsin’s creamery and cheese factory industry. This is not
a mere supposition, as it has already made its beginning. Never before has there been such a demand from farmers’ organizations, factory owners, local butter and cheese makers’ associations for assistance as there has been during the past three months. The call has not been alone for aid in pointing out what changes must be made in the factory in order that it may easily comply with the license rules and regulations, but to outline a policy of action that will reach the home of every milk and cream producer. In January alone one representative of the Dairy and Food Commission addressed five such gatherings. In one community some farmers gathered from a radius of five to eight miles to listen to a discussion dealing with the farmer’s relation to the quality of Wisconsin butter and how to get more money for their butter. Something has stirred them to action. In several counties of the state the buttermakers, cheesemakers and milk producers have held several meetings. The question will not be asked—“Is it worth while?”

The License Law.

The Dairy and Food Commissioner, Geo. J. Weigle, has pointed out the merits of the law, its history and reasonableness. In the formulation of the rules and regulations governing the licensing of buttermakers and cheesemakers, and the operators of butter factories and cheese factories, every member of the commission had in mind the problems as they had come up in the past, and to offer such an outline as would tend to place the industry on a higher plane. Before the rules and regulations were adopted by the Commissioner, a conference was called at Madison. This was attended by nearly all the members of the Dairy School, factory owners and delegates from the various state associations. They all gave their endorsement.

Naturally the first rule should deal with the factory and the next fifteen the factory and its equipment, because too often buttermakers have been called upon to work in unsuitable build-
Rules one to sixteen are reasonable and the closer they are studied and followed the more fully one becomes impressed with the fact that they will tend to correct existing evils. One factory was inspected at the request of the management and in the presence of the committee it was found that eight charges could be entered against the building, each one of which had to be corrected before a license could be granted. The result of this conference will be the replacement of the old building by an eight or ten thousand dollar modern structure.

Many other illustrations could be given where the inspectors have been called upon to render assistance by planning improvements or in the starting of a new structure.

In letters received at the office men have stated that repairs have been made, of their own volition, or said—"The board at its last meeting voted to build a new factory; may we continue to operate the old plant until the new one is completed?"

Only a few days ago at the close of an address delivered in one creamery community the owner of the neighboring factory requested that an inspection be made of his plant in order that nothing be left undone in complying with the license law.

Rule three calls for the free use of paint or whitewash on walls not finished with tile or glazed material. Heretofore, even if the buttermaker desired to use paint it was rather difficult in a number of cases to secure funds with which to buy it. Rule fourteen deals with the painting and care of factory equipment which is liable to become rusty and with which dairy products do not necessarily come in contact.

Rules four, five and eight deal with the care and cleaning of the factory interior and factory utensils. Why is it necessary that these rules be a part of the license requirement? Mainly because a few men either did not know how to keep the factory and the utensils clean, or else they were grossly careless. Rule eight, for example, came home to some thirty per cent of Wisconsin churns; why, because there are so many buttermakers that do not know how to clean a churn properly.

Rules nine and twelve should be endorsed by every butter-
maker in Wisconsin because it means a better and more convenient place in which to spend ten to sixteen hours a day. Rules six, seven and thirteen are of interest to cheesemakers only, while fifteen will provide facilities for the proper cleaning, care and protection of the factory building, equipment and factory grounds.

Men may travel through our state in 1916 and see factories and factory grounds that are well cared for. Too often the grounds are a dumping place for almost every discarded piece of machinery, boxes, cinders, etc. Lawns and flower beds and shrubbery were unknown to the factory management and the buttermakers. Many factories are so located that with only a small outlay of time and money the grounds can be made a place of beauty and an example that many of the patrons may well follow.

The Dairy and Food Commission feels that wherever a modern factory is erected and the grounds are well kept the value of the farms of such a community has increased more than the total amount of money expended for such improvements.

Disposal of Sewage and Waste.

One can not help but feel that rules seventeen, eighteen and nineteen refer to a condition in factory management that has too often been badly neglected. From the view point of public health the sewage and waste must be under control. The public highway or patrons’ pasture is no place for a sewage disposal plant. Rule nineteen states that all drains shall be trapped except such drains as are open from the starting point to a point outside of the building. Too many drains have not been trapped and this was the reason for covering this point in the rules and regulations.

The management of each factory must study their own sewage problem and work out a method that will do the work effectively.
Factory By-Products.

The method of handling the buttermilk and the churned milk at factories is considered in rule twenty to one hundred and twenty-two. It must be admitted that in too many cases this is a problem that was very often overlooked. One may insist that patrons shall deliver good clean milk or cream, but can results be looked for when the factory does not set an example of cleanliness.

It is not unreasonable to expect that the apparatus used in the handling of by-products not intended as food for man, when stationed in the factory, shall be cleaned at least once for each day that butter is manufactured.

Dairy Products or the Raw Material.

The quality of the raw material received at the factory must be the keynote to future success. If every operator and maker will do his part in raising the standard and in educating the producers in the care of their product, a marked improvement in the quality of the butter will soon be noticeable.

Some system of education must be worked out for each community and the leaders in such a movement must not be strangers to the local situation.

In more than one section of Wisconsin one can obtain abundance of evidence as to what has been brought by education. The average cream or milk producer is not slow in picking up new ideas if he is properly approached. Many splendid suggestions can be posted somewhere in the factory. They will create a discussion and result in much good. How many have ever put up a sign in the factory that would attract attention, namely:

Cool the Cream.

These three words printed on a small button to be handed to every school child would not be a bad idea.

Another one for your factory— "The Calves Prefer High
Testing Cream Because It Leaves More Skim Milk in the Feed-Pail.”

One factory in Wisconsin for the year 1915 received nearly 600,000 pounds of skim milk because the average test of the cream was 23 in place of 30. This alone made it necessary to operate 220 extra churns. A loss of an extra 1000 pounds of fat in the buttermilk, say nothing about extra fuel, labor, etc.

In one community some of these plain facts were driven home with such force that on some routes the average test of the cream increased eight per cent.

Factory managers and buttermakers must be held responsible for the quality of the raw material received. The cream hauler must be under supervision because the factory operator will be held accountable.

In the past, too, much unfair competition has been waged on account of working for quantity in place of quality. The extension of territory has increased the cost of operation for all competing factories with no gain to the industry.

**Cleanliness of Factory Operators and Employes.**

Every factory operator should study rules twenty-seven to thirty-one in order that they may have a clear understanding of their responsibility in matters pertaining to cleanliness of factory and all employes.

There should be conveniently located for the use of operators and employes cleansing material and clean towels. This, to many factories is a new thing, but they must discard the old greasy cheese cloths or discarded strainers. Cleanliness in the handling of dairy products is going to advertise the industry. No one can expect results or even make an attempt to induce the farmers to deliver clean flavored milk or cream when the factory employes or even the building and equipment do not furnish a silent example.

An officer of a northern factory remarked—“Since Mr.—took charge of this factory, the building has been remodeled, thoroughly cleaned and painted. The patrons have taken a new interest in dairying and are larger consumers of butter.”
Rules thirty-two to thirty-six deal with the assistance that must be given the Dairy and Food Commissioner, his agent or inspector in performing his duties.

The permit or license and rules and regulations and the printed suggestions relating to the proper methods of operating butter or cheese factories shall be conspicuously displayed at the factory.

Violations of any rules and regulations adopted by the Dairy and Food Commissioner relating to the licensing of operators of butter or cheese factories or violation of any law of this state relating to factory premises, utensils, or equipment, or to the product or products there manufactured, will render the license liable to prosecution, revocation, and the closing of his factory.

Rules and Regulations for Makers.

In part a number of these eleven rules and regulations dealing with the makers are the same as those pertaining to the operators. Experience counts in putting the finishing touches on a maker; hence the twenty-four months' experience that a maker must possess before a license is granted will eliminate the untrained man and in the end raise the standard of efficiency.

A maker shall have a creditable record in operating and keeping in sanitary condition any factory or factories in which he may have been employed and in any work which is considered an equivalent for the required experience or part thereof.

Under the license system the makers will become better leaders and more efficient makers. (Applause).

By the President: Now, gentlemen, open discussions are in order.

Member: Are there any rules as to well lighting and ventilating?

Mr. Lee: It is pretty hard to define that.

Member: There seems to be some means provided.

Mr. Lee: Yes, but it is pretty hard to put them down as to what it should be, it is simply calling their attention to it.
We have a little booklet that was sent with your permit in which we try to explain as to what we mean by all those things, we try to handle each different phase of the rules and regulations in the little leaflet we are sending out with each man's permit.

MEMBER: Is it necessary to have some system of ventilation?

MR. LEE: Yes, there should be some system of ventilation in every factory.

MEMBER: Should there be a flue through the ceiling?

MR. LEE: It is better to have the extra flues, one at probably each end; have two of them, with an opening at the top and one at the bottom.

Too many factory floors in Wisconsin spoil in the making, they are not put in right in the first place, consequently they have been a source of annoyance for many years. We have factories with cement floors, all cracked up, with no regular system to the gutter and water could get in underneath. I heard a man make a speech some time ago who knew conditions in Wisconsin, that the average cheese maker doesn't think he has got a cheese factory unless the floor stinks. You can't have in the factory openings in the floor where the waste matter goes underneath without having an annoyance of some kind and you get that familiar odor in your factories. The ceiling overhead doesn't apply in that rule and regulation so much to butter factories in Wisconsin, but to cheese factories and largely where a ceiling has not been installed. In one factory between here and Madison the factory was built about three years ago and the ceiling put in, the boards were not dry, and consequently there is a fine opening in each board in the ceiling. The officers said "we will put in a new ceiling," you could easily see any place through the ceiling. (Reads rule 3). I was talking with a man here last night about a certain factory he is interested in in Wisconsin. I dropped into that factory last August; that factory is located in one of our leading towns in Wisconsin, they had turned it over to a man and had not watched it as they should;
when I called their attention to it the owners of the plant were very much surprised that when they walked into the creamery there was one place on the wall where he had put his hands for five years and never made an attempt to remove the spots made. Now, why didn’t someone suggest to that buttermaker that he get some one to scrub that wall. (Reads rule 5). The last part of the paragraph, churns shall be cleaned at the close and beginning of each operation. Number six and seven refer to cheese factories. (Reads rule 8). What do we mean by that? It doesn’t mean that the churns must be cleaned after you have run out three or four churns in one day, it must be cleaned thoroughly each day.

MEMBER: Does that refer to pumping buttermilk?
MR. LEE: No, it doesn’t refer to your buttermilk at all.
MEMBER: What about the skim milk?
MR. LEE: It depends on what it is used for, if it is not used for human food, used to go back to the farm, then that rule does not apply at all.
MEMBER: Is there any objection to a common rotary pump?
MR. LEE: It depends on the construction of the pump as to whether there are smooth surfaces on the inside.
MEMBER: Well, a rotary pump is one that can’t be taken apart.
MR. LEE: They must be so they can be taken apart and thoroughly cleaned.
MEMBER: What time would the floor have to be fixed?
MR. LEE: Whenever it is possible to do so. Men have asked if they could defer fixing their cement floor until warmer weather and we have said yes.
MEMBER: There are a great many methods on the market for hardening floors. I would suggest a wash with muriatic acid or else sulphuric acid, wash the floor thoroughly and then wash the acid water off with pure water and then I should sprinkle on the fresh water, just a little fresh cement, sprinkling lightly, about an inch and a half or two inches of cement and dairy salt.
MEMBER: Could you reinforce such a floor?
MEMBER: I don't think that would help you unless you put in this chicken wire, that might help some.
I want to ask if the preparation you speak of could be put over a wood floor?
MEMBER: No, they have a preparation for wood floors, but it is not the same as the cement floor.
MEMBER: How do you want the drain, open or closed up?
MR. LEE: If the drain has been coming from the factory wall it does not need to be trapped, if it is open just outside the building for a short distance, but if the drain leaves the factory at any point and has no outside opening, then it must be trapped within the factory.
MEMBER: Will they be assisted by the inspector to place a proper trap?
MR. LEE: Yes, I will be glad to discuss it with you some time before you leave town. Our department, and also the Dairy School and the Engineering Department in connection with your Experimental Station are willing to assist, that is what we have them in the state for.
MEMBER: As I understand the laws of the state of Wisconsin they forbid us to run our sewage into a stream?
MR. LEE: The laws forbid that.
MR. JACOBS, of Elk Mound: We had the experience of running from a tank out to a cess pool and when the cess pool filled up there didn’t seem to be much change in the character of the sewage; we built another cess pool and after a time that filled up, still we didn’t get results, but the third cess pool we built solved the problem. I didn’t know until then, but since I have found that these cess pools were connected and acted as a dam. The septic tank would work when we got capacity enough. I made up my mind if the tank was large enough it would work.
MR. STORVICK: The creamery sewage tank is quite a problem. I believe if this man here would partition his tank it would probably work better. This man over here spoke of getting action by having more space, therefore he got septic action in his cess pool.
MEMBER: I would like to ask how big a tile we need to run pretty near half a mile?

MR. LEE: I wouldn't put in a tile too small, if the amount of water can be taken care of by a four-inch tile I wouldn't put in a six; it depends on the amount of water, the fall, and everything has to be considered. Most of the men use a six inch tile.

MEMBER: We had some trouble with our buttermilk for some time. At last our officers decided to auctioneer our buttermilk off each year to one man. When once the man comes to take it away we find that gives us as little trouble as any way we can dispose of the buttermilk and we can always clean up the same day.

MEMBER: We tried the same thing, but we couldn't sell the buttermilk, a majority of the farmers wanted the buttermilk back.

MR. LEE: (Reads rule 23).

MEMBER: When it comes to ice, I am putting mine up these days and I find some oily water colors the ice. I don't use ice directly in cream, how should I use that?

MR. LEE: Well, if your ice is not contaminated, use it.

MR. CARSWELL: I will ask the Resolution Committee before they leave the hall to meet at the secretary's table in front and make arrangements for getting together.

The meeting was then adjourned until February 3rd, 1916, at 10 o'clock A. M.

THURSDAY, 10 O'CLOCK A. M.

On February 3rd, 1916, at 10 o'clock A. M. the meeting was called to order by Mr. Carswell, the President.

D. F. Wallace, of Alma Center, then made the following address to the meeting, entitled "My experience in getting patrons to whitewash their barns."