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## **Proceedings of the Wisconsin Cheese Makers' Association thirty-fifth annual convention December 15, 16, 17, 1926 assembled in the Milwaukee Auditorium, Milwaukee, Wisconsin. 1927**

Wisconsin Cheese Makers' Association  
Madison, WI: Cantwell Print. Co., 1927

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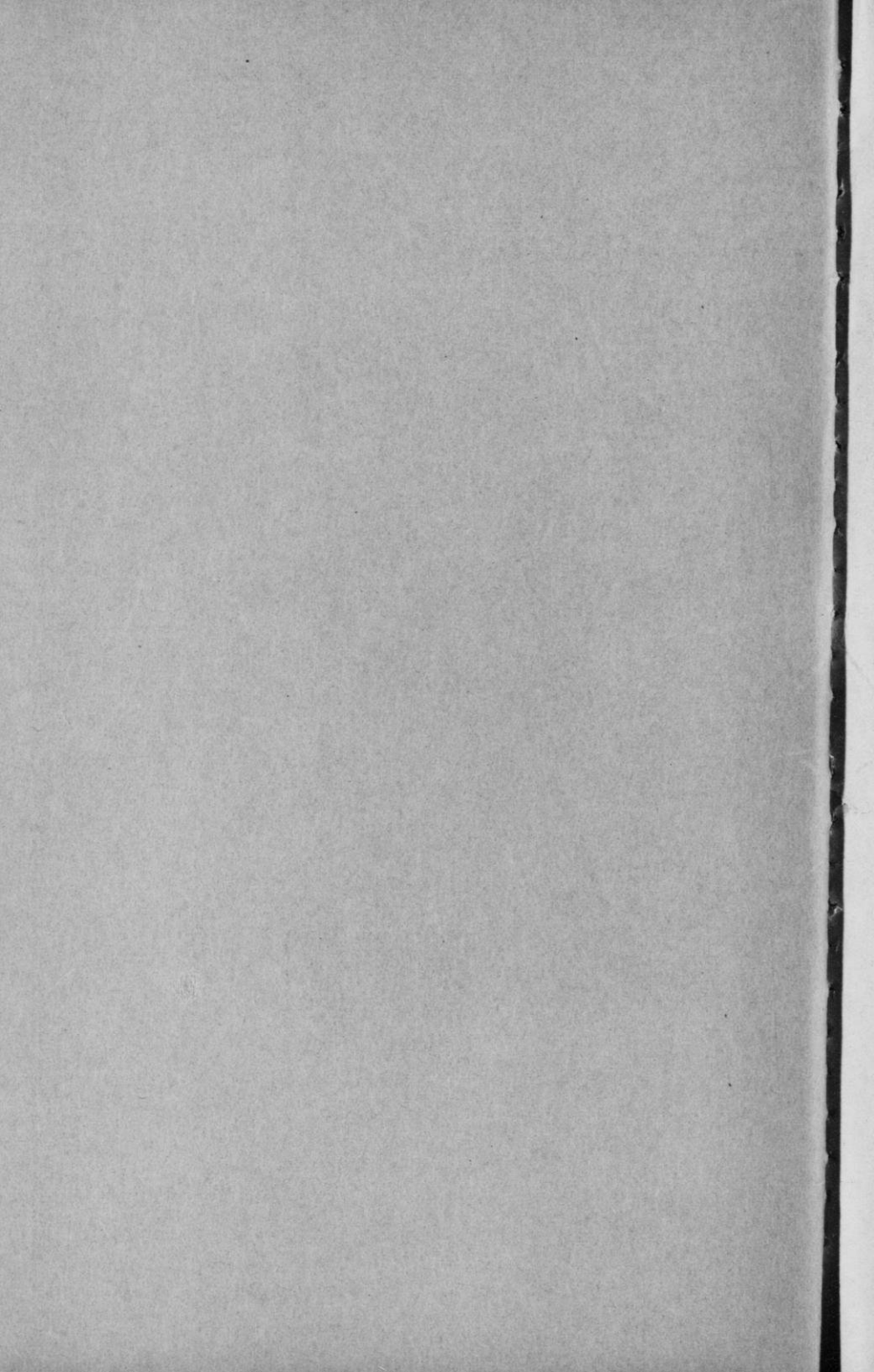
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PROCEEDINGS

OF THE

WISCONSIN CHEESE MAKERS'  
ASSOCIATION

THIRTY-FIFTH ANNUAL CONVENTION

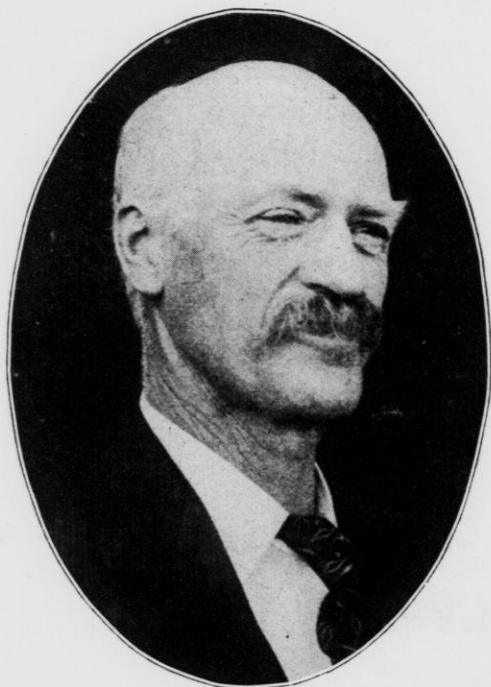
December 15, 16, 17, 1926

Assembled in the Milwaukee Auditorium, Milwaukee, Wisconsin

Compiled by  
J. L. SAMMIS, Secretary



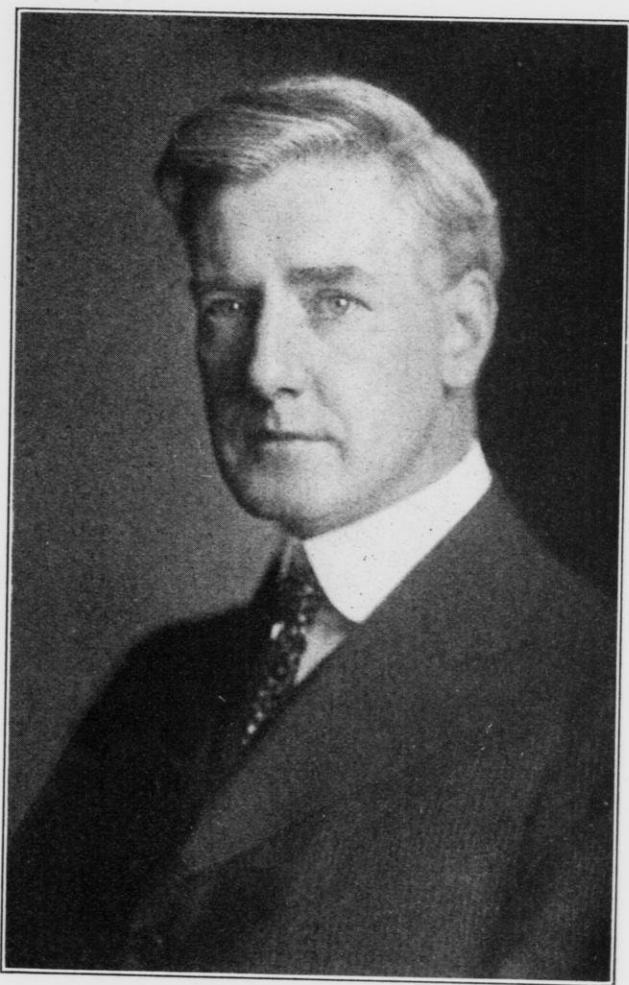
Madison, Wisconsin  
1927



T. A. UBBELOHDE

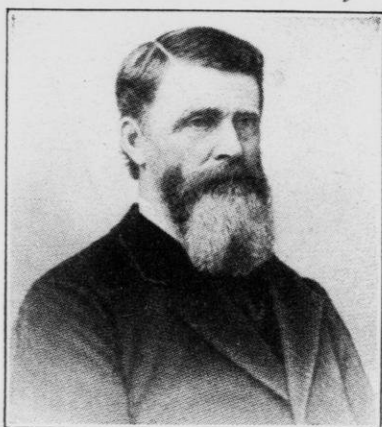
Born November 3, 1860, Plymouth Wis.; died March 7,  
1927

Treasurer, Wisconsin Cheese Makers' Association 8 years,  
January 1914 to January 1921

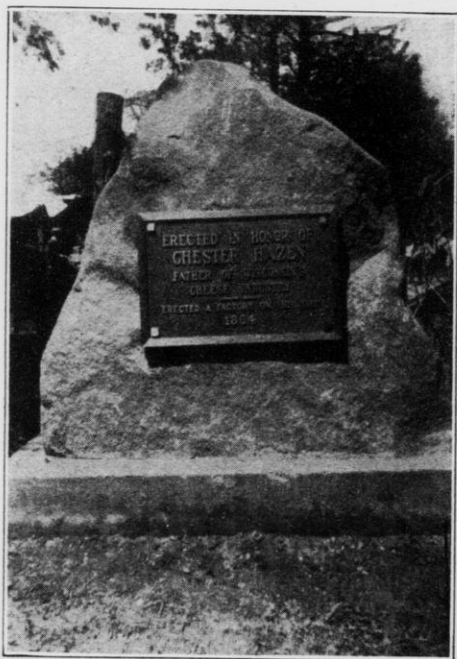


JOHN B. MCCREADY

Born Nov. 21, 1878 at Harriston, Ontario Canada; died  
Feb. 21, 1927 at Fond du Lac, Wis.  
President, Wisconsin Cheese Makers' Association 1909,  
1911, 1912, Vice president, 1902, Secretary 1910,  
Treasurer 1903, 1904.



CHESTER HAZEN  
Born January 31, 1824  
Died -----1900



Tablet erected in honor of CHESTER HAZEN by Wisconsin Cheese Makers' Association, Wisconsin Dairymen's Association, etc, at Ladoga, Fond du Lac Co., Wis. July 8, 1927.



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## LETTER OF TRANSMITTAL

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Office of the Secretary,  
Wisconsin Cheese Makers' Association.  
Madison, Wis., 1927.

To His Excellency, FRED R. ZIMMERMAN,  
*Governor of the State of Wisconsin.*

I have the honor to submit report of the thirty-fifth annual meeting of the Wisconsin Cheese Makers' Association, showing the receipts and disbursements reported the past year, also containing papers, addresses and discussions had at the annual convention held at Milwaukee, in December, 1926.

Respectfully submitted,

J. L. SAMMIS,  
*Secretary.*

**WISCONSIN CHEESE MAKERS' ASSOCIATION**  
**THIRTY-FIFTH ANNUAL MEETING**  
**Auditorium Building, Milwaukee, December, 1926**

**Officers and Directors**

H. A. KALK, President	-----	Sheboygan Falls
EDW. F. WINTER, Vice President	-----	Gillett
J. L. SAMMIS, Secretary	-----	Madison
OTTO WEYER, Treasurer	-----	Manitowoc
J. H. PETERS, Director	-----	Plymouth
A. T. BRUHN, Director	-----	Spring Green
J. GEMPELER, JR., Director	-----	Monroe
M. M. SCHAE TZL, Director	-----	Edgar
O. R. SCHWANTES, Director	-----	Clintonville

**Judges of Cheese**

W. F. HUBERT	-----	Sheboygan
JOHN CANNON	-----	Neenah
FRED MARTY	-----	Monroe
ALEX SCHALLER	-----	Barneveld

**Superintendent of Cheese Exhibit**

J. W. CROSS	-----	Milwaukee
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**Life Members**

E. L. ADERHOLD, Neenah	J. B. MCCREADY, Fond du Lac
P. H. KASPER, Bear Creek	FRED MARTY, Monroe
J. D. CANNON, New London	T. A. UBELOHDE, Glenbeulah
J. W. CROSS, Milwaukee	W. F. HUBERT, Sheboygan
JOHN KIRKPATRICK, Richland Center	MATH. MICHELS, Fond du Lac
JACOB KARLEN, JR., Monroe	C. E. REED, Plymouth
AL. WINCKLER, Cumberland	J. L. SAMMIS, Madison
	OSCAR DAMROW, Sheboygan Falls

**DECEMBER 1926 HONORARY MEMBERS**

W. F. HUBERT, Sheboygan	E. J. SCHMITZ, Glenbeulah
AD VALLESKY, Manitowoc	H. J. LOEHR, Calvary
EDW. F. WINTER, Gillett	S. D. CANNON, Neenah
OTTO WEYER, Manitowoc	J. H. PETERS, Plymouth
EARL B. WHITING, Gillett	OSWALD REITZ, Calvary
J. BERNIE SMITH, Rockbridge	J. GEMPELER, JR., Monroe
WM. ALBERS, St. Cloud	R. C. JORGENSEN, Denmark
L. J. BREHER, Sheboygan Falls	P. H. MICKLE, Sextonville
ALEX SCHALLER, Barneveld	ERNST MANDEL, Colby
EMIL ABEGGLEN, Eldorado	JOHN DURTSCHI, Barneveld
C. J. FOKETT, Reedsville	ROY LARSEN, Shawano
P. H. KASPER, Bear Creek	M. M. SCHAE TZL, Edgar
O. A. KIELSMEIER, Seymour	

**OFFICIAL REPORTER**

ALEX KAEMPFER, 438 Caswell Block, Milwaukee

**OFFICIAL ORGANS**

The Sheboygan County News and Daily Market Reporter, Sheboygan Falls, Wis. The Butter, Cheese and Egg Journal, Milwaukee

**THIRTY-FIFTH ANNUAL CONVENTION**  
OF THE  
**Wisconsin Cheese Makers' Association**

Held at the Milwaukee Auditorium, Milwaukee, Wisconsin

Wednesday, Thursday, Friday,

December 15th, 16th & 17th, 1926

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The First Session, Wednesday, December 15th, 1926, was called to order at 10:30 A. M. by President H. A. Kalk, Sheboygan Falls.

**ADDRESS OF WELCOME**

By MR. HARRY J. BELL, executive director of the Milwaukee Association of Commerce

MR. PRESIDENT AND GENTLEMEN: I am very glad to have the opportunity to appear before you to extend to you a most sincere and earnest welcome on behalf, not only of the City of Milwaukee, but on behalf of the Milwaukee Association of Commerce; and I should like to have you appreciate the genuineness of the welcome because that is the way we feel about it.

You people, even those of us who live in Milwaukee, scarcely realize the extent to which conventions meet in Milwaukee every year. During the present calendar year Milwaukee will entertain approximately one hundred and twenty conventions, attended by about ninety thousand men and women. Those statistics alone, I think, prove the worth of the statement that Milwaukee is an ideal convention city.

Milwaukee has the greatest diversity of manufacture of any city in America and for that reason is a particularly desirable city to visit.

Milwaukee is first in the manufacture of everything from shoes and silk hose to wheel barrows and heavy machinery. It manufactures more of those products than any other city in the world. Milwaukee is proud also to be the metropolis of the great State of Wisconsin, the leading state in the nation from the standpoint of dairy products. We believe that Milwaukee has the best facilities in the state for the entertainment of conventions, in fact it ranks very high from the standpoint of convention facilities among all the cities in the

United States. Milwaukee has, we believe, the best equipment, the most complete and the most efficiently managed auditorium of any city in America. We have the advantage here of a building which permits, as in the case of your own convention, the holding of a meeting and the holding of an exhibit under one roof. In fact, it is almost impossible to conceive of a convention or of an exposition or a combination of the two, that can't be accommodated in this building. We think too, that Milwaukee has rather unusual hotel accommodations to take care of convention requirements almost without limit.

We have in Milwaukee also the advantage of excellent shopping, recreational and other facilities that don't exist in any other city in Wisconsin, and to a large degree, any other city in America. Our newspapers in Milwaukee are unusually liberal in the co-operation in the publicity they extend to conventions. I am not sure whether it has ever occurred to you, as it has to us, but Milwaukee papers have a state wide circulation and thus the extensive publicity that your conventions, in line with most conventions, will doubtless have, reaches out into the state through our metropolitan newspapers on a better basis and to a greater extent than would be true of any other city in Wisconsin and in a large sense as to any other city in the entire country.

Our convention division has a full time staff of four people and that staff is augmented from time to time for registering conventions, as is being done here, so that the officers of your association are free to perform the many other duties they are called upon to perform at a time like this. That is a service which is rendered by few cities over the country. Our convention and publicity bureau and the Association of Commerce, as a whole, in fact stand ready and willing to co-operate with you and your association during this convention and during any succeeding convention, both in the preliminary arrangement and in the arrangements at the time the convention is in session in every consistent and practicable manner. That we conceive to be our job. That is why we have a convention and publicity bureau, the sole purpose of which is to perform that type of service.

The Milwaukee Association of Commerce has approximately two thousand members in every line of business, in every walk of life. The Association is the business clearing house for Milwaukee County and in a large sense for the State of Wisconsin. It includes in its service, a credit bureau and transportation division, a safety division, a convention and publicity bureau and better business bureau and many other types of activities, the whole machinery being rounded out to provide in the finest and largest sense, a community business service operating without prejudice and without bias to serve the largest number in the most constructive manner possible. That organization is at the service of the Wisconsin Cheese Makers' Association. They will be glad to co-operate with you in any way and at any time that it may.

Mr. President, that perhaps covers the object of this brief address. I am awfully glad to have been here and I trust that your convention

may be a tremendous success and I hope that 1927 will be the best year that the cheese industry has ever experienced in Wisconsin. I wish you all an exceedingly Merry Christmas. I thank you.

## RESPONSE TO THE ADDRESS OF WELCOME

By Vice President EDWARD F. WINTER, Gillett

MR. PRESIDENT, MR. BELL, LADIES AND GENTLEMEN: As Vice President of this Association, I wish to thank Mr. Bell very heartily for his splendid address of welcome and also to thank the citizens of Milwaukee for the splendid hospitality which it has extended to us in the past and is now extending to us. Not being a speech maker but a common every day cheese maker, I feel before leaving the floor I should touch upon the interest of the real cheese maker and his patrons. The successful cheese maker must extend his efforts beyond the cheese factory and the patrons must produce a high quality of milk from which can be made a higher quality cheese. There has been a tendency in our state to secure a higher yield of cheese by the increased moisture content of the cheese. There is pretty good evidence to believe that cream is sometimes taken from the milk for cheddar cheese. There is cheese coming in the market containing less than 50% butter fat. Some contains 52%. If the Wisconsin Cheese Makers' Association is at all interested in the welfare of the cheese industry, it should enter a vigorous protest that will bring up the quality of its products. Instead of our consuming three or four pounds per capita, we should be consuming at least three times as much. There are nations which are consuming twenty-seven pounds per person. To increase the consumption of cheese, it must be of a high quality.

Wisconsin has the reputation of manufacturing the best cheese on the market. It behooves us to see that this reputation is sustained and we should use any and all efforts that will put down the practices that will in any way cast reflection on our good name.

Again thanking Mr. Bell for his splendid Address of Welcome and the City of Milwaukee for its hospitality, I thank you.

## PRESIDENT'S ANNUAL MESSAGE

By H. A. KALK, Sheboygan Falls

MEMBERS OF THE WISCONSIN CHEESE MAKERS' ASSOCIATION, LADIES AND GENTLEMEN: It gives me pleasure to have this opportunity of again appearing before you as president of your association, and more so as I feel that this is destined to be the banner convention of all that we have yet held.

The indication at this opening meeting would warrant me in saying, that we will have throughout this convention, the biggest attendance we have ever had. For this there is a reason. A glance

at the program will show that your worthy Secretary, J. L. Sammis, has left no stone unturned to give you value received in exchange for the money you will spend in attending this meeting.

Some suggestions which have been handed to me by American Cheddar Cheese Makers, throughout the past year, which I will put up to you for your honest criticism and consideration. Standardize the quality of our American cheese. You all have heard how the famous Antigo case, turned out. When they are standardizing Swiss cheese in our great State of Wisconsin, why can't American Cheddar Cheese makers do the same thing!

I will here read to you article 1, of the Wisconsin Cheesemakers' Association; Articles of Incorporation:

"The undersigned have associated and do hereby associate themselves together for the purpose of forming a corporation under Chapter 86 of the Wisconsin Statutes of 1898 and the acts amendatory thereof and supplementary thereto, the business, purpose, and object of which corporation shall be the education of its members for better work in the art of making cheese, the care and management of factories, the sale of their products and the weeding out of incompetency in the business of cheesemaking; the further object of the corporation is to demand a thorough revision and rigid enforcement of such laws as will protect the manufacture of honest dairy products against undue competition from deceitful and dangerous imitations; and to unite the rank and file of its members in instituting a regular crusade against the unjust practice of pooling milk at cheese factories by weight, without regard to the butter fat which it contains."

On Thursday, December 16th, 2:30 P. M. our Dairy and Food Commissioner, Harry Klueter, will give his observations on milk composition and its use at Swiss cheese factories. It is up to you American Cheddar cheese makers to find out why they are standardizing.

The present grading and manner of labeling Wisconsin Cheese is grossly abused. Our cheese is being marketed without any reliable control. Our present law, while intended to be an improvement and a safeguard on quality has fallen down. In the first place the state supervision is entirely inadequate. Much cheese is being graded without first having had proper and thorough inspection.

Secondly; It is found to be impossible to grade cheese correctly, only four days from the hoop.

Third; There is no uniformity in grading cheese in Wisconsin. There are too many grading cheese to their own personal advantage, often working an injury on the industry. The best sign I have seen this past year for the improvement of Wisconsin cheese is in the different warehouses or cheese dealers starting a quality control, paying a little more for fancy cheese. It is money that counts.

Whatever question may come up or lesson we may study and learn here this year about cheese making, cheese selling, advertising and tests of all kinds, law in this State, or in any other, the most im-



portant thing that we can carry away with us is a determination to share all these benefits with those that will not be here. Let us all strive for better standards and a product of better quality, uniformity, and cleanliness, and do away with bad smelling factories; all of which our good old Dairy School, and dairy and food departments are trying to build up in this state.

The list of prizes and special premiums will show that our friends, the supply men, have responded, with a more friendly and liberal hand, than ever before.

Members, try to be present through all of each session; visit the supply booth between the sessions. Some of the supply men have said "We would like to attend the sessions but do not get a chance."

Now be liberal, divide your time and give them a chance also, 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 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.

I thank you.

## REPORT OF BOARD OF DIRECTORS

By J. H. PETERS, Plymouth

We have examined the treasurer's and secretary's report and find it to be correct.

THE PRESIDENT: Here is a telegram.

New York, N. Y., Dec. 15, 1926.

J. L. Sammis,

Secy. Wisconsin Cheese Makers Assn. Republican hotel.

We wish for your members a successful convention and for all Wisconsin Dairy Products Manufacturers and Makers a profitable and progressive 1927.

Dairy and Ice Cream Machinery and Supplies Assoc.

## 1927 CONVENTION PLANS

THE PRESIDENT: Gentlemen: We want to take up our suggestions for 1927 convention plans. We were talking of going to different cities. Green Bay is going to invite us. Before we move we are going to look into everything. It is up to each and every member who has some suggestion to make for our 1927 convention plans.

MR. BRUHN: Mr. Chairman, ladies and gentlemen; I got in bad one time by as much as advocating taking the convention away from Milwaukee and in fact getting in bad is one of my main features in life. Naturally if I got in bad once I am not fool enough to make

the same mistake the second time. Consequently I am not going to advocate taking the convention anywhere. Before you decide to take a convention anywhere we must consider first of all adequate facilities for holding the convention. By that I mean an adequate hall room, adequate space for having your exhibits and adequate space for booths and machinery exhibits and supply exhibits if you want them in there. Next perhaps, first of all, you might say, is the importance of hotel facilities. Now, it seems like the cheese makers are not very anxious to go to private houses. In the case of the school-teachers convention, they don't seem to make so much difference, but I always found among the cheese makers a dislike to go to private houses for a room. I can remember one convention where there was quite a few that were unable to get hotel accommodations. And it was a black mark against the association. While the association itself, is not perhaps to blame for it, the men in charge of that particular part of the program were to blame for it and if we do go somewhere else, adequate means should be provided for so that we can all get hotel accommodations. Next perhaps is railroad facilities. It don't make a great deal of difference whether we go twenty miles or one hundred miles or two or three hundred miles, if we get direct routes to the place where we go. The price of the tickets is naturally of some importance, but if we can get a direct route to any place, even though it was three hundred miles away, I would prefer that rather than sit in the depot for two or three hours waiting for the next train.

Whether we go here or anywhere else, it is immaterial to me but wherever we do go we ought to take into consideration those things that I have talked about. I think that is a question for argument.

**THE PRESIDENT:** Has anybody anything to say about next year's convention plans?

**MR. DAMROW:** We had a convention at Fond du Lac, several years ago. At that time we did not have the hotel facilities. We must consider at that time the president and secretary in charge of our association were on their first years in office. Whenever there is change in the convention city, those things Mr. Bruhn referred to must be considered first. Of course our association can't be spread around the state like the smaller associations, like the Central Wisconsin or the Western, because they are smaller groups. This weather of course is unfortunately against us today but otherwise we would have a tremendous audience without a doubt at the first session. As Mr. Bruhn said, the accommodations of the hotels and railroad facilities and a place large enough to house the convention are of utmost importance. That is the only thing I can see. I do believe that if it was possible to find such a place where we could have these accommodations, that we might get a lot of cheese makers that very seldom come down this far in the state. I think that was the case at Fond du Lac. We had a considerable attendance of active cheese makers. Of course I am in favor of spreading it around as much as can be done, but those things must be considered.

**MR. FRED MARTY:** I recall the Fond du Lac convention, I was there myself. I walked the streets until two or three o'clock in the morning trying to find a place for the fellows to crawl in for the rest of the night. We took them back to the hotel and we laid them out on the floor. It looked more like a hospital than a cheese makers convention to me. I also remember that the sales end of it in Fond du Lac wasn't satisfactory to the foreign type cheese makers.

Now, it is appreciated, you want the foreign type cheese exhibit here at your convention. When you go out there and see that long row of Swiss cheese, you find that to the average observer it is the attraction of the cheese exhibit. People coming in here to take a look at that exhibit, who never saw a Swiss cheese in their lives be-

fore. Cheese makers are coming to this convention annually who never saw a Swiss cheese before in their lives. The sales end of it has got to be mighty well taken care of in order to continue the exhibits of the foreign cheese at your convention. We have today the largest exhibit of foreign cheese in the history of the Wisconsin Cheese Makers' Association, about one hundred and thirty entries. A few years back, we used to deal with something like twenty-five to thirty entries. We have crawled on up to one hundred and thirty, a very respectable showing from the smaller percentage of our cheese makers, as compared to the American Cheese. In other words you have about five hundred entries of American cheese; We have one hundred and thirty. The proportion of Swiss cheese as compared to the American cheese in the state is eight per cent, and I know offhand that one hundred and thirty as compared with five hundred is a much larger per cent, so we figure that the foreign type cheese have done their share. If you are going to go way up north to Green Bay or some other cities suggested, I think we are going to drop off with the foreign type cheese exhibits at your conventions. An individual Swiss cheese represents as much as ten or fifteen American cheese entries in valuation and I want to tell you that it is quite an undertaking for an individual cheese maker to make a big round Swiss cheese which weighs over two hundred pounds at the rate of thirty cents a pound and bring it down here and take a chance at getting five and ten cents less per pound than he gets at the factory. Every Swiss exhibitor may lose from twenty-five to thirty-two dollars on their exhibit. They can't afford that. You realize Milwaukee is a better market to sell that cheese than Green Bay or any other place in Wisconsin.

MR. BRUHN: Speaking about laying out the cheese makers on the floor at the hotel at Fond du Lac, was that before prohibition?

## REPORT OF SECRETARY

By J. L. SAMMIS, Dairy School Madison

THE SECRETARY: Mr. President, this financial report will be printed in our annual report. The auditing committee says it is all right. I would like to suggest two or three things which you will want to think about, perhaps. Tomorrow we are going to have an electric loud speaker here in the room and then you can hear very well all over the house. As to changes for next year, the Milwaukee auditorium management says that our exhibit in the other room over there is too crowded; that there is not enough aisle space to walk around in. They propose that next year we should move all the center tier of booths into this room along with these additional booths and some others that want to come in and thus have both of these rooms for booth exhibits space at no additional expense to the convention. It will cost us no more to use this room and that room than we now pay for that room alone. We will have a big room upstairs free of charge for the convention meetings and in that way we have the three parts of the convention in three separate rooms but all under the same roof. That is their proposition here at Milwaukee. A second proposition which may come up for discussion is the proposal of Mr. Marschall that this association take over the factory

beauty contest project. He will probably present that a little latter. The third thing I want to suggest is, that this association has always boosted and promoted local cheese associations all over the state. Some of us think that there should be a good local cheese maker's association in the neighborhood of Green Bay, possibly in the neighborhood of Fond du Lac and the other centers around the state and that these people would hold one or two or three meetings a year in their own center where every cheese maker can get in. And we think that if we had more of these local cheese makers associations around it would be better for every body and that there would be less request for the association to travel around the state. We have no objections to traveling around the state with this convention, but we have never yet found another place which could offer the requirements. We have an invitation from La Crosse to go there and every year we get an invitation from Madison to go there. But when we tell the people in charge what we require, that is three large halls all under on roof, they immediately withdraw their invitations and say that they cannot furnish these things. Maybe some day Madison will have the proper equipment for such things, I don't know. It seems a long way off. But the suggestion I have is that the cheese makers around the state, in the neighborhood of Fond du Lac, Green Bay and Plymouth and anywhere up there would do well to organize a live local association of their own and have frequent meetings. I would like to suggest about these local associations that they shouldn't take in too much territory. The success of a local association lies in covering two or three or four counties and covering them well and getting in fifty or one hundred per cent of all the cheese makers in their territory. Don't try to take in half the state and only get one man out of every county. That don't do much good, but take a small territory and build up a strong association. Then you will really be doing something. These three propositions, more local associations, the beauty contest, and this new arrangement which the Milwaukee Auditorium has suggested for next year are all that I have to mention at the present time.

#### Dairy School Courses and Students

MR. PRESIDENT: The usual car load of young cheese maker stock from the Dairy School is here in the front rows of seats. Stand up, boys, and let us see you.

The music which opened the session yesterday and today was furnished by the Dairy School orchestra of five men, and I am sure that we are glad to see and hear them.

These young men from the Dairy School are ready for work. Some of them have maker's licenses. Some will work as helpers next spring. If you want a maker or a helper, come over here and look them over, and pick out the man you want. They are all good workers.

The special courses for experienced cheese makers at the Dairy School at Madison, will be given again this winter throughout the

month of February. From Feb. 1 to 4 will be the special American Cheese makers course. P. H. Kasper, our leading prize winner for many years, will assist the regular staff of the school at this course, and John D. Cannon will teach cheese judging and scoring.

February 7 to 18 the eighth annual special Swiss cheese makers course will be given. S. A. Hall of the U. S. Department of Agriculture Dairy Bureau will be present throughout the course.

February 21 to 25, the second annual Brick cheese makers special course will be given.

In each course there will be daily cheese making and practice hours with all the various tests, starter making, classroom discussions of every part of the cheese makers daily work. No fees are charged for these courses. Write in advance that you are coming so that provision may be made to take care of all who will attend.

### Employment Table

The employment table near the platform where you see Mr. Peters, is intended to help all of our membership. If you want a man or a job, register here with Mr. Peters, and he will help you get located.

## COST OF MAKING CHEESE IN 1926

By E. C. DAMROW, Fond du Lac

MR. CHAIRMAN, LADIES AND GENTLEMEN: This report that just has been handed out to you is the same report I had last year. In figuring up our cost this year, there is less than one-tenth of a mill difference in the cost of making cheese. The general supplies this year are a trifle higher while the fixed expenses are practically the same, the variable supplies are just a trifle lower. Also on the rear page, I approximated the equipment that is required for the average factory in the state making a million pounds of cheese a year. In the second column we have quite a number of factories that will supply as much as three million pounds of cheese a year. And the cost of equipment, figuring the depreciation on same, is practically the total difference in the cost of .08 of a mill difference. There is great variation of price for making cheese. In certain localities where the cheese maker just furnishes the supplies, the building and the equipment is furnished by the farmers. In other localities the building is furnished by the farmers, and the cheese maker furnishes the labor, supplies and equipment. In some instances the cheese maker has to pay rent for the building, and in other places not. It is a very hard thing to figure on the cost of making cheese unless you take all the depreciation, wear and tear, as I have summarized on these reports that has been handed to you. That is the actual cost of making cheese which will run in the smaller factories of a million pounds this year for the making of Single Daisies 3.85 cents per pound of cheese instead of 3.9 cents last year. Twins cost 3.42 cents, and Long Horns 3.55 cents. Practically every cheese maker in the state is sep-

arating whey. The butter fat price is 45 cents a pound on the average, or a little higher this year. Well, on that basis the amount of whey cream money that is received per pound of cheese will figure approximately one and one-third cents. In some localities where cheese makers make cheese for, say two cents, two and a quarter, two and forty hundred, they are getting all the cream money. In other localities they are getting one-half the cream money or a certain percentage of that part of the cream money, which is actually figured into the cost of making cheese.

#### Cost of Making Cheese in 1,000,000 lb. Milk Annually

	Daisy	Twins	Longhorn
Actual cost of making a lb. of cheese	\$.03941	\$.03502	\$.03639
Cr. from all Whey Cream per lb. of cheese (Average Cream price a lb. 45c)	.013	.013	.013
All Cream money used to help cover the cost of Making Cheese	.02641	.02202	.02339
One-half Cream money paid to patrons	.0063	.0065	.0065
Cost of making Cheese paying one-half cream money to patrons	\$.0327	\$.0285	\$.02989

#### Cost of Making Cheese in 3,000,000 lb. Milk Annually

	Daisy	Twins	Longhorn
Actual cost making a lb. of cheese	\$.03057	\$.02612	.029
Cr. from all Whey Cream per lb. of cheese (Average-Cream price a lb. 45c)	.013	.013	.013
All Cream money used to help cover the cost of making a lb. of cheese	.0175	.0131	.016
One-half Cream money paid to patrons	.0065	.0065	.0065
Cost of making Cheese paying one-half Cream money to patrons	\$.0240	\$.0196	\$.0225

Last year I mailed out a copy of that report to every factory and I think the sooner we get to figuring the actual cost of making cheese in every factory and every community, the sooner we will get better cheese makers on the job.

### DISCUSSION

MR. BRUHN: I don't see any of my patrons so I can speak a little more freely than I could if I was at home. I kept track of things in the factory and I knew pretty near what it cost me to make cheese. When I started farming I tried to keep track of what it cost me to run the farm and I came out pretty much like the old German that started to keep books on a farm. He said the first year he farmed he kept books and he was \$500.00 in the hole. Since then he quit keeping books and he always came out right at the end of the year. If I was to use these figures and put them up to my patrons and they would take similar figures on their farm, it wouldn't take long before they would kick me out of the factory.

Now, when you hand your figures to the farmers, be sure that you aren't making any money. There is one item in particular here I rather object to. I will put that a little different—I don't object to it but I am sorry that they don't correspond with conditions as they are. They correspond with conditions as they should be and that is the total on the fixed expense. You have interest on investment. The investment on the smaller factory is \$8450.00, and it receives practically 5,000 pounds of milk. How many of you have factories that actually are worth that much, if you take the living room or the

house part away from that factory? That is just for the part you use as a cheese factory. I mean the actual cost of the building and machinery and equipment as it stands today. I got one running that I will sell for three thousand as about all I can pay expenses on is a three thousand dollar investment. Don't try and figure in your living house and the cost of living when you try to put in the cost of making cheese. Figure just exactly what it costs you to make cheese and not what it costs you to live along side of it. Remember you are getting house rent if you live upstairs in a factory, even though it may not be a good house to live in. Those are the things I want to bring up.

MR. DAMROW: I am glad Mr. Bruhn brought this up. On that statement there of the factory running a million pounds of milk a year or factory about five thousand pounds of milk in the flush. In that factory, the salary of the cheese maker is figured at \$100.00 a month and the farmers furnish the living rooms. At a co-operative factory running about that much milk with the residence upstairs or residence attached, the cost is practically \$8450.00, on the average. In your case where a cheese maker is rooming with you, you have not got the investment in the factory.

Of course, there are two sides to that question. These other factories have an investment of little better than \$14,000.00 and the factory runs about three million pounds. We have, of course, a lot of factories that are running over this and have not got the investment of \$14,000.00, and can be replaced maybe for eight or ten thousand dollars. But a modern factory built today to take care of three million pounds of milk-per year will cost every cent of that.

We had quite a lot of discussion among ourselves on the interest charge on the investment at 6%. Why should we pay 6% at the factory? You go to the bank and try to borrow say six or seven thousand dollars for the factory and they will say, don't call on me for the money. It is a poor investment. I feel it fair to figure a 6% interest charge in my idea in making up these reports. In making these figures the idea was to figure it from all angles and try to play fair, in considering the co-operative factory and the individually owned factory and the factory owned by stockholders.

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### COMMITTEE ON RESOLUTIONS

The president appointed: E. C. Damrow, Supply man; H. J. Loehr, American cheese; Adolph Alplanalp, Swiss cheese.

If any of you have any resolutions to present, bring them in to the committee.

### IMPROVEMENT OF CHEESE QUALITY BY SANITATION

By DR. H. E. SWITZER, *Bacteriologist, U. S. Department of Agriculture, Chicago, Ill.*

The cheese industry has arrived at that stage in development where future expansion depends primarily upon improvement in quality. Some few years ago the advertising man told you that national advertising would create such additional markets that production could hardly keep pace with demand. Production figures do show that the extensive advertising campaigns of some large cheese deal-

ers have had the effect of popularizing cheese as a food and have actually increased the total consumption a fraction of a pound per capita. The time has now come when advertising has done all it can to increase sales unless it is backed by a better average quality of cheese. Any industry which banks on its advertising and does not at the same time improve its product is in danger of losing the "consumer's confidence" which can be maintained only by high quality.

Your Secretary has asked me to speak upon the most fundamental problem involved in any improvement in cheese quality—better sanitation. The word "sanitation" is a general word and one which has been much abused in discussion of food problems. Let us in this discussion use the word "cleanliness" as a more practical and common sense definition of what is meant. Cleanliness as it applies to the whole dairy industry, should mean not only nominal cleanliness but the removal of all possible sources of bacterial infection which are the basis of bad flavors, bad odors and resultant low-grade products. Any cheese maker knows that he never has trouble with bitter cheese, gassy cheese, and "stinker" cheese when he has a clean milk supply, a clean factory and a clean starter.

Competition in milk buying is at present so intense that it is very discouraging not to be able to reject milk from farms where careless methods and dirty utensils produce a low-grade milk. The problem of securing better milk is one of the most serious you have to face. Nothing but educational leadership on the part of the cheese maker will improve the quality of milk at the receiving platform. There is however, a phase of this whole problem of cleanliness which is under the control of the cheese maker. He is directly responsible for all those sources of infection which occur in and around the factory itself. Many of these sources are the important cause of some of the greatest losses from bad flavored and low-grade cheese.

The maker who is satisfied with a cold water rinse and careless cleaning of receiving tanks, conveyors and vats, usually develops a source of infection in some crevice or hard-to-get-at corner which shows up in the production of a poorly flavored cheese. The cheese maker is in reality, a technical bacteriologist and so must realize that all surfaces coming in contact with the milk may appear clean but may be actually a source of objectional infection unless given constant and painstaking attention to prevent accumulation of fat and casein in neglected crevices of the factory equipment.

Not long ago, I visited a factory where a maker was having a great deal of trouble with bitter cottage cheese. He said his milk supply was even better than ever and there had been no change in his process, yet he had large losses from bitter cheese. Investigation brought out the fact that his conveyor pipe had a corner near a joint that had not been properly cleaned and had accumulated a coating of casein and fat which when subjected to bacterial examination revealed the seat of the infection which was causing the trouble. The elimination of this unclean conveyor stopped the bitter cheese trouble immediately. Now this same condition might prevail in an American or Swiss factory and result in a poor flavored product which



would not be as easily detected because of the longer time necessary for development of bitter flavor in a hard cheese.

Many factories are not equipped with sufficient water and steam supply to make good cleaning possible. There is no known substitute for hot water and steam, combined with alkali and hand brushing, to keep cheese factory equipment in proper sanitary condition to put out a good quality product. Eternal vigilance is the price of a clean factory.

The brine tank of a Swiss cheese factory is often the source of a great deal of trouble to the Swiss cheese maker. Because salt is generally considered a preservative it is often thought that a brine tank never becomes infected with trouble producing bacteria. It is, however a well-known fact that various types of organisms, particularly those which are productive of bad flavors, may become acclimated to comparatively strong solutions of salt brine. Unless careful attention is given to the maintenance of the strength of the brine solution and the brine changed when the solution becomes saturated with casein and fat, a condition often arises which infects all of the cheeses salted in this brine.

A few years ago, I had occasion to visit a number of Swiss cheese factories and in one factory particularly the maker was having considerable trouble with off-flavored Swiss. An observation of the brine tank revealed the fact that the brine had not been changed for a considerable length of time and the cause of this bad flavored cheese was an infected brine. The cause of the trouble in this factory was proven by bacteriological analysis of the brine from salt tank. In this instance, as is always the case, the financial loss from poor quality more than offset the saving in new salt and cost of keeping a clean brine vat.

From a number of years contact with the cheese industry in this and other states, I have come to the conclusion that the whey tank is the greatest cause of trouble in the manufacture of quality cheese. While it is appreciated that there are a few makers who are as careful of the condition of their whey tanks as they are of the vats in which the cheese is made, yet the usual whey tank is a much neglected part of the factory equipment. Little attention is given to the cleaning out of the previous day's whey after the farmers have withdrawn what they desire to take back to the farm. The warm whey from the separator is run in the uncleaned vat and mixed with the sour gassy sludge in the bottom of the vat. This whey stays warm overnight and furnishes an ideal seed bed for the development of all types of objectionable bacteria. The following morning, this highly infected whey is pumped into the milk cans after the fresh milk is dumped and taken to the farms where it stands until used in feeding. Of course, the careful farmer may be conscientious in washing the cans after removal of the whey and before filling with fresh milk, but many farmers, especially in the hurried planting and harvesting season, simply dump the whey for pig feed and rinse out the cans with cold water. These infected cans are used to bring your

milk supply to the cheese factory. If the night's milk is not properly cooled, the infection in the cans has a chance to develop in the slowly cooling milk and produces the bad flavored and sour milk received during the warm season of the year. How many cheese-makers would consider going to their whey tank, filling a 10-gallon milk can of old whey and dump it into their fresh milk in the vats each morning? Yet this is actually what is being done in a slightly more indirect way when a farmer is allowed to take the whey back to the farm in the same cans that are used to bring the fresh milk to the factory.

In those days when the delivery to the cheese factory was largely done with horse and wagon, it might not have been possible to carry enough extra milk cans to use separate ones for the whey. Today, with autos in general use on the farm, it should be comparatively easy to use separate whey cans where the farmer considers the whey of sufficient feeding value to make its return to the farm desirable. From a bacteriological standpoint, it seems almost impossible to ever hope for any great improvement in the quality of cheese until a general practice of separate whey cans is popularized and generally accepted as a paying investment. The scheme of separate whey cans or no return of whey is being given attention by some of the larger cheese factories of the State. In fact, the manager of one of these factories told me, not long ago, that they had been unable to make high quality Swiss cheese until they had insisted upon separate whey cans and had installed equipment for the thorough sterilization of the milk cans before return to the producer.

The whole question of better sanitation on the farm and careful cleanliness in the factory is a difficult problem. Cleanliness—better sanitation is the keystone to the arch of quality and must be given more active attention by everyone if we are to expect a better and more secure development of this great branch of the dairy industry.

## REPORT OF CENTRAL WISCONSIN CHEESE MAKERS' ASSOCIATION

By MISS L. C. BRUHN, Secretary, Auburndale

It gives me great pleasure to be present in your midst again this year, and I assure you that a place on your annual program is an honor highly appreciated, yet I feel, perhaps my messages to you yearly may not appeal to your membership, for it is very hard to always find something new that may be of interest to you. Every great industry is the extended shadow of some man or woman, and as every mariner who crosses the great waters is in debt to Columbus—so is every cheese maker indebted to the First Cheese Makers, these different Associations, their Founders, Dairy activities, and co-workers, those who assemble here annually have the industry at heart to retain every bit of knowledge that may be imparted to you or placed within your reach. This may be, if you please, a state-

wide gift, presented to you, by the different Dairy organizations if you will just accept it and, honor it as to its true value and worth. However, there is nobody in the world who can make good for you, somebody may help you, and no doubt they have, for few of us poor mortals ever get anywhere in the world without the help of some wonderful friends—beginning with that sweetest and dearest friend of all, Mother.

Our duty is to be grateful for the blessing of our Country and every devoted soul that has enriched our lives. To lay aside the unselfish, envious feeling that someone is prospering at our expense, that they get more than they earn and we get less.

Co-operation is the call, and the crying need in the dairy industry today. It is high time for a new birth of enthusiasm and loyalty in the hearts of Wisconsin Cheese makers, who really have their work and the industry at heart. We need more men like Hoard Haecker, and J. Q. Emery.

Your name, Wisconsin Cheese Makers' Association, conveys the facts that you are very much interested in the welfare of the active cheese maker—, and it is for this reason that I have made another attempt to give an address on cheese vat philosophy. To make an art of life, is the finest of all arts, Active cheese making is an art which vitally concerns thousands of families in our state.

I am looking forward for a new movement, and sincerely believe the time is not far distant, when cheese making will be booked as a great art, and receive its deserving recognition. I am hoping for a new MOTTO. Students should study and work, count their points in efficiency, begin at the bottom of the ladder and gradually work their way up, prove their efficiency is worthy before entering an industry that vitally concerns thousands of factory patrons in the State. There is a lot of psychology in this topsy turvey situation as it stands at present. If this industry is going to prosper we must work together, we must know more about each other. Are you beginning to realize that some fieldmen are necessary to take the position as educators, someone that is authorized by state or organization and known to factory patrons, it to be his regular duty to occasionally be up in the intake, or to go out directly to the farms, if it is found necessary to obtain the good will of the dairymen, to realize the true value in the art of cleanliness, the duty and necessity to deliver the higher grade of milk, if they expect to raise the standard of Wisconsin cheese.

Raw milk shipping stations, condensaries, and every other dairy manufacturing plant, even the butter makers in many localities have their fieldmen whose duty it is to correct conditions for the betterment of their product, either at the factory or at the farms. We are looking forward to the time to be not far distant, when a premium will be put on a fancy product. This alone, if you please, could bring a surprising new era in the Wisconsin Cheese Industry. It would be a very interesting feature, the remodeling of the Wisconsin Cheese Factory, rebuild its walls with sunlight and happiness for

its workers to get the public interested that their product is being made by happy workers in a factory flooded with sunlight, contentment, increased consumption would smile for you, and results, I believe, most beneficial. With these conditions and clean and bright, Wisconsin Dairy Crusaders could afford to pay millions of dollars for the face of the moon, so all the world could read. "Attention, Mr. Public Tourist, when you are paying the world's dairy state a visit, remember she is rich not only in scenery. Keep your eyes open, pay a visit to her most beautiful, attractive, clean, cheese factories—HOME OF DELICIOUS AND WHOLESOME FOOD—you will want a sample to take HOME WITH YOU TO YOUR STATE. THERE IS NO BETTER CHEESE THAN WISCONSIN MADE."

The 1926 Central Wisconsin 13th Annual meeting was held at Marshfield October 26, 27, 28. We owe much to the program of fine speakers and excellent messages, and entertainers of all kinds. Most of all we boast of the fine array of exhibits. In an effort to attract the people of the convention city we have a special city day. We also regret that our Banquet Hall was too small. We hope next year the convention city will have a hall large enough to accommodate the crowd. We are planning a series of meetings the coming new year. Wisconsin Rapids will be in the line as District No. 1. Watch the papers for the Program announcements.

In closing I want to take this opportunity to thank the members of the Wisconsin Cheese Makers Association for their interest, cooperation and attendance, and all those who so faithfully gave me a helping hand for the huge success of the Marshfield Convention. We are sure if you come to the central neck of the woods once you will want to come again. I want to thank you for your kind attention, and hope to see you again the coming New Year.

## HOW COOPERATIVE CREAMERIES SUPPORT FIELD MEN

H. T. SONDERGAARD, University of Wisconsin, Madison

Mr. President; This little chart, illustrates the creamery district work that was started in Wisconsin. Here in District No. 1 is where I was four years. The black spots indicate farmers and the yellow, the creameries.

The Department of Markets in Wisconsin did a lot of good work in starting these districts and here is one of their charts. There are six field men, and six districts in Wisconsin who have field men. These men spend all of their time among the farmers and creameries in this district. When they opened the Burnett County district they thought that they could perhaps benefit by cooperating. Perhaps they could standardize the quality so that it would make a better mark in the district. They said, We don't know all about it yet. We will simply form a district for certain benefits we can work out. They didn't know what they could do with that when they started, but they

had the idea to help each other by hiring the field men, and this field man should standardize on the composition of the butter and the apparatus. Why shouldn't they have an acid test in all the creameries as well as cheese factories?

They said let's ship in carload lots. We are paying an awful rate on the butter, shipping it a long ways to New York. And so they started right away to form a carload shipping district and they shipped out, some four cars of butter a week from there. After that, they hired a field man. This field man came in and he started to work. Who was he responsible to?

The district has a representative from each creamery. We call these men directors and these directors come together about three or four times a year. They elect an executive board and this executive board does the business of the district. They hire the field man and fire the field man and tell him what to do and he is responsible for every day's work. He reports to them every day, even if he goes fishing.

The quality question comes to my mind now. You may think you can leave this quality question with the field man but I say you cannot. Don't leave the quality question of the cheese with the Professor at Madison because he can't do it alone. Neither can the field man. The creamery board had the right spirit. They said to me, go out and see if you can't do some work on this quality question. I went out right away to standardize butter. I went in the room to watch the butter makers but also to help the farmers produce better goods. We have some cheese factories up there and we haven't a can of cream coming in from the cheese factory that wasn't as good as it might be. A good way to tell about the quality of milk of course, is the Methylene test I think that is very good and it should be used in quality work. After we started to standardize on the butter composition, then we started to standardize on the quality. And they found the question was not a one-sided proposition either. It was not all up to the butter makers, because the creamery patrons were not as good as they could be and the system was not as good as it could be.

It wasn't always the patrons' fault but it was often the assistants' fault. I don't blame any individual patrons for bringing cream that wasn't so good when nothing was said to them about it at the creamery.

There was one farmer who said, I will have to take my milk to the cheese factories. You fellows are getting too particular. That was over here at Clayton. There are a good many cheese factories around there and here is what I told him. Well, the cheese factories are good friends of ours and there is one thing with the cheese factories I like, they pay some attention to quality too. They like to have good milk and they like to have it every day.

Another patron drew up the same day and he put the can on the platform and said, I didn't take good care of my cream today, it got a little sour, and so I looked at the cream and the cream was nice and sweet. I said, this is nice cream. If we had good cream like that

we could get a cent more for the butter. He said, now if that cream had been sour, I suppose you would have given me the dickens. He used a little stronger language than that, Well, I says, if that would have made the cream sweet, I might have tried that but from my experience, to keep the cream nice and sweet we must have cleanliness, quick cooling, and frequent deliveries and that tells the story more than how we talked to a patron at a creamery. No, I said, we talk just as nice to the people who bring sour cream as to the people who bring sweet cream. In other words, it is a matter of business. We grade the cream and not the patrons. Then he was satisfied.

Suppose you should start grading milk in cheese factories. Will they all skim and go to the creameries? I don't think we tell the whole truth when we say that. I have seen a number of patrons in Polk and Burnett Counties and for the four years I have been among these patrons, I haven't found a man or woman that said it wasn't the right thing to do, to put the sweet cream in one vat and the sour cream in another. Neither do I think that anybody would object to it when there were different qualities of cheese made. They said, if our cream is nice and sweet we wouldn't want the poor stuff mixed with it because we can get more money for it. I don't think it is quite as hard to do quality work as we might think it is. If we will only tell them in the right way that it is the grade of the cream and not themselves.

I might say a further word about the field man's work. After he is through with the creamery, sometimes in the afternoon he takes a run out to see the patrons and there he finds quite a little work. It is quite important to go and see the patrons. There was the real trouble after all. We can standardize the goods, and we can grade the cream in the creamery, but the field man can help more than the butter man because he can go out there any time in the day and put in a full day among the patrons and for this reason I think the field man can do a lot of good.

I was at one annual meeting of the cheese districts with probably three or four hundred farmers in the room. I asked how many have a cover on the cooling tank where you cool your milk. Not one of the farmers held up his hand. I think it is very important we start in right now to get a cover on the cooling tank. Supposing he pumps some water into a pail and leaves it for two hours, you wouldn't want to drink it. Why? Because it gets warm in the summer time and so it is with the water around the milk. That is one thing, I think we can improve on. We are specializing in dairying in Wisconsin, and we should also specialize in this quality work.

We have progressive work going on and there is no creamery or cheese factory that can afford to be asleep or be standpatters. I will leave that question to you, whether the cheese factories can benefit by having a field man among the cheese makers. It seems to me you can standardize your goods better.

## DISCUSSION

MR. SAMMIS: Mr. Chairman, I would like to ask Mr. Sondergaard how many creameries one field man can take care of?

MR. SONDERGAARD: In Burnett County the first district started four and a half years ago and we had six million pounds of butter. The charge for this field work was one-tenth of a cent for each pound of butter made in this district, so that the bigger creameries are paying more than the smaller creameries. One man can take care of six million pounds of butter nicely.

MR. SAMMIS: Mr. Sondergaard, you say one man takes care of six creameries?

MR. SONDERGAARD: No, six million pounds of butter, that would be 24 creameries.

MR. SAMMIS: About one a day throughout the month?

MR. SONDERGAARD: Yes.

MR. SAMMIS: Now, how much money is raised by the 24 creameries to take care of the one field man, his expenses and his salary?

MR. SONDERGAARD: Six million pounds would be \$6000 and in December last year and December this year, they will not charge any dues, they have some three thousand dollars in the bank.

MR. SAMMIS: Where does this money come from, does it come out of the patrons themselves or does the creamery management stand it?

MR. SONDERGAARD: It comes out of the creamery, that is a matter of expense.

MR. SAMMIS: It is paid out before the patrons get their money?

MR. SONDERGAARD: I should say so, just the same as they pay for the butter tubs.

MR. SAMMIS: Does the butter maker pay any of it?

MR. SONDERGAARD: No.

MR. MARTY: Mr. Chairman, I would like to ask Mr. Sondergaard, whether in grading the cream, they pay the same price for good or bad cream?

MR. SONDERGAARD: They pay three per cent more for butter fat in sweet cream than in sour.

## A MARKETING PROBLEM

By FRED MARTY, Monroe

Mr. Chairman, fellow members, I don't know as I have much news to present to you as to the Southern Wisconsin cheese Makers' and Dairymen's Association. The farmers are included in our organization. We believe that they are part of the cheese industry so we usually have the conventions combined, the Dairymen and the Cheese Makers. We had our 1927 annual convention a week ago in Monroe. Some ten years ago it became my lot to act as president of that organization. It was immediately after the war and I felt at that time during the war especially the quality of Swiss cheese had depreciated to an enormous extent. Also feeling that we were facing again immediately after the war a gradual competition of import cheese

which down to the present time within the last years has grown enormously.

I found that we had to do something at that particular time. With the aid of some of the spirited people down there I inaugurated a course that has today brought to us the Wisconsin Dairy School a special Swiss Cheese course, teaching at Madison the manufacturing of Swiss cheese in Wisconsin. During the last ten years cheese makers from New York, and other parts of the United States, attended that special course. We have had cheese makers in Wisconsin that not only took that course once, and have repeated a number of years in succession, and we find that the men that have taken that particular course were those very men that brought the high rates to the farmers of that vicinity as well as to themselves. The cheese dealers associations recognized the work for the manufacture of better cheese. They broke away from the old lump system of buying and they started a grading system of cheese and they have been paying the farmers on the merits of the product with a difference, an ample difference meriting the special efforts on the part of the maker and dairyman. It has been my pleasure to judge the foreign cheese in connection with some other men at this organization here for the last 25 years. Within the last two years, the quality of cheese, especially for educational purposes, has been the highest, and today there are 14 large loaves of Swiss cheese on exhibition right here in the cheese room and with the exception of two loaves they are all very high quality. But, due to the keen rivalry and the demand of the market for better cheese, the buyers cast aside that grading system and went back to the lumping, buying basis again. If that is kept up, we are going back into the same rut that we were in before we started, and all the educational work, that can be carried on through this organization or any other organization, through teaching the manufacture of cheese, all your efforts will fail. The prosperity of the cheese industry will depend upon the merits of the buying basis. Not until the day that the reward goes to the man that employs special efforts in manufacturing his cheese, will educational efforts and other efforts be successful. I say to you today, let that be one of the issues before the Wisconsin Cheese Makers' Association, make it the one and only issue. Cast everything else aside. We have talked here for 35 years and what have we accomplished? That lofty spirit is brought up here and comes up before you and bursts like a soap bubble. And when you get home you are back in your old rut again. Let's make this one effort and let's not lay it before the door of the farmer. Let's lay it before the doors of our dealers, your merchandisers of our product. I thank you.



## SOME FUNDAMENTALS

By EDWARD NORDMAN, Wisconsin Commissioner of Markets

I am sure that you all agree that Mr. Marty is absolutely right when he says that we never can expect to get quality products unless we buy on a quality basis. We have to find some circumstances by which the community that produces a high quality of cheese is going to get more money for it than the community that produces an indifferent quality of cheese. I just want you folks to take that thing to heart. We have been in the Department of Markets, working on this thing for seven years and better, and the dairy and food commission and the University out there have been working on this proposition, for I don't know how many years, quarter of a century or longer and still progress has been very slow. I don't know whether it is correct to say that cheese is poorer today than it was 25 years or 30 years ago or not, but I do know that we are not making the progress that we should make and so, friends, I believe that sometime during this convention there is going to be a subject put on, the subject has been put on by your committee on program, that is going to deal with that question.

I am going to bring up just another point that I want you folks to think about. You know, friends, at every convention of dairymen and for that matter, any other line of producers, we talk about the mechanical side of our work. This quality question is also of great importance. But I want to tell you, friends, there is no one point we ought keep in mind all the time. I am going to illustrate it by just saying that we farmers and we cheese makers, we produce our stuff and we take it to the market and when we get it to the market, friends, what do we find there? I am talking about production as a whole. We find this as a general proposition—there isn't purchasing power in the country to consume enough. Take the cotton business for example and what do you find there? What do you find on the average along all these lines? You find this, when we get to the point where we are producing fine and moving good, there is a surplus on the market.

Now, friends, the people are beginning to think about that problem. You see it in the proceedings of all the farmer organizations that meet in the corn belt. You know that is one of the issues before congress at the present time, what are we going to do about the surplus.

I have made several trips through the South and through the East and have had an opportunity to talk with farmers and with business men in these various communities and friends, here is what I find, go wherever you will, you find that the boosters in the various parts of the country are counting on the dairy cow sometime in maintaining their upkeep. It means that the country as a whole is tending to the dairy business. There must be general prosperity or there isn't any prosperity in the long run.

When we talk about our organizations, we are always looking for size. We want great big organizations, we want hundreds of thousands of members. We take that as an indication for greatness. A small organization will do wonderful work if they will only stick together and put into effect the principles that make for success. I have in mind the country of Denmark. Denmark, you know, is one of the smallest countries in Europe. They are doing more for humanity in Denmark than in any other place. There isn't any question about that. Years ago they started out on the co-operative idea and they carried it to the highest degree of success that has been attained by any other country. They found out that cooperation alone wouldn't bring the success they were deserving of and so they began talking about other things. It didn't bring the degree of success that they figured that it ought to because of this surplus proposition. Other countries in the world were sending dairy products to their market and bringing the price down and so, friends, they forced them to think. It isn't the big guns in Denmark today that do all the thinking. They have got an association over there of small farmers. You know Denmark is tending toward a country of very small farms from ten to fifty, sixty, seventy acres a piece. These farmers have formed an association that studies these economic questions as well as the mechanical question. As far as method of production is concerned, there is no nation in the world that is more skillful and more scientific producers than the Danes are, or more skillful and scientific merchandisers than the Danes are; but the Danes as I told you before, have found out that those policies alone don't take care of that surplus proposition and so now they are beginning to think about other questions. They are going farther and they are talking about such questions as taxation and land policies in their relationship to surplus production. That is what we have got to do here in the United States of America or here in the State of Wisconsin. We have got to think in those other terms if we would get to the bed of our trouble, of our agricultural trouble, and don't you forget it, there are agricultural troubles in this country.

I am going to point out to you that if the farmers of the United States, and if the cheese makers and every other industry want to solve these intricate problems that are affecting agriculture at the present time, we have got to begin to talk about the equitable distribution of wealth as it is affected by land policies and by taxation. We in the Department of Markets realize, we study all sides of this question and we know what the problems are. We can't go any faster however, than we can get the people to think and act with us and so I simply am using this opportunity of calling your attention to these important basic questions. Don't think you can neglect them because all your work along efficiency lines won't amount to anything unless you take this problem up.

## METHODS AND RESULTS OF USING THE METHYLENE BLUE TEST

By Mr. S. A. HALL, Monroe. Dairy Bureau, U. S. Department of Agriculture.

### THE METHYLENE BLUE TEST

If any cheese maker is to hold a high place in his community, he must produce quality cheese. The grading of milk and payment by grade is one means of maintaining this quality. The use of the Methylene Blue Test is the best means of grading milk.

Poor milk, hasty making and quick curing all combine to make poor cheese. Good milk is necessary for good cheese, though it is possible for the maker to spoil it in the making or curing. On the other hand, even a skillful cheese maker cannot make good cheese from poor milk. Improvement in the quality of cheese should therefore begin with improvement of milk.

### Definition of Good Milk

American cheese, like any other type cheese, requires the best milk possible for the cheese maker to produce a quality cheese. What is the best milk for cheese? The best milk for cheese is the clean, fresh product of a healthy properly fed cow. Such milk always contains a few bacteria.

In the first place, because of cleanliness in production, the minimum amount of foreign matter and of bacteria, which such material always carries, will have been introduced into it and because of cleanliness of the utensils, few germs will have come therefrom. In the second place, it will be so handled as to limit to the greatest possible extent the growth of bacteria. It must be remembered that freshness is not determined by the time, but by the extent of change in the milk, due to bacterial growth. One sample of milk 24 hours old may be less changed or fresher than another 6 hours old.

### Kind and Numbers of Bacteria

We may then say that the quality of milk will decrease with increasing numbers of bacteria, a conclusion which is somewhat contrary to the ideas of most cheese makers, whose training and experience have taught that the *kind* of bacteria in milk for cheese is far more important than the number of bacteria. They know that every drop of milk in proper condition for the manufacturing of Cheddar or American cheese must contain large numbers of lactic bacteria.

### How the Proper Number of Bacteria may be Obtained

There are two possible ways of obtaining milk containing the great numbers of proper bacteria necessary for the preparation of the type

of cheese desired. First, allow the farmer to introduce them in producing the milk, for once introduced into warm milk, the bacteria multiply rapidly.

When one is reminded of the ease with which milk is contaminated and the opportunities present on the farm for introducing harmful germs, and of introducing desired bacteria, he must conclude that it will be a distinct advantage to have the farmer produce the milk under as clean conditions as possible. Again, since the milk on the farm is often seeded with a great mixture of bacteria, more likely to be harmful than good, it is desirable to limit the growth of this mixture of germs as much as possible by prompt cooling of the milk. The efforts of the farmer to deliver milk containing the proper kinds and numbers of bacteria for the manufacture of any kind of cheese are likely to be unsuccessful.

The other possibility is to have the farmer deliver clean, fresh milk and permit the cheese maker to add the essential bacteria in his starters. There would seem to be no question concerning the greater desirability of this plan, so that we may conclude that the way of improvement lies along the line of having the farmer deliver clean, fresh milk and to make the standard of quality—numbers of bacteria, rather than kinds of bacteria, as has been largely the custom in the past.

### Tests for Bacteria

In any such scheme of improvement it is essential to have some method by which one can determine the numbers of bacteria in milk delivered from a particular farm. Any measures for improvement should be concentrated on those sources delivering the poorer milk. It must be remembered that any plan of testing the milk will not be for the purpose of excluding a particular can or batch but for the purpose of determining the average quality from any farm which, in general, is about the same day to day.

Any method to be used successfully must be inexpensive in time and apparatus. It must be easily worked by those not trained in Bacteriology. It must be capable of giving a definite answer, easily explained and understood, and thus permitting no argument concerning the results, most important, it must do justice to all concerned. Each of the methods which are used at present for inspection of milk and some which will be mentioned lack one or more of these qualifications of a desirable test.

### Odor and Taste

The most common method of inspection where intakes are available is by sense of smell and less frequently by taste. From the point of view of our chief interest—numbers of bacteria, this method leaves much to be desired. It leaves much to the varied judgment of the tester. It is greatly influenced by temperature of milk, a condition which makes the test of varying value at different times of the year. Undoubtedly by this means of testing a milk, decidedly poor may be classed as good and good milk for the purpose may be ad-

judged poor. Before there is produced an amount of substance which can be detected by smell, the growth of bacteria will be so great as to markedly limit the control which starters exert. Such milk would be classed as good, although in reality it may be poor for cheese making. In another, the odor may be due to absorption rather than bacteria, and may have little, if any, importance for cheese purposes.

### The Sediment Test

This test has been widely used in market milk work and has been suggested for use in cheese factories. Although it is very valuable for detecting dirt in milk, it has two serious limitations.

It measures only dirt introduced into milk and not removed by straining on farm. It fails completely to detect contamination from utensils, a source which is certainly the most important of all as regards the number of bacteria and which may be equally important as far as kinds of bacteria are concerned. Its value may be completely destroyed by efficient straining and thus a grave injustice may be done to the farmer whose milk has never been polluted but which, in the sediment test shows the same result as does that from which the dirt was removed by the strainer. The harm once done by allowing dirt to enter milk cannot be overcome. The bacteria are washed from the solid particles of dirt and remain in the milk.

### Fermentation or Curd Test

This test and its modification—The Wisconsin Curd, has been used more extensively than any other test except odor and taste. It has made a strong appeal to the cheese maker because through it, he was able to gain some insight into the kinds of bacteria in the milk. This he considered of much greater practical value than a knowledge of *Number of Bacteria present*.

The fermentation test consists of placing the sample of milk at a temperature which will favor the growth of those bacteria which are generally considered as most harmful in the cheese. These include primarily the gas-forming organisms of *B. Coli* group. The appearance of the curd indicates the presence of these organisms, and possibly to some extent, their numbers or especially the ratio to other kinds. The temperature used, 98–104° F., is more favorable for gas forming organisms than for lactic organisms, and hence the former are quite likely to be evident even though present in small numbers as compared to the latter.

In the Wisconsin Curd Test the milk is curdled by rennet. The bacteria are held in the curd which, when cut or broken into small pieces, shrinks and thus concentrates the bacteria into a smaller volume than was represented by the milk. Any gas production is indicated by holes in curd, of varying size and number. In the fermentation test any gas that forms before the milk is curdled by acid escapes. It is possible for a milk to contain great numbers of certain kinds of gas forming bacteria and yet show little indication of

them in the test. The curd test avoids this error since the solid rennet curd retains all gas.

In the examination of both fermentation and curd test the texture of the curd, its odor and taste are noted. The greatest limitation of both the curd and fermentation test is that the same result is likely to be given by a *fresh, clean milk* as by a very dirty or possibly *old and dirty milk*. This is due to the fact that there is competition between the two chief groups of bacteria—the lactic and the gas forming. If the former are abundant relative to the latter, the gas produced will be small in amount, a few bubbles in the otherwise solid jelly like curd. The milk will be considered good. If the ratio is reversed, the curd will be more spongy and the milk classed as poor. It so happens that the gas-formers are high in proportion to the lactic bacteria in a very dirty old milk and in a very clean fresh milk.

It is impossible to produce milk without getting some gas-forming bacteria into it, while as cleanliness is practiced, especially as attention is paid to the utensils, the number of lactic bacteria decreases until practically none are present in a very clean milk. Free from competition with the lactics, the gas-producers grow rapidly at high temperatures and produce such an appearance as to indicate poor milk. On account of the small total number of bacteria, however, the maker may have perfect control over the fermentation through his starters.

### Improvement of Milk Supply

The chief problem in all of the factories at the present time, and one which will probably continue in most for a considerable period, is to find which patrons are delivering the poorer milk and aid them to produce better milk by changing their methods of handling it. If the scheme for improvement is limited to educational efforts, any one of the tests previously described will assist in the work. Their limitations are not important here, for even though other farmers than those most in need of education are thereby singled out to receive it, no harm is done. If however, the scheme for improvement involves some more persuasive agents to action than education, such as the price gradient, errors in testing may become of great importance.

### Methylene Blue Test

The methylene blue test is believed to be free from limitations of those which have been discussed and can be used successfully when a financial factor is added to the scheme to make education more welcome to the patron who is receiving a low price for his milk because of low quality.

If a small amount of one of the common dyes, methylene blue, is added to the milk, a color will be produced which will disappear at a rate depending on the number of bacteria in the milk. The discharge of the color is a task of definite size. The test permits the cheese

maker to ascertain whether a certain milk contains few, a medium number, a large number, or an excessive number of bacteria and indicates to him how well he can control the fermentation which takes place in such milk. One should remember that few bacteria mean good control. Many mean little or no control. The probable result of the use of the test in any factory is to show that milk from certain farms will lose its color in a few moments, while milk from others will lose it only after several hours. The patrons to which education as to methods should be directed and clearly pointed out.

The methylene blue test may be combined with the fermentation test with no increase in work or expense. The temperature used in both is the same, the dye does not interfere with the growth of the bacteria, hence the tubes may be allowed to remain after the color has disappeared and the type of curd may be noted. From the same sample, information can thus be obtained both as regards number and kind of bacteria. This may enable a more correct judgment to be reached than is possible with either test.

The test is especially valuable since it can be made with little expense, and by those without the training demanded for the successful use of other methods of determining the number of bacteria in the milk. It lends itself especially to a rapid survey of the quality from a number of farms, it enables many examinations to be made of the product of each farm, rather than a few examinations by a more refined method.

It must be remembered that in any plan of improvement of any milk supply there are two factors,—the ascertaining of the quality of milk from each farm and the education of those producing the poorer grades. An enormous amount of improvement will follow a little well directed change in methods. The production of good milk is most simple—Cleanliness of animals, of milker, and of utensils, and rapid cooling are all that are needed.

#### Apparatus for Methylene Blue Test

It is necessary to keep the samples of milk during the test at a constant temperature of 98° F.

The most simple device consists of a copper or galvanized iron tank, supported on a base of metal, and containing racks to support the tubes containing the milk. The tank is filled with water at a desired temperature and maintained by a small lamp in which denatured alcohol is used. Electric incubators such as are used for incubating starters have been used with good success. Gas if available can be used in place of lamp.

Tubes of heavy glass of about  $\frac{3}{4}$ " in diameter are needed. If etched near top the number of the patron can be marked on them in lead pencil. A small dipper holding 10 c c is used in taking the sample, or if tubes are marked to the 10 c c mark, this is unnecessary. The only other materials needed are the tablets of the dye and a bottle holding 200 c c in which to prepare a solution of the dye,

a 1 c c pipette with which the solution is added to the milk and a thermometer.

### Collecting the Samples

The tubes in which the samples are to be placed should be clean and should be filled with boiling hot water, which is allowed to remain for a few minutes just before taken to intake room. If convenient to sterilize, so much the better.

The sample is best taken from milk in weigh can. If a dipper is used, it should be filled and emptied a couple of times with the milk to be sampled before sample is placed in tube.

The patron's number is then marked on the tube, when about 10-15 samples are taken, and the dye added, that is in most cheese factories where it is not necessary to cool the milk and the test begun.

### Making the Test

Two hundred c. c. of distilled water is placed in the bottle and one of the tablets of the dye is added. A tablet, if whole, should give the required strength. Shake well to thoroughly dissolve. One c. c. of solution is added to each 10 c. c. of milk and is mixed with the milk by closing the tube with the thumb and inverting the tube. The thumb should be wiped clean on a clean cloth before mixing another sample. The tube is then placed in bath or incubator.

The period for the blue to disappear from the milk will depend on the bacterial content of the sample. A milk in which any increase in acid can be noted by taste or smell will lose color in a few moments—10—20, while a clean fresh milk will retain the color for 6—8 hours.

The color usually disappears uniformly throughout the whole mass of milk. Sometimes a zone at surface may retain the color long after the remainder of milk is white or frequently the blue color will remain at bottom of the tube after rest is bleached. Difficulty with such samples can be avoided by taking as the time of bleaching the moment when the blue color is not apparent in the whole mass of milk. A tube of milk to which no dye is added may be used to compare with the samples. It is better to take the reading when no appreciable blue tinge is noted in the milk. A trace of blue cannot be noted as such, but will make the milk appear whiter than that to which no dye has been added. For some reason this amount of the dye may persist for a considerable period after no blue is visible or in other words, the milk will not regain the yellow tinge for some time after all trace of blue has disappeared.

The periods of observations will be determined by the number of groups into which the maker wishes to place the milk.

In general observe:

- at 20 min.
- at 40 min.
- at 1 hr.
- at 1½ hr.
- at 2 hrs.
- at 3 hrs.



The group losing the color in less than 20 minutes represents milk over which the maker can have little, if any, control by the addition of starters, since they already contain many more bacteria which are growing at full speed than will be added in a starter. The bacteria in the starter are likely to be at a standstill when it is added to the milk, and it will be sometime before they are growing at a similar rate to those already in milk.

The milk that requires *five* hours or more to lose the color will contain so few bacteria that the starter will overwhelm them and excellent control will be had. This has been true in many cases of milk requiring 2 to 3 hours to lose color.

If a good starter is added to the milk at the rate of  $\frac{1}{2}$  per cent, approximately 5,000,000 bacteria will be added to each c. c. of milk. A milk losing its color in less than 20 minutes will contain in excess of 20,000,000 bacteria per c. c. Thus the starter will represent but  $\frac{1}{4}$  or less of the bacteria, those in the milk before adding the starter  $\frac{3}{4}$  or more. A milk which will keep the blue color from 3 to 5 hours will usually contain less than 500,000 bacteria per c. c. or only  $\frac{1}{10}$  as many bacteria as are added in the starter. If degree of control can be expressed in the terms of bacterial content of milk and starter, the maker using the 3 to 5 hour milk has 40 times better control than maker with 20 minute control. It seems probable that any milk retaining the blue color for 3 to 5 hours should be classed as a high grade for cheese making purposes.

## DISCUSSION

By AD. R. VALLESKEY, Manitowoc, Wisconsin

Milk is one of the most important foods. It excels almost all others in the variety and quality of materials that it furnishes the body, and is suitable for persons of all ages.

Milk contains minute forms of life called bacteria, which enter it from many sources during milking and handling.

The most common types of bacteria in milk are those that cause it to sour by converting the milk sugar into lactic acid, and are of special importance in making butter and cheese. Others, as they develop, change the color of milk or make it slimy or ropy. Still others, though they seem to have no effect on the milk itself, may spread disease. The milk from tuberculous cows, for instance, is unsafe, because it may contain the bacteria causing tuberculosis. Typhoid fever and diphtheria may be transmitted through milk infected by bacteria-laden flies, by unclean utensils, or by persons who carry such bacteria in their bodies or on their clothing. Epidemics have sometimes been traced to the milk from a single farm.

Most bacteria, however, are very sensitive to heat and cold, a fact of great practical importance in handling and marketing milk. Cooling milk to 50° F., immediately after it is drawn from the cows, is an effective way to check the growth of bacteria.

Milk when drawn from the cow has a temperature a little above 90° F., a temperature at which bacteria grow very rapidly. Milk sours very rapidly at temperature above 60° F. and therefore should be kept below that temperature and preferably below 50° F. until used. You can readily see that it is very important to educate the producer to make the proper changes in providing a system whereby

the milk can be cooled to 50° F. in the shortest possible time. The morning's milk should also be cooled. The average farmer using but small tubs and water from a storage tank, has to be educated to use well or spring water that has a temperature of from 50° to 55° F. The growth of bacteria is best illustrated by two samples of milk containing 1,000 bacteria per cubic centimeter. One held at 50° F. showed an increase of 4,100 bacteria per cubic centimeter at the end of twenty-four hours while the other held at 68° F. contained 6,128,000 bacteria per cubic centimeter.

A good many cheese makers and cheese dealers had sad experiences in late years; cheese showed good quality when received and paraffined but on re-examination a few days later the same cheese showed considerable gas.

Especially in the late years when competition is keen and quality is demanded more so than ever we must seek methods which can be employed and made use of.

In late years considerable experiments have been carried on and there is now available a small convenient apparatus for testing. Any one interested may obtain Prof. Hastings circular number 204 of June 1926 by writing to the Extension Service of the College of Agriculture.

I have made use of this methylene blue test for the last four years and found that I could rely upon the same in every case. By rejecting milk that lost its color immediately or rather showed signs of faintness we found to our surprise that the maker had no difficulties that day.

In conclusion I wish to state that I invite you to ask questions and by going into discussion I feel assured that you will obtain the information you are seeking and we will eliminate much talking and get at facts which are of importance. My time is limited but feel that our President is with us and would like to have us get into a real discussion.

MR. CROSBY: Supposing I would be a patron and I had a very bad milk and the patron after me had excellent milk. Now, would there be some contamination of that good milk through the bad milk in the weigh can?

MR. VALLESKEY: Wherever we found that we have taken hot water and rinsed the can before we put the other milk into the can. But in taking your samples as they come in one right after the other, you don't have a chance to observe the change and you don't know which is going to be the bad milk. Would there be some way of eliminating that possibility by samples taken from the farmer's cans or having a number of these dippers, say all of them in a can of water that had been boiled and using a separate dipper for each farmer's milk.

MR. HALL: The only objection to that is, that when the patrons are delivering their milk in the morning, they are all anxious to get it dumped and get away and that we found with the dipper, as suggested, that if you dip that in three or four times you have got that thoroughly rinsed out, so that naturally you don't get contaminations so much. I don't use the dipper so much as the tubes and to get it after it once comes out of the spout. The first coming out of the spout would take all the contamination away. In that way I get a more uniform sample of the milk, and that is what you are after when you take a test.

MR. VALLESKEY: Has there been an actual experiment run to show you how much contamination will carry over?

MR. HALL: No.

MR. SCHAEZEL: In taking these samples from one can to the other, I always take the sample inside as the milk runs in and you

get a pretty good sample. So I haven't even used water to rinse the can but I always let half of the milk run out.

**MR. HUTLER:** We have that milk just the same all the time. That wouldn't do us any good, although if we could get some way where we have field men out or inspectors out to kind of eliminate that on the farms, we would have good stuff in the vat, I would think.

## THE FIRST WISCONSIN CHEESE FACTORY

By MR. CHARLES HILL, Rosendale

**Mr. President:** You men are making the history in the dairy industry in the state of Wisconsin, but I am sure you don't want to forget who started the dairy industry.

I promised not to take over three minutes in telling you about a project to honor the first cheese dairyman in the state of Wisconsin. The first cheese factory was located at Ladoga, four miles west of the town of Brandon. There is a move on foot up in that section of the state to get a large boulder from that farm and put on it a bronze tablet out on the road and locate it. The first location of the first cheese factory in the State of Wisconsin.

I thought the Wisconsin Cheese Makers ought to at least know about that project. It is way back in 1867 they were making cheese on farms, on a number of the farms in that vicinity and in Jefferson County and Mr. Chester Hazen conceived the idea of taking not only his own milk but the milk from some of the neighbors and he started a public cheese factory. That cheese factory stood until about three or four years ago. In fact, part of that building is still there. Mr. Hazen was the first president of the Wisconsin Dairymen's organization. This organization grew out of the Wisconsin Dairymen's organization. Mr. Hazen was one of the first breeders of pure bred cattle in Wisconsin, as far back as 1880. He went up and down the State of Wisconsin telling about the good that the dairy cow can do in Wisconsin. At the site of that factory now on a concrete highway, 31, that runs from Fond du Lac to Brandon, I think it would be a splendid thing for us as Dairymen of Wisconsin, to put a monument upon the side of the road and remember Mr. Hazen and what his early compatriots did for Wisconsin.

I told you he was the first president of the Wisconsin Dairymen's Association. This was organized in 1872 at Watertown and Mr. Hazen continued to be interested in the dairy business up to the last days of his life. I counted it my privilege to know him and his kind spirit and the public-spirited citizen he was, not only in his home community but in Wisconsin, and I thought it was only right that you just pause a minute in this meeting and know that somebody is interested in the beginning of this industry. Thank you.

**MR. BRUHN:** Mr. Chairman, I didn't quite get the full benefit of the talk. As I understand it, they are intending to erect a monument and they would like to have a little donation?

**MR. HILL:** I didn't have that thought in mind but somebody mentioned it. If you want to have a little part in it, the Men's Club at

Rosendale are fathering it, and it will cost about one hundred dollars. If they want to contribute a little, one hundred dollars isn't much but if you want to have a part in it we will be glad to have you have a part in it. We have already contracted for a bronze tablet twenty by twenty-four inches. We have promised to put the boulder at the side of the road so that this can be read by every passerby.

MR. BRUHN: Mr. Chairman, I think we ought to take a little interest in that, and so far as I am concerned, I at the present time would make a motion that we recommend to the Board of Directors to give such a sum as they see fit to help this thing along. Seconded and carried.

## IMPURE WELL WATER AND ITS CAUSES

By DR. M. STARR NICHOLS: Chemist and Bacteriologist, Wisconsin State Laboratory of Hygiene, Madison, Wis.

Up until some thirty-five years ago the purity of well waters was determined by purely chemical methods. By chemical analyses animal matter was found to be converted by decay into many by-products amongst which were found ammonia, nitrites, and nitrates. These by-products are all noted to be compounds of the element NITROGEN. The chemist made use of this knowledge and devised means of determining the amounts of these various compounds found present in a given water. As nitrates was found by experiment to be the highest state of oxidation of nitrogen its presence in a water showed that the animal matter was being oxidized in the course of the water through the soil and therefore the water could be safely used provided this compound did not indicate too serious pollution with the products of animal matter. If animal protein matter was found present the water was rejected as unfit for use. The older water chemists really, therefore depended upon the content of organic matter or its products in a given water to determine its purity. The advent of bacteriology during the years following this period of chemical control entirely revolutionized the system of water analysis.

During the period from 1880 to 1890 several of the bacteria now known as the causes of various diseases were isolated. In 1884 Gaffky isolated the organism which caused typhoid fever. A year later Escherich found in the intestinal tract of normal humans an organism which is now known as *b. Coli*. It received this name because it is the predominant type found in the lower colon of all warm blooded animals, including man.

In typhoid fever the organisms causing this disease associate with the normal inhabitants of the intestinal tract and are excreted in the feces with the *b. Coli*. In fecal matter the *b. Coli* are always in very great preponderance and even in the feces of typhoid patients the typhoid bacilli are very difficult to isolate. For this reason in bacteriological water analysis we never attempt to isolate the germs of typhoid but simply prove the presence of its associate, *b. Coli*.

Typhoid fever is essentially a human disease. In certain stages of this disease the germs are shed in large numbers in the feces and

urine. It is from the contamination of food and drink from these two kinds of excreta that the spread of typhoid takes place. Not only are these typhoid germs shed by sick people but also by persons apparently free from disease. These persons are termed carriers of typhoid. Carriers are usually those persons convalescing from typhoid fever, but there are many cases of carriers in which there is no history of a severe fever, but only a slight illness. Such a case occurred in a city of this state a short time ago. Before she was discovered several cases of true typhoid resulted from food eaten which was prepared by her. Every person who has had typhoid is not a "carrier" but there are many who are. Out of 30,000 normal persons in the army who were food handlers 30 were found to be carriers of the organisms. Approximately 3% of all typhoid cases develop into carriers.

In general, therefore, we must concede that there is a possibility that each and every person might be a typhoid carrier and that it is inadvisable to allow any excrements to gain access to a domestic or municipal water supply.

For reasons of pure cleanliness it is also desirable to exclude the excreta of our domestic animals.

In bacteriological water analysis we test for the presence of *b. Coli*, which is considered the associate of typhoid germs. The test is made by detecting a gaseous fermentation of milk sugar with suitable samples of the water to be analyzed. If gas is produced identification tests are applied to prove the presence of members of the *b. Coli* group of bacteria. Plate counts are also made on each sample of water to determine the total number of germs present in a given quantity. The older chemical methods are used to determine the probable cause of pollution, and the distance of the pollution from the well.

A well water should be considered unsafe for human use if it shows on examination bacteria which come from the intestinal tract, or if it contains large numbers of other bacteria.

The standards of purity of drinking water as defined by the United States Public Health Service state that a water must not contain more than 100 bacteria per cubic centimeter. Furthermore such water shall not show *b. Coli* in more than one 10 c. c. portion out of five such portions tested.

Of the approximately 160 city deep well waters in the state there is only an occasional examination which shows the presence of *b. Coli*. The bacterial count on most of these waters is very low.

While practically all the city well waters of the state are free from pollution, it is sad to relate that the same cannot be said for the individual domestic well supply.

Most deep well waters are naturally free from pollution, in fact many are actually sterile. The question naturally arises from what sources do wells become polluted

Surface pollution is the cause of four out of every five unsafe well waters. Poor protection of the well opening is the worst offender.

Faulty curbing, allowing entrance of small animals, poor joints between the pump and the casing, entrance of surface water, splashings from the overflow pumping are defects in surface protection which may be mentioned. In the case of a deep well which is cased with steel casing it is a simple matter to make the well safe from surface pollution. The casing should be provided with a flange upon which the pump may be bolted securely. Pump pits without drainage from the pit to prevent the entrance of seepage water into the well or without proper capping on top of the casing are the cause of an adverse report from the examination of an otherwise pure water. In case of driven wells the spillage should be conducted away from the well proper to prevent seepage downward along the well pipe. Concrete platforms poured around these wells will help solve the pollution problem. Dug wells are the most difficult to protect from surface drainings. Again concrete covers with the pump set slightly higher than the platform will help keep the spillage from re-entering the well. If the dug well is located in sand or gravel it may be necessary to plaster the inside of the upper part of the well with a cement and sand mortar.

Underground pollution is more insidious but luckily less prevalent than surface pollution. Privies, cesspools, and flows from septic tanks together with the barn washings cause most of the underground pollution. In general it is advisable to locate the well distant from these constructions.

In some instances wells have dried up after an old cesspool has been abandoned, showing clearly that the source of the water was principally from the water filtering through the sand and gravel from the cesspool. In the limestone region pollution may be conveyed considerable distance due to crevices naturally present in this type of rock.

It is impossible to state to what distance the well should be located from cesspools and other sources of pollution but certainly the distance should be 100 feet or more if possible. Moreover, the well should be located on higher ground if possible.

It is therefore seen that pure water not only means a water which is sparkling clear and pleasing to the taste but one that is free from all pollution. Clear sparkling water may be laden with disease producing bacteria and therefore unfit for use. Bacteriological tests will prove whether any pollution exists and should be made if there is the least suspicion that the water is not safe.

Due to improvements in water supplies and other measures, the total number of deaths due to typhoid fever has dropped from 500 in 1910 to 45 last year in this state. Typhoid fever is a filth disease and the protection of the water supply will eliminate one of the dangers from this disease.

The state maintains a department in the State Laboratory of Hygiene for testing drinking water for its citizens. This laboratory will ship containers to any health officer, village or city clerk in the state upon request. The individual who requests a water

examination is required to pay the express both ways on the shipping containers. No charge is made for the examination.

By diligent effort on the part of our citizenry typhoid fever may be relegated to the class of disease of the past as has already been done in the case of yellow fever and in a measure smallpox. Questionable supplies should be considered unsafe until a laboratory examination proves beyond a doubt that no pollution exists. Be not self satisfied that your well is safe and that there is no chance of typhoid fever or other intestinal disease in your locality. Modern transportation and intercourse has aided in the transmission of such diseases as typhoid.

## IMPURE WELL WATER A SOURCE OF CHEESE TROUBLE

By JOE H. WHITE, Arena.

MR. WM. WINDER: Mr. President, I have here a letter to Mr. J. L. Sammis, by Mr. Joe H. White of Arena. Mr. White is a cheese maker at the brick cheese factory at Arena. Something over a year and a half ago the cheese he was making began to develop very bad flavors. It was not noticeable in the process of making but later, usually from four to six and eight weeks after the cheese had been shipped out of the state it would be returned to this state, unfit for use and he had a great deal of trouble.

Mr. White was asked to discuss that problem here, he was unable to be here, and he has written this letter which I will read.

As I will not be present at the cheese makers' convention, I am sending you the report you asked me to give on impure well water, a source of cheese trouble.

I have made cheese for the past ten years and have never had any trouble until a year ago they informed me the cheese were developing a bad flavor when they were a month to six weeks old.

We had help from the state come to the factory to help find the trouble. Mr. Sands, Dairy and Food Inspector, at that time and Mr. Bruhn came to my factory took curd tests and the Methylene Blue test but did not find any thing seriously wrong with the milk that should cause such a flavor.

Mr. Winder offered to come and stay with me a few days to help find the trouble. He came two different times. He took the Methylene Blue test and supervised the making of the cheese. Mr. Winder said there was no indication during the making of any flavor that would at all suggest the flavor that developed later in the cheese.

Mr. Winder suggested taking a sample of the well water, which he did and it was found to be badly contaminated, the well was condemned. It was a drilled well about 65 feet deep to start with but had kept filling in until it was only 40 feet deep at the time it was condemned. The light galvanized tubing had rusted through and had let the surface water and waste into the well.

We have a new well which is 70 feet deep with 60 feet of steel tubing. Since the water was pronounced safe we have held cheese 2 months which kept a good flavor.

#### DISCUSSION

MR. WINDER: I took several samples of water and submitted it for analysis to the Wisconsin Hygienic Laboratory and it was found to be quite badly contaminated. A new well was drilled and the first sample of the water obtained from the new well showed a slight contamination and was pronounced unsafe. That was immediately after they started using it and probably might have been due to some contamination in the piping of the pump. Later a sample showed the water to be safe for use. Cheese made since that time have been held for six weeks to two months and has not developed any of that disagreeable flavor. Davis Brothers of Plymouth handled the cheese in the earlier stages of this development and Mr. Davis, if he was here, could tell you something about that. They suffered considerable loss due to the cheese going wrong after shipping it out of the state.

A MEMBER: Mr. President, I would like to ask Mr. Winder whether that cheese was washed with water?

MR. WINDER: Probably the first source of contamination was in the contamination of the water to dilute the rennet and then it might come from the contamination of various utensils being washed with the water.

MR. BILGRIEN: Was this well at the cheese factory or owned by a milk farmer?

MR. WINDER: The well in question was at a factory owned by the farmer, located just outside the factory building on a side of the hill, and it was not protected very well, but the casing in the tube had corroded and rusted through at various parts below. There was plenty of chance for contamination.

MR. BILGRIEN: Who are the people that examine the water? Is water sent to you by anybody throughout the state?

DR. NICHOLS: Yes sir.

MR. BILGRIEN: Is the well water the only water you get in to examine?

DR. NICHOLS: We examine all kinds of water, anything that is used for domestic purposes.

MR. BILGRIEN: Have you had any trouble with streams, creeks, and rivers that are polluted?

DR. NICHOLS: The majority of the streams or rivers are not used for domestic supply. However, I do the work for the State Sanitary Department and make stream service tests to determine pollutions.

Whenever there is a chance that human health is at stake, the state laboratory of hygiene will do anything they can to help solve the problem. When a person writes into the laboratory for a situation such as you mentioned, we ask them to write the Sanitary Engineering Department of the State Board of Health and in the majority of the cases the State Board of Health will send a man to that source of pollution and make an investigation and send us samples that he thinks should be analyzed. It may not come within a week or a month.



## GAS IN CHEESE ON THE SHELF THREE DAYS OLD

By M. M. SCHAETZL, Edgar.

Mr. President, Ladies and Gentlemen: In regard to gas in cheese on the shelf, I had a lot of it in my days of cheese making and I tried everything, as most anybody would to get over it. Sometimes I did and sometimes I didn't. I have come to the conclusion that I would not prepare a speech or anything but I just came up here and tell you that in my experience and opinion there isn't any other salvation but to do as a lot of other enterprises have done and get field work and get our raw material under inspection. That is the only way I can see out of it. Others have done it and they have had results and they are smaller than the dairy industry of the state of Wisconsin. I would like to suggest to you at this time, assembled here, that we try and see if we can't get field work done and improve our milk.

Take for instance the pea industry, started up in our section two years ago, close to where I live. Now, that is nothing to the dairy industry, but how do they do it? The farmer can't seed them where he wants to; he can't seed them when he wants to; he can't cut them when he wants to. He is told by the field men and they have wonderful results and I guess you all know it. I think that if we want to improve the cheese, we will have to come to this, only I can't quite figure out how we are going to do it. But I think if we all get together, we can do something to get field work done, maybe by the state, maybe through the organizations, maybe through the farmers, but I would like to ask you all at this time to do something of that sort, and I know that is the only way that we are going to improve the cheese of the state of Wisconsin.

### DISCUSSION

MR. BRUHN: Mr. President, Years ago I was studying a little factory science and in all the lectures we had, this was one of the answers to all questions: Find the cause of disease and remove it. If we are going to find the cause of trouble in the cheese factories and remove them, and then tend to business afterwards, we will all have good cheese. The subject of gas on the shelf three days old isn't new.

Over twenty years ago we had trouble with it. We had trouble with it in our American factories and there was trouble in the Swiss factories. Dean Russell spoke on the trouble and he brought with him a sample of whey containing bacteria taken from those factories where the trouble was, and that bottle had more alcohol in it than was in Milwaukee beer at that time and it was caused by yeast fermentation. Bacteriologists tell us that you will find it in hay and other dairy feed, that is where there is dust in the barn, at milking time where there is dust floating around the air from the feed, and it can contaminate the milk and you are apt to get it.

I have seen it in whey that has been heated to 160 degrees and still growing, bubbling to beat the band the next morning. If 160 degrees won't kill it, can you imagine the farmers will kill it when

they are washing their cans? The next place to look for it, I think is in the starter can. If you once get it there you will have pretty much trouble in getting it out. Insanitary conditions in the tin-ware in the factory, is another source of supply. If five or six or perhaps even ten pounds or twenty pounds of impure water added to a vat of milk containing five or six thousand pounds, is enough to contaminate the milk to such an extent that inside of two months that cheese is unfit to eat, then you can readily understand that it won't take a great deal of a seed bed in any of your utensils to produce a similar effect when it comes to gas.

Now then, to overcome it, the first essential thing is absolute cleanliness from one end to the other of the factory. The next is sterilization of everything and that means sterilization of your utensils used in the factory, but it also means sterilization of the whey and that is more essential than anything else. If you can't sterilize it by heating it to 150 degrees, heating to 185, if necessary every day for a week or more, may overcome it. The next thing naturally, is to get your patrons to clean up as well as they can. When it comes to overcoming it in the factory, first of all use a little bit more of good starter. You folks in the north have been in the habit of only running a small amount of acid and making a comparatively mild soft cheese and you are perhaps hit harder by that particular trouble this year than in any other section. Cook it enough so that your acid won't get away from you. Cut a little finer and cook a little higher, salt a little bit heavier and get it into cold storage as soon as you can after it is made. That in short is the remedy for the trouble. I thank you.

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#### U. S. DEPT. OF AGRICULTURE CHEESE MARKET REPORTS

**THE CHAIRMAN:** Is Mr. H. G. Bell, of Plymouth, in the room?

**MR. SAMMIS:** Mr. Bell's message to you relates to these reports issued by the United States Department of Agriculture about the cheese markets. These you can get from the platform, if you are interested in them. You can have them mailed to you every day in the year. They give the quantities of cheese sold and the price in the various cities. They are mailed to you free of charge and you merely have to write to this address that is given on the circular, and ask for what you want.

#### CAREFUL WORKMANSHIP—HOW AND WHY

By WM. C. LINDOW, Plymouth

I am going to start out with the milk. I find there is lots of trouble by some cheese makers in cutting the curds. That part I believe is due to the setting of the milk, using too much extract and not stirring it up thoroughly. They stir up a couple of times in the vat and then leave it set. I find that using a little less extract is better and give your milk a thorough stirring, about five minutes, and you get a uniform cut. I find that using two ounces to 2¼ ounces of extract is

sufficient. Some fellows made a remark several years ago, that some cheese makers use only  $2\frac{1}{4}$  ounces of extract and get away with it. I think  $2\frac{1}{4}$  ounces or  $2\frac{1}{2}$  is plenty. Give it a good and thorough setting and let it set a half an hour. In cooking it, give it a good firm cook. That is one of the main parts to start with in doing the careful workmanship in the vat. A lot of them lack in the setting.

### DISCUSSION

BY A MEMBER: How can you tell when the curd is properly firm?

MR. LINDOW: You can tell that by the feeling of it and the looks of it. If it is uniform in cut and cooked up right your curd will be firm, only a lot of them they just cut it once or twice and then they break it up. Some pieces are coarse and some are fine. They can't get a uniform cook on it if they haven't got a uniform curd. I find that is one of the greatest faults with the cheese industry. They don't cut it fine enough, they cut it with a rake instead of a knife. I use a quarter of an inch knife. Lots of them claim they can't cut with that. If you get your extract stirred in thoroughly and you can let it stand three-quarters of an hour, you can cut it just as easy with a quarter knife as with a one-half inch knife. I think they are using too much extract in the first place.

A fellow stopped at my place last year and he said, that milk will curdle on you before you get that set. He said, we used to go with the rake back and forth once and then leave it stand, and I said no, I find I get a better cut with a one-quarter inch knife than a half inch, and that is why it is more uniform. If you start with a poor setting you never get the best results. I cut mine three times with a quarter inch knife. I think it is just throwing money away using more than  $2\frac{1}{2}$  ounces of extract. I use about two per cent starter. That is another important question because lots of them want to make a fine cheese and they start out with a poor starter. Some of my neighboring factories claim they can't get it set with  $2\frac{1}{2}$  ounces. I put in four and I don't get as good a set with four as I get with  $2\frac{1}{2}$ . You get your extract stirred in thoroughly before you leave it stand. Just stir it back and forth once or twice and see. We let it set on the average of about thirty minutes. I could leave it 45 and I could cut it just as well: I get my starter up to 195 and 200 degrees and I find I get better results than if I pasteurize my starter at 150. I set that starter on the average about eleven o'clock. When I add the starter I cool it down to 65.

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MR. LOEHR: Mr. Chairman, ladies and gentlemen, I think we would be more interested if we could hear a little something on hard conditioning milk, milk that is hard to make a cheese out of that you can sell.

Now, I had one experience last summer, with very bad pinholes. They were round but they didn't go out at all, so I milled them and I washed them with hot water, and I started making them over again and they were there the same again as they were there at noon. We milled it over again and washed it with warm water again and we salted it and got a very nice cheese out of it and there wasn't a pin hole to be seen the next day. It wasn't short, and there was a very good body to it, I think that would interest most of the fellows more than telling about normal milk. In Mr. Lindow's talk I don't agree

with him in the heavy starter he uses and the short cuts he gives. I agree on using about one per cent starter and a slower cook and longer in the whey before dipping. I think you get more uniform cook and little meatier cheese by giving more time in the whey and slower cook, say for instance about an hour and thirty minutes from setting till you get it cooked up to where you want it, 102 or 104.

MR. LINDOW: Mr. Chairman, in regard to what he said about pin-holes, that is why I use more starter, but you have to look out that you get a good starter, and I run my curd as meaty and sweet as any one of them do. I use plenty of hot water to melt my curd down but I look out so I get a good starter and use a good percentage. You have to have a good starter or otherwise you are out of luck.

MR. LOEHR: You say you use a two per cent starter and you make a Swiss sweet cheese. Well, that is something I can't understand right, using a two per cent good heavy starter like you claim and then have a sweet curd yet.

MR. LINDOW: Sometimes you can use half the percentage of starter. I use to use only half per cent starter and pasteurize it to 150, and since then I use a bigger starter and have better results.

## CAREFUL WORKMANSHIP, PRESSING AND DRESSING

By H. A. VERHULST, Sheboygan

Quite a number of years ago my little son came home from school one evening with a report card on which his teacher had given him a mark of 80. Like fathers have a way of doing, I criticized him for the low mark and asked him if he wasn't ashamed of ranking so low. His reply stunned me for a moment. "Well," he said, "I don't think that is so bad. Billy West only got 20." I am afraid that there are many grown-ups who also pat themselves on the back, and think they are doing well enough, because they are doing better than the "dubs", instead of earnestly trying to do the best they can.

Work is a pleasure as long as you try to do something worth while. The wise man of old said, "There is nothing better than that a man rejoice in the work of his hands". President Coolidge not long ago made the statement that "he who builds a factory, builds a temple, and he who works there, worships there". The motto of The Kohler Company, employing over 2,000 men, is "He who toils here, hath set his mark."

All of these statements or slogans emphasize the dignity of labor and the virtue of good workmanship. Just as long as one is working with a definite ambition to do something that will demand the praise and admiration of the world, or any part of it, just so long will there be enthusiasm and joy in good workmanship. But as soon as one no longer aims to do something exceptional or to improve upon his previous efforts, enthusiasm and ambition leave and in the place of the former active, energetic, hopeful worker, the plodder is found. Just as long as the cheese maker keeps on aiming for a perfect cheese, and being a leader in the industry, instead of a mere unit, he will be contented and happy and find his work interesting. The cheese maker

who does not find his work interesting ought to get out of the factory at once, because he will never be a success.

In speaking of Pressing and Dressing, I am speaking as a cheese dealer and from the viewpoint of a dealer. Pressing and Dressing may not seriously affect the quality of the cheese, but they often make the difference between *desirable* and *undesirable* cheese. A cheese well closed, kept scrupulously clean and neatly bandaged, becomes an attractive article of food. But a cheese carelessly bandaged, the bandage shoved down or wrinkled, or with the threads of the bandage carelessly pressed down on the top, becomes an article of food that one must be hungry indeed to desire.

The chief fault in Pressing is not getting the cheese properly closed. This besides spoiling the appearance, causes cheese to mold very readily. A cheese not properly pressed should be classed as number 2 cheese. Both faults of improper Pressing and improper Dressing are due to careless workmanship.

Cheese not properly pressed is caused either by allowing the curd to become too cold in the vat or by not operating the press properly. When the curd is too cold at the time of pressing, no amount of pressure will cause the cheese to close as it should because cold curd has lost its cohesiveness, and the result will always be a checked cheese.

There is, however, a commoner mistake made by makers operating continuous presses, and that is dressing the cheese and putting on the final pressure too early. This results in the press going down before the required pressure is reached and the cheese remains mechanically open. A little time, a little care and judgment will overcome this defect.

Careless workmanship is also easily traceable in Dressing. The bandage on cheese is like the label on cans or package goods. A lot of canned goods labeled carelessly gives you the impression that the goods must have been put up carelessly also. A lot of Hershey's chocolate bars with the wrappers dirty and unevenly put on, would not make you feel hungry for chocolate. A carelessly dressed cheese does not cultivate a cheese appetite.

The buyer may not always pay more for cheese carefully handled, but he surely gives preference to the factory that ships well made, carefully worked cheese.

The loaf cheese has made great progress and is generally liked by the housewife, because of its neat and attractive appearance. If the bulk styles of cheese are not to lose their place on the grocer's counter, it is up to you cheese makers to also produce a neat attractive cheese.

## DISCUSSION

MR. J. B. MCCREADY: Ladies and gentlemen, I didn't know I was on this program until now.

Now, boxing and shipping cheese should not be a subject which needs discussion and I am not going to tell you how you should do it, but I am going to tell you how I used to do it. I think we have pretty near all forgotten that the cheese should fit the box. Of late years

there is very few cheese makers cut down the box even with the cheese. That should be done for the simple reason it will save breakage of the cheese. Scale boxes are almost a thing of the past. I can remember when we put three scale boards on the bottom of every cheese when they were packed, two in a box. I doubt if many of you now do that. Half of your trouble from rind rot is caused from no other reason than putting two together and shipping them when the weather is warm. I don't suppose I need to tell you that you should give the dealer a good weight when you weigh them and mark your weight along the side of the box so the dealer can find them when they are piled up in rows. Invariably you should put your vat number above your weight number and it will be easier for the man that inspects the cheese to select the date he wants to look at.

## MAKING CHEESE FROM PASTEURIZED MILK IN 1926

By E. O. KLEMM, Manitowoc

MR. PRESIDENT LADIES AND GENTLEMEN:

I have made this kind of cheese since last spring, and must say it is a success, and a boom to cheese makers that do not always get the best of milk. Pin holes and gas are a thing of the past if the milk is properly pasteurized. I made this cheese in a vat invented and manufactured by the Pauly & Pauly Cheese Co. of Manitowoc. The milk is both heated and cooled in this vat. I start the heating of the milk as soon as there is sufficient milk in the vat to cover the bottom. I manage to keep the milk in the vat heated to about 145° to 150° F. while I am taking it all in. After having received it all I hold the temperature at 145° to 148° Fahr. for about 20 minutes or 25 minutes then cool it down to 90°. At that time the starter is added at the rate of 1½ to 2 per cent. The milk has by that time reached the temperature of 88° which is the temperature it is set at. The milk has then got an acid percentage of about 1.0% and will set in about 20 to 25 minutes. It is then cut 5 times with wire curd knives and stirred about 10 minutes before the cooking process is started. It is cooked to about 105° Fahr. and kept in the whey 2 hrs. from time of cutting to time of dipping, at that time it has developed acid to about 103% and the whey is drawn. After the whey has been drawn the curd is nice and firm; it is matted for 1 hour at that time the acid per cent will be about 3 or 3.05% it is then milled and salted and then hooped after salt has been well absorbed. This process of cheese making requires about an hour a day more time than with raw milk, on account of the cooling process. It is also very essential that one have a good well to supply you with cold water. The consumption of fuel is somewhat greater which is readily understood on account of the high temperature required in pasteurizing. The yield per 100 lbs. of milk is also somewhat greater, about 1 lb. of cheese more in 1000 lbs. of milk. The quality is, I think, very good it being very uniform from day to day. I think this cheese may readily be called pasteurized milk cheese if the process of heating is properly carried out and a good starter has been used. The process of pasteurization may be all

spoiled if you do use a bad starter. I believe an effort should be made in our state to have all of our American cheese made by the pasteurizing process, in order to keep or rather put our cheese on a better market basis.

## PRIZE CONTESTS AMONG FACTORY PATRONS

By HENRY ENGLEBERT, Brussels, Wis.

The milk contest I have conducted this summer proved to be quite a success amongst the younger farmers, but didn't prove so well amongst the older patrons. The older farmers don't realize the advantages of the tests as readily as the younger patrons. I expect to continue these different tests and prove further their advantages toward making better cheese and butter.

The first contest was held during the month of August 1926. The purpose of this contest was to find out what farmer would haul the coldest milk throughout the month of August. The test was conducted in the following manner: A thermometer was placed in the weigh can by means of a string so that the bulb of the thermometer was one inch from the bottom of the can, when empty, but the thermometer was allowed to float up with the milk as it was being poured in the can by the farmer and myself. After the milk was poured in the can it was stirred well, with a stirrer which hung handy on the wall of the intake. The temperature of the milk was then taken and placed on the record. A separate record was kept for each day in the month. At the end of the month the record was sent to our cheese buyer, Henry Hall of Sturgeon Bay, to have the different temperatures added. It was arranged that the patron which had the lowest sum would get the prize. John Lardnois of Brussels was awarded the prize, which happened to be a Cellulfilter Funnel with 20 discs which is made by the Kimberly Clark Co. Neenah, Wis., for having the lowest sum which was 1,508.

The second contest was held during the month of September. The purpose of this contest was to find out what farmer had the cleanest milk. The Sediment Test was used. I made several sample tests to have the farmers understand how this test was done and to be prepared for the final test, which I decided to have September 30. On that day the test was taken of each milk separately and the can was rinsed after each patron's milk was weighed. The samples were placed on a white cardboard, and were sent to our cheese buyer, Henry Hall of Sturgeon Bay and our county agent Albert Bailey of Sturgeon Bay for their judgment. They decided that George Janquart of Brussels had the cleanest milk. He was awarded the same prize as John Lardnois a Cellulfilter Funnel with 20 discs.

I expect to have the Methylene Blue Test to contest with next year.

If there are any parts of the processes that you do not understand thoroughly, let me know and I'll try my best to explain them better.

If there are better methods in proceeding with these contests will you please let me know about them.

### DISCUSSION

MR. LEE: May I make this remark, there is nothing that will do more for the quality of Wisconsin cheese than for the cheese makers to get behind a movement of this kind in order that the farmers will understand what good milk means. I take it for granted that there are men in the audience today who happen to be producing cream for our plant. If there are, we can readily tell you of our method of getting better cream and better milk to the factories.

There are twenty-four in the state that supply our product to us and I want to say this to you, there is nothing that will do more for improvement of quality of milk than the sediment test properly used. Do not ever take a sediment test of milk after it is poured into the weigh can. The best method and the one that is used in Milwaukee for years is that of taking a sediment test of the last pint of milk in each patron's can. One of our factories in Northern Wisconsin, where thirty-two farmers took their milk on one day in last fall there was found that the best cream and milk delivered was by a widow and a bachelor. I thank you.

### OBSERVATIONS ON MILK COMPOSITION AND ITS USE AT SWISS CHEESE FACTORIES

By HARRY KLUETER, Wisconsin Dairy and Food Commissioner.

In addressing you on the subject of this paper, I think it important to review for you briefly a few of the more important points brought out by speakers who have spoken to you in years gone by on the subject of quality Swiss cheese or related subjects.

In any business two important factors entering into success or failure are quantity production or quality production. To attain success through either of these channels is often difficult and sometimes impossible, but to manufacture Swiss cheese so as to bring about a combination of quantity and quality production at one and the same time is a real task, yet this is the all important question at this time concerning the Swiss cheese industry. The reason for this is self-evident. The spread in price between Fancy and No. 2 Swiss cheese is much greater than the spread in price for like differences of quality in any other type of cheese. Hence the nearer we approach the ideal quality and quantity production at one and the same time, the nearer have we come to the goal of success, prosperity, for that industry.

Beginning as far back as 1901 and examining the reports of the Cheese Makers' Association for practically all of the years from that time until the present, I find that the subject of Swiss cheese making was presented at almost all of these meetings and that a healthy discussion seemed to follow each paper.

It will be impossible to spend the necessary time to trace in detail the trend of thought presented in the various papers, but the more



important points are worthy of mention. I find among the first papers the subject of milk, its production, care and composition, was quite fully presented and in the 1901 meeting the broad subject of Swiss cheese making was presented by Jacob Marty of Browntown who dwelt at some length on the matter of milk to be delivered to a Swiss cheese factory, and it is of interest that the particular question of the richness of milk was raised at that time and came in for a good deal of discussion. Mr. Marty states:

"In respect to the alleged injurious effects of too rich milk, I will add such milk is only injurious when it is unclean. The more fat the milk contains the more necessity exists for its being clean. For a fine quality of Swiss cheese the milk should contain not less than  $3\frac{1}{4}$  per cent fat and the more the better.

"I produce the formation of holes, a tender, white curd and a fine flavor by two processes, a sweet and an acid process. The acid process seems to be nearly the same as that used in making Cheddars. My main effort is to develop both of these fermenting processes at the same time varying the details according to conditions.

"The proper formation of right sized holes and the production of a fine, tender, rich, white cheese of fine flavor are of course the vital essentials of No. 1 Swiss cheese. Every process or condition that impairs any or all of these essentials is fatal to success."

The discussion was lead by Mr. Monrad who seemed to question Mr. Marty's statement concerning rich milk, but he was not successful in getting Mr. Marty to admit that milk produced in the Swiss cheese making section of the state contained too high a percentage of fat.

In 1905 Mr. Fred Marty dwelt at some length on the demand for fancy Swiss cheese and the type of milk necessary for its production, and he also laid considerable emphasis on the lack of properly constructed cheese factories and especially on the attention to be given to the proper curing of Swiss cheese. Again, two years later, the same speaker, as a member of the Dairy and Food Department, discussed milk supplies, especially from the standpoint of sanitary conditions, and again called attention to the lack of facilities for properly curing Swiss cheese and said:

"Under our present system cheese is marketed for the immediate dollar in sight and as a consequence we jeopardize the future welfare of the industry. In order to maintain the reputation of our Swiss cheese, it should be well cured and developed before being placed upon the market for consumption. Better curing cellars should be provided in order to control the fermentation process of a Swiss cheese. Three curing cellars should be provided."

The discussion following this paper was mainly on methods of obtaining clean milk.

At a later convention, in 1912, Mr. Gottlieb Marty, then an instructor in foreign cheese making at the Dairy School, addressed your convention on the broad subject of Swiss cheese making, and he stressed the fact that between 1880 and 1885 the state of Ohio led in Swiss cheese production, but that soon thereafter Swiss cheese making

in Ohio received a severe set back and from that time on Wisconsin took the lead in the production of Swiss cheese and has maintained it ever since. He discusses what in his opinion was the immediate result of reverses in the Swiss cheese industry, pointing out that it was not over production, but rather the result of poor workmanship with consequent decrease in quality of cheese manufactured, and he also points out the evils due to the sale of cheese over the shelf as he calls it, resulting in the same price for number 1, number 2 and number 3 cheese, and it is easy to see that this method of merchandising places a premium on low quality. Further, he points out that this method of merchandising cheese is unfair to the old reliable skilled maker because it permits the inexperienced maker, who lacks interest in his profession, to come in and produce cheese of inferior quality for which he receives the same price. The question of suitable cheese factories, curing rooms, and the making of rennet were discussed and it was at this time, so far as I am able to determine, that the question of the use of a pure lactic ferment was brought to the attention of the cheese makers and a very healthy discussion of the effect of lactic acid ferment took place.

In 1920 Dr. J. M. Sherman of the United States Department of Agriculture addressed your convention on the use of pure culture starters in Swiss cheese making, pointing out the role of micro-organisms (bacteria) in cheese making, their influence on flavor, texture and eyes, and he also stressed clean milk, pointing out as he sees it, the greatest need of the American Swiss cheese maker is in having at his disposal means whereby he can control or prevent the growth of undesirable organisms and the advantages of using pure cultures. His address contains much valuable information, especially along the lines of preventing Neissler Cheese, and after stressing the matter of proper milk and so not to be understood as claiming that irrespective of whether or not you had clean milk fancy cheese could be made by the use of starters and eye forming cultures, he made the following statement:

"So let it be plain from the outset that we are not going to tell you that the use of starters will cure all your troubles in the making of Swiss cheese. We hope to be able to interest you in their use, not as a 'cure-all,' but rather as only the 'seed' for a successful 'crop.' When the cheese is made from good milk by the best methods and cured properly in our regulated curing rooms."

The same year you had an address by Mr. Gempler, Junior, of Monroe, entitled, "Our Experience with Starters with Swiss Cheese." Mr. Gempler describes the quality of cheese produced by the use of a Bulgaricus starter and recites some actual experiences in connection with the introduction of the use of this starter. Again the question of pure milk was stressed.

In 1924 Mr. C. M. Gere, U. S. Department of Agriculture, appeared before you and discussed "Necessary Improvements in our Swiss Cheese Factory Methods." Mr. Gere reviewed much of the work done by the United States Department of Agriculture along Swiss

cheese lines, calling attention to the use of the *Bulgaricus* organisms by the use of pure cultures, and the thing of special interest in connection with his paper is the introduction of the idea of standardizing milk for the manufacture of Swiss cheese. At the close of his paper in summarizing the developments in the manufacture of Swiss cheese, he notes the following necessary improvements:

"First. The use of the *Bulgaricus* in the preparation of home-made rennet and sour, or in the milk starter if rennet extract and eye-forming culture is used.

"Second. The use of the eye-forming culture if the curing room temperature can be controlled the year around, otherwise use it during the cool months where difficulty is experienced in opening the cheese.

"Third. The use of the incubator in controlling temperatures of the home-made rennet, sour and *Bulgaricus*.

"Fourth. For every Swiss cheese maker to attend at least the two weeks' course at the University of Wisconsin, given for Swiss cheese makers, or better, the regular three months' Dairy course, and learn all the tests including the Babcock, casein, use of the lactometer, Methylene Blue and other tests, together with standardizing and handling the cultures.

"Fifth. Clarification, including equipping plants with good sanitary pumps, piping, to handle the milk conveniently and with as little delay as possible after it reaches the factory. It has been proven that it is possible, by carefully following these methods, to produce as high or even higher percentage of Fancy and No. 1 cheese from milk delivered once a day than factories operating twice a day under the old system."

This brings us to the point where the Dairy and Food Department undertook an investigation to determine the composition of milk in the Swiss cheese making section with regard to the necessity for standardization based on the theory that a definite ratio of fat to casein will prevent glase in Swiss cheese.

Dr. K. J. Matheson, Research Laboratories of the Dairy Division, United States Department of Agriculture, in a paper entitled "New Developments in the Manufacture of Swiss Cheese" read at the World's Dairy Congress and published in 1923, dwelt at length on Glaessler cheese and its prevention, lack of definite ratios of fat to casein in milk to be obtained by standardizing milk during the warm summer months and recommends for the smaller factories a ratio of 0.72 pounds of casein for each pound of fat and with the rennet extract and culture cheese the milk should have 0.8 pounds of casein per pound of fat. Assuming that there is a loss of 0.9 to 1 per cent of fat in the whey in the home-made rennet cheese and 0.6 to 0.7 per cent in the whey of the rennet extract and culture cheese factories, I wish to emphasize the ratio recommended at this time—1 pound of fat to 0.8 of a pound of casein. At a later date I understand a different ratio was recommended, which ratio would not

require the removal of as large a percentage of fat, and finally in this year, I find a letter written by Dr. Matheson which states:

"On the basis of the Walker test for casein, the work in Ohio last year would seem to indicate that a ratio of 1 pound of fat to 0.68 pounds of casein was most satisfactory. Bearing in mind this ratio, we will now throw on the screen for your observation the results of the summer's work at Swiss cheese factories in and near Monroe."

\*In the past in considering the needs of an industry, consideration usually has been directed along the line of curative measures, but the tendency of today is to direct thought and study to preventive measures. An illustration of this familiar to all is the present method of dealing with the more or less common ailments of men which were in years gone by cured by administering drugs. Present-day methods are more simple. The present method removes the cause. It is the adoption of the latter mode of procedure that is the urgent need in many of our present day problems. Among the greatest drawbacks to standardization in our present Swiss cheese factories are the lack of the necessary knowledge to accurately test milk for fat and casein in the Swiss cheese producing sections. The tendency of the cheese maker to attempt to remedy all faults in Swiss cheese by standardization, the lack of proper curing cellars and storage places in which to treat Swiss cheese during the process of curing and the danger of the spread of standardization to other branches of cheese making. However, there is in my opinion a course of procedure which if adopted in connection with standardization will prove a safeguard to the industry, and that is to raise the minimum fat requirement of standardized dairy products Swiss cheese, even American cheese, and city milk to such a point as will insure the consumers of dairy products cheese and milk containing above the average quality of the dairy products of today.

Early last summer in a conference with process cheese manufacturers, while discussing the matter of fat in the moisture-free substance of American cheese, we were told that it was difficult to obtain American cheese from some of the older cheese producing sections of the state, not necessarily because skimming was being practiced in those sections, but because the milk had become so poor in quality that standard cheese was not being produced. An investigation of this statement carried out this summer tended to disprove those claims. Our inspector witnessed the delivery of milk to cheese factories in Sheboygan and Manitowoc counties, tested the milk to see that it was not skimmed as delivered by the farmers, stayed through the cheese making process, returned the following day and obtained a cheese and we find that most of the cheese manufactured at these factories contained over 52 per cent of fat in the moisture free substance and only a few were between 51 and 52 per cent of fat in the moisture free substance, so that we could safely raise the minimum fat requirement in American cheese so that that product would be required to contain not less than 51 per cent of fat in the water free substance.

I am inclined to the view that the coming of the manufacture of

process cheese, a product that can be quite easily and accurately controlled as to fat and moisture composition, is one of the important factors leading up to a consideration of the question of standardizing milk for the manufacture of all cheese.

This, of course, would require a reorganization of the entire industry including perhaps a new method of paying for milk and certainly a new method of distributing money received for cream; more accurate methods of bookkeeping and accounting; larger and better factories; a rewriting of our dairy laws; more severe penalties for infractions of law; a license system worth while; and many more changes. This is not the work of a single mind, but must be worked out, if successful, by the best minds in every branch of the industry. It is not my wish to be understood as championing this movement. Others are willing to do this, and they are really sincere in their belief that this is essential for the industry.

### ELECTION OF OFFICERS

The election of officers for 1927 resulted as follows:

President—Edw. F. Winter, Gillet.

Vice-President—J. H. Peters, Plymouth.

Secretary—J. L. Sammis, Madison.

Treasurer—Otto Weyer, Manitowoc.

Directors:

J. Gempeler, Jr., Monroe. Term, 36, 37, 38.

Earl B. Whiting, Gillett. Term, 36, 37, 38.

Arno Schmidt, Sheboygan Falls. Term, 36, 37.

(For term of J. H. Peters)

A. T. Bruhn, Spring Green. Term, 34, 35, 36.

M. M. Schaetzel, Edgar. Term, 35, 36.

### RESOLUTIONS ADOPTED

1. *Resolved*, that this association tender the city of Milwaukee our thanks for the courtesy extended our association prior to and during this convention.

2. *Resolved*, that a rising vote of thanks be extended to Miss Bruhn, secretary of the Wisconsin Cheesemakers and Dairy and Buttermen's Association for her wonderful efforts in behalf of the Dairy Industry.

3. *Resolved*, that hearty thanks be hereby tendered to our worthy secretary, Mr. J. L. Sammis, and the other officers and directors and various boosters, dealers, supplymen, merchants, bankers, and others who offered prizes, bought our cheese and in other ways helped to make this convention a success.

4. WHEREAS, the feeling of the makers seems to be in favor of a field man to help them in solving their various troubles with their patrons as well as their troubles in cheese making, be it

*Resolved*, that this convention go on record as being in favor of this move and instruct their officers to see what can be done in this direction.

5. *Resolved*, that the Markets Division shall report back to the cheese makers what are the moisture contents of all samples drawn from cheese going into transit at shipping points.

6. WHEREAS, the present tariff on cheese is too low to offer cheese producers adequate protection and,

WHEREAS, the tariff regulation in general discriminates against American Agriculture, therefore, be it

*Resolved*, that this convention go on record in favor of an increase of 50% on the present tariff rates on cheese, this being intended as a means of affording at least some temporary relief to cheese producing interests, and be it further

*Resolved*, that this convention favor a complete revision of the tariff law to the end that discriminating tariff to agriculture be removed, especially insofar as they operate to hinder the American farmer in the marketing of his surplus in foreign countries. Be it further

*Resolved*, that a copy of this resolution be sent to the United States Tariff Commission.

7. WHEREAS, This Convention is known as the Wisconsin Cheese Makers Convention and every cheese maker has to some extent some difficulties and troubles which should be discussed. Therefore, be it

*Resolved*, that there will be set aside a half day's session for licensed cheese makers only.

8. *Resolved*, that all milk not delivered in an hour after milking must be cooled to 60 degrees, with penalties imposed on farmers for delivering and cheese makers for receiving same.

9. *Resolved*, that this convention go on record favoring a law that will give the dairy and food commissioner the right to revoke the license of any cheese maker who accepts milk not fit for making cheese.

#### OFFICIAL DINNER

The annual dinner Dec. 15, 1926, 6. P. M. was attended by 29 officers, Honorary Members, and boosters, at the Republican Hotel. Among subjects informally discussed were, new plans for 1927, the Milwaukee Auditorium's suggestion as to larger floor space for exhibits, Mr. Marschall's proposal presented by Mr. Farrell that we take over the beauty contest, and the invitation of Green Bay to meet there next year.

Mr. R. F. Malia, Secretary of the Association of Commerce, Green Bay, was present and described their suggested plan, that we meet in their Columbus Community Club building, using the main auditorium for exhibit booth space, the stage for the cheese exhibit, and a room up stairs for convention sessions about equal in size to Walker Hall which is now used for our Milwaukee cheese exhibit. The opinion appeared to prevail that this latter room would not be large enough for the purpose. A letter of thanks was sent to Mr. Malia.

It was voted to hold another dinner at the next convention.

#### NOTES ON THE AMERICAN CHEESE EXHIBIT

By W. F. HUBERT, Sheboygan

There were 405 American cheese of which 257 scored 92 points and above, 133 scored between 88 and 92, and 15 scored below. The first prize, the highest score went to Edw. F. Winter, Gillett, the same man that got the highest score at Marshfield, and I understand he also got the high score at the National Dairy Show. There were a good many high scoring cheese but there was one thing that the judges noticed among your high scoring cheese, that was a break when we pulled the plug, the plug would break and in some places two or 3 times. I believe that there are cheese makers here that probably can tell us why those breaks occurred in a very fine texture cheese. Those breaks should not be in the cheese, for the simple reason that when

the cheese is cut the cheese breaks and it don't hold together, and that should be eliminated. There was a few very low scoring cheese.

One of these is in the Colby class. Anyone of you can see what is the trouble with it. Here is another one in the September and October class—very soft, weak cheese. This cheese here is sent in by the University of North Dakota. It is a pretty fair texture but it is mottled. The white cheese that you see there, are out of the two highest scoring cheese. The colored cheese the gentleman here is passing is out of the Canadian cheese. We would like to have you see what a Canadian cheese looks like. The cheese has been sold to the J. S. Hoffman Company of Chicago today at a very attractive price. I might say to you that the cheese sold for a cent and a half above last week's market. That is, for the American cheese. The foreign cheese also sold at probably as high a price as we got in a number of years. 25% of the entries out of the 405 here were entered by Sheboygan and Manitowoc Counties, Sheboygan had 57 entries and Manitowoc county had 47. If every county in the state brought as much cheese as those two counties we wouldn't have room back there to exhibit it. There is one other thing I would like to call to your attention too, and that is the shapes of the cheese out there. They are not regular. You have one twin that weighs nearly forty pounds and you have another one that weighs about 32. A few years ago I called your attention to this and I was then in hopes that the Department of Markets would give us a standard hoop so that we could get a cheese of a uniform size but up to this time it hasn't been done. However, there is a letter that has come from Washington in which they call our attention that a certain president of a large cheese corporation had written to them stating that there ought to be something done to have only two sizes of cheese, two shapes, one the Daisy and the other the Cheddar. I don't think that we at this time are ready to do anything of this kind. However, in order to cut down on costs, I believe that we could get down to two sizes of cheese and it will be a good thing for the industry.

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The first prize American cheese being cut up was distributed, and also the list of exhibitors and scores, printed by courtesy of the Butter Cheese and Egg Journal.

## HOW THE PRIZE CHEESE WAS MADE

By EDW. F. WINTERS, Gillett

Mr. Chairman, Ladies and Gentlemen: I can assure you that I consider it a great honor to have been awarded the blue ribbon for the highest grade cheese exhibited at this convention.

I have been asked to state the conditions which led up to my having been awarded similar honors at the Central Wisconsin Dairy-men's Convention at Marshfield and at the National Dairy show at Detroit. Of one thing I can assure you, it has not been without some

planning and work. Some of you may have noticed that my scores for several years past have not been trailing very far behind the higher ones, indicating a steady but gradual trend upwards. This has been brought about not only by my own efforts towards greater care in manufacturing, but in the education of my patrons in the way of sanitary handling of their milk. In this most of them have co-operated to such an extent that I have been enabled to make a fairly uniform grade of cheese throughout the various seasons of the year. For this reason, I wish to give full credit to the producers of my raw product for their very efficient co-operation.

I might add that the cheese that took first prize at this convention was from the same lot that won similar recognition at the Central Wisconsin Convention at Marshfield and the National Dairy Show at Detroit this last fall. I do not claim that every lot of cheese that I have turned out during the past years has been of this same high grade, but, it is my constant endeavor daily to watch every point that will make for a better product and in this way only is it possible to attain the highest results, I believe.

## POSSIBILITIES OF GRADING ALL WISCONSIN CHEESE BY THE STATE

By MR. WM. WINDER, Wisconsin Department of Markets

Mr. President, Ladies and Gentlemen: Before I begin my talk, I would like to have an expression from the audience on this question. Do you think there is any need of improving the standard of the quality of the American cheese, as it has been made in Wisconsin during the past few years? I will add to that, do you think there is any room for improvement? All that believe that there is room for improvement and a real need for improvement please show by raising their right hands. Well, evidently that helps some to start with.

We believe, I think almost 100% that we have plenty of opportunity and plenty of need of improving quality. That is my experience throughout the state. In talking with the men assembling and distributing the cheese, and with cheese makers, when you express your honest opinions, invariably it is that what we need is more cheese of this fancy quality such as is exhibited here, and gets the high scores like this.

Preparatory to this talk I sent out what might be termed a questionnaire asking for information from various people connected with different branches of this cheese making and marketing industry. I asked if they favored a system of state grading of American cheese where the grading would be done by state employed graders. I also asked them to give their opinion as to whether the present grading system had improved quality to any extent.

Now, I think the best that we can do for you is to read extracts from some of those letters. I asked that they give a very frank opinion and after I have read those extracts from the various letters,



I think you will agree that the writers have been frank. I am not going to mention any names.

"In answer to your first question, the answer is this: I am in favor of this plan providing the cheese were to be graded in cheese factories. If the cheese could be concentrated in about ten large concentrating points in the state and there graded by competent state graders, I believe same would be satisfactory. However, if cheese were to be graded in the factory by state graders I believe there would be a world of trouble on account of the cheese having to be held in the factories and most of our factories are not suitable for holding cheese".

"If the cheese grading could be done at the cheese factory by state graders, I think it would have a tendency to improve the quality of cheese made".

"As it is, if a maker has a day's make and he knows it isn't first class, he will get it to the warehouse as soon as he can, hoping to get rid of it before it shows any worse. If we get it into the warehouse we have the trouble of deciding what to grade it. I might think it would improve. The next man might think it will deteriorate. We can't hold it and find out what it will do. Without parafining it will mould in the box and the maker could hold it in the factory as he has shelves. He would also be educated in that way how that certain kinds of cheese would develop."

This is from a cheese maker, "I believe the best way to improve quality is to base the highest price on strictly fancy cheese. Then the state should do the grading so the dealers could not favor any particular factory. I believe there is a lot of cheese passed by the dealers as a number one where it should be an under-grade. The price is based on number one and sometimes that particular number one is a mighty poor cheese. However, the cheese maker receives the same price. If the market was based on strictly fancies, number one lower, and the undergrades lower still, than the number one, would be itself, then I believe the state should do the grading. In my belief, the present system of grading cheese has improved quality but very little.

Another cheese dealer: "We do favor a system of state grading under absolute control of the state. A system of this kind would put every cheese factory and every cheese dealer on an equal basis and it would enable the state to stand back of its own grading system. This grading should be done at the factory before the cheese are delivered to the warehouses or the railroads. Every cheese should be marked with its proper grade on when the cheese are sold. The party buying them will know just what the quality is. We do believe there has been some improvement in the quality of the cheese through the present grading system but we do not believe that the improvement has been big enough to warrant the expense. The present system cannot be properly policed. It has resulted in a good many dealers using the state's quality mark to help them sell poor quality cheese."

From a branch of one of the dealers: "Your letter of November 16th at hand. In answer to your question will say that I do favor a system of grading American cheese under the supervision of the state. My reason for that is the graders in the different warehouses don't all grade cheese alike. For instance, one grader will grade a cheese number one when it ought to be graded number two in my estimation. My suggestion would be to put a cheese grader in each town where there is a cheese warehouse who would grade the cheese and spend at least one-half or two-thirds of his time at the cheese factories. That I believe would materially improve the quality in cheese."

From a cheese dealer: "The writer is very much pleased to receive your circular and so forth. Asking about the present grading

as conducted in Wisconsin—It is a farce. Cheese dealers through their inspectors pay very little attention to the present law of grading and accept the cheese from factories that should not be accepted in the grade given them and they accept cheese disregarding the matter of curing three days and before using the fancy stamp on cheese without holding or curing thirty days, and that phase of the law is a farce and should never have been incorporated. As you may stamp it on the cheese and paraffine what you consider fancy and hold it thirty days and it deteriorates and shows it never should have been a fancy, yet the stamp is there. The fundamental fault as the writer sees it is the three day holding order in factories. No inspector can grade cheese three days from the hoop with any accuracy and I believe after seeing a good many Canadian cheese that their system is infinitely better than ours and that the only way to properly grade our cheese down in Wisconsin is by graders independent of both the cheese dealers and the factory men.”

Another cheese dealer: “Personally it is my opinion that the grading as carried out at the present time under the supervision of the various dealers has not accomplished very much in improving the quality of the cheese. I am not of the opinion we would see any improvement in the quality of the American cheese if the grading was done by the state, to be perfectly frank with you, and not throwing any bouquets at the various dealers who are doing the grading at the present time. I do not believe the state would back up dealers who are as competent as the present graders are. As I before stated, I believe we would get better results in the improvement of the quality of the Wisconsin Cheese if the state will take the necessary steps to enforce the present system of grading.

Another cheese maker: “It is my opinion that cheese grading by the state will improve the quality of cheese but little. It is the object of every cheese maker to pay the highest possible price for milk and under the present conditions his only hope is to get a big yield and he uses every effort to this end. I believe grading is all right and that the graders be supervised by the state but let the cheese be paid for in proportion to grade. This would change the situation and if the fancy would command a sufficiently better price every maker would make a better cheese and I feel sure that this would improve the quality of cheese.

Cheese Dealer: “I would not be in favor of the system of grading American cheese by state control. My reason for this is, we have various markets that purchase a certain kind of cheese. One market purchases one kind and another market purchases another kind. If we were to ship very firm cheese it would be rejected by some of the markets and you can't educate these people who want a certain kind of cheese. It is hard to educate these people to buy the regular cheddar cheese made in firm quality. Therefore, the graders in my opinion would be at a loss to know how to grade these cheese, only as to one standard and firm make of cheese. As we all know, if we can make the kind of cheese the people like, they would buy more.”

Now after hearing the extracts from those letters you can readily see what a difficult proposition it is or would be to devise any plan and administer it so that it would suit the idea of these representatives of the industry. I sent out a great many more letters but didn't receive answers to all of them, but you must, after reading extracts from them, know that they are representatives and dealers and branch house dealers. You can see that men engaged in exactly the same line of business at assembling and distribution of cheese, are in many

instances diametrically opposed in their ideas of what ought to be and what could be.

Now, with such a condition present throughout the state, no uniform ideas upon the question, at times it seems like almost a hopeless task to attempt anything.

Now, in some of these letters there has been reference made to other systems of grading as employed in other countries, particularly Canada. Just recently Commissioner Nordman asked me to go to Canada to make a brief study of what was done there in grading cheese and I will outline it briefly, and you will probably be interested in what it is doing or it is accomplishing over there.

In Canada all cheese is graded by a system and under the direct supervision of the Dominion Government. There are employed at the present time about twenty-six graders, having to do with cheese and butter. This system has been going on now for about three years and the results there are very satisfactory, insofar as I was able to learn, although in the beginning there was great objection to the problem from many sources and especially so from the exporter or the dealers and assemblers of cheese for export business. They said that it was not practicable. They said that it was impossible to get a body of men that would be competent to grade this cheese. It has been an uphill fight for the department in charge of grading over there but the results are very gratifying, and today those that objected to it most strenuously in the beginning are now strongly in favor of Government grading.

I have a few figures here that will give you some idea of what the results have been. In the year 1923 there was graded by government graders 1,458,000 boxes of cheese, and I might say that they have it divided into four grades, special, first and second and third. The first and second grade is similar to our number one as it is today in its qualifications. In other words, our number one is divided into two classes and our undergrades would be what they call number three. The special grade, there is so little of it that they are not giving much attention to it. The requirements are that cheese must score at least 94 points with a minimum for flavor of 41 points out of 45. In 1923 there was less than one per cent of special. 77.03 per cent of first, 19.28 per cent of second and 2.22 per cent of third. In 1924 I think about the same number of boxes of cheese graded. The first grade at 84 per cent, the second grade 14 per cent, and the undergrade or third grade 1.02 per cent. And they have reduced the percentage of undergrade by about one-half. The increase in number one was about seven per cent. In 1925 1,895,000 boxes were graded with an increase in the cheese that went into the first and second grades. The increase in special and number one in the year 1923 they had 78 per cent of special and number one. And in 1925 they had practically 86 per cent. Now, another important thing here in regard to Canadian grading is the thing you will be interested in, whether there is a differentiation in price according to grade.

In the beginning there was only a slight difference between number one and number two. During the last year there has been a uni-

form difference of one per cent per pound between number one and number two.

As to whether this system has improved quality you can judge from the figures I have just quoted. And another reason for assuming that it has improved quality is in comparing the price that they are receiving now on the British market compared with that of New Zealand. On 100 pounds of cheese in 1925 the premium over the New Zealand price in the British market was 48.87 cents or practically one-half cent. In 1926 the premium per hundred pounds of cheese in the British market over New Zealand was 70.6, quite a material increase. That could be attributed to nothing else but an improvement in the quality of the cheese. You will notice as I said in the beginning that they have quite a large grading force—that is, for the whole Dominion, they have about 1500 cheese factories in the two provinces where most of the cheese is made. The cheese is all graded at the warehouse, their problem being simplified by the fact that 90% of all cheese is concentrated in the city of Montreal and there graded by graders and warehouses and in cold storage.

Their system is very thorough. They know at the end of the year exactly the kind of cheese that each cheese maker has made, they can go to their files and tell you exactly the kind of cheese he had in any vat in his factory or any day. Immediately after the cheese are graded and the report goes out to the cheese maker showing the faults.

In conjunction with the grading, the provincial Government of Ontario employs 35 instructors for something over 700, about 770 cheese factories. Their duties are to act in the capacity of instructor, also to take care of the enforcement of the sanitary laws and they do testing of the composite samples where requested and I was informed that at 600 factories last year these instructors have taken the Babcock test and of course also the composite samples. For this they made a charge of 50 cents per patron per year and the buyer in charge of the dairying in Ontario said that he thought that the coming season would see practically 100% of the factories having their testing done by these instructors. With a system of that kind you can readily see that there is bound to be an improvement in quality.

Undoubtedly Canada will succeed in reaching the maximum in the production of high quality cheese. You had passed around to you today a sample of Canadian cheese. There is quite a little difference in the standards. They need a firmer body, and most of their cheese would not be suitable for American trade. While on the other hand, in talking with the graders, I had the opportunity to see considerable cheese coming in from the United States at certain times of the year, into Montreal, for grinding purposes and I was told that cheese with the fancy stamp on and cheese with number one stamp would be graded in their undergrades in Canada due to the fact that it would be termed weak and pasty and otherwise very nice cheese, but not suitable for the export trade on account of being weak in body.

Here in Wisconsin we have been for some five or six years attempting to grade cheese. The system has been changed once during that time. How well that system has been received is not necessary for

me to say. The extracts that I have read from letters shows quite plainly what the sentiment is. There is a diversity of opinion as to what grading has accomplished, although it seems to be quite generally agreed that it has not accomplished what was anticipated. Now, the question before us is this: Whether we are to have some other system of grading, whether we are to continue with it as it is today or whether we should do away with any grading under government control. There has been for some time a growing sentiment favoring some system whereby the grading would be done in its entirety by state employed graders, may be, or dealers; whereby they could exercise their judgment independent of the thought of losing business, and this system with the ideal of cheese being graded upon the same basis. As you can see from the letters, there were many who favor such a system, while some are absolutely opposed to any system of that kind and believe that we could do better by increasing our force somewhat and better policing the present system.

Now, I am not here to present to you any plan whatsoever emanating from the Department of Markets. Mr. Nordman wants it distinctly understood that if any system of grading or any change in the system is to be forthcoming, that it must come from within the industry itself and in that I agree with him.

Now, I am going to outline just briefly the plan that has been proposed. It has been proposed by one or two men in the buying and distributing end of the cheese business, and it seems to have grown in favor so that at the present time we feel warranted in taking this subject up for discussion before this convention. It has been proposed that all cheese be graded by state employed graders. There is some difference of opinion as to how that should be paid for but there are quite a number of very representative men in the industry that believe that it would be best to pay for this work by a fee or a tax. In fact, many dealers have expressed themselves as being perfectly willing to be assessed a certain fraction of a cent per pound to defray the expense of a system of this kind. The one that seems to be most in favor probably at the present time among factory men and dealers is that all of the grading at the cheese factories. I am not going to dwell upon my own personal opinions as to the relative merits of any system. I am simply outlining it to you. The idea would be that there would be a sufficient number of graders employed to visit all factories in the state every week and grade the cheese before it leaves the factory. These men at the same time to act in the capacity of an instructor-advisor to the cheese maker and in any other way to help get better milk and better cheese. The other plan favored by men of equal intelligence engaged in the same line of business is that the cheese be concentrated at the warehouses and government or state graders grade the cheese at that point.

Now, there are arguments against and reasons for each system. I am going to point out some of the impossibilities as well as some of the possibilities. Some of the objections that have to be overcome in either system. The matter of visiting 2700 cheese factories in the state weekly is no small problem. It possibly could be done during

part of the year but during the winter months I don't believe that it would be practicable. Then it would be necessary to do the grading at the warehouse. Another question arises in connection with that particular system or idea, the great trouble today is that the cheese is too new when green. The complaint is that no man no matter how well he knows the cheese business, is able to judge a cheese at three to five or six days old with any degree of certainty as to what it will be two weeks or two months or six months, and referring to the Canadian system, that is one of their great difficulties over in Canada. All of the cheese are properly graded and under any system that cheese will never be graded accurately 100%. They find with cheese from ten to twenty days old over there, that it is necessary many times to set out cheese that is immature, curing slowly and have it held until it is in such condition as they may pass upon it with a reasonable degree of certainty. I understand that during the last year something like two hundred thousand boxes of cheese was set out over there to be held until it could be properly graded. While I was in Canada I was with a grader doing some work. Their troubles, of course, as can be expected, are greater along that line at this time of the year. They are just the same over there as we are here. They don't like the heat in curing rooms, they like to get rid of it as quick as they can. Their cheese was coming in very curdy. Only one remark is made—hold it out, and it is held out. I asked, what do you do about paying for that cheese. The cheese is never paid for until it is graded. Even if they have to hold it two weeks. It has the tendency however, of getting the curing rooms in better condition and having the cheese better cured when it comes in. With our factories as they are here at the present time, I think you see great difficulties in the way of grading at factories. It would mean that the cheese would have to be held in the curing rooms longer than it is today. It is hard to get them to hold it three days in the hope that it is going to be graded at the factories, it will be necessary to hold it a little longer than that. Then we will get around to the other side of the possibilities of grading at the warehouse—state grading. The same idea or instruction at the factories could be carried out with graders working at the warehouse, if a sufficient number was employed. Now, there are very, very many problems to work out in any system of this kind and it is not going to be done by one or two men. If anything further is done in grading it will have to be worked out by representatives of the cheese industry not alone by dealers, but by every class that makes up this great cheese industry. As to the probable cost of either system, we have in Wisconsin in 1925 about 295,000,000 pounds of American cheese.

Now, it has been mentioned in one letter that the dealers in some instances are willing to be assessed up to one-eighth of a cent a pound to provide for the necessary men to take care of this work. One-eighth of a cent per pound would be approximately \$368,000. In the short time that I have had after returning from Canada, I tried to make an estimate of how many men would be required to grade the cheese at the warehouses and do field work among the

factories where it was necessary. My idea being that it would not be necessary to call at all factories regularly. You know that we have many, many factories where the inspector need never call because that man will do the work in the right way. There are other cheese makers that will have some particularly bad trouble during the summer; they will need assistance and with men working as state graders with some time to spare, he could do a lot of work out among the factories in conjunction with his state grading. The other idea is, going to the factories would take care of it in a more thorough way. If it was practical to hold the cheese long enough to be graded he could act in the capacity of inspector as it is today and instruct in cheese making and assistant to the cheese makers, according to whatever his particular troubles might be.

Now, we could talk along this line from now until morning and we are going to find difficulties, hard stumbling blocks and obstacles, things that look as if it is impossible to overcome. I come before you to open up this discussion, to tell you something of the difficulties that may be anticipated and now I am going to tell you some of the things that I think might be accomplished.

We have been going along here in Wisconsin for a great number of years and on every hand we heard this one thing or what can I do to get a better standard of quality. Every dealer in the country will tell you when you talk with him in his private office or confidentially that he would like to see more good cheese and fewer poor cheese. Every cheese maker in the country would welcome the day when he could be paid for making good cheese, and I might say that in my honest opinion, nothing will ever come of grading under any system unless attached to that system there is a material differentiation in price. There has got to be some incentive in the way of remuneration before the man will give his best to his work. There are exceptions but that is the rule. We have tried first one thing and then another. We have talked to you for 50 years. We had instructors in the early days. It seems that that was done away with and about the only instructional work that has been done in the state is that limited amount of instructional work that the dairy and food inspectors are apt to do and with the large territories that they have, the matter of instruction is very slight. It can't be much considered with the multiplicity of detail that they have, it is not to be expected.

Now, the question arises, whether any system of instruction will accomplish anything. As I said before, and I am going to reiterate that statement, that as this thing, this instructional work can be accomplished very little for the reason that there is no real incentive to make cheese much better than it is being made today.

Now, there is only one object that I can see for grading all the cheese under one controlling power, that is this and I believe that if such a system could be worked out, all the cheese graded by disinterested parties, that automatically there would be established a difference in price. That has been the result in Canada and they were much in the same boat as we are today. We may sound rather harsh

but one of our dealers used the word that if we as dealers would not be so greedy, things wouldn't be as they are. In other words, he said, if we as dealers would not be so greedy, we don't need any system of grading or instruction and we will all agree to that, that if they would do certain things it could be corrected. But nevertheless, the situation is such today that the dealer can't do just as he knows he would like to do. In fact, one of the dealers not over a year ago made the statement, admitted, and he said, there is no use of kidding ourselves. He says, we can't do the things that we know ought to be done simply because of the keen competition among dealers. He says, if the conditions are to be bettered it would have to be done through some governmental agency. But what that agency is going to be and what form it is going to take it is hard to say but I am right here to say this, that in my opinion that if the results are going to be satisfactory and worth while, it has got to come from some plan that is going to have the backing of the majority of those engaged in the industry and after reading from those letters, can't you see what an almost incomprehensible task it would be.

Now, we have been going along kidding ourselves for years that we were doing a successful business so far as volume is concerned. There is nothing much to worry about and I am not here today to say there isn't quality. I have got my own opinion about it, but it seems to me when I hear it on every side, that quality is the greatest concern that there must be some reason for it.

Now, with an industry so enormous and so important as this is in Wisconsin, which is the basis for the business of many firms, and the employment of many men in the assembling and distributing end of the game, and with 35 thousand cheese makers and their helpers, doesn't it seem that it would be worth while to get at the bottom of this thing and work out yourself something that you want and something that you can unite upon and believe will accomplish the end sought. So long as you set back and expect a state department to do for you the things that you know, the things that you admit yourself you ought to do yourself, so long as you sit back in an apathetic way and expect the state department to do it, I am going to tell you you are going to get very unsatisfactory results. You can talk about law enforcement, rules and regulations, unless you have the sentiment of the industry back of you, those rules and regulations and laws cannot be enforced. Now, I would suggest this: that we right about face as an industry, cheese makers, dealers, and I will say state officials in connection with dairying and let's go at the situation just as it is and make some attempt to put this cheese business where it ought to be. As it is today, we have only got one thing to boast about, and that is the volume and the fact that we have some of the best cheese that is made in the world.

You have got to get together throughout the State of Wisconsin in this cheese industry and you have got to decide upon some plan if you want to make any change over the present order of things. You can come to some state department and say that you want this or you



want the other, and if you say it loud enough and long enough you are going to get it, and I am going to say that if this department or any other department doesn't comply with your wishes to put across this system, that you think would be practical and efficient, you can soon say to it that the men comprising that state department are either compelled to do what you want them to do or others will do it.

Now, I am quite confident they could. The Department of Markets have the hearty backing of all of the industries in a movement towards state grading, whether it be at the cheese factories or whether it be in the warehouses. I know that cheese dealers, some of them say that you couldn't get a force of men in sufficient numbers to intelligently grade the cheese. I don't believe that. We have them here in the state and if a sufficient wage is held out, those men will be forthcoming. If the thing is worth doing, there is no question about it being done. And then comes the question that so often is raised, that cheese can't be properly graded.

Now, as it is today, every little while somebody says there is a lot of cheese graded number one that ought to be undergrade. Somebody else has some undergrades that ought to be number one, and just so long as you grade cheese you are going to have that. Take a commodity like cheese, you can't take a yard stick or a tape measure or a scale and decide the grade of that cheese. It has got to depend upon personal opinion, upon the texture of sense, feeling, and sense of smell and its appearance. Opinions will differ and with such an elusive thing as flavor to contend with, it is to be expected that there will be cheese now and then that will not appear to be properly graded. But I want to ask this question, would it be any worse with men independently employed by the state? It would be some of the same men that are doing grading in the dealers' warehouses today. They must grade independently. It is not expected you will ever have a grading system whereby you can put a stamp on a cheese and 100% of that cheese will be that same grade six months from now.

Now, the whole decision for you to make is whether you can grade cheese better through the medium of men employed by the dealer or whether it would be more satisfactory by disinterested men. It is a big problem and I would suggest this one thing, that this organization while it can't settle the problem right away, appoint a committee of representatives of the cheese industry of Wisconsin, say ten or twelve or fifteen of the best and most experienced men throughout the State of Wisconsin to give due consideration to the problem whether they want state grading at the factories, state grading with the graders acting in the capacity of instructors where necessary at the factories for the purpose of helping the cheese maker or whether they will continue with the system as it is only with a better system of policing the men, more men, that can check up the results of the graders, or whether to disregard the whole thing and go back to the old system.

I don't think there could be any danger of wanting to go back to the old system although there is a great deal of fault found with the

old system and it takes some time to work up anything of this kind. There have been mistakes made, I don't know what they may be. I know some of them have all made mistakes; I have made mine but we learn by experience and surely in a state making three hundred million pounds of cheese there ought to be interest enough to put this business upon the best possible basis.

Now, in conclusion I am going to say that if anything comes that is worth while, it must come from the industry with the help of the state. It has got to be your system and not the system of any department. These departments were not created for the purpose of making a cut and dried plan and trying to force it down your throats. Now, we have had meetings here before on this very subject and there have been bitter remarks passed back and forth; there have been hard feelings that have resulted in prejudice going on down through the years. That is not going to get us anywhere. The only thing to do is to give good sound consideration to the problem and decide whether there is a chance for improvement and in what way that improvement can be made or else decide that there isn't any necessity for doing any and let's then wipe everything out and go back to the old system. Let's either do that or let's put it upon a businesslike basis, going ahead and making something out of it but we are not going to make anything out of it just so long as the state department is trying to do something and is constantly meeting with the objection instead of the hearty co-operation on every hand. There are plenty of reasons for certain objections, we will admit that, but where the department is wrong is that department must get all right if it is wrong. To remember that the success of any of these departments is pretty much in the hands of the industry or industries which it is itself intended to serve. All I can ask is that you give it sane consideration. It is not necessary that it be heard but I want to say that if this comes about it has got to come from the industry and not from any state department trying to force it upon you.

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THE CHAIRMAN: Mr. Kirkpatrick:

MR. KIRKPATRICK: Time is so short now that it is nearly impossible for me or anybody else to carry on this discussion tonight. Tomorrow very few of the dealers will be here because they have got to be in Plymouth. What little I have got to say is, after a meeting of a number of cheese dealers yesterday, they were of the opinion that it would be suicide to do away with the state grading at the present time. They quite agreed that it was ineffective and the question arose as to whether it would be possible to better it by having factory inspection or warehouse inspection. To my idea, factory inspection would be ideal, if it was possible. I don't believe it is possible. Warehouse inspection is possible, provided we can get the number of qualified state graders to do the work. I am sure that there isn't a dealer who wouldn't be glad to return his grading stamps to the department and get away from the responsibility of grading the cheese.

There has been a great deal of loose grading among all of us caused by the fear of loose cheese factories and if we could possibly

get the state to grade the cheese, I feel very sure that the dealers would be very glad to contribute part, at least, of the extra expenses which factory grading would involve. The conditions in Canada are very much different from what they are here. The graders over there are government graders—Dominion Graders. Here we have state graders. The Dominion Graders would be the same as if the United States Government furnished the graders here instead of the state. I believe it is possible to get enough men to qualify, qualified men to grade the cheese, and I quite agree with everything that Mr. Winder has said. He and I usually agree along these lines because I consider him one of the best qualified men in the state to help along this work. This man has got good common sense and he has been one of the good cheese makers in the state and he has been in the business for at least twenty years to my certain knowledge, and I believe with him, that if a committee were appointed to take into consideration all the whys and wherefores of this grading that we could come to some definite plan whereby we would have the proper kind of state grading and eliminate 90 per cent of the troubles, not only of the cheese maker but of the cheese dealer.

Now, the time is getting late and I don't know if you have time to appoint that committee but I should be heartily in favor of a committee of 12 or 15 representative men of both cheese makers and cheese dealers to formulate a plan to go before the legislature or in some other way work out the salvation of the cheese industry. Thank you.

MR. MARTY: I make a motion to the effect that we delegate Mr. Winter as a committee of one to take action on this question.

Motion seconded. Carried.

## SWISS, BRICK AND LIMBURGER DAY

MR. J. GEMPELER, Jr., Chairman, called the meeting to order at 10:45 A. M.

### Discussion of Methylene Blue Test

MR. ALPLANALP: We found out many times with milk that would make a poor Blue Test would stand up very good in the fermentation. Milk that kept a blue color and stayed blue for four hours or so made a worse fermentation.

THE CHAIRMAN: What method have you got at the door in going over your milk. You are handling the largest amount in your section. You must have some method of getting in 28 to 30 thousand pounds of milk for Swiss cheese in order to know whether it is right. Have you any method?

MR. ALPLANALP: I notice lots of times we just take the lid off the cans and smell that milk and find that we can use it without making any test. If we go through the test, the tester will show us the same things that we found on this simple matter by just smelling. Of course, with milk delivered twice a day, you can't tell by smelling unless your utensils and everything are in pretty bad shape. Our milk is delivered once a day.

THE CHAIRMAN: In other words you only use the Methylene Blue Test when you find something suspicious.

MR. ALPLANALP: No, we don't. Sometimes if we find it necessary we make it two or three days in succession. The Methylene Blue Test is simple to make.

THE CHAIRMAN: But can you tell in the intake room the bad milk from the good?

MR. ALPLANALP: Well, as a rule you can, that is if milk is spoiled.

THE CHAIRMAN: Fred Glauser, did you use the Methylene Blue Test this summer to get your milk twice a day?

MR. GLAUSER: Yes, we use it about once a week out there. My experience is about the same as Mr. Alplanalp's.

THE CHAIRMAN: You feel it is practical also, where you get your milk twice a day, or sometimes even where the milk is delivered twice a day?

MR. GLAUSER: It is a very good test, if you make combination tests with the fermentation test. I wouldn't rely on the Methylene Blue Test alone where the milk is delivered twice a day because I had that experience last summer more than once, that samples of milk would stand up perfectly good in the Blue Test and would stand six hours or longer and in ten hours the sample of milk would be boiling over in the fermentation test.

MR. HALL: Do you think you got the same results with the fermentation after you got through with the Blue and take up the fermentation test? Could you check up the bad samples with the Wisconsin standard?

MR. GLAUSER: I rather think we could. I like to use the Wisconsin Curd Test once in a while because it shows us more how the bad milk will act in the cheese. You can tell more how it acts, how much gas materials are in there and I think it will check pretty well with the Blue and fermentation tests.

MR. BUHOLZER: I used the Methylene Blue too this summer. I found it the greatest help in the intake room. I notice I receive cleaner milk from the farmers since I have the intake room than before, and as soon as they opened the cans I could examine the milk and look in it. If they had some dirt on top we could notice it right away and so I believe an intake room in a factory is about as good a thing for Swiss cheese as anything else. You got to make the tests once in a while. With an intake room I believe it is about the best help that I have found.

MR. MERRAY: We have used the Methylene Blue Test conservatively. We use the Culture but we find it very satisfactory. We generally use our Methylene Blue and keep our sample for fermentation tests. As some of the gentlemen remarked, we found out that when the samples stand up well with the Methylene Blue, and next morning are in bad shape, still our cheese would be a fancy cheese just the same, so we find that the manufacturer can handle that kind of milk. We haven't run Methylene Blues as much as we ought to. We have been building every year since we started and have to attend to something here and something there, and wouldn't be able to give as much attention to testing and other things. I hope next year I will be more experienced in that line than I am at present.

MR. FRED MARTY: Mr. Chairman, a good many years ago we made many tests. At that time it was practically the beginning of the Wisconsin Curd Test. I traveled a year or so before I knew how to handle the Wisconsin Curd Test, that is, in connection with making Swiss cheese. After listening to Mr. Merry, I think, he touches upon the point, that we can apply a too delicate test to the milk for the manufacture of Swiss cheese. I came to that conclusion a good many years ago, about having too delicate a test and I believe right now, that if the Wisconsin Curd Test was properly manipulated and handled, that up to the present time it is the only reliable test that we can put to testing milk and find the real cause of disturbance in a Swiss cheese. Even the Wisconsin Curd test is practicable, if the principles are applied. I traveled for four years for the Wisconsin Dairyman's Association over 25 years ago and saw the Curd test followed out and I have made hundreds and hundreds of them and I

found after the third year of traveling, I knew more about it. The first year I didn't drain the whey off properly and I found by thoroughly draining the whey I would get the results that would show up, causing the actual disturbance in the manufacture of that cheese. I found that with the curd test under conditions of uniform temperature, no whey on the curd and holding it for 24 hours, if there is anything there that isn't right, you are going to find that with the Wisconsin Curd Test today. That is my opinion.

**MR. BRUHN:** This is practically the first year I have seen much about Swiss Cheese making and the first thing that struck me when I got into the Swiss cheese section was a lack of receiving room at the factories. Now I agree with Mr. Buholz, that there is hardly anything the Swiss industry can do to get more good, than to get a receiving room where the cheese maker can talk with the patrons when they dump the milk. That was the greatest surprise to me when I saw those factories without any chance for a cheese maker to talk with his farmers. I couldn't help but notice that nearly all the time, in nearly all cases, the helper was weighing in the milk. Now I admit the way the factories are built, it don't make a great deal of difference who weighs it in because there is no chance of talking to the patrons about his milk anyhow but that is the two features I found in the Swiss section. In the American factories, the helper is very seldom permitted to weigh in the milk, because they think he isn't good enough judge of milk to tell whether the milk ought to be accepted or not. Now I believe you can do a great deal more if you provide receiving rooms or change the method of receiving the milk in such a way that the cheese maker can stand up high enough to look into the cans when the cover is taken off and he can see it poured into the weigh can.

**THE CHAIRMAN:** That subject of intakes has been discussed for some years. Fred Marty has argued that for years and years and I think we are beginning to realize that lack of an intake is a great hindrance. I think another hindrance we have in delivering good milk to the cheese factories, which has been discussed by Mr. Alplanalp, is that of taking the whey back from the cheese factory in the milk cans. That is all wrong and it has been proven in one factory where the milk is delivered once a day and in spite of that fact he is making a high percentage of cheese against the other factories where they are getting the milk twice a day. I think that method of providing other utensils for the whey hauling has done a lot towards eliminating trouble. Now has anybody got anything to say, what do you think about that method, Mr. Hall?

**MR. HALL:** I am absolutely in favor of that. Another thing, Mr. Alplanalp should have a lot of credit for, he has the only factory in the district that washes the farmers' cans, I think. He should be commended very highly on that point. It is pretty hard for some of these small factories to do that, but if they would take their whey home in separate cans, I think that would be a big help.

**MR. MARTY:** Just a minute ago Mr. Bruhn and I were discussing which one was to bring up the point of advocating a milk intake. I told him he should present it because I sprung it so long here that I got to the point where I felt I didn't care whether they put one in or not. They could just go along the way they saw fit, hoist that can from a wagon, and pour that milk through a hole in the wall. The next thing the farmer hears is "391 pounds" and that is all. That is the way they have been taking in milk down there. The present cheese factory plan for Swiss, brick and limberger factories that was adopted by the University of Wisconsin engineering department was drawn by myself, for which they have given me due credit, and you will find every one of these plans as advocated by that department has the milk intake. I was able, while inspector in that district, to

install a milk intake at the Independent factory. The Maple Leaf factory is another. The Advance Factory south of Monroe is another—there were three of them. When I quit the department I figured we were getting a nice start, but I wasn't out of the department a year before one of those milk intakes was ripped off the factory. The cheese maker said it was "too goll darned much trouble going up three flights of steps", so that was the result. There are two left now of the original, one Mr. Alplanalp has, and the other Mr. Buholzer. Mr. Glauser's factory is in such a condition that he has fair control over the milk that comes in, and it isn't as bad as many of the other factories, but just let me illustrate one simple little fact. The foundation of success with butter and cheese is cleanliness. After my 22 years of experience in inspecting cans throughout the State of Wisconsin, I find that one farmer out of 12 needs attention and needs it bad. If you step outside of the door and walk out there to inspect that fellow's cans, he says "what in the hell are you going to do with my cans here. Why don't you look at the other fellows' cans too?" Isn't that a fact? Can you go out there and look at every man's cans? Where you have the milk intake, you and the farmer are standing over the can, you pour the milk into the weigh can, and you both see if there is anything wrong in that milk lot of sediment. You may take in a batch of milk without saying one word, but when I am through taking in that milk every man knows that I inspected his milk. You can get your nose down in that can there and you don't have to say a word. All you do is shake your head and go down once more and hesitate a little. The farmer is standing there and watches and takes it all in. You bet he takes it all in, you don't have to say a word. You repeat that once or twice and then speak to him, and if you repeat that, in the course of a year you are going to bring those farmers to bring in clean milk. You can do that in a diplomatic way. It shows that the milk is to be examined before it is manufactured into food. You can run your hand down, inside the small bottle-neck can, and see if there is anything in there. If it is sticky on the inside, you know the can is crying for hot water.

As demonstrated by Mr. Alplanalp, the way that milk was taken in, the way the cans were returned and the way they were steamed, does a lot of good. He didn't even trust to the farmers washing the cans, he steams and rinses the cans.

**MR. ALPLANALP:** Mr. Chairman, I would like to say that the American cheese makers all take in the milk by the test and that is something we neglect here. If we could take the milk in by the test we would get better milk from the farmers and we all know that it would be a great help in the cheese making industry. Mr. Marty stated about the Wisconsin Curd test that you can't tell much in 8 hours. When we make this combination Blue Test, we can't tell much in 8 hours but if we leave the test in for 24 hours, we know more about it.

**THE CHAIRMAN:** Have any of you fellows had experience with dirty milking machines in Swiss cheese making?

**MR. BILGRIEN:** I can tell you something about milking machines. We have one and it was bought as a second-hand milking machine from my son-in-law. The boy wanted it bad and we took it and got it pretty near for nothing but it was high priced, even to get it for nothing. We tried to milk cows with it and made cheese of the milk and my cheese started to come up in the afternoon about four o'clock. I went up home and told him "there is something wrong. Did you milk by hand or did you milk by machine?" "Well, we milked by machine." I said, "you cut that out. Next morning you milk all by hand, I want to make some good cheese for our own family use." That is all I make nowadays. I made cheese for 24 years steady and then I got tired of it and I am just practicing a little so as to keep in this organization, and next morning I told the boys and girls,

"did you clean the machine." I wanted to see if it is clean or not. We went through it and it happened that Westphal's condensary man came along with a machine and he had a real instrument to clean the rubber tubes and he run through there with a kind of brass worm and I tell you people I was surprised when I saw the stuff that was turned out from there. I don't know whether it was from the man that used the machine before or from us that used it a week.

I haven't any objection against a milking machine but if you want to use the milking machine, the milking machine must be cleaned right after you are through milking, every time you milk the cows. That is our experience, I had with our second-hand milking machine and I bet that is often the trouble where you are making foreign cheese.

MR. WERREN: I had a little experience on both sides of the milking machine. One is pretty favorable and the other is poor. I started my factory eight years ago and there was one farmer had quite far to haul, he came about once a day. The first four years he brought me once a day and the fifth year we couldn't take it any more and it has been that way ever since.

THE CHAIRMAN: Mr. Glauser, have you any milking machines in your factory and if you have, how do you take care of them?

MR. KLAUSER: I have two milking machines but one I didn't use last summer at all but the one that I used, we take very good care of it. I inspected that machine very often and I never found a speck and I must say he is the farmer that delivers the best milk to my place.

THE CHAIRMAN: Does he take care of it after milking?

MR. GLAUSER: Every day.

MR. BILGRIEN: There is one point yet we haven't brought out about the milking machine and that is the important point. I don't know whether you cheese makers know about cows giving some time, bloody, clotty, slimy, milk. Now when you milk with a machine, how can you tell which cow gives that milk? Now, I milked cows I think from ten years up and I milk cows every day and I milk the most when I am home because I am a fast milker. I found out many times that cows give slimy milk and more so if the cow comes near drying up and a lot of that milk is bad especially for Swiss cheese, as I see it and as I found it. I find that frequently among the herd, more so among a herd where you have the poor bred, where they are horned, and hook each other. You can't get away from it. You get that stuff and nobody knows where it comes from unless the farmer started to milk them separately. That is why I have no faith in the milking machine.

THE CHAIRMAN: Has anybody here got anything to say on standardization?

MR. ALPLANALP: Mr. Chairman, I think Mr. Bruhn can give us the best points on standardization.

MR. MARTY: I am going to ask Mr. Bruhn a question, In all these slides that were brought here yesterday, it was shown that some of the milk did not need standardization. It also showed that some of the milk had one-tenth of one per cent in excess or as recommended by the United States Department of Agriculture. Now, after listening to all these slides here yesterday afternoon, I want to ask Mr. Bruhn whether any one of those cheese turned out number one or number two.

MR. BRUHN: We did not find out. We tried to get data on that but due to difficulty in examining the samples during hot weather there were a number of them that deteriorated enough, while we used

them for certain purposes we could not absolutely depend on them so that we could use them for data in connection with that work. In a good many cases where we got samples of cheese from the milk that we have sampled, it is practically impossible to keep track of which cattle it came from and whether from morning or night milk and we couldn't give out any definite data on that. We could guess at it, and in a good many cases we were satisfied we were right, but at the same time we did not give it out as data that could be depended on. Now so far as standardization of milk is concerned, it is rather a delicate matter.

The Walker test is accurate in the hands of a tester, but at the present time I don't consider it accurate in the hands of a cheese maker or a man that isn't in the habit of making a chemical analysis. In the slides yesterday, you perhaps noticed that in a very few cases there was really no standardization. That is putting it pretty plain, but that is a fact. I will ask you to try and standardize it. You can skim it a little if you want to, to put it in plain words, but when it came to showing up in the kettle, even two or three kettles from the same delivery, there was a very great difference. It is successful only where you had sufficient receiving vat room so that you could have a steady flow, or at least a considerable amount of milk, so that you were pretty well satisfied what you had in the receiving vat was a uniform mixture of what you had received.

In one particular case there was considerable milk in a receiving vat before the fire was started. The milk was drawn from the bottom of the vat into the clarifier and here is what happened. When they came to filling the kettle, there was a slack in the way the milk was delivered and the receiving vat was empty. Now, here is what happened: Drawing this milk from the big vat into the clarifier and into the kettle, there was enough cream in there so that the milk in the first kettle tested only 3%. The milk in the other kettle that finished drawing off the milk from the receiving vat was high enough in cream so that the fat test was 3.5%. Now take for granted that the casein contents of both was the same, you can see how much change you had in your ratio when you had 3% in one vat, 3.5 in the other.

In one place where there is standardization carried on, it is the duty of one person and the sole duty as near as I can find out to make tests of the milk as it is received for fat and casein, to make tests of the milk as it went into the kettles and then keep the record of the kettles as they went into the process of manufacture. That is the only factory where it was plain that standardization was carried on. The rest of the factories it was only a hit and miss proposition.

That is about as much as I can tell you.

MR. MARTY: I can't see what the object of your work down there last summer was unless we get the results from that cheese. It might have been possible if you had a score on that cheese, you might have proved in that case it was necessary but so long as you only got one data on one side and not the corresponding data on the other side, I fail to see the point of your investigation. Am I right or wrong? I personally can't see the object.

MR. BRUHN: The investigation was not carried on for the sake of finding out whether you are making a fancy cheese and using only milk. The investigation was carried on mainly to find out what the ratio of fat and casein was in milk, not only in the Swiss district but all over the state, what the ratio of fat and casein was in the milk when delivered to the factory, whether it was skimmed or otherwise, as near as we can tell.

We want to find out what extent it was necessary, to standardize.



MR. MARTY: Now, wouldn't it be interesting to go one step further and I am quite satisfied that having your record upon that date shown upon a slide and the ratio of casein given on that particular day, I am quite satisfied that any one of those four parties there, there is Mr. Alpanalp, Mr. Glauser and Mr. Buholzer, can give you an exact score on that cheese made that day. No doubt all that stuff is sold by this time and they can give you a score on that particular cheese. I think it is worth while going on.

MR. KLUETER: Mr. Chairman, I am mighty glad Mr. Marty has brought that question up. I don't feel right about not having that right hand column filled out there but I want to say that we almost turned heaven and earth to get samples of that Swiss cheese made from the milk that we tested and we couldn't get it. I would like some method developed so that we can have complete control of that cheese and know what it scores and know what its moisture content is. It has been impossible to get that data. Now, the question is, do these men claim that the only principles was to find out whether or not the milk could be used, whether it had that ratio. I will frankly admit that that was one of the purposes of that work. The industry down there has been willing to accept without cause, as I understand the matter, the fact that a ratio of 1 to 8 was necessary, and if I have not been misinformed there have been some cheese made from milk with that ratio. Unless I have been badly misinformed, the question down in the east has been, "why do they take out so much fat." One of the purposes of that work was to determine whether or not it was necessary to remove fat. If it isn't, my understanding has been there isn't a cheese maker down there or anyone, that is engaged in the industry, that would want to remove fat unless it was necessary.

Now your industry has accepted 1 to .8, .78, .74, .72, .70, and finally down to .68 and we wanted to know whether you had the milk with that ratio and we went down and found out. Now if we could have gotten cheese and completed that work I am willing to say it would have been much more valuable than it is but it has been impossible to do it.

MR. KLUETER: You have got to have that milk produced under clean conditions. You have got to have it properly cooled and taken to the factory and then if proper methods of manufacture are employed, you get a certain per cent of fancy cheese. Now you can't adopt standardization as a cure-all for the things that are necessary in making fancy Swiss cheese.

MR. HALL: I think a good many of the cheese makers will bear me out in that respect, thinking if they standardized, they might be prosecuted and a good many times when the representatives are not around the factory, they wouldn't standardize like they would with this in mind.

MR. KLUETER: Well then, Mr. Hall, answer this question. Is there any truth in the statement that a ratio of 1 to .68 is all that is needed or must you have a ratio of 1 to 8. Now if you have to have a ratio of 1 to 8 you are going to take 45 to 50% of the fat out of the milk in some cases. If you can get along with your lower ratio, you perhaps can get along with taking out 8—9 or 10% of the fat. I say that is a pretty good thing to know.

MR. CHAIRMAN: May I ask about the samples that were sent to Madison from Monroe—if there was any fat lost in the samples, was there any fat in the bottom of the samples so that you were not able to get an accurate test?

MR. KLUETER: We sent up our first samples as I remember it and I think there was a fat loss in the tube there of .2 of 1% of fat in that Swiss cheese, we couldn't get out of that tube.

MR. HALL: I ask you for this reason here, about three weeks ago I sent a bunch of samples to Washington in the same way you have them sent to Madison and when they were in Washington there was so much fat at the bottom they were unable to get an accurate test.

MR. BRUHN: When they collect those samples, they were put on ice as soon as possible. That is, they were put in the refrigerator, they were left on ice, practically frozen until we started to Madison with them. None of those were mailed in. None of the cheese samples were sent in small tin boxes. The curd samples were sent in. The cheese samples were sent in glass testing tubes and in every case when a batch of cheese was taken up, they were packed around with ice. I will take that back, with one or two exceptions. Now, if I may state, the first inspection of milk made was early in the spring, in June and July and as you remember, according to the slides, most of them were run in up around the ratio of 1 to 8. When we came around the first time to get the cheese samples from that milk, about five weeks afterwards, this was the answer we got, in a good share of the factories, "Yes, we got some of them but I guess some of them went wrong. Such and such one was number two. Those we get rid of so we don't have to tend to them any longer." In some places, "well we were pretty rushed with work and the cheese got pretty moldy and we can't distinguish from which kettle it came from." The second time we came and we looked around in the cellars, trying to find a cheese from that particular kettle that we were looking for, but you all know what a job it is, if you want to spot a cheese. We left it then to the cheese maker and we did come around then a few days later and get the sample and a good share of those samples were hard to get. You all know how we worked. You know the difficulty. We weren't anxious to burden you more than we had to. We considered it more or less trouble for you folks when we came there. Now perhaps, we should have demanded that you furnish us proof of what those cheese turned out. If we are wrong there I will take the blame.

MEMBER: If there hasn't been full co-operation on the part of the cheese makers with the department this year, and the department with the cheese makers, and if the department will continue to put on those tests and experiments next year, in order to find out just exactly where we stand, I believe we can assure you the department is absolutely 100% in co-operating with the cheese makers; if it is done, which I know it is done with the idea of helping the industry instead of hindering it. That is the feeling I have about the work done by the Dairy and Food commission and I think all the cheese makers feel they have done a wonderful piece of work. I don't believe they can come out here today and conscientiously say that they know exactly what is right, but I think we will know in another year.

MR. ALPLANALP: I would just like to say a few words. They never were in our way. We would like to find out where we stand and what we are doing. For my part I would like to know. What Mr. Marty wanted was to find out how the cheese turned out. If any one wants to know what the result was, we have the cheese on record. Now, we have here tests from 3.2 to 3. .2 difference in the high test and if anybody wants to know the record, we have the record for each cheese that they have the records for here on this paper.

## STATE HOLDING RULE FOR BRICK CHEESE

By W. J. KRAMER, Madison, Wisconsin Department of Markets

Mr. President: The following is a part of the new brick cheese holding order:

STATE OF WISCONSIN  
DEPARTMENT OF MARKETS

Madison, Wisconsin,  
October 19, 1926.

General Order No. 27

1. Under the authority of subsection (2) of section 99.16, Wisconsin statutes, it is hereby ordered:

(1) No cheese maker or operator of a cheese factory and no agent or servant of any such maker or operator shall pack for sale or ship for sale in this state or deliver for sale or paraffin any brick cheese made in Wisconsin, unless such cheese—at the time of packing, shipment, delivery or paraffining—has been out of the vat for at least fourteen (14) days and is sufficiently dry on all surfaces to be fit for paraffining.

(2) No person engaged in the business of buying cheese from cheese makers or from operators of cheese factories, or acting as agent to sell cheese from cheese makers or for operators of cheese factories, shall receive for sale any brick cheese made in Wisconsin, unless such cheese has been out of the vat for at least fourteen (14) days, and is sufficiently dry on all surfaces to be fit for paraffining or has been previously paraffined under the circumstances herein defined.

2. Under authority of section 99.23, Wisconsin Statutes, it is hereby ordered:

(1) At each cheese factory a record, open to the inspection of the department shall be kept, showing the number of brick cheese removed each day from the vat and the date of removal.

3. Persons affected by this order are given until February 1, 1927, to comply herewith.

EDWARD NORDMAN,  
Commissioner of Markets.

Mr. Chairman, it is too often the belief that these orders and regulations are promulgated on the initiative of the Department of Markets and that the Department is trying to impose its will upon the people in the industry which, however, is not the fact. These orders are the will of the men vitally interested in the industry which have been drafted into orders by the Wisconsin Department of Markets under authority granted to it by the legislature and having the force and effect of law.

### What Led to the Adoption of the Holding Order

A group of farmers, in the center of the brick cheese producing territory, organized under the name of the Dodge County Milk Producers' Association for the purpose of aiding the producers that supply milk to the brick cheese factories in securing a better price for their product. Their first investigation led them to the belief that there was something radically wrong with the brick cheese that is being marketed today. On further investigation, they found in the last

statistics of the State Dairy and Food department that the production of brick cheese in the state had fallen off 9,000,000 pounds in six years and the production of American cheese had increased 26% in the same period of time. They immediately proceeded to locate the cause. In visiting a number of cheese factories and consulting with makers and producers at these factories, they were convinced that the brick cheese placed on the market today is of inferior quality to that placed on the market in previous years prior to the slump in production. On inquiring for the reason of this condition they were erroneously given to believe that it was due to the state law limiting the moisture content in brick cheese to 42% with a tolerance of 1% which compelled the makers to manufacture a cheese that was too dry to be palatable to the consumers. Not being satisfied with this explanation they proceeded further, going to the state agencies that make intensive studies of these conditions, such as the State Department of Agriculture, Dairy School, Dairy and Food Commission and State Marketing Department and on their departure they were convinced it was not the State Moisture Law, as they were previously informed was the cause of the decrease in consumption of brick cheese, but due to no small extent to placing press curd or too fresh and not cured cheese on the market. It is a known fact that uncured cheese is rubbery and dry, which would lead the average consumer to the belief that it lacked moisture. Cheese becomes mellow on curing which requires aging. This curing or aging of cheese develops its flavor.

After this organization was armed with these facts, it proceeded to the State Department of Markets and asked the Commissioner to issue a holding order on brick cheese. They were assured by Commissioner Nordman of the cooperation of the Department of Markets. They were informed that such an order would have to go through the legal procedure in its adoption, which is by holding a series of meetings throughout the brick cheese territory amongst the men vitally interested in the business to place the proposition squarely before them whether this order would be of benefit, if they wanted such an order and if they did, for what length of time. There were five of these meetings held and the general sentiment expressed was against a thirty day order, but a reasonable holding order was favored. It was brought out that a reasonable holding order would be somewhere between ten and fifteen days from the date curd was removed from vat. Hence, this is what led up to the present holding order which takes effect February 1, 1927.

It is a fact that brick cheese of late years has been going on the market very green. In many instances direct from the salt table or brine tank, not being washed at all and paraffined wet. Paraffin on wet surfaces of cheese does not cling. It cracks and scales off, thus defeating the very purpose it is meant for, which is to seal the cheese air tight preventing the drying out of cheese and molding. Hence, it is obvious that if this cheese is shipped direct from factory to consumer it does not properly cure, but dries out and is a very unat-

tractive and unpalatable cheese. On the other hand, if it is placed in storage for any length of time the mold gets underneath the particles of paraffin which remain on the cheese and before it can be marketed and be of attraction to consumers, the surfaces must be cleaned and reparaffined which is a direct loss to the industry. It is the purpose of this order to overcome these conditions and place on the market an attractive palatable cheese which it is hoped this order will accomplish, thereby increasing consumption. There is no question, but what it is a move in the right direction. There are other factors, if brought about, would aid in placing a better cheese on the market.

Upon whom does the successful carrying out of the provisions of this order depend—first, upon the men in the business that are interested in the future development of the brick cheese industry and, second, with the assistance of the Department of Markets.

### DISCUSSION

MEMBER: I think if we want to hold our brick cheese longer, most of our brick cheese cellars are too high and the temperature too high to cure cheese. After cheese is a week or ten days old, the warm temperature causes it to ferment and come up. We always have the same troubles, we get a good cheese out of the vat and she probably shows all right for a week or so and then begins to break down.

MR. MARTY: Does that hold true all time of the year?

MR. KRAMER: Yes.

MR. MARTY: At all time of the year?

MR. MARTY: Yes, unless we have our cellars very cold in the winter. If our cellars get warm in the summer—my cellar gets 80 in the summer, why should that same trouble be prevalent in the winter time? It has been argued here that it doesn't do justice to the cheese industry and it is about time that these points are brought out. The holding order doesn't do justice to any cheese industry at all times of the year nor does 10 days in the summer time mean 10 days in the winter time. So the marketing department should use a different rate in time applied to the shipping of cheese in the summer and in the winter.

MR. KRAMER: I remember that being brought up and the argument had been for a longer holding order in the winter time and a shorter holding order in the summer time. This is the argument put up against that cheese under the same temperature will cure just as rapidly in the winter time as it will in the summer time and make the necessity for two different orders, one for winter and one for summer which was given but you might say it was negligible. A man is supposed to have his cheese under control in the winter time as well as in the summer.

MR. MARTY: Well we are following this up, there is more than one point to discuss. You must take into consideration the temperature from the time the cow is milked and the effects of that temperature upon the milk before it is made into curd.

You know that your milk is further advanced, you know that cheese from milk.

MR. KRAMER: I will say this, the first order or the first suggestion was for a 30 day holding order. There is many a man who will say that a 30 day holding order would be the proper order. It is out of the question though as far as we are concerned, in Dodge County.

A holding order as it is placed should be the minimum. You can't place the maximum. I would say that 14 days would be a minimum.

MR. MARTY: In the summer time I have quite a number of times had a pretty good cheese 10 days old and the buyer was well satisfied and when that was another week older in my hot cellar the cheese would not show up near as well. I often times set a batch of cheese aside for my home trade, at the time I had that cheese, so that it would be a good cheese, I had to pack it up and ship it out, it was accumulating all flavors and odors.

MR. KRAMER: That is very true. But there is a great deal of brick cheese going on the market now that develops into an off grade cheese and nothing can prevent it. The consumer is getting an off grade cheese and the maker thinks that he is making a number one cheese because he is grading the clean curd and placing a number one stamp on it. Wouldn't it be a benefit to the industry if that cheese remained at that factory to develop what it is going to be, if it is off grade cheese, then grade it an off grade cheese, and let the consumer or whoever buys it get what it develops into. If we all had cellars where we could keep our temperatures down to about 60, this holding order would be more beneficial than it is now in the average factory. The cellars, most of them are in poor condition and they are not fit to hold cheese for any length of time.

THE CHAIRMAN: Just a minute, I know the brick end from a dealer's standpoint. I am in the cheese buying game and I know from the dealer's standpoint in merchandising your brick cheese, that something must be done otherwise we will not have any brick cheese within a very few years. I don't care whether the holding order is 30 days or 60 days or 14 days. My biggest ambition is through this 14 day holding order that we at least add on a few days more to what they are doing now. This gentleman says six days, seven days, is the youngest cheese that goes into a load. We will say a record of brick always covers a few days of making cheese. Why some of those factories I find haven't got enough cheese left in the cellar to know that they are in the cheese business. That is wrong, absolutely wrong. I would say add on 10 days or 12 days so that they can determine with a brick, that is a brick cheese and I think the Bureau of Markets would be lenient on that. But turn out a merchantable piece of goods, something that the people will buy and eat. But as it is now, we are getting in brick three or four or five days old. That isn't right and something must be done and we might as well face this proposition now and try and comply with the Bureau of Market's ruling of 14 days.

MR. E. F. HORN: Mr. Chairman, I was one that was really in favor of a holding order. In fact we were called to Madison two years ago, the dealers and manufacturers and makers and at that time it was decided to issue an order of 14 days but evidently it fell down and no more was said about it. This last fall the milk dealers association and the milk producers association of Oregon got after the proposition and worked very hard. The people that advocated the 30 day holding order were such, they didn't know a brick cheese from a brick to use for building. They were bankers and politicians and plugging for votes at the time. We had a very hard fight. Now the order as it stands, I don't know, I haven't a copy of it yet but I have a question to ask Mr. Kramer—does that apply to brick cheese alone?

MR. KRAMER: Yes, that is a brick cheese holding order.

MR. HORN: If that is the case, we will all try and get moisture because we can get more moisture in it. That is one thing we will run up against in Dodge county because we have those people. As Mr. Bruhn stated, we sometimes have a good cheese, we do make

good brick cheese in Dodge county yet. We have brick at time when it gets a week old, it begins to show defects, it shows that it is gassy, coming up. I have taken such a brick and placed it in a cooler. I have paraffined it and others where I have not, just merely pushed it up and put it in a cooler possibly three or four weeks, about two months and watching the progress and I have taken it out and the dealer called it a very fine cheese and he had a place and market for it and I have got the price out of it. I am talking about the poor stuff now. The poor stuff can be held too long, that it is no good at all.

**MR. BILGRIEN:** The point was brought out, if the cheese was termed number two, in five or six days they were going to allow it to go to the grinders. They wouldn't hold it.

**MR. HORN:** I am going to be one that is going to violate that holding order. If I have cheese that I know it is going to deteriorate, I am going to place it in storage at my own expense and try and save it.

**MR. KRAMER:** I suppose the holding order was made by the men in the industry and I should think it has been made with the object in view of helping the industry.

**MR. HORN:** The sentiments at the meeting which I have attended was against the holding order. First I was in favor of it but it was more or less ruled for this reason that there were followers from this particular association that attended every meeting, 15 or 20 men that would vote "yes" where there wasn't enough others interested and we had condenser men, they had people that hadn't been to a cheese factory for the last 10 years and they voted "yes" for a holding order and they knew well enough they didn't have to spend a dollar to enlarge that first cellar.

**MR. KRAMER:** Mr. Horn, I will say this, if you came down to the department we could convince you by the correspondence from the men in this business that the sentiment for the holding order was strong and many today believe it is not wrong. I personally don't believe without other factors, that the holding order is going to come out but I do believe from a source of testing it is well worth a good trial.

**MR. GOTTLEIB MARTY:** Mr. Chairman, if the cheese don't keep there must be something wrong. I just tell you one thing, at Monroe we had a milkman that threw his milk, that milk was blue. Well, my wife told me there is something wrong with your milk because that milk is sour at 12 o'clock already. He said, "well, don't blame me, it is the weather," the weather is to blame for it and so of course we did, we changed milk men and from the other man we got good milk. Now you don't find any fault here in Milwaukee about summer or winter milk but the people think for cheese making is anything good enough. Now if that milk is treated, if they cooled it right away after milking and brought to the condensery you will make good cheese, that that cheese will keep 14 days or longer without having trouble. You get poor milk to start with. I know farmers that told me they have to send their cheese out because they keep it a week and the cheese is spoiled. So you see somebody is going to eat that cheese and all we have to do is try and make a good cheese, a cheese that will keep 14 days, summer or winter or any time.

**MR. HORN:** What I was trying to get at, we want a little help from both ends. We know we will get poor milk but it is impossible always to get good milk regardless of how anxious the farmer may be to deliver his milk. I think we have got as fine milk producers in Dodge County as anywhere in the state and I think you will find 90% of them want to deliver the milk as it comes from the cow in

a clean and sanitary condition. But there is this situation that enters into the delivery of the milk that causes your trouble at the factory. Now then the reason I brought up this poor cheese stuff is that we get a chance to take care of it, after we have got it. When it comes up to loaves of bread it is worthless, you can't use it for chicken feed. For that reason I say, I have some I am placing in storage where it can gradually cure up to make a fairly decent table cheese.

MR. MARTY: We have dwelled long on this discussion, no doubt and there are further matters on the program but I just want to say in short, when we are looking upon a 14 day holding order something is going to fall. Let's compare that just as a passing. The time when I was a boy, say about 10 or 11 or 12 years old, I smeared brick cheese from late in October, the last part of October, made in November and the first part of December and that is about as long as the factory would run in them days. But on the brick cheese made during those three months, the last part of October, November and perhaps the middle of December all that cheese was kept under fine temperature in the curing room, all winter long way up into March and smeared twice a week and in the fore part of the season we boys had to go down there and smear three times a week and it was all winter time in there. Now we think it is an honor to hold brick cheese 14 days.

MR. HORN: Mr. Marty, I think I have smeared about as much brick cheese as anybody and I will say this, we made some of the finest cheese in those days but we had a factory of about two or three thousand pounds a day, that same old factory is standing there yet with an increase of about six thousand pounds. The thing we have argued here was what about the man who owns this factory. It means an expense of one or two thousand dollars and he has been drying all the time, he gets nothing for his product and where should he take the money from. As far as the 14 day holding order, I think that is all right.

THE CHAIRMAN: I am sorry to bring this matter to a close. We have just a few more minutes before we close.

## SWISS CHEESE MAKERS SCHOOL AT MADISON

As usual during the month of February, from February 7th to the 18th, 1927 we will have the usual Swiss cheese course at the dairy school and we will have the brick cheese course from February 21st to 25th and the American cheese course from February 1st to the 4th. Some of you who want to learn about the other kind of cheese, come down.

## CHURNING OF WHEY CREAM

By W. O. BERGH, Mt. Horeb

There is so very little difference in the process of making whey butter and that of ordinary butter that I would emphasize the importance of the care of whey cream at the factory.

A few years ago I was employed in a creamery where we made on an average of from twelve to fifteen hundred pounds daily, during the summer months. This was churned from whey cream which the



cheese makers delivered to us, whenever they came to town, or about three times weekly. Some of this was in very good condition, some not. When whey cream is properly cared for and churned the butter is as wholesome as the product of hand separated cream, and very few can detect the difference. We shipped a large amount of this butter to be sold on the open market, and received top prices for it. There is a Wisconsin law which provides that all whey butter must be labeled as such when sold. This law was probably all right at the time it was passed but I candidly believe that it should now be repealed, and know of no better time to start procedure to do so. It should not be compulsory to label whey butter as such; when it is of no poorer quality than 99% of the butter made from hand separated cream, in the same locality. I have seen both classes of cream in several creameries; and heartily indorse the repeal of a law which compels butter makers to label whey butter, and in most cases sell it from one to two cents a pound less than other butter. Do you cheese makers realize that it is hurting your own industry? If you would all make an effort to take better care of your whey cream and deliver it oftener, much of the prejudice against whey butter would be overcome. I am confident that most of you would be interested to know how you can care for the whey cream, for best results. I would suggest the following method: Regulate your separator to skim a cream testing 40% or above. When separating, put the cream in a small can (shotgun can, preferred) and as soon as you are through place the can in cold water, or other cool place and stir until the cream is cool. That does not require constant stirring, but at short intervals. When the cream has cooled it should be placed in the can in which you intend to deliver it and kept in a cool place. At your next skimming, when the cream has been stirred and cooled well, as before, mix with the cream in your delivery can, taking care to stir well until both are thoroughly blended. Deliver often, the oftener the better, and you will not only be doing your butter maker a favor, but also be promoting the whey butter industry, and eventually you will profit much, as you will increase your salary and raise the standard of whey butter.

After experimenting in several ways we learned that the best method for making whey butter was to first grade the cream, and churn separately. The cream we received averaged 40% butter fat; and best results could be produced by thinning this down to 30%, then pasteurizing; and cooling to a few degrees below churning temperature and holding for 12 hours.

Whey cream churns quicker than hand separated cream. We have cooled it from four to six degrees lower but to no avail, except that it made a slight difference in the grain of the butter. We usually salted whey butter a little heavier than ordinary butter. The grain and texture of whey butter cannot be detected from creamery butter except by the most experienced judges.

A cheese maker cannot produce a high grade of cheese from milk of inferior quality, neither can the butter maker produce first class

butter from cream improperly cared for and delivered in poor condition. By cooperation we hope to experience in the near future, an increase in the manufacture of whey butter and a great prosperity in the dairy industry.

#### Prize Cheese and List of Scores

The first prize Swiss cheese was then cut and distributed to all present, and the list of exhibitors of Brick, Swiss, and Limburger cheese, with scores, was distributed, being printed by courtesy of the Butter, Cheese and Egg Journal.

Adjourned.

## 1925 WISCONSIN CHEESE MAKERS' CONVENTION LEADING PRIZE WINNERS

### Class 1. American Cheese Made Before Sept. 1, 1925.

First	181	Adolph E. Duescher, Pulcifer .....	99.00
Second	158	Edw. F. Winter, Gillett .....	98.75
Third	186	Otto H. Yordi, Manawa .....	98.50

### Class 2. American Cheese Made During Sept. or October.

First	220	Emil W. Gutknecht, Merrill, R. 3 .....	98.00
Second	250	L. J. Breher, Sheboygan Falls .....	97.88
Third	2014	Ben J. Hrabik, Luxemburg .....	97.75

### Class 3. American Cheese Made After November 1.

First	387	Ed. F. Minnicheske, Clintonville .....	97.00
Second	330	A. W. Hahn, Plymouth .....	96.75
Third	358	Arthur Johns, Luxemburg .....	96.50

### Class 4. Colby Cheese.

First	413	Rose H. Schuh, Greenwood .....	96.00
Second	403	Joseph L. Steinwand, Colby .....	95.75
Third	427	Ernest Mandel, Colby .....	94.75

### Class 5. Drum Swiss.

First	514	Reinhart Miller, Clarno .....	97.00
Second	502	Frank Brandt, Monroe, R. 5 .....	96.00
Third	515	Val. Zibung, Argyle .....	95.50

### Class 6. Block Swiss.

First	603	Joseph Lauber, Barneveld .....	93.00
Second	607	David Walser, Monticello .....	92.50
Third	605	Martin Suter, Blanchardville .....	92.00

### Class 7. Limburger.

First	706	Paul Wyssbrod, Monticello .....	97.50
Second	701	Ernest Kuenzi, Belleville .....	96.50
Third	712	Anton Motz, Monroe .....	96.25

### Class 8. Brick.

First	850	Karl Zuberbuhler, Horicon .....	97.00
Second	809	Oswald Schneider, Appleton .....	96.50
Third	843	N. Stampfli, Barneveld .....	96.00

LIST OF CHEESE EXHIBITS, SCORES AND PAYMENTS, 34TH  
WISCONSIN CHEESE MAKERS' CONVENTION,  
DECEMBER 1925

CLASS 1. AMERICAN CHEESE MADE BEFORE SEPTEMBER 1, 1925

	Prizes Won	Score	Checks
102	Fred S. Sommers, Amery	91.5	\$6.53
103	Wm. M. Lauer, Granton	91.25	3.49
104	Edward Peck, Coleman, R. 1	97.25	16.28
105	Jos. Henseler, Marshfield	54, 373	98.25 17.35
106	Clark Hunter, Richland Center	355	96.25 20.69
107	C. H. Schneider, Merrill, R. 8	1/2-41	96.5 8.83
108	P. H. Mickle, Twin Bluffs		92.5 17.32
109	J. F. Kalk, Cleveland	149	94 9.70
110	Bert McKinney, Mineral Point		90 3.00
111	John H. Peters, Plymouth		91.5 4.45
112	A. J. Reiss, Plymouth		90.5 13.29
113	Ed. Krause, Shawano		96 5.11
114	Andrew Peterson, Muscoda	1/4-362	95.25 5.48
115	Edwin W. Fleming, Avoca		91.25 3.72
116	H. H. Raddant, Embarrass		95.75 4.47
117	Wm. J. Hemb, Kiel		91 3.76
118	Wm. J. Hemb, Kiel, COMP		91 4.88
119	Emil Sonnenburg, Cato		94 4.76
120	Glen C. Weiss, Campbellsport		92.25 4.16
121	Otto Rehme, Mosling		91.25 3.72
122	Otto E. Heller, Chilton	59, 310	95.75 11.32
123	John Babler, Campbellsport		91.5 3.60
124	L. E. Kopitzke, Marion	470	90.5 4.16
125	M. M. Schaetzl, Edgar, R. 5		94 4.48
126	A. F. Schwartz, Clintonville		94 3.70
127	Bernard Grueger, Appleton, R. 5		93.5 5.33
128	Gottfried Moser, Oostburg		93.25 4.37
129	Matt Tuma, Soldiers Grove		91.25 1.15
130	Linda C. Bruhn, Auburndale		95.5 14.36
131	Ludwig A. Kuhn, Edgar	481	94.5 8.54
132	Wm. Albers, St. Cloud	157, 477	96.25 10.69
133	G. J. Kleinhesslink, Oostburg	142	94.75 15.11
134	Oswald Reitz, Calvary, R. 1	156, 146	97 28.10
135	Henry J. Loehr, Calvary	62, 320, 302, 165, 171, 141	94 3.93
136	Mike Lyons, Pulaski		94 4.48
137	Arthur Johns, Luxemburg, R. 2		93 4.49
138	Mary Schaetzl, Edgar, R. 5		87 3.58
139	Reinhard Jacob, Sheboygan, R. 1		88 4.38
140	Edw. Gruenstern, Marion, R. 2		94.5 15.15
141	L. B. Kohlmann, St. Cloud	162, 476, 147	94.75 11.03
142	Fred Stapel, Edgar	483	94 5.78
143	Jacob A. Otto, Malone, R. 1	158	93 5.57
144	Oscar Stock, Manitowoc		93 7.49
145	Albert Gruenstern, Marion	468	87 3.58
146	Ferdinand H. Schultz, Belgium		93 3.49
147	F. P. Luther, Loganville		97 11.33
148	E. H. Knickel, Boardman	169	90 5.75
149	Paul J. Pinck, Beaver Dam, R. 6	490	91.25 3.49
150	Albert Hernke, Hilbert		92.5 7.35
151	Wm. Meyer, Fredonia, R. 2	61	96.5 15.80
152	Oscar Krause, Polar	38, 328, 331	96 5.58
153	J. P. Zehren, Coleman, R. 2		96.75 19.99
154	John S. Martin, Navarino	47, 361, 67	90 3.24
155	John A. Draheim, Hilbert, R. 3		91 2.38
157	John H. Jenkins, Athens		98.75 22.37
158	Edw. F. Winter, Gillett	2, 27, 68, 344, 159, 563, 160	95.25 6.33
159	Henry Nolte, Cleveland, R. 2		91.75 3.94
160	Dick J. Tjenkema, Arpin		93 4.25
161	Ernest Theil, Hamburg, R. 1		94 7.00
162	Harold R. Winters, Oshkosh	1/3-371	94 4.70
163	Wm. Plansky, Peshtigo		93.5 4.54
164	Casper Holzschuh, Elkhart Lake		95 9.72
165	Ewald Moths, Denmark, R. 2	1/2-305	91.25 2.49
166	Carl Schmidt, Greenwood, R. 3		93.5 5.56
167	John Lemkuil, Plymouth, R. 2		90.5 3.16
168	John Fentz, Oconomowoc		87 2.50
169	Herman Kalkofen, Greenwood		94.75 5.11
170	R. H. Gruenke, Auburndale		94 7.85
171	A. W. Hahn, Plymouth, R. 1		91 5.16
172	A. H. Hein, Neenah, R. 11	1/2-372, 471	

## THIRTY-FIFTH ANNUAL CONVENTION

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		Prizes Won	Score	Checks
173	Geo. E. Seiler, Forestville	317, 539, 548	94.25	10.66
174	Julius Wessel, Plymouth, R. 3		91.5	3.75
175	Hugh Kaufman, Plymouth, R. 5		92	5.13
176	Herman W. Behrens, Plymouth		91	4.46
177	George Mohr, Plymouth, R. 4		91.25	3.64
178	E. O. Klemm, Maniwoc, R. 1		94	4.76
179	Joseph Bergs, Edgar	485	94.25	4.81
180	Alf. R. Reinertson, Walders, R. 1		94.25	4.89
181	Adolph E. Duescher, Pulcifer		99	36.68
	.....1, 4, 26, 69, 46, 360, 66, 392, 133, 136		96	7.61
182	H. J. Howe, Nye		93.75	5.59
183	H. P. Mulloy, W. DePere, R. 2	307	95.25	4.80
184	Paul E. Ott, Wausau, R. 2		91.25	4.50
185	Fred Stapel, Edgar, COMP		98.5	29.16
186	Otto H. Yordi, Manawa...3, 28, 73, 48, 368, 393, 138		94	1.79
187	Norman Christensen, Tillamook, Oregon		93.75	3.59
188	John F. Lensmire, Marathon, R. 1		91	5.63
189	David Gobeli, Chetek, R. 4		96	16.24
190	Ralph C. Matznick, Kiel, R. 1	335	97.25	31.56
191	Louis K. Korth, Antigo	1/3-330, 1/3-333	91	4.44
193	Adam Klonowski, Wis. Rapids		94.25	5.04
194	C. A. Bennis, St. Cloud	163, 148	94.25	13.66
195	John Levy, Kewaunee, R. 3		94.25	8.19
196	E. H. Peters, Sugar Bush		94.75	7.73
197	A. A. Miller, Star Prairie	7	96.63	6.31
198	G. M. Matznick, Kiel, R. 1	304, 377, 380, 334A, 137	97.25	31.56
199	L. Bernie Smith, Rockbridge	354	97	28.50
1001	Erwin C. Wunsch, Cleveland		94.5	5.30
1002	Otto Weyer, Manitowoc		90.5	4.47
1003	L. J. Breher, Sheb. Falis		96	6.43
1004	Eugene Buerge, Mifflin		90	4.19
1005	Ed. Steinberg, Appleton	44, 343, 391	96	15.06
1006	Arthur Bartelt, Oshkosh	1/3-371	94	6.70
1007	Aug. Ehlert, Thorpe		91.5	2.38
1008	Arthur Bartelt, Oshkosh, COMP		95.5	5.58
1009	Chas. Mullen, Dodgeville		93.5	4.71
1010	E. F. Minniecheske, Clintonville	6, 49, 369, 459, 453, 457	97.63	34.80
1011	Chas. Mullen, Spring Green, COMP		87.5	5.75
1012	H. G. Wiskow, Clintonville		94.75	7.51
1013	J. H. Hecker, Gardinville, Nev., COMP		no score	0.00
1014	D. D. Korth, Antigo	1/3-330, 1/3-333	91	4.38
1015	A. C. F. Witt, Marshfield	55, 374	95.25	11.25
1016	Otto A. Mellenthin, Marshfield		93	4.71
1017	P. H. Kasper, Bear Creek	5, 549, 456	97.13	15.83
1018	M. Christopherson, New Franken		91.25	3.49
1019	H. D. Schmidt, Sheboygan Falls	144	95.75	11.55
1020	Hugh Kaufman, Plymouth, R. 5		94	5.78
1021	Alfred F. Schulz, Phlox	Too Late	95.25	5.81
1022	Jule Schuelke, Manawa	Too Late	94.5	5.98
1023	John Weiss, Casco	Too Late	96	5.98
1024	O. B. Schwantes, Clintonville	Too Late	95	4.50
1025	Tillamook Cry. Co., Tillamook, Ore.		.....	42.20

### CLASS 2. AMERICAN CHEESE MADE DURING SEPT. OR OCTOBER

		Prizes Won	Score	Checks
201	Anton H. Brei, Rozellville		93	\$6.37
202	Bert McKinney, Mineral Pt.	36	95.5	8.60
203	Fred Sebeck, Marshfield		95	4.08
204	John Grunenfelder, Dorchester		90.75	6.18
205	Arthur Dederick, Lone Rock	1/4-357	94	5.50
206	Jos. Henseler, Marshfield		93.75	5.85
207	W. A. Liebetau, Sheboygan		91.5	3.88
208	Leon A. Laack, Brillion, R. 3		93.25	5.64
209	Chas. E. Helm, Martintown		93.25	6.71
210	Earl B. Whiting, Gillett, R. 1		96.75	13.33
	.....1/2-345, 1/2-346, 564, 161		95.25	9.97
211	Otto Rehme, Mosling	382	93	6.30
212	Ferdinand H. Schultz, Belgium, R. 1	65	93.5	4.29
213	Henry Kellner, Hill Point		96	10.76
214	David Gobeli, Chetek	304A	94	4.27
215	H. T. Laabs, Pocatello, Idaho		93	5.53
216	Oswald Reitz, Calvary, R. 1		91.5	12.28
217	Elmer Heckmann, Milan	525A	96.25	11.40
218	John Babler, Campbellsport	1/2-321, 1/2-322, 176	97.63	30.91
219	C. W. Freidmuth, Thorp	32, 312, 319, 385, 174	98	30.60
220	Emil W. Gutknecht, Merrill, R. 3	8, 29, 42, 301, 336	96.75	8.06
222	Clifford C. Storm, Merrill	40		

## WISCONSIN CHEESE MAKERS' ASSOCIATION

	Prizes Won	Score	Checks	
223	H. H. Karske, New Holstein	91.5	3.43	
224	A. H. Hein, Neenah, R. 11	87	2.73	
225	Henry Voelz, Merrill, R. 6	94	3.65	
226	Art Trutchell, Sheboygan Falls	90.5	4.23	
227	R. W. Pockat, Marion	91.5	2.81	
228	Herman W. Behrens, Plymouth	83.5	4.05	
229	L. B. Kohlmann, St. Cloud	94	6.65	
230	C. A. Norlander, New Richmond	93.5	5.92	
231	Walter Reisner, Bonduel	96	6.49	
232	Wm. M. Lauer, Granton	1/4-362	95	4.08
233	Paul C. Kleinschmidt, Merrill, R. 4	1/2-41	96.5	6.73
234	Joe Dillinger, Unity	91.25	6.62	
235	Frank D. Cootway, Grimms	91	3.67	
236	Raymond Schmidt, Fond du Lac	92	5.10	
237	Paul E. Ott, Wausau, R. 2	93.5	4.44	
238	Wm. Meyer, Fredonia, R. 2	94	13.96	
239	F. P. Baker, St. Cloud, R. 1	60, 150	92	5.10
240	A. A. Miller, Star Prairie	31, 351, 525	97.38	12.58
241	Arthur Johns, Luxemburg, R. 2	326	96.5	7.51
242	Theo. Wegner, Random Lake	87	2.58	
243	Val Rack, Random Lake, R. 3	89	2.12	
244	Victor Rosenow, Platteville	93	1.28	
245	Ludwig A. Kuhn, Edgar	479	95.75	17.18
246	Albert Hernke, Hilbert	91.5	4.20	
247	Albert Gruenstern, Marion	91.25	2.53	
248	John Fischer, Boaz	89.5	3.58	
249	Wm. F. Preuss, Seymour	90.5	3.15	
250	L. J. Breher, Sheboygan Falls	9, 30, 70, 56, 299, 134	97.88	17.17
251	Henry Nolte, Cleveland, R. 2	91.25	4.55	
252	John F. Hoelt, Cumberland	464	93	10.70
253	Albert Hernke, Hilbert	90.75	4.33	
254	Mary Schaetzl, Edgar, R. 5	90.5	2.93	
255	C. F. Heckman, Cleveland	334	95.75	9.95
256	J. F. Drab, Kewaunee, R. 3	94.25	5.84	
257	Wm. Albers, St. Cloud	155, 475, 143	96	17.59
258	G. J. Kleinhessliink, Oostburg	94	5.10	
259	Frank Skabroud, Jr., Jump River	52, 366	91	9.36
260	Chas. A. Kennedy, Spring Green	91	3.59	
261	Wm. C. Lindow, Plymouth, R. 2	93.5	4.44	
262	G. H. Scannell, Campbellsport	91.5	4.40	
263	Oscar Stock, Manitowoc, R. 3	95	6.39	
264	Jerome L. Reif, Saukville	91	10.72	
265	Alva Abbs, La Farge	95.25	14.32	
267	Wm. J. Gerlach, Greenwood	1/2-520	90.5	4.46
268	Ernest Theil, Hamburg	91.5	2.36	
269	Mike Sleger, Maribel, R. 1	91.5	3.66	
270	Oscar H. Schreiber, Cecil	95.75	5.18	
271	Geo. Koenig, Stangelville, R. 1	91.25	3.32	
272	Henry Nolte, Cleveland, R. 2	88.5	5.81	
273	John Babler, Campbellsport, R. 1	94	4.88	
274	Geo. Duffrin, Eldorado	535	92.5	7.09
275	Thos. Eisenhut, Eldorado	536	90.5	4.23
276	Albert Schleis, Kewaunee	95	4.77	
277	Henry Rux, Wausau, R. 1	91	3.36	
278	Ed. Sleger, Denmark, R. 2	94.75	11.05	
279	W. F. Griese, Cedarburg	91.5	15.06	
280	Wm. J. Hemb, Kiel	90.75	3.87	
281	Wm. H. Prange, Colfax, R. 3	318	83	7.75
282	Fred Stapel, Edgar	338, 478	96	4.24
283	W. S. Stocker, Thorp	33, 313, 386	96.25	16.22
284	Chas. Yaeger, Cadott	384	90	6.41
285	Martin Kubitz, Edgar	480	95.75	18.18
286	Aug. Ehlert, Thorpe	92	4.09	
287	Norman Christensen, Tillamook City, Oregon	94.5	2.79	
288	Leon A. Laack, Brillion, R. 3	94.75	4.28	
289	Earl F. Albrecht, Forestville, R. 2	90.5	2.15	
290	Bernard Krueger, Appleton, R. 5	94.5	5.10	
291	Theo. W. Treptow, Marion, R. 2	1/2-466	96	7.01
292	Walter Huegeli, Juneau, R. 4	87	8.16	
293	Geo. Sommers, Wausau, R. 4	43, 337	97	13.17
294	A. W. Hahn, Plymouth	12, 57, 300, 135, 168	97.50	19.24
295	John P. Wry, Stanley	1/3-314	96	5.34
296	F. A. Flynn, Pulaski, R. 2	96	4.51	
297	O. W. Bartelt, Campbellsport	93.5	4.22	
298	H. J. Wagner, Greenleaf	1/2-305	95	9.43
299	Joe Koenig, Denmark, R. 1	94	4.50	
2001	Frank J. Sleger, Stangelville	93	3.45	
2002	Carl Bergner, Pulaski, R. 2	96	5.26	
2003	W. H. Krumrey, Gillett, R. 1	1/4-362	96	5.29
2004	Matt Tuma, Soldiers Grove	93.5	4.44	
2005	Bernard Winder, Richland Center	1/4-357	94	8.80

# THIRTY-FIFTH ANNUAL CONVENTION

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	Prizes Won	Score	Checks
2006	Raymond A. Larsen, Bonduel	95.5	5.30
2007	Jesse J. Spieles, Wisconsin Rapids	94.75	4.97
2008	Fred J. Chapman, Sheboygan Falls	93.5	5.29
2009	Harry A. Olson, Abbottford	95.25	9.12
2010	Dick J. Tjepkema, Arpin	94.25	5.84
2011	A. F. Schwartz, Clintonville	94.25	4.54
2012	Anton J. Blahnik, Kewaunee, R. 3	94.5	4.17
2013	Hans Walder, Beaver Dam, R. 2	491	9.39
2014	Ben J. Hrabik, Luxemburg	10, 11, 376, 379, 325	97.75
2015	L. L. Rudersdorf, Platteville	94	4.43
2016	C. E. Goodrich, Lone Rock	91.5	3.36
2017	Art Giese, Seymour	90.5	2.15
2018	A. E. Bloy, Marshfield	71	94.75
2019	John A. Heibel, Shullsburg	132	96.75
2020	Leonard Lange, Fox Lake	86	9.63
2021	John H. Jenkins, Athens	93.75	3.54
2022	F. J. Mulvey, Fennimore	95.5	6.38
2023	Geo. E. Seiler, Forestville	316, 538, 547	94.5
2024	Louis K. Korth, Antigo	39, 329, 332	95.25
2025	Otto Weyer, Manitowoc	92.25	5.21
2026	Henry Englebert, Brussels	315, 537	96.75
2027	L. Bernie Smith, Rockbridge	1/4-357	94
2028	Joseph Bergs, Edgar, R. 5	482	95.5
2029	E. W. Ehler, Thorpe	1/3-314	96
2032	Erwin O. Wunsch, Cleveland	145	95.5
2033	John Donner, Gotham	358	93.25
2034	R. H. Greunke, Auburndale	375	95
2035	M. M. Schaeztl, Edgar, R. 5	484	94.5
2036	Jacob Strub, Plymouth	90.5	16.43
2037	Wm. Lichtenberg, Beaver Dam	91	3.59
2038	Edward Peck, Coleman, R. 1	340	96.25
2039	John Lemkuil, Plymouth, R. 2	91.25	4.78
2040	Wm. J. Hemb, Kiel	91	4.80
2041	Bert Ruetten, Hillpoint	94.5	5.95
2042	Pete Anderson, New Richmond	95.75	6.48
2043	A. H. Kaufman, Cascade	93.5	5.52
2044	P. H. Kasper, Bear Creek	550	96.5
2045	Jacob Strub, Plymouth	90.5	6.79
2046	J. P. Zehren, Coleman, R. 2	1/2-345, 1/2-346, 170	96.75
2047	Edw. F. Winter, Gillett	95.5	7.55
2048	Jacob A. Otto, Malone, R. 1	1/2-321, 1/2-322, 154, 175	96.25
2049	Julius Wessel, Plymouth	91	4.44
2050	J. F. Kalk, Cleveland, R. 1	13	97
2051	Andrew Peterson, Muscoda	92.5	4.24
2052	Henry Nelson, Richland Center	1/4-357	94
2053	J. H. Hecker, Gardenville, Nev.	89	3.85
2054	Edw. N. Heinen, Junction City	51, 349	95.5
2055	Choe B. Lathrop, Bakley	90.5	5.40
2056	Herman Kalkofen, Greenwood	1/2-520	90.5
2057	Gottfried Moser, Oostburg	91.25	4.55
2058	Henry J. Loehr, Calvary, R. 1	63, 166, 172	96.5
2059	George Mohr, Plymouth	86	2.81
2060	Oswald Schachtler, Boyd	1/2-311, 1/2-383	91
2061	Jacob Strub, Plymouth, COMP	90	14.85
2062	Aug. Brandt, Kewaunee	327	96.5
2063	Otto H. Yordi, Manawa	97	4.50
2064	H. J. Howe, Nye	94.75	7.67
2065	Edw. Gruenstern, Marion, R. 2	1/4-362, 1/2-466	96
2066	John J. Voith, Junction City	50, 352, 348	95.75
2067	C. H. Schneider, Merrill, R. 8	96.25	8.10
2068	E. H. Peters, Sugar Bush	91.5	4.43
2069	C. K. Kalkofen, Greenwood	1/2-519	91.25
2071	Frank N. Zehren	341	95.75
2072	Harvey A. Danke	1/3-371	94
2073	John H. Peters, Plymouth	90	4.01
2074	Chas. Mullen, Dodgeville	37	94.5
2075	Linda C. Bruhn, Auburndale	91.25	1.13
2076	H. Pullmann, Manitowoc, R. 2	90	3.23
2077	Wm. F. Braatz, Shawano, R. 3	91	2.14
2078	H. G. Wiskow, Clintonville	370, 460, 454, 458, 139	97.38
2079	E. F. Minnicheski, Clintonville	461, 455, 140	97.25
2080	John Tischhauser, Tilleda	94	4.88
2081	E. F. Hrudka, Peshtigo	93	3.45
2082	M. M. Schaeztl, Edgar, R. 5	91	4.50
2083	Arthur H. Berth, Sheboygan, R. 2	96.25	7.70
2084	Aug. J. Hinz, Stratford	94	5.50
2085	Reinhard Jacob, Sheboygan, R. 1	91.25	3.53
2086	F. J. Oskey, Seymour, R. 1	1/2-45	95
2087	Mike Kellner, Minatore, Nebr.	95.5	4.36
2088	Fred Winkler, Augusta	34, 319	91.25

## WISCONSIN CHEESE MAKERS' ASSOCIATION

	Prizes Won	Score	Checks
2089	Glen C. Rindhammer, Star Prairie		
2090	Grant Siewert, Dale	94.5	7.02
2091	John S. Martin, Navarino, R. 1	1/2-45	95 7.39
2092	Henry Siewert, Dale	91.5	3.81
2093	Wm. J. Hemb, Kiel	94	5.81
2094	A. C. F. Witt, Marshfield	93.5	5.12
2095	Theodore Braun, Greenwood	91.25	4.32
2096	Otto A. Mellenthin, Marshfield	1/2-519	91.25 2.47
2097	G. H. Schuler, Elkhart Lake	91	3.90
2098	Otto A. Mellenthin, Marshfield, COMP.	91	4.44
2099	J. F. Bachmann, Fremont	91	4.50
20002	Edward Vodak, West Lima	1/2-372	91 10.25
20003	Glenn W. Radel, Gillingham	96	17.76
20004	Adolph Guthertz, Fennimore	91.5	6.96
20005	A. E. Lau, Brillion	91.25	3.29
20006	Edwin C. Voigt, Kiel	58, 309	96.75 16.14
20007	Ernest Niklous, Fond du Lac	93.5	5.06
20008	John Roth, Buena Vista, Ill.	91	3.14
20009	Otto H. Yordi, Manawa	86	2.95
20010	B. Gruse, Black Creek	96.5	7.98
20011	Alfred F. Schulz, Phlox	Too Late	91.5 4.81
		Too Late	95 5.81

## CLASS 3. AMERICAN CHEESE MADE ON OR AFTER NOV. 1, 1925

	Prizes Won	Score	Checks
301	Geo. J. Walter, Hartford, R. 4	91.25	\$3.63
302	John Babler, Campbellsport	93.75	5.35
303	L. B. Kohlmann, St. Cloud	89	1.50
304	W. A. Krumrey, Gillett, R. 1	90.5	2.63
305	Aug. J. Hintz, Stratford	91.5	4.00
306	John Verhulst, Curtiss	94.5	4.80
307	Elmer Stevenson, Cumberland	90.5	3.46
308	G. J. Kleinhesslink, Oostburg	93.5	6.28
309	J. F. Kalk, Cleveland	91.25	4.70
310	Fred J. Chapman, Sheb. Falls	93	5.98
311	L. J. Berher, Sheb. Falls	95	7.18
312	Arthur Dedrick, Lone Rock	90.75	4.86
313	Wm. J. Hemb, Kiel	89	3.35
315	Joe Dillinger, Unity	91	6.63
316	W. C. Gielow, Bear Creek	94.5	6.80
317	Linda C. Bruhn, Auburndale	551	94.75 2.61
318	John Babler, Campbellsport	93.5	4.50
319	J. H. Hecker, Gardenville, Nev.	93	5.85
320	Edw. F. Winter, Gillett	93.75	7.83
321	Ludwig A. Kuhn, Edgar	90	2.10
322	Paul E. Ott, Wausau, R. 2	91.75	3.38
323	Wm. M. Lauer, Auburndale	91.25	2.85
324	Pete Anderson, New Richmond	91	5.25
325	M. H. Lee, Hillsdale	91.75	2.93
326	Henry J. Loehr, Calvary, R. 1	167	91 6.78
327	Henry Nolte, Cleveland, R. 2, COMP.	91.25	5.58
328	John H. Peters, Plymouth	91.25	5.16
329	Oswald Reitz, Calvary, R. 1	91.25	5.16
330	A. W. Hahn, Plymouth	15	96.75 8.23
331	Theo. W. Treptow, Marion, R. 2	92.25	4.45
332	Geo. Duffrin, Eldorado	94	7.58
333	Paul C. Kleinschmidt, Merrill, R. 4	96	5.70
334	L. E. Kopitzke, Marion	467	94.75 8.18
335	Mary Schaetzl, Edgar, R. 5	93	3.90
336	Ernie Holderman, Stanley, R. 2	93	3.96
337	Wm. Albers, St. Cloud	93.75	5.20
338	Julius Wessel, Plymouth, R. 3	91.5	5.31
339	D. W. Groth, Eldorado	534	93.5 9.28
340	Aug. Brandt, Kewaunee	94	5.28
341	Emil Abegglen, Eldorado	1/2-533	94 12.07
342	E. H. Peters, Sugar Bush	93	4.13
343	Henry Nolte, Cleveland, R. 2	93	6.21
344	A. F. Schwartz, Clintonville	93	3.68
345	John Wuethrich, Greenwood	1/2-522	87 2.95
346	Pete Anderson, New Richmond	90.75	5.25
348	Walter Reisner, Bonduel	95	6.10
349	Erwin Stephenson, Blue River	90	2.10
350	Emil Sonnenburg, Cato	94	6.04
351	John A. Heibel, Shullsburg	95	5.33
352	David Gobell, Chetek, R. 4	90	5.58
353	Edwin L. Radel, Viola	91	4.15
354	Wm. C. Lindow, Plymouth, R. 2	93	3.96
355	Glenn W. Radel, Gillingham	91.5	4.23
356	M. M. Schaetzl, Edgar, R. 5	91.75	4.15
357	Herman W. Behrens, Plymouth	87	3.81
358	Arthur Johns, Luxemburg, R. 2	16, 17, 378, 381, 72	96.5 10.06



# THIRTY-FIFTH ANNUAL CONVENTION

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	Prizes Won	Score	Checks	
359	Chas. H. Humphrey, Random Lake	90.25	4.33	
360	Ernest Theil, Hamburg, R. 1	94.75	4.95	
361	Ben J. Hrabik, Luxemburg	94.75	4.95	
362	Oscar H. Schreiber, Cecil	95	6.33	
363	Zeichert Bachmann, Weyauweya	89	6.33	
364	C. H. Schneider, Merrill, R. 8	95	8.58	
365	Dick J. Tjpkema, Arpin	93.25	4.28	
366	Herman Hoesly, Antigo	1/3-330, 1/3-333	91	3.76
367	Otto Rehme, Mosling	93.75	5.35	
368	Tony F. Kutnarowski, Thorpe, R. 4	90	3.33	
369	David Gobeli, Chetek	91.5	9.77	
370	A. H. Kaufman, Cascade	90.25	4.56	
371	Wm. Lichtenberg, Beaver Dam, R. 3	502, 506	92.25	4.68
372	John Feutz, Oconomowoc	90.50	3.40	
373	Chas. Mullen, Dodgeville	93	4.13	
374	Jost Hoesli, Black Earth	91.25	3.85	
375	L. Bernie Smith, Rockbridge	87	4.98	
376	Fred Stapel, Edgar	93.75	5.58	
377	E. F. Hrudka, Peshtigo	90.25	2.48	
378	H. G. Wiskow, Clintonville	463	93.50	7.13
379	Chas. B. Lathrop, Bagley	91.25	5.33	
380	John Tischhauser, Tilleda	93.75	4.35	
381	John J. Bai, Alma	308	89.50	4.05
382	O. W. Bartelt, Campbellsport, R. 5	88	10.09	
383	Earl B. Whiting, Gillett, R. 1	94.5	4.80	
384	Gottfried Moser, Oostburg	91.25	4.93	
386	Otto H. Yordi, Manawa	19	95.25	8.50
387	E. F. Minnicheske, Clintonville	14, 18, 462	97	21.50
388	Fred Sieber, Fond du Lac	87.5	2.81	
389	Oscar Stock, Manitowoc, R. 3	95	7.41	
390	Fred W. Nussbaumer, Waldo	86	3.35	
391	Chas. A. Kennedy, Spring Green	90.5	3.85	
392	C. K. Kalkofen, Greenwood	1/2-522	87	3.58
393	Reinhard Jacob, Sheboygan	91	5.01	
394	Fremont Wonn, Stanley	1/2-311, 1/2-383	91	5.48
395	Herman Kalkofen, Greenwood	521	88.5	3.35
396	Wm. C. Haese, Dunbarton	92.5	3.60	
397	P. H. Kasper, Bear Creek	94.25	7.90	
398	Erwin O. Wunsch, Cleveland	95.25	7.33	
399	Walter R. Schmidt, Sheb. Falls, R. 1	93	2.96	
3001	Floyd Clemons, Medina	94.5	7.35	
3002	Martin Kubitz, Edgar	94	4.50	
3003	Ed. Kaufman, Rice Lake	Too Late	95	5.98
3004	Alfred F. Schulz, Phlox	Too Late	94.5	4.81
3005	South Dak. State College, Brookings, S. D.	Too Late	95	5.90

## CLASS 4. AMERICAN CHEESE MADE BY COLBY PROCESS

401	Otto Fueglista, Red Oak, Ill.	93	\$7.95	
402	A. W. Hahn, Plymouth, R. 1	91.25	5.23	
403	Joseph L. Steinwand, Colby	21, 527, 556	95.75	17.00
405	John Gruenfelder, Dorchester	92	7.09	
406	M. F. Lawrie, Dorchester	528	94.25	12.29
407	Leon A. Laack, Brillion, R. 3	93	5.87	
408	Frederick W. Beyer, Spencer	561	87	5.73
409	L. J. Breher, Sheb. Falls	90	5.61	
410	M. M. Schaetzl, Edgar, R. 5	90.5	3.45	
411	Wm. Lichtenberg, Beaver Dam, R. 3	489, 1/2-501, 504, 505, 510	92.75	7.09
412	Mrs. Frederick W. Beyer, Spencer, COMP.	88.5	4.50	
413	Rose H. Schuh, Greenwood	20, 23, 1/3-314, 518	96	10.22
414	E. O. Klemm, Manitowoc, R. 1	90.5	9.65	
417	J. F. Kalk, Cleveland, R. 1	92.5	5.56	
418	Fred W. Nussbaumer, Waldo	88.5	3.35	
419	P. H. Kasper, Bear Creek	93	7.50	
420	Otto L. Baumgart, Colby	25	94	7.13
421	Jerome L. Reif, Saukville	91.25	9.81	
422	Leonard Lange, Fox Lake	91.25	3.22	
423	Henry Rux, Wausau	94	4.43	
424	Wm. J. Hemb, Kiel	92	4.45	
425	Elmer Stevenson, Cumberland	89.5	2.32	
426	G. J. Kleinhesslink, Oostburg	94	5.27	
427	Ernest Mandel, Colby, R. 2	94.75	7.37	
428	Robt. Voeks, Fredonia	64	93.5	9.42
429	C. H. Schneider, Merrill, R. 8	92	5.42	
430	John F. Tesmer, Colby	92	3.39	
431	Ben Gruenfelder, Waldo	88.5	3.35	
432	Arnold Feller, Hustisford	92.5	4.01	
433	Roland E. Schaal, Spencer	94	4.65	
434	John F. Tesmer, Colby	92.5	4.50	
435	Mr. David Mandel, Owen	89.75	3.75	

## WISCONSIN CHEESE MAKERS' ASSOCIATION

## CLASS 5. DRUM SWISS

	Prizes Won	Score	Checks
501 John Anderegg, Juda .....		89	\$58.55
502 Frank Brandt, Monroe, R. 5 .....	88, 77, 82, 93	96	91.83
503 Ernest Herrmann, Neillsville, R. 1 .....		91.25	72.61
504 Alex Alplanalp, Juda .....	91	91.5	64.83
505 Eugene Wirz, Darlington .....	80, 83, 85	92.5	91.31
506 Osc. Jinhof, Monroe .....	78	95	71.63
507 Joseph Lauber, Barneveld .....	94	87	50.78
508 Adolph Alplanalp, Monroe .....		87	45.27
509 Jacob Niffenegger, Darlington .....	81	88.5	55.65
510 Fred Wuethrick, Juda .....	540	91	62.75
511 Casper Jaggi, Brodhead, R. 3 .....	542, 543	87	45.28
512 Otto Wenser, Brodhead .....	541	90.5	88.68
513 John Wenger, Davis, Ill. ....		96.5	74.88
514 Reinhart Mueller, Clarno .....	87, 75, 76, 81A, 86, 91	97	102.28
515 Valentine Zibung, Argyle, R. 4 .....	89, 79, 84	95.5	81.04

## CLASS 6. BLOCK SWISS

	Prizes Won	Score	Checks
601 Gottlieb Werren, Blue Mounds .....	100A, 102	91.25	\$13.27
602 Mike Durtschi, Barneveld .....	101	88	5.28
603 Joseph Lauber, Barneveld .....	95, 100, 560	93	15.32
604 Albert Ryser, Monroe .....	99	91.25	6.71
605 Martin Suter, Blanchardville .....	97, 104	92	11.64
606 Fred A. Schaller, Barneveld .....		84	5.80
607 David Walser, Monticello .....	96, 103	92.5	12.48
608 Emil Forster, Blue Mounds .....	100B	88	6.12
609 Fred Meier, Mt. Horeb, R. 2 .....	90.75	90.75	8.01
610 David Walser, Monticello, COMP .....		90	7.84
611 Ulrich Furrer, Hollandale .....	529, 531, 532	90.75	9.73

## CLASS 7. LIMBURGER

	Prizes Won	Score	Checks
701 Ernest Kuenzi, Belleville .....	106	96.5	\$8.78
702 Jacob Schneider, Juneau .....		94	3.55
703 Adolph Gurtner, Rubicon, R. 1 .....		93	5.59
704 John Minnig, Monticello .....	111	95	2.51
705 John Sieber, Monticello, R. 4 .....		95	4.16
706 Paul Wyssbrod, Monticello, R. 5 .....	105, 108, 323, 559	97.5	19.38
707 Ernest W. Jung, Juneau .....		94.5	4.74
708 Louis Sager, Monroe, R. 4 .....		93	1.07
709 Martin Kammer, Basco .....		95	4.69
710 Gust Drachenberg, Watertown, R. 8 .....		92	5.93
711 Jacob Disler, Allenton .....		91	5.32
712 Anton Motz, Monroe, R. 8 .....	107	96.25	4.38
713 Emil Frehner, Beloit, R. 2 .....	545, 546	93	6.60
714 Adolf Kauffmann, Monticello .....		95	.40
715 Rudy B. Lengacher, Monticello, R. 2 .....		93	2.54
716 Peter Bernet, Monticello .....	Too Late	94	6.11

## CLASS 8. BRICK CHEESE

	Prizes Won	Score	Checks
801 Fred Ogi, Portage .....		93	\$4.09
802 Fred Gurtner, Jackson .....		91	4.88
803 Henry Egli, DeForest .....		91	3.96
804 Albert Oertig, South Wayne, R. 1 .....		93	3.48
805 Leo Lotscher, Beaver Dam, R. 1 .....		93	4.32
806 Rudolf Streit, Waupun, R. 2 .....	117, 120, 126	95.13	9.30
807 Adolph Moser, Rubicon .....		91.25	2.61
808 John Durtschi, Barneveld .....	452	95	6.91
809 Oswald Schneider, Appleton .....	113, 118, 342	96.5	16.75
810 Fred Bleuer, Beaver Dam .....		95	5.30
811 Werner Rechsteiner, Juneau, R. 3 .....		94	4.85
812 Ben R. Williams, Cambria .....		90	3.20
813 Arthur Raether, Ixonia, R. 1 .....		80	1.37
814 G. E. Strassburg, Randolph .....	178	93.25	7.51
815 E. F. Indermuehle, Brownsville .....		94	5.08
816 Walter Lichty, Ixonia, R. 1 .....		94	5.54
817 Emil Gruber, Dalton .....		90	2.51
818 Adolph Gurtner, Rubicon, R. 1 .....		87	2.37
819 John Biers, Neosho .....		94	5.00
820 Fred Buetschli, Cambria .....	1/2-123, 1/2-124, 523	94	11.58

# THIRTY-FIFTH ANNUAL CONVENTION

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		Prizes Won	Score	Checks
821	Julius Heusser, Clear Lake .....			
822	Paul J. Pinck, Beaver Dam, R. 6 .....		93	4.63
	.....497, 500, 503, 486, 492, 509, 494		93.5	12.90
823	Ulrich Furrer, Hollandale .....		93	4.40
824	Ewald Jung, Minnesota Jct. ....		94	5.54
825	Henry Haesler, Juneau, R. 1 .....		94.25	4.88
826	Joe Schmid, Beaver Dam, R. 1 .....	499, 488, 496	92.25	5.98
827	Fred Jung, Juneau .....		91.25	4.07
828	Gust Drachenberg, Watertown, R. 8 .....		85.5	4.21
829	Fred Feutz, Rubicon .....		92	5.33
830	Marcel Steiner, Cambria .....		93.5	9.55
831	Adolph Feller, Mayville, R. 3 .....	177	91	4.65
832	Herbert F. Tietz, Ixonia, R. 2 .....		89	3.52
833	Jost Hoesli, Black Earth .....		95	5.53
834	Frank Mock, Fox Lake .....		94.5	7.38
835	Karl Berger, Juneau, R. 3 .....		95	6.22
836	Edward Seiler, Sun Prairie .....		95	5.22
837	Jake Balsiger, Pardeeville .....	1/2-123, 1/2-124	94	9.19
838	Gottfried Zurbuchen, Burnett .....		94.5	6.23
839	Jake Lenzinger, Woodland, R. 5 .....		94	5.77
840	Jacob Schneider, Juneau .....		93	3.17
841	Carl Bachofen, Beaver Dam .....			
	.....498, 1/2-501, 487, 495, 493		92.75	8.56
842	Herman Schubert, Slinger .....		95	7.37
843	N. Stampfli, Barneveld .....	114, 450, 530	96	17.59
844	Carl Vogel, Fox Lake .....	524	92.25	7.90
845	Simon Zwald, Barneveld .....	127, 451	95.5	6.45
846	Mike Durtschi, Barneveld .....		92.25	4.75
847	Fred Berger, Mt. Horeb .....		94	5.46
848	Ernest Schwartz, Rosendale .....	116	95	5.99
849	Fred Mani, Mt. Horeb .....		95	4.99
850	Karl Zuberhuhler, Horicon .....	112, 115, 119, 125, 558	97	16.66
851	Arnold Zumbach, Apple River, Ill. ....		93	5.44
852	Jacob Disler, Allenton, R. 4 .....		92.25	3.29
853	Valentine Zibung, Argyle, R. 4 .....		95	5.68
854	Rudolph Streit, Waupun, R. 2 .....		94	4.16
855	Ernest W. Jung, Juneau .....		92.5	3.18
856	Jacob Mueller, Haugen .....	Too Late	93	3.14
Total .....				\$4879.88

## LIST OF 60 SHEBOYGAN COUNTY CHEESE EXHIBITS

Entry	Score	Names on Pens	Special Prizes	Pro-rata
176	91	Herman W. Behrens, Plymouth .....	1	\$1.12
357	87	Herman W. Behrens, Plymouth .....		
228	83.5	Herman W. Behrens, Plymouth .....		
2083	96.25	Arthur H. Berth, Sheboygan, R. 2 .....	2	4.06
250	97.88	L. J. Breher, Sheboygan Falls .....	3	4.96
1003	96	L. J. Breher, Sheboygan Falls .....		3.92
311	95	L. J. Breher, Sheboygan Falls .....		3.36
409	90	Fred J. Chapman, Sheboygan Falls, R. 3 .....	4	.56
2008	93.5	Fred J. Chapman, Sheboygan Falls, R. 3 .....		2.52
310	93	Ben Gruenfelder, Waldo .....	5	2.24
431	88.5	A. W. Hahn, Plymouth, R. 1 .....	6	4.76
294	97.50	A. W. Hahn, Plymouth, R. 1 .....		4.34
330	96.75	A. W. Hahn, Plymouth, R. 1 .....		2.80
171	94	A. W. Hahn, Plymouth, R. 1 .....		1.26
402	91.25	A. W. Hahn, Plymouth, R. 1 .....		2.52
164	93.5	Casper Holzschuh, Elkhart Lake, R. 3 .....	7	.70
359	90.25	Chas. H. Humphry, Random Lake .....	8	1.26
2085	91.25	Reinhard Jacob, Sheboygan, R. 1 .....	9	1.12
393	91	Reinhard Jacob, Sheboygan, R. 1 .....		4.48
139	87	Reinhard Jacob, Sheboygan, R. 1 .....		2.80
2050	97	J. F. Kalk, Cleveland, R. 1 .....	10	1.96
109	94	J. F. Kalk, Cleveland, R. 1 .....		1.26
417	92.5	J. F. Kalk, Cleveland, R. 1 .....		2.52
309	91.25	J. F. Kalk, Cleveland, R. 1 .....	11	.70
2043	93.5	A. H. Kaufman, Cascade .....	12	2.80
370	90.25	Hugo Kaufman, Plymouth, R. 5 .....		1.68
1020	94	Hugo Kaufman, Plymouth, R. 5 .....		4.06
175	92	G. J. Kleinhesslink, Oostburg .....	13	2.80
133	96.25	G. J. Kleinhesslink, Oostburg .....		2.80
258	94	G. J. Kleinhesslink, Oostburg .....		2.80
426	94	G. J. Kleinhesslink, Oostburg .....		2.52
308	93.5	John Lemkuil, Plymouth, R. 2 .....	14	2.52
167	93.5	John Lemkuil, Plymouth, R. 2 .....		1.26
2039	91.25	John Lemkuil, Plymouth, R. 2 .....		

## WISCONSIN CHEESE MAKERS' ASSOCIATION

Entry	Score	Names on Pens	Special Prizes	Pro-rata
207	91.50	W. A. Liebetrau, Sheboygan Falls, R. 2	15	1.40
261	93.5	Wm. C. Lindow, Plymouth.....	16	2.52
354	93	Wm. C. Lindow, Plymouth, R. 2.....		2.24
177	91.25	George Mohr, Plymouth.....	17	1.26
2059	86	George Mohr, Plymouth.....		.....
128	93.5	Gottfried Moser, Oostburg.....	18	2.52
384	91.25	Gottfried Moser, Oostburg.....		1.26
2057	91.25	Gottfried Moser, Oostburg.....		1.26
418	88.5	F. W. Nussbaumer, Waldo.....	19	.....
390	86	F. W. Nussbaumer, Waldo.....		.....
111	91.5	John H. Peters, Plymouth.....	20	1.40
328	91.25	John H. Peters, Plymouth.....		1.26
2073	90	John H. Peters, Plymouth.....		.56
243	89	Val Rach, Random Lake.....	21	.....
112	90.5	A. J. Reiss, Plymouth.....	22	.84
1019	95.75	H. D. Schmidt, Sheboygan Falls.....	23	3.78
399	93	Walter R. Schmidt, Sheboygan Falls..	24	2.24
2097	91	G. H. Schuler, Elkhart Lake.....	25	1.12
2036	90.5	Jacob Strub, Plymouth.....	26	.84
226	90.5	Arthur Truttschel, Sheb. Falls, R. 1..	27	.84
174	91.5	Julius Wessel, Plymouth, R. 3.....	28	1.40
338	91.5	Julius Wessel, Plymouth.....		1.40
2049	91	Julius Wessel, Plymouth.....		1.12
2032	95.5	Erwin O. Wunsch, Cleveland.....	29	3.64
398	95.25	Erwin O. Wunsch, Cleveland.....		3.50
1001	94.5	Erwin O. Wunsch, Cleveland.....		3.08
Sheboygan Co. Pro-rata fund checks.....				\$115.14

## SECRETARY'S REPORT FOR 1925 CONVENTION

(Read in 1926)

By J. L. SAMMIS, Madison, Wis.

## State Treasurer's Account

## Receipts

1925			
July 1	1	Balance forward from last report .....	\$ 303.79
July 1		State appropriation .....	600.00
Dec. 22		Membership fees deposited .....	671.00
			<hr/>
			\$1,574.79

## Disbursements

1925			
July 29	19	Miss Libby Miller, reporter .....	\$ 55.00
		State Printer, envelopes, circulars, etc.....	48.83
Nov. 5	5	Supt. Public Property, postage on reports.....	50.94
Nov. 11	11	Auditorium Lease .....	295.00
Nov. 24	24	State Printer, statements and bill heads .....	7.33
		State Printer, 920 Annual Reports .....	318.69
1926			
Mar. 1	1	Secretary .....	400.00
Mar. 17	17	Miss Libby Miller, reporter .....	55.00
Mar. 24	24	State Printer, 950 Annual Reports .....	257.58
		State Printer, printing .....	65.12
		Balance forward .....	3.88
			<hr/>
			\$1,574.79

## Secretary's Donation and Program Fund

Cash prizes, offered for fine cheese exhibits at the convention, are awarded and paid to exhibitors as directed by the donors, the Secretary acting as the agent of the donors for this purpose. As these funds are at no time the property of the Association, and as they are paid out to winners at the Convention, or returned to the donors, these donations are not deposited in the State Treasury, but the receipts and disbursements are published here, and in the list of prize-winners.

To raise additional funds for the support of the Convention, the Secretary, acting as a private individual, published a Convention program, and rented booths and the proceeds from this enterprise were used for Association purposes, the balance to be finally deposited in the State Treasury, as a donation to the Association, from the advertisers. The program receipts and the disbursements of this fund are shown below.

The Convention cheese exhibits were sold by the Secretary, acting as the agent of the exhibitors, and the proceeds paid at once to exhibitors, as shown in the list of exhibitors in this report.

**Receipts From Booth Spaces**

Balance forward from last report .....	\$ 410.06
Damrow Bros. Co., booth space .....	105.00
Stoelting Bros. Co., Kiel, booth .....	50.00
D. & F. Kusel Co., Watertown .....	100.00
Marschall Dairy Laboratory, Madison .....	50.00
Brookshire Cheese Co., Plymouth .....	50.00
Pyramid Oil Co., Minneapolis, ½ space .....	30.00
Morton Salt Co., Milwaukee .....	50.00
J. B. Ford Co., Wyandotte, Mich. ....	50.00
Wis. Dairy Laboratory, Green Bay .....	50.00
Lavo Corp. of America, Milwaukee .....	50.00
Creamery Package Mfg. Co., Chicago .....	55.00
A. H. Barber-Goodhue Co., Chicago .....	50.00
Diamond Crystal Salt Co., Minneapolis .....	50.00
Sharples Separator Co., West Chester, Pa. ....	50.00
Chris Hansen's Laboratory, Little Falls, N. Y. ....	50.00
Cream City Chemical Works, Milwaukee .....	50.00
De Laval Separator Co., Chicago .....	100.00
Super Products Co., Chicago .....	50.00
Oakes and Burger Co., Cattaraugus, N. Y. ....	50.00
Toledo Scale Co., Minneapolis .....	25.00
Worcester Salt Co., Detroit, ½ space .....	20.00
Brillion Iron Works, Brillion, ½ space .....	25.00
Elov, Ericsson Co., St. Paul, ½ space .....	50.00
Monarch Sales and Eng. Co., St. Louis .....	50.00
Ruggles and Rademaker, Milwaukee .....	55.00
Topp Oil and Supply Co., Milwaukee .....	50.00
Schwab-LeZotte Boiler Co., Milwaukee .....	50.00
Viking Pump Sales Co., Milwaukee .....	50.00
Eagle Chemical Co., Milwaukee .....	50.00
General Laboratories, Madison .....	55.00
King Ventilating Co., Owatonna .....	50.00
F. O. Ambrose Co., Janesville .....	50.00
Calhoon Montgomery Co. ....	50.00
Creamery & Milk Plant Monthly, table .....	25.00

**Receipts from Program Advertisers**

Brillion Iron Works .....	10.00
Dairy Supply Co., Minneapolis .....	10.00
Brookshire Cheese .....	20.00
First National Bank, Brillion .....	10.00
Pyramid Oil Co., Minneapolis .....	20.00
Kiel Woodenware Co., Kiel .....	20.00
Union Terminal Cold Storage, New York .....	10.00
Lewis Mears Co., New York .....	10.00
Champion Sheet Metal Co., Cortland, N. Y. ....	10.00
Republican Hotel, Milwaukee .....	20.00
Marschall Dairy Laboratory, Madison .....	20.00
Torsion Balance Co., New York .....	20.00
A. H. Barber Co., Chicago .....	20.00
Fountain City Dairy Co., Fond du Lac .....	10.00
Rogers and Johnson, Marion .....	10.00
J. G. Cherry Co., St. Paul .....	10.00
Vilter Mfg. Co., Milwaukee .....	10.00
Arthur Harris & Co., Chicago .....	20.00
Schwaab Stamp and Seal Co., Milwaukee .....	10.00
Colonial Salt Co., Chicago .....	10.00
Dairy Market Reporter, Sheboygan Falls .....	20.00
Lincoln Box Co., Merrill .....	20.00
Kraft Cheese Co., Plymouth, Wis. ....	10.00
Sheboygan Falls Creamery Co. ....	10.00
Chas. A. Parfrey, Richland Center .....	20.00
J. B. Ford Co., Wyandotte, Mich. ....	20.00
Wis. Dairy Laboratory, Green Bay .....	10.00
Morton Salt Co., Milwaukee, Wis. ....	10.00
Damrow Bros. Co., Fond du Lac .....	40.00
Creamery Package Mfg. Co., Chicago .....	22.00

A. H. Barber Goodhue Co., Chicago.....	20.00
Stoelting Bros. Co., Kiel, Wis. ....	40.00
D. and F. Kusel Co., Watertown .....	20.00
Woodland Box Co., Woodland .....	10.00
General Laboratories, Madison .....	15.00
Pauly & Pauly Co., Manitowoc .....	10.00
Buckeye Chemical Co., Akron, Ohio .....	20.00
Johnston Tin Foil & Metal Co., St. Louis, Mo. ....	20.00
Chris Hansen's Laboratory, Little Falls, N. Y. ....	20.00
Cream City Chemical Works, Milwaukee .....	20.00
Iwen Box and Veneer Co., Shawano .....	20.00
Butter, Cheese and Egg Journal, Milwaukee .....	10.00
L. F. Nafis, Inc., Chicago .....	10.00
Howe Printing Co., Prairie du Chien .....	20.00
Walter Voechting Co., Sheboygan .....	20.00
Ohio Dairy and Food Laboratory, Cincinnati .....	10.00
Brodhead Cheese and Cold Storage Co., Brodhead .....	10.00
Triangle Cheese Co., Monroe .....	10.00
De Laval Separator Co., Chicago .....	20.00
Super Products Co., Milwaukee .....	10.00
John Kirkpatrick, Richland Center .....	10.00
Plymouth Exchange Bank, Plymouth .....	10.00
Oakes & Burger, Cattaraugus, N. Y. ....	20.00
Nor. Wis. Produce Co., Manitowoc .....	10.00
Sharples Separator Co., West Chester, Pa. ....	22.00
Wis. Dairy Supply Co., Whitewater .....	22.00
Phenix Cheese Corporation, Beaver Dam .....	20.00
Toledo Scale Co., Minneapolis .....	10.00
Reinhold and Meyer Co., Plymouth .....	20.00
Hotel Gilpatrick, Milwaukee .....	10.00
Fairmont Creamery Co., Green Bay .....	20.00
C. E. Blodgett Co., Marshfield .....	10.00
Stanley Woodenware Co., Stanley .....	10.00
Karolith Corporation, New York City .....	20.00
Diamond Crystal Salt Co., St. Clair, Mich. ....	10.00
Wausau Dairy Supply Co. (receiver) Wausau .....	57
H. L. Mueller Bandage Fcty., Sheboygan .....	10.00
Winnebago Cheese Co. ....	10.00
Elov. Ericson Co., St. Paul .....	10.00
Lehmaier, Schwartz Co., New York .....	10.00
Greenheck Bros., Lone Rock .....	10.00
D. Picking & Co., Bucyrus, Ohio .....	10.00
A. D. DeLand Co., Sheboygan .....	20.00
J. S. Hoffman Co., Chicago .....	10.00
Worcester Salt Co., Detroit, Mich. ....	10.00
Konz Box and Lumber Co., Appleton .....	10.00
Great Atlantic and Pacific Tea Co., Green Bay .....	20.00
Vacuum Sediment Test Co., Madison .....	10.00
Hunter Walton Co., New York .....	10.00
Mojonnier Bros. Co., Chicago .....	10.00
Monarch Sales and Eng. Co., St. Louis .....	20.00
Juneau Boiler Works, Juneau .....	20.00
Plymouth Refrigerating Co. ....	10.00
Brown Hotel, Milwaukee .....	10.00
L. O. Rehm, Kiel .....	10.00
Tagliabue Mfg. Co., Brooklyn .....	10.00
Midwest Creamery Co., Plymouth .....	20.00
Citizens State Bank, Bear Creek .....	10.00
Bingham and Risdon, Green Bay .....	10.00

## Sales Receipts, Cash Prizes, etc.

Brookshire Cheese Co., prizes .....	47.50
First Nat. Bank, Brillion .....	8.00
First Nat. Bank, Antigo .....	10.00
Dow Cheese Co., Fond du Lac .....	10.00
Fountain City Dairy Co., Fond du Lac .....	10.00
Rogers and Johnson, Marion .....	6.00
Kraft Cheese Co., Plymouth .....	75.00
Sheboygan Falls Cry. Co. ....	50.00
Morton Salt Co., Milwaukee .....	10.00
Stoelting Bros. Co., Kiel, Wis. ....	30.00
John Kirkpatrick, Richland Center .....	10.00
Wm. Nisbet, Richland Center .....	10.00
Schmitt Bros., Blue River .....	10.00
Muscoda Cheese and Creamery Co. ....	10.00
H. L. Noyes, Muscoda .....	10.00
General Laboratories, Madison .....	5.00
Pauly and Pauly Co., Manitowoc .....	45.00
S. D. Cannon, Neenah .....	15.00
First Nat. Bank, Neenah .....	5.00

# THIRTY-FIFTH ANNUAL CONVENTION

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Wis. Cheese Producers Federation .....	15.00
W. F. Hubert from Sheboygan County banks .....	260.00
Brodhead Cheese and Cold Storage Co. ....	5.00
Phenix Cheese Corp., Beaver Dam .....	40.00
C. E. Blodgett Cheese Co., Marshfield .....	45.00
Worcester Salt Co., Detroit, Mich. ....	10.00
L. L. Oldham, Secy., Holst-Fres. Assn. of Wis. ....	5.00
Company Store, Cumberland .....	5.00
Johnson and Ecklie, Cumberland .....	5.00
Suring Creamery Co. ....	5.00
Lehmaier, Schwartz & Co., Monroe .....	15.00
Midwest Cry. Co., Plymouth .....	20.00
A. and P. Tea Co., Green Bay .....	30.00
E. C. Damrow, Fond du Lac Co. Dairy Assn. ....	15.00
Farmers and Merchants Bank, Marion .....	5.00
C. A. Straubel Co., Green Bay .....	48.00
First Fond du Lac Nat. Bank .....	25.00
First Nat. Bank, Marion .....	6.00
DeLaval Separator Co., Chicago .....	50.00
J. Gempeler, Jr., F. T. Cheese Dealers Assn. ....	40.00
D. Picking & Co., Bucyrus, O. ....	5.00
Dairy Belt Cheese and Butter Co., Spencer .....	25.00
Farmers State Bank, Calvary .....	10.00
State Bank of St. Cloud .....	10.00
Barneveld State Bank .....	5.00
J. S. Hoffman Co., Mt. Horeb .....	5.00
R. C. Jorgensen, Denmark State Bank .....	30.00
Dairymen's State Bank, Clintonville .....	25.00
First Nat. Bank, Clintonville .....	5.00
Vandewalkers Bros. Garage, Clintonville .....	2.00
S. W. Hines Merc. Co., Cumberland .....	5.00
F. C. Westphal, Randolph .....	8.00
Citizens State Bank, Shawano .....	10.00
Maribel State Bank .....	5.00
Pauly and Pauly Co., Edgar .....	25.00
M. M. Schaetzel, Edgar List of P. O. prizes .....	47.00
Bank of New London .....	5.00
Citizens State Bank, Bear Creek .....	10.00
Farmers State Bank, Beaver Dam .....	5.00
American Nat. Bank, Beaver Dam .....	5.00
Old Nat. Bank, Beaver Dam .....	5.00
Beaver Dam Silo and Box Mfg. Co. ....	6.00
Algoma Farmers Coop. Co. ....	10.00
H. J. Howe, Nye prize list .....	4.00
Milan State Bank and Citizens .....	6.00
Colby State Bank, Colby .....	10.00
Hollandale State Bank .....	5.00
N. E. Demuth, Hollandale .....	2.00
Emil Abegglen, Eldorado prize list .....	10.00
Bank of Sturgeon Bay .....	10.00
State Bank of Forestville .....	5.00
Fred Wuethrich, Brodhead prize list .....	39.50
H. J. Howe, Nye list .....	10.00
Colby Cheese Box Co. ....	5.00
Spencer State Bank .....	5.00
Citizens State Bank, Gillett .....	5.00
J. L. Sammis, prize No. 303 .....	5.00
Cheese Sales, F. W. Hubert .....	4.37
Cheese Sales, Iowa State College .....	110.40
Cheese Sales, J. W. Cross .....	43.39
Cheese Sales, J. H. Hoffmann Co., Chicago .....	3,723.37
Cheese Sales, U. W. Dairy School .....	42.78
Cheese Sales, J. L. Sammis .....	6.72
W. H. Brauer, Winslow, membership .....	1.00
Joe A. Trost, Shullsberg, membership .....	1.00
F. W. Laabs, Curtiss, membership .....	1.00
Jos. L. Steinwand, refund .....	5.00
John Babler, express refunded .....	1.22
H. L. Pieper, Oakfield, membership .....	1.00
W. J. Ebberts, Sister Bay, membership .....	1.00
P. H. Kasper, Bear Creek .....	5.00
34 Booster Dinner tickets sold .....	34.00
<b>Total .....</b>	<b>\$8,862.88</b>

## Disbursements

1,000 2¢ stamps .....	\$20.00
Addressing programs and mailing .....	20.00
Postage on programs .....	75.00
Labor help .....	3.00

100 WISCONSIN CHEESE MAKERS' ASSOCIATION

1,000 2¢ stamps	20.00
50 return postals	1.00
Stencil and mimeograph	1.00
Madison Democrat, cut	1.25
Postage	20.00
Postage and return postage	5.00
8 Convention Prize Rockers	125.40
Dairy Market Reporter, printing	44.00
Postage on County prizes	1.40
Telegrams and R. R. fare, Sheboygan-Madison	8.50
Express and drayage on programs	2.33
Express on programs to Madison	2.70
Telegrams to Tillamook, Oregon	2.25
Mimeograph, and stencil, addressing	3.50
Postage, 1,000 2¢	20.00
Postage	6.60
Howe Printing Co., program printing	400.20
Charts for convention use	32.50
Express and tags for counter	1.68
M. Kammer, Basco, refund	1.00
Fred Meier, Mt. Horeb, refund	1.00
Four Convention Prize bags	48.00
Dairy Market Reporter	20.00
Postage stamps and envelopes	16.90
Eleanor Ring, program number	15.00
Miss Libby Miller, reporter	50.00
A. Grossenbach Co., boxes	8.75
Schwaab Stamp and Seal Co., badges	55.69
E. Claussen Tillamook, travel expense	219.16
Alex Schaller, judge expense	30.75
Grant Siewert, refund	1.00
Fred Marty, expense	23.16
H. A. Kalk, vice president, expense	14.40
Mrs. Gochring, clerk, expense	16.16
J. H. Peters, director, expense	16.55
J. Gempeler, Jr., director, expense	16.37
Clarence Baudheim, labor and expense	24.65
Math Kzarauski, labor and expense	25.85
Ross Roberts, labor and expense	24.65
J. W. Cross, Supt. and expense	81.15
Ernest W. Jung, Juneau, refund	1.00
J. D. Cannon, judge, expense	33.71
Adding machine rental	4.00
Republican Hotel bill	127.70
Juliette Mansky, clerk	30.00
Josephine White, clerk	40.00
Elizabeth Landgraf, office manager	90.00
Topp Oil and Supply Co., refund	5.00
Milwaukee Cheese Co., boxes	20.25
W. F. Hubert, judge, expense	57.64
Albert Gruenstren, Marion, refund	1.00
Jerome L. Reif, Saukville, refund	1.00
Wm. Albers, St. Cloud, refund	1.00
A. A. Miller, Star Prairie, prize 552	3.00
A. A. Miller, Star Prairie, on prize 197	2.25
Emil Abegglen, Eldorado, on prize 341	2.10
E. H. Peters, Sugar Bush, on prize 342	1.00
H. J. Howe, Nye, prize 553	2.00
Amer. Ry. Express Co.	4.66
Kraft Bros. Cheese Co., refund	9.00
Fred Bleuer, Beaver Dam	2.30
Enger Kress Co., 29 bill books and key case	131.15
Secretary, office and convention expense	104.90
Tillamook Cry. Assn., error	2.00
Milwaukee Auditorium bill	614.00
Geo. C. Mansfield Co., Mil.	23.52
E. Mayer, stenographer	1.00
Checks to exhibitors	4,879.88
H. A. Kalk, president	15.00
A. F. Zelm, treasurer	15.00
W. F. Hubert, judge	15.00
John Cannon, judge	15.00
Fred Marty, judge	15.00
Alex Schaller, judge	15.00
Grimm Book Bindery, 58 names in gold	8.70
Postage, insurance, on 29 county prizes	5.66
Express prepaid on prize bags	2.27
F. P. Luth, Loganville, refund	1.00
A. F. Zelm, treasurer, expense	28.29
Rose H. Schuh, Greenwood, prize 527	5.00
J. H. Hecker, Gardnerville, Nev.	1.40
Ad. E. Duescher, Pulcifer, prize 26	15.00



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H. J. Howe, Nye, prize 526 .....	2.00
American Railway Express Co. ....	2.20
Butter, Cheese and Egg Journal, ad .....	10.00
C. E. Blodgett Cheese Co., refund .....	12.00
Ad. E. Duescher, Pulcifer, prize 360 .....	3.00
John S. Martin, Navarino, prize 361 .....	2.00
Office Specialties Co., rental and supplies .....	12.50
Edward Peck, Coleman, prize 339 .....	1.00
Edward F. Winter, Gillett, prize 344 .....	1.00
Ad. E. Duescher, Pulcifer .....	1.00
W. A. Devine, postage stamps .....	29.00
Fred Bleuer, Beaver Dam, prizes .....	15.00
Leo Lotcher, Beaver Dam, prizes .....	5.85
American Railway Express Co. ....	17.07
Carl Bachofen, Beaver Dam .....	4.70
Mailing tubes for diplomas .....	4.80
Butter, Cheese and Egg Journal .....	10.00
Val Zibung, Argyle, refund .....	1.00
E. Landgraf, clerical work .....	7.50
Geo. E. Seiler, Forestville, prize 315 .....	10.00
Wis. Dairy Club membership .....	1.00
Schwaab Stamp and Seal Co., Assn. seal .....	4.65
Addressing and mailing .....	6.00
Postage on returned reports .....	1.72
E. H. Knickel, Boardman, prize 554 .....	3.00
Pete Anderson, New Richmond, prize 555 .....	2.00
Ernest Theil, refund .....	1.00
Record binders and punch .....	.65
Paid Sheboygan Co. Bankers Pro-rata .....	115.14
Balance forward .....	691.22
<b>Total .....</b>	<b>\$8,862.88</b>

**JOHN H. PETERS,**  
**M. M. SCHAETZL,**  
 Auditing Committee.

## CHEESE MAKERS' CONVENTION NOTES

The shippers of the 514 cheese exhibits this year are particularly pleased with the good prices paid for the entire lot of over 13000 lbs. by the firm of J. H. Hoffman Co., Chicago, who also bought the convention cheese last year. This helpful cooperation is appreciated.

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Checks in payment for all cheese and prizes were mailed to every exhibitor from the secretary's convention office on Saturday, Dec. 18.

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The Dairy School class of cheese maker students from Madison, were on hand as usual, and an orchestra composed of five young cheese makers added acceptable music to the regular daily programs. The entire class also visited the Gridley Dairy Co.'s milk plant while in Milwaukee.

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Electric loud speaker equipment in the convention hall this year permitted the voice of every speaker on the platform to be heard in every corner of the room with ease, and added much to the interest and convenience of both speakers and listeners.

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Plans for next year's convention already under way, will enlarge the booth exhibit space considerably, widening the aisle spaces so as to avoid crowding during the rush hours, furnish chairs for visitors, and keep all booth exhibits out of the session room.

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The date of the next state convention was set for December 14, 15, 16, 1927, at Milwaukee, after careful study of the subject by the officers and directors.

The novelty of offering special prizes for new members this year, attracted about 150 cheese makers who had not exhibited before.

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The 1926 Honorary Member roll, hanging on the convention wall attracted much attention, and inquiry. The secretary will be glad to have makers in 100 additional towns write in for information as to how to become Honorary Members 1927.

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The entire convention was marked by unusually interesting addresses, discussions, and exhibits, and by harmonious cooperation in the study of problems considered.