THURSDAY MORNING SESSION.

Meeting called to order at 9:30 o’clock with President McCready in the chair.

 CHEESE FACTORY SANITATION.

H. A. KALK, SHEBOYGAN FALLS, WIS.

Mr. Chairman, Secretary Baer, and Gentlemen of the Convention: We cheese makers must practice what we preach to our patrons, and be well educated to judge good milk from poor milk, and tell the patron where the trouble is and how to get better results. Our work must be above suspicion.

The first thing we have to do in the morning when we take in the milk is to see that our personal appearance is neat and clean and that we have a good smile on, as that goes farther with your patron than anything else. If you find any milk not extra, tell the patron so. If he comes the same way the next morning tell him that he is the man that will lose, if there is any loss. If he sees it in that light he will think the matter over and be a different patron.

Carefully inspect the milk cans, especially the seams inside the covers. Any offensive matter appearing yellow when wet with milk is most dangerous to the flavor and keeping qualities of the cheese. If I find cans like this I send a five pound bag of cleaner along with this patron and tell him how to use it. I always have some cleaning powder on hand. Examine daily carefully, for that purpose, the inside and outside of the opening from the weighing can in the milk conductor for any traces of the yellow matter. Wash the weight can and scrub the intake platform every morning as soon as the milk is all in. I always use a little washing powder to keep it fresh and clean. Wash the strainer cloth first in cold water, then in hot water and use a little washing powder, then hang it out in the sun to dry.

Entertain a “creepy dislike” for the use of a strainer, cloth, dipper, pail, thermometer, curd mill, starter-can, test bottles, curd knife or any other tools that you use in the fac-
tory, which feel greasy. If you find them so they are not sanitary.

The making room should be large enough so that you can turn around when you have to clean the corners. Have plenty of windows to get light, for it is light that we want; the more we get the easier it is to keep clean. I prefer a hard wood floor in the vat room. It is not so hard on the feet as cement and easier to keep clean. I oil my floor four times a season with linseed oil. It is easy to keep clean and sweet. The vat room should be painted, varnished or white-washed once a year, for the cleaner you keep your factory the easier it is to keep out flies. The windows and doors should be well screened. As our Dairy Commissioner said last summer "swat the fly." I guess he was right as every living fly is an crime against society. Consider for yourself the number of times you have seen flies feeding on sputum, on garbage, on filthy excreta. They dance and prance into our homes and kitchens and hold high carnival at the dinner table. They scrape their feet, rub their wings and drop their specks on our sweet cakes—yet we eat them. Do you like it?

In Denver during the fall of 1908 fifty-six cases and six deaths from typhoid fever resulted from milk along the route of one of the milkmen, whose milk was found contaminated with flies that had fed on typhoid excreta from an uncovered vault.

The life of a fly is about ten days. There may be twelve to thirteen generations in a summer and the progeny of a single fly may be a sextillion, at the end of a season. The easiest way to keep your factory clean from flies is to have close fitting screens on windows and doors to keep them out and use fly poison and tanglefoot for those flies you have inside. Use plenty of good washing powder and brush with hot water and willing hands will do the rest. Never be afraid of our inspectors, they are here to help us.

The whey tank is what is bothering many of us cheese makers that have a tank in the ground. As my factory stands in a low place it is hard to drain the left over whey up hill. Once a week one of my patrons has to haul the left over whey to a creek, then the whey tank is given a good cleaning with brush and hot water. Tell your patrons not to spill whey
when they are at the whey tank as that old whey will give a bad smell and is a breeding place for flies.

Keep everything outside, about the factory scrupulously clean, have a nice lawn, plant trees and flowers as this will help you to get fresh, clean air in the factory in the summer. When your doors and windows are open you all know how it feels to get a little fresh air. For it is the outside looks of your factory that is judged by strangers as they pass your place.

Finish all of every day's work, each day, in the very best way that you can, and don't grumble but face the sun. Don't hunt for trouble but look for success, You'll find what you look for, don't look for distress, If you see but your shadow, remember, I pray That the sun is still shining, but you're in the way. Don't grumble, don't fluster, don't dream and don't shirk, Don't think of your worries, but think of your work. The worries will vanish, the work will be done, No man sees his shadow who faces the sun.

DISCUSSION.

The President: Now, gentlemen, you have heard Mr. Kalk's paper on Cheese Factory Sanitation. He is a practical cheese maker and a good one, and I want you to ask him any questions that you would like to have answered along this line. Do not be afraid to ask any questions because that is what we are here for. Any questions you want to ask, Mr. Aderhold? I heard him remark we should not be afraid of an inspector, you are an inspector.

Mr. Aderhold: Do you find many open seams on cans or milk pails used by your patrons?

Mr. Kalk: Not very many because I always object to them.

The President: Mr. Kalk, you said you washed your whey tank once a week, do you think that often enough?

Mr. Kalk: What can a cheese maker do when the whey tank is hard to get at?

Member: Mr. Kalk is one of my neighbors and I believe by
scrubbing his tank once a week and rinsing it every day it is kept in good condition.

Mr. G. Marty: I had a pump in my whey tank and the patrons would pump the whey from the bottom and leave the cream or fat on the sides, and I had trouble in getting it out.

Mr. Aderhold: Have you had any experience with skimming whey, where you have to have pipes to keep clean?

Mr. Kalk: No, I have never tried that.

Mr. Aderhold: That is a new problem with the cheese maker. When they put in a separator to separate the cream or fat from the whey they have to use pipes. Something that is not often used and should not be used in a cheese factory work is a pipe, because in a cheese factory they have been able to get wide open troughs, which are much easier to clean, and I have noticed a number of cheese makers, when they put in their outfit to separate whey, they had to have pipes and did not know how to clean them. In many cases they thought they were clean and when they were taken apart they were found to be a long ways from clean. If there is anyone here that is accustomed to using those pipes, or any cheese maker that is accustomed to handling those pipes, I think it would be well to call on him to tell us the best way of keeping them sanitary.

Mr. Damrow: I do not know whether it can be done for I am not separating whey, but it occurs to me that the pipe could be made of short lengths and be unscrewed when through with skimming, rinse them out first and then clean them and run water through them. I think you can keep them thoroughly clean in that way.

Mr. Aderhold: What style of piping would you recommend to use?

Mr. Damrow: We want to get the best we can in that line, but where can we get it? Does anybody know?

Mr. Aderhold: You can get the ordinary black iron pipe, which becomes very rusty. You can get galvanized pipe, which is rough, or you can get what is called the sanitary piping, that is perfectly smooth inside and can be easily taken apart. It is made of seamless rock copper, tinned over inside and outside. In a cheese factory fitted for separating whey only a little piping is needed and I think it important that good sanitary piping be furnished. This can be bought at
any supply house and may be taken apart and cleaned and
should be examined frequently so as to be absolutely sure
whether it is clean or not.

Mr. Knutson: Do you pasteurize the whey in the whey
tank?

Mr. Kalk: No sir.

Mr. Danrow: What advantage is there in pasteurizing the
whey? Can anyone in the room tell me?

The Chairman: You would get a sweeter, cleaner whey.

Mr. Knutson: We also find the whey tank easier to clean.

Mr. Danrow: Is the feeding value of whey any greater
by pasteurization than without?

The Chairman: That is a problem that has confronted the
Canadian cheese makers a long time and I know Mr. Ruddick
will take that up in his address.

Mr. Baer: Just one word, we have a yeast ferment not
only in our Swiss cheese but in our American cheese and I
do not think the whey should ever go back in the can in which
the milk is delivered unless it has first been pasteurized, and
the pasteurization of whey has wiped out that yeast ferment
trouble in many instances in cheese factories. I am not
speaking of the feeding value of whey but I am speaking of
the improved quality of the product that the consumer, that
you and I eat.

Mr. F. Marty: Years ago there was a process in connec-
tion with the manufacture of Swiss cheese known as the "hot
whey butter process." After the cheese and curd were taken
out of the whey, it was heated to 64 degrees R., I do not know
how many degrees F. that would be, but I judge about 150.
Then there was a starter added, or a sterilized culture, which
contained the same bacteria as the commercial starter would
contain. The whey was rarely heated up to 75 degrees F.
During the time that was skimmed, the kettle was over the
fire and the temperature went up to the boiling point, almost
to 190 degrees F. During those days when that process was
followed in the manufacture of Swiss cheese we had less
trouble with any kind of gas than we have to-day in the man-
ufacture of whey butter, either by the separator or gravity
system. We found we had a purer article, the whey was in
better shape, it was sterilized as well as pasteurized and if
there was any trouble like gas coming up it was there only a
PLATE NO. 3—AN ASSOCIATION PREMIUM SWISS CHEESE.

As Fine as the Finest of Imported Swiss. Wisconsin is the Home of the Swiss Cheese Industry of America.
short time, one or two days and the trouble was over. To-day we find when one of those troubles start, like yeast fermentation, we have had it run five or six months, while in those days the trouble would not last more than three or four days at the outside and as a rule only one day. So there is no question that to insure the quality of cheese sterilization would be almost better than pasteurization for the sanitary part of it.

The President: There is no question but there is a good deal of value in the pasteurization of whey and we will no doubt have an opinion on that to-day when Prof. Ruddick is here.

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SWISS CHEESE MAKING IN WISCONSIN.

GOTTLIEB MARTY, MADISON, WISCONSIN.

Instructor in Foreign Cheese Making, U. W. Dairy School.

At the beginning of the foreign cheese industry in the United States, Swiss cheese was made by the individual farmers wherever Swiss settlers were found, mainly in the states of New York, Ohio, and Wisconsin. They obtained good results and returns for their product. This encouraged the farmers and they began to co-operate and build factories, the result being that the industry grew so rapidly that it became difficult to secure enough cheese operators. Between 1880 and 1885 Ohio had the name of furnishing the most and the best Swiss cheese, but for some reason or other the Swiss cheese industry in Ohio received a severe set-back. The result was that quite a number of Swiss cheese makers in Ohio came to Wisconsin.

From that time on Wisconsin took the lead in the production of Swiss cheese and has maintained it ever since. The number of new factories increased very rapidly, especially in Green county and from there they spread in every direction. Swiss cheese factories were built in La Fayette, Grant, Iowa, Dane and Rock counties, and in the northwestern part of Illinois. In Dodge and Buffalo counties a number of Swiss cheese factories were also built. Between 1890 and 1900 on