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Proceedings of the Wisconsin Cheese Makers' Association annual convention 1920 assembled in its twenty-eighth annual convention in the Milwaukee Auditorium, January 7, 8 and 9, 1920. 1920

Wisconsin Cheese Makers' Association

Madison, WI: Democrat Printing Company, State Printer, 1920

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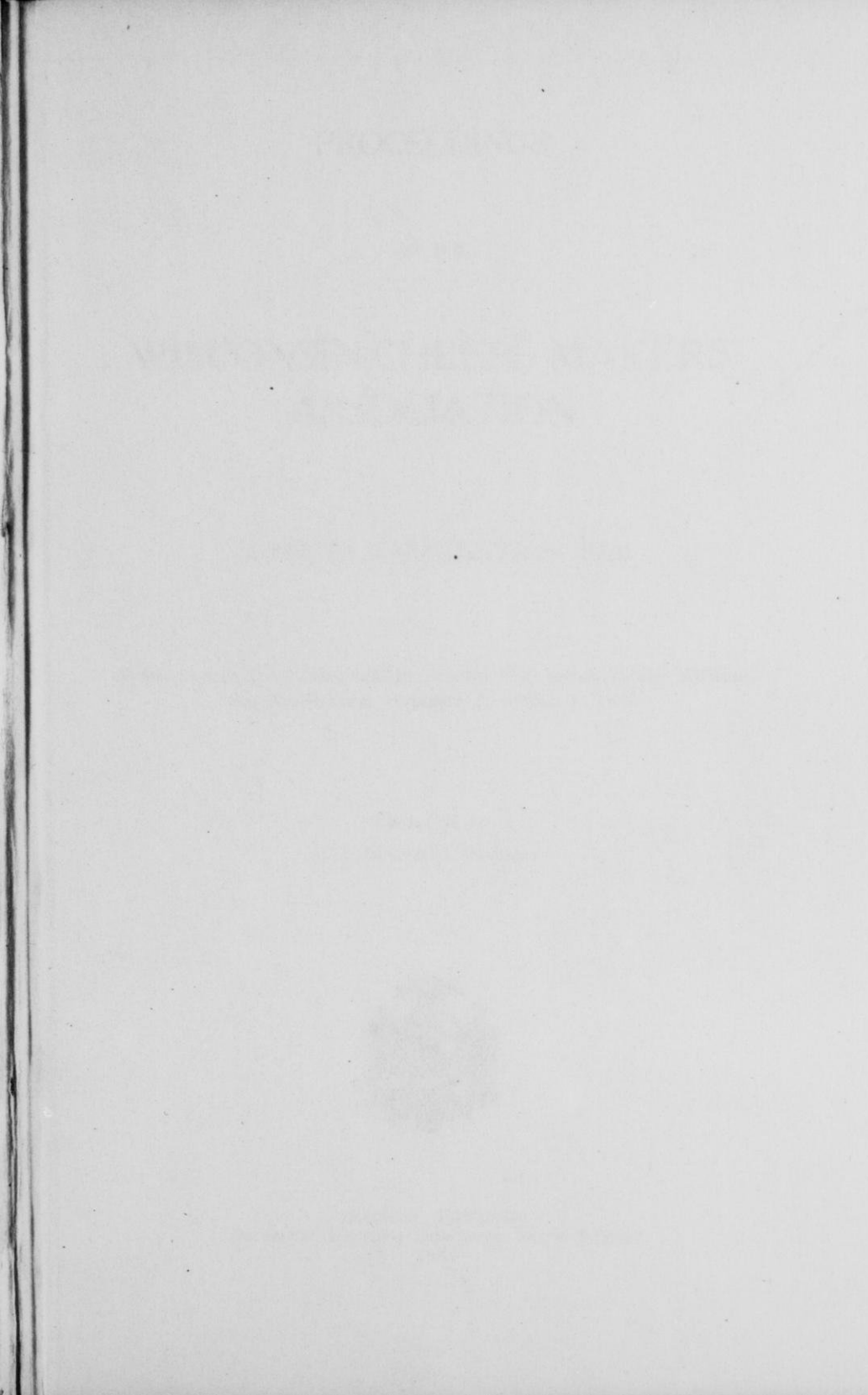
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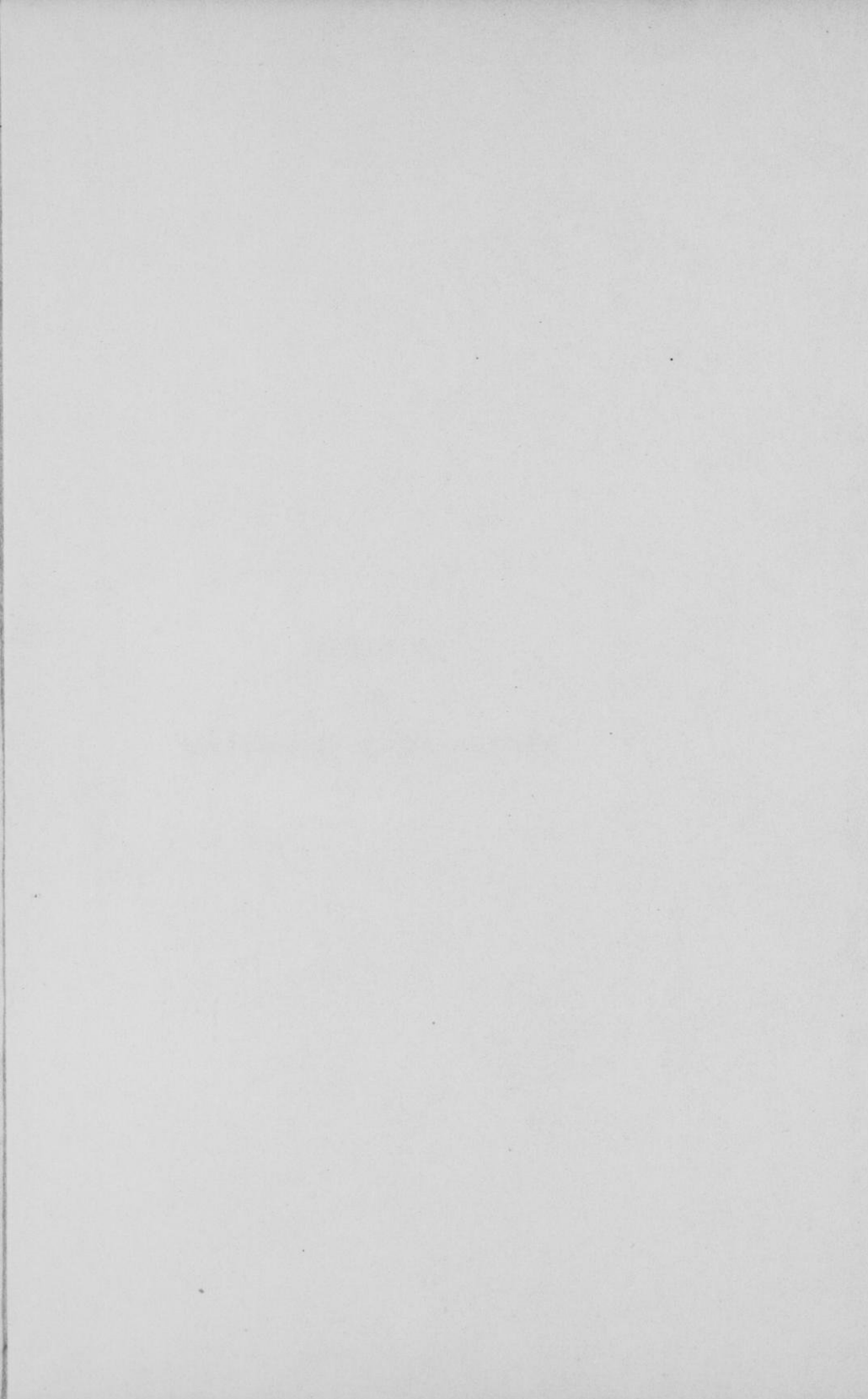
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PROCEEDINGS

OF THE

WISCONSIN CHEESE MAKERS'
ASSOCIATION

ANNUAL CONVENTION 1920

Assembled in its Twenty-eighth Annual Convention in the Milwaukee Auditorium, January 7, 8 and 9, 1920

Compiled by
J. L. SAMMIS, Secretary



Madison, Wisconsin
Democrat Printing Company, State Printer
1920

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LETTER OF TRANSMITTAL

Office of the Secretary,
Wisconsin Cheese Makers' Association,
Madison, Wis., 1920.

To His Excellency, EMANUEL L. PHILIPP,
Governor of the State of Wisconsin.

I have the honor to submit report of the twenty-eighth annual meeting of the Wisconsin Cheese Makers' Association, showing the receipts and disbursements the past year, also containing papers, addresses and discussions had at the annual convention held at Milwaukee, in January, 1920.

Respectfully submitted,

J. L. SAMMIS,
Secretary.

WISCONSIN CHEESE MAKERS' ASSOCIATION

TWENTY-EIGHTH ANNUAL MEETING

Auditorium Building, Milwaukee, 1920

Officers

CHAS. E. REED, President	Thorp
H. A. KALK, Vice President	Sheboygan Falls
J. L. SAMMIS, Secretary	Madison
T. A. UBBELOHDE, Treasurer	Glenbeulah

Directors

JACOB KARLEN, JR.	Monroe
A. T. BRUHN	Spring Green
O. A. KIELSMEIER	Manitowoc

Judges of Cheese

WILLIAM HUBERT	Sheboygan
JOHN CANNON	New London
FRED MARTY	Monroe
ALEX. SCHALLER	Barneveld

Superintendent of Cheese Exhibit

J. W. CROSS	Milwaukee
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Official Organs

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

PROCEEDINGS OF WISCONSIN CHEESE MAKERS' ASSOCIATION IN ANNUAL CONVENTION MILWAUKEE, WIS., 1920

The twenty-eighth annual meeting of the Wisconsin Cheese Makers' Association was called to order Wednesday, January 7, 1920, in the Auditorium Building, Milwaukee, by President Chas. E. Reed. An address of welcome by Mr. Frank Cleveland, Assistant Secretary of the Milwaukee Association of Commerce, was responded to by Mr. H. J. Noyes of Muscoda.

ADDRESS OF WELCOME

By FRANK CLEVELAND, *Assistant Secy. Milwaukee Association of Commerce.*

Mr. President, Officers, and Members of the Wisconsin Cheese Makers' Association: In the name of the city of Milwaukee, and of the Milwaukee Association of Commerce, I welcome you to this city to hold your twenty-eighth annual convention. And yet, it seems to me almost a humorous thing to do. Why should I welcome you to your own parlor? The idea that Milwaukee and Wisconsin are things apart can and does no longer hold. I want you to come here because Milwaukee is your own city. It belongs to you. It happens to be the metropolis of Wisconsin, and every metropolis has some capabilities of assisting a community which other cities do not have. Milwaukee is your metropolis. Use it.

I never miss the opportunity to say something to American business men,—to American manufacturers. These are important and troublous times. And the American business man is the man who will clear the situation. The American business man long ago learned that a lasting organization must be organized from the bottom up. The day came when the American business man believed that this world war must be won. They told us that it could not be ended sooner than in 1920—more likely 1921 or 1922—but they did not consider the American business man. The American business men as a unit decided that this war should end just as soon as possible. He organized the navy, the army, the finances, and the production, and in November 1918, two years sooner than the sanguine critics had told us it could be done, the war was brought to an end.

Today we are confronted with problems almost as serious as the problems of that war. If the American business man won the war, who is a better man to help out with this situation?

If I were to sound the keynote of this meeting of the Wisconsin Cheese Makers' Association, I would utter it in just two words—peace

and production. Those are the two things which the United States of America, and the people of the world need more than anything else today. First of all we need military peace, which America does not yet have. As far back as last June, American labor by a vote of 50,000 to 400, asked the Senate of the United States of America to ratify the treaty. Nearly every business man in the United States has asked the United States to ratify the treaty, but for the simple reason that a number of men, who have gotten the idea that all of the brains of the United States are east of the Hudson river, and somewhere down in Wall street, and that some particular party proposition compasses the heart and soul of America, decided that if their theories could not hold in full, they would block that treaty. No matter how many reservations, no matter how many conditions there were to that treaty, there was nothing so important in the whole matter of the treaty between the United States and the Allies and Germany as the mere fact of declaring peace. All the articles are trifling as compared to the main idea, the great necessity of declaring a military peace, and yet they picked up matters which, though they may have had some merit, were a bit foolish and trivial, compared to the big idea. That is one peace we need.

We need industrial peace. We will never get industrial peace until we begin to make people feel that we must have production. We hear much today about the high cost of living. It is true that it is partly caused by the cost of high living. It is also true that there has been some profiteering. But the principal reason of the high cost of living is lack of production, and there will be no change in living prices, in the cost of the necessities of life, until the supply somewhere near equals the demand. From time immemorial there have been men who thought that the nation's laws could mend all ills, but it has never been proven that any laws by congress, or parliament, or any body of men whatsoever, could affect the laws of supply and demand. The main issue in the high cost of living is supply and demand. There is now a greater demand than ever before in the world's history. Answer the question yourself. In order to produce, we must have people to work, and here another issue comes in—the unrest that has come in with the breaking up of nations. Following a great war we have found great mental dissatisfaction. It has given growth to radicalism. It has entered all classes and particularly the labor class. We cannot produce until labor is ready to work. Today we have an unusual number of men and women traveling up and down the country talking about a sort of Communist Utopia in which men will not have to work. Somehow, somehow or other, a government will be founded which will see to it that there will be production without men working more than they desire. They are told that all the ills of humanity will be cared for and eliminated by this communist heaven that is being advocated; that all the differences in human beings will be eliminated so that all men will be the same. That element has entered so strongly in our labor classes, so that today it constitutes 30% of our American Federation of Labor. What is the result? Many of the people that want to believe in this sort of thing are losing sight of the idea that a man must give something for everything that he receives, and he that will not work will not eat.

We had a good illustration of this fact in the coal miner's strike, lead by the radicals who were out for greater pay and less hours work

a day, when the physical fact was that all the coal miners could not produce enough coal for America's consumption in a six hour day. They lost sight of the fact that they must give something for something received.

We are told that it will eliminate the difference between the man who lives in luxury and the man who has to work so hard for something to eat daily. You men who are interested in farm life know something about horses. There are race horses, there are carriage horses, and there are truck horses, each as desirable, as important, as beautiful as the others, but you know the ridiculousness of making a truck horse do a race horse's work or vice versa, or either to do a carriage horse's work. It is a fact that the horses can be given the same opportunity at scratch but if it is a racing sulky there will be a great difference at the quarter—if it is a five ton load it will be a great difference—if it is a carriage there will be another sort of difference at the quarter. Now there are human race horses, human carriage horses, human cart horses, and the human cart horse can not do a human race horse's work. It is necessary to have the human cart horse as the human race horse, but when a man finds that he is a cart horse and not a race horse he must glorify the cart horse's work.

They are talking particularly about rights and benefits. Whoever heard any of those speeches begin with talk about duties and responsibilities? With all rights and benefits we must expect duties and responsibilities. These advocates of a Communists Utopia say that you will get your rights and privileges and the Communist Government will take care of your duties and responsibilities. That is why these people do not want to go to work. Mind you, I am talking about the radical elements of labor and not labor as a whole. But the radical element is acquiring a strong hold on labor conditions. That is the greatest thing interfering with production. Now, are you willing to believe them? And if you are not willing to believe you should talk against it where it will do the most good. Do you believe that any form of government can be devised whereby every man will receive all the rights and privileges he wants and some organization up there to which he has contributed will take care of all his duties and responsibilities, and place each one on a level in every respect as every other man who subscribes to the same sort of thing? I am bringing this up because production is the vital thing to be considered in the affairs of today. I said at the beginning that I wished the keynote of this meeting might be PEACE AND PRODUCTION. If I had my way about it, every business man in Wisconsin would wire the Wisconsin senators in Washington "WANT PEACE. GET TOGETHER OR GET OUT." Do not let yourself be misled. Living costs will drop when living supplies are plentiful. Let us do our part to increase production.

RESPONSE TO ADDRESS OF WELCOME

H. J. NOYES, Muscoda.

Mr. President: It does give me great pleasure to stand before the Cheese Makers of Wisconsin once more and I know that we are heartily welcome in Milwaukee. We have many hard problems to crack this year, and I hope we will crack them and crack them right. Wisconsin cheese has been losing some of the reputation it has had. Think of the makers of skim milk cheese who will not brand it as it ought to be. We have a skim milk law which is a good one. We have raised the reputation of Wisconsin cheese, but we will lose it if we are going on as we have been going on the last two years. I am sure that the cheese makers of Wisconsin will take hold from this time on and raise the reputation of Wisconsin cheese.

We always will have a good time in Milwaukee. Some parts of Milwaukee are gone but we are here just the same. Your faces look just as well as ever, even better. Now we are on a good healthy basis and we can cut out some parts that are injurious. Come to Milwaukee each and every year. Make nothing but first-class cheese and you will never want a market for selling. We have good laws and a good dairy commissioner employed to enforce the law and I am sorry that some cheese makers are fighting it. They ought to say "Our doors are open, come in and set us right if we are not right."

PRESIDENT'S ANNUAL ADDRESS

CHAS. E. REED, Thorp, Wis.

Members of Wisconsin Cheese Makers' Association:

We are again assembled in convention of the greatest and most important industry of the state. Let us therefore all take active part and let no problems go unsolved at this time. One of the main purposes of our association is mutual benefit. Therefore remember that your ideas carry as much stress as your neighbors do. I have had occasion to attend meetings of different local associations during the past year and find the interest taken by the members to be live and full of worth. Our present dairy and food laws are being discussed and also the enforcement of same, that is, those that are beneficial to the industry. Much good was accomplished in the convention last year along that line. Now then let us further the movement.

We can get the right kind of legislation and eliminate the bad not by force but by cooperative labor with the officials of the Dairy and Food department of the state. The commission is handicapped in not having sufficient funds and sufficient number of men on the force. Therefore again let us recommend the same appropriation as last year to the legislature to help over the rough spots of this rocky road. Give to your legislative committee more power and then stand behind them

and eventually you will see results greater than you have seen in the past year. Every dairy paper you look at cites some prosecution, some fair and needful and some that seem to be otherwise, but that must be the case. Errors must occur in everything. Remember the adage "He who makes no mistake does nothing."

One great problem is high moisture. Of course we all know what we would say, "forced to do it because my neighbor does and gets by." Don't stop by saying that. Just make a complaint to the commission and that man you have in mind will not get by any more and you have solved the problem and not made a criminal of yourself. Take note of the reports from the storages of Wisconsin cheese, note the kicks that are coming in. What is this cry about rind rot and bitter flavor in cured cheese? Is it in accordance with what we wish for Wisconsin? No, decidedly no. If this matter is left to go on, the name that Wisconsin has acquired is sure to go down and the working up again will be a hard proposition. The main cause of this is overloading the cheese with moisture and turning same on the market too early. Cooperate with your dealer and take note of the points he gives you, and improve the conditions in order to keep on top where we belong.

What is now known as the Wisconsin Dairy Protective Association is being organized in every corner of the state and much good work is being done. Let us cooperate with them in their work and they with us and in less than five years time we will have the thing in such a condition that each member of all associations will look back and say "Well done." When we have outlived the constructive era that is now on, we can all look back and be satisfied.

Please take an active part in this convention. Attend all sessions. Be prompt and never forget that the life of any meeting largely depends upon the interest taken by those present. Do not be afraid to air your opinions, or ask questions.

I will mention just briefly some of the foremost things. They are: the cheese makers mutual insurance being enacted through the efforts of the Wisconsin Dairy Protective Association; improvement of dairy laws; improvement of quality of Wisconsin cheese; mutual labor toward one goal by being organized; cooperation with your patrons and strict obedience to the state laws on sanitation. The foregoing are only a few of the more vital subjects that should be rolling in your minds to keep our commonwealth in the position already gained.

We have with us able speakers from all departments both state and nation and a lengthy, well put up program which you are all looking forward to. Therefore I will not detain you.

I wish to put in a good word for the supply men. Visit the booths and learn from personal contact what is best suited to you and your place of business. Here you see all these things brought right before your eyes and not in a catalogue.

Visit the cheese exhibit hall and view the grand display of cheese there, but bear in mind that the educational meetings of the convention itself are held in this hall.

One more suggestion I would like to make. Some of you, maybe not all, are aware of the new law that puts the treasury of the association in the state treasury and all money must be handled by state treasurer. It would be best in all cases of voting disposition of the finances of the Association that same be left to the Board of Directors, but keep your treasurer in name as there is a great amount of work to be done at the

convention connected with the care and handling of the money and selling of memberships, which our worthy secretary will not have time to attend to as his hands are full day and night during convention week attending to the numerous duties pertaining to his office.

REPORT OF THE AUDITING COMMITTEE

January 7, 1920.

We, the undersigned auditing committee, have examined the books of the secretary and treasurer and found them to be correct.

A. T. BRUHN,
H. A. KALK,
RAY A. YOUNG,
Auditing Committee.

MR. BRUHN: I will state that it was a pleasure to look over the books this year. They were in fine shape and showed a good financial statement all around. As you will see by the Secretary's report, we are not broke.

It was then moved and seconded that the report of the auditing committee be accepted. The motion was put by the President and carried.

REPORT OF TREASURER

For the year 1918-1919

By T. A. UBBELOHDE, Glenbeulah.

Receipts

Balance in Association treasury from last report	\$667.04
Received from the Secretary	3,699.99
Received from the Secretary	488.83
Total receipts	\$4,855.86

Disbursements

Paid out on warrants, Nos. 1-118	\$3,769.35
Paid to State Treasurer, as required by law	597.68
Paid to State Treasurer	488.83
Total disbursements	\$4,855.86

The itemized statements of receipts and expenditures are shown in the Secretary's report. The law passed at the last legislature requires that hereafter all moneys received by the Secretary for the Association account, shall be deposited within one week in the State Treasury, and all Association bills paid from the State Treasury, by warrants prepared by the Association Secretary. In the coming year, therefore, the Treasurer will not hold the Association money, but will continue to take charge of the Convention Hall entrance, sell membership tickets, and report his receipts to the Secretary, as has been done in past years.

SECRETARY'S REPORT FOR 1919 CONVENTION

By J. L. SAMMIS, Madison.

Receipts

Balance in Association Treasury	\$667.04
Receipts from program ads, booths, etc.	
W. C. Thomas, program ad	10.00
Fairmont Creamery Co., ad	10.00
Plymouth Cheese Co., ad	10.00
Marschall Dairy Laboratory, ad	10.00
Kielsmeier Co., Manitowoc, ad	10.00
A. H. Barber Cheese Co., Chicago, ad	10.00
Butter, Cheese and Egg Journal, ad	10.00
Carl Marty & Co., Chicago, ad	10.00
Brillion Iron Works, ad	5.00
Republican House, Milwaukee, ad	10.00
P. J. Schaefer Co., Marshfield, ad	10.00
Germania Publishing Co., ad	10.00
Kiel Woodenware Co., ad	10.00
C. E. Blodgett Cheese, Butter & Egg Co., ad	10.00
J. Hansen Co., Neenah, ad	5.00
General Laboratories, Madison, ad	10.00
Oakes and Burger, Cattaraugus, N. Y., ad	10.00
Mendota Book Co., Madison, ad	5.00
J. B. Ford Co., Wyandotte, Mich. ad	10.00
Mojonnier Bros. Co., Chicago, ad	10.00
Armour & Co., Chicago, ad	10.00
Damrow Bros. Co., booth and ad	50.00
Creamery Package Mfg. Co., booth and ad	40.00
Vilter Mfg. Co., Milwaukee, ad	10.00
Automatic Adding Machine Co., ad in exchange for adder
De Laval Separator Co., 2 booths and ads	75.00
J. B. Ford Co., Wyandotte, Mich., booth	25.00
Office Specialties Sales Co., Milwaukee, booth and ad	35.00
Grunert Cheese Co., Chicago, ad	5.00
S. H. Conover Co., Plymouth, ad	5.00
A. H. Barber Creamery Supply Co., ad and booth	35.00
Standard Oil Co., Milwaukee, ad	10.00
Rexine Co., Sheboygan, ad and booth	10.00
Woodland Box Co., ad	5.00
Sharples Separator Co., booths and ad	60.00
Schmitt Bros., Blue River, ad	10.00
Parke Davis & Co., booth and ad	35.00
Schwaab Stamp and Seal Co., ad	5.00
Diamond Crystal Salt Co., St. Clair, Mich., ad	10.00
D. and F. Kusel Co., Watertown, ad and booth	35.00
Colonial Salt Co., Chicago ad	5.00
Mueller Bandage Factory, Sheboygan, ad	5.00
Wisconsin Dairy Supply Co., Watertown, ad	15.00
Pauly and Pauly Cheese Co., ad	10.00

Fairbanks Morse & Co., Chicago, ad	10.00
Stoelting Bros., Kiel, ads and booth	45.00
Reinhold and Meyer, Plymouth, ad	5.00
Digestive Ferments Co., Detroit, Booth and ad	35.00
Winnebago Cheese Co., Fond du Lac, ad	5.00
Torsion Balance Co., New York, ad	10.00
Louis F. Nafis, Inc., Chicago, ad	5.00
Jalco Motor Co., Union City, Ind., ad and express	10.57
Lincoln Box Co., ad	10.00
Seymour Woodenware Co., ad	5.00
Konz Box and Lumber Co., ad	5.00
Plymouth Refrigeration Co., ad	5.00
Marshall Dairy Laboratory, booth	25.00
C. A. Strauble Co., Green Bay, ad	10.00
Frederick Stearns & Co., Detroit, ad and booth	35.00
Eagle Chemical Co., Milwaukee, ad and booth	35.00
John Kirkpatrick, Richland Center, ad	5.00
L. H. Pieper, ad	5.00
H. G. Liebszeit, ad	10.00
Milwaukee Hotel Association, ad	10.00
J. G. Cherry Co., St. Paul, Minn. ad	10.00
Wisconsin Pure Culture Co., Madison, ad	10.00
Chris Hansen's Laboratory, ad and booth	35.00
Blackmer Rotary Pump Co., ad	10.00
Juneau Boiler Works, ad	5.00
Sheboygan Dairy Products Co., ad	5.00
Neenah Cheese and Cold Storage Co., ad	10.00
Iwen Box and Veneer Co., ad	5.00
J. Dusek Co., Chicago, ad	10.00
Gerdes and Voigt, Marshfield, ad	10.00
Refrigeration Dales Co., Milwaukee, ad	10.00
Two Rivers Plating Works, booth	25.00
Manitowoc Plating Works, booth	25.00
Butter, Cheese and Egg Journal, booth	25.00
Milwaukee Ice Machine Co., space in hall	25.00
Wisconsin Farmer	5.00
Creamery and Milk Plant Monthly, booth	25.00
Received from G. W. Schiereck on 1917 acct.	331.98
A. Grossenbach & Co., for exhibit cheese	1,761.90
Other sales by superintendent of exhibit	69.83
Memberships sold by T. A. Ubbelohde	409.00
Memberships sold by Secretary	23.00
Sale of unused premiums at cost	54.00
Refund on voucher No. 4	10.54
Cash prize donations from H. J. Noyes and Son, Muscoda....	5.00
Sheboygan Dairy Products Co.	70.00
J. D. and S. D. Cannon, Neenah	15.00
C. E. Blodgett & Co., Marshfield	15.00
C. A. Straubel Creamery, Green Bay	48.00
Stoelting Bros. Co., Kiel, Wis.	15.00
Sharples Separator Co.	30.00
Pauly and Pauly Co., Manitowoc	20.00
Fairmont Creamery Co., Green Bay	30.00

J. B. Linzmeyer, Sec., Wis. C. and B. Ind. Pro. Assn.	25.00
C. A. Voigt, Marshfield	5.00
Central Wis. C. B. & D. Adv. Assn.	5.00
Total Receipts	\$4,855.86

Disbursements

Voucher No.	To whom and what paid for	Amount
1	W. C. Thomas, printing	\$71.04
2	North American Press, 3,000 programs	474.70
3	L. Schwartz, reporter	15.00
4	G. W. Schiereck, refund 1917 expense	10.54
5	G. W. Schiereck, refund 1917 expense	1.54
6	Gimbel Bros, premiums	40.00
7	Gimbel Bros., premiums	22.35
8	C. E. Reed, convention expense	17.50
9	J. W. Cross, superintendent exhibits	45.25
10	Fred Marty, convention expense	17.51
11	W. F. Hubert, convention expense	14.74
12	Max Prag, Dodge County Assn. prize	5.00
13	H. J. Noyes, convention expense	18.00
14	H. L. Noyes, convention expense	17.28
15	H. A. Kalk, convention expense	11.38
16	J. D. Cannon, convention expense	20.26
17	C. E. Reed, President's salary	50.00
18	T. A. Ubbelohde, Treasurer's salary	50.00
19	T. A. Ubbelohde, convention expense	17.16
21	Republican House, convention expense	97.15
22	H. A. Kalk, award 9	5.00
23	H. A. Kalk, award 11A	10.00
24	Otto Weyer, award 11B	8.00
25	J. L. Sammis, Secretary, convention expense	100.95
26	Wm. H. Thurk, award 11C	6.00
27	T. C. Schaefer, award 11D	4.00
28	Alb. Gruernstern, award 11E	2.00
29	P. H. Kasper, awards 18, 80	10.00
30	Wm. H. Thurk, award 20	4.00
31	Otto Weyer, award 19	4.00
32	Matt Meyer, award 21	3.00
33	Alb. Gruernstern, award 22	3.00
34	Jas. F. Junk, award 23	3.00
35	John Weyer, award 24	2.00
36	E. J. Holschbach, award 25	2.00
37	Elmer Termaat, award 26	2.00
38	Floyd Clemons, ½ of award 27	1.00
40	O. C. Giese, ½ of award 27	1.00
41	O. C. Giese, award 42	13.00
42	C. W. Cootway, award 42A	5.00
44	Math Meyer, award 44	5.00
45	Fred Mani, award 45	5.00
46	H. P. Nielsen, award 46	3.00
47	W. H. Vliess, award 48	3.00
48	C. A. Bennin, award 51	5.00

49	Hans Widmer, award 52	3.00
50	G. H. Scannell, award 53	2.00
51	Chas. Rohowitz, award 54	5.00
52	Rudolph Schaller, award 55	5.00
53	W. F. Bennin, award 56	8.00
54	L. J. Blahnik, award 57	2.00
55	Theophile Delain, award 58	1.00
56	J. J. Pivonka, award 59	8.00
58	Emil Bartz, award 61	3.00
59	Paul E. Ott, award 62	5.00
60	H. J. Kuschel, award 63	8.00
61	A. G. Tuma, award 64	2.00
62	E. F. Hrudka, award 65	1.00
64	Earl B. Whiting, award 66	8.00
65	P. J. Burish, $\frac{1}{2}$ of award 67-68	1.50
66	B. G. Dieck, $\frac{1}{2}$ of award 67-68	1.50
67	A. C. Werth, award 69	10.00
69	J. J. Voith, $\frac{1}{2}$ of award 70-71	4.00
70	Wm. Bymers, $\frac{1}{2}$ of award 70-71	4.00
71	Alb. Gruernstern, award 73	3.00
72	Herman C. Schultz, award 74	2.00
73	Albert Shultz, award 75	1.00
74	H. A. Kalk, award 76	10.00
75	John F. Kalk, award 77	3.00
76	Elmer Termaat, award 78	2.00
77	Fred C. Stapel, award 79	20.00
78	Art Hein, award 81	3.00
79	Raymond Stocker, award 82	5.00
80	A. J. Schulte, award 83	5.00
81	Math Meyer, award 84	5.00
82	Frank B. Hinz, Barron county	5.00
83	Earnest Haessig, Columbia county	5.00
84	Fred Baertschi, Green county	5.00
85	Aug. Ruesch, La Fayette county	5.00
86	Otto Weyer, Manitowoc county	5.00
87	A. C. Werth, Outagamie county	5.00
88	A. C. Werth, award 1	10.00
89	Fred C. Stapel, award 3	5.00
90	Emil Bartz, correction 61-60	2.00
91	G. C. Humphrey, convention expense	10.24
92	Wm. Buckley, award 43	3.00
93	Art. A. Miller, award 61	3.00
94	Sheboygan Dairy P. Co., refund 72-47	4.00
95	C. A. Straubel Co., refund	1.00
96	Paid exhibitors for cheese and pro rata	1,778.81
97	J. Karlen, convention expense	22.22
98	Elmer Termaat, refund fee paid twice	1.00
99	J. F. Kalk, refund fee paid twice	1.00
100	Martin Kleist, refund fee paid twice	1.00
101	Earnest Herrman, refund fee paid twice	1.00
102	Ulric Furrer, refund fee paid twice	1.00
103	Milwaukee Auditorium, 22 booths, etc.	283.29
104	J. C. Grieb, drayage	2.66
105	E. L. Aderhold, convention expense	19.68

AUDITORIUM, MILWAUKEE, 1920

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106	Carl Frehner, convention expense	10.64
107	Andrew Huggler, refund	1.00
108	Aug. J. Hintz, refund	1.00
109	F. J. Burish, refund	1.00
110	W. Winder, convention expense	19.73
111	R. C. Hastings, convention expense	16.97
112	Ernest Feuz, to correct error	6.00
113	John Greiner, to correct error	1.00
114	L. Schwartz, convention reporter	50.00
115	Alex. Schaller, convention expense	17.30
116	H. A. Chaplin, legislative committee expense	10.33
117	H. A. Rindt, legislative committee expense	12.50
118	J. L. Sammis, secretary's expense	74.63
119	State Treasurer	597.68
	State Treasurer	488.83
Total		\$4,855.86

Account of State Treasurer with Wisconsin Cheese Makers' Assn.

1918	Credits	
July 1	Balance forward	\$308.41
July 1	State Appropriation	600.00
1919		
	Received from Association treasurer	597.68
	Received from Association treasurer	488.83
Total		\$1,994.92
1918	Debits	
Sept. 27	To Boston Store for premiums	\$45.00
	Schneck Furniture Co.	54.00
Oct. 4	Milwaukee Auditorium, rent	108.00
Oct. 31	State printer	5.88
Nov. 21	Schwaab Stamp and Seal Co.	92.70
Dec. 12	Postage on programs	100.00
Dec. 31	State printer	7.67
1919		
Jan. 31	State printer, annual reports	226.36
Jan. 31	State printer, envelopes	5.81
Jan. 10	Postage on diplomas	20.00
Feb. 7	Secretary's salary	200.00
March 6	State printer, circulars	14.65
April 2	State printer, circulars	3.46
	Balance forward	1,111.39
Total		\$1,994.92

DISCUSSION

PROF. SAMMIS: I must say that we at the Dairy School are proud of our carload of young stock here. We brought them down, and we want you to look them over. If you are looking for a cheese maker or helper you can probably find someone that you want among them.

This convention is growing, and I want to give you a few figures to show you just what the growth is. In 1918 we had 495 members. In 1919 we had 537 members. In 1920, this year, I do not know how many we are going to have, but I think about 800. When you consider that there are 4,000 cheese makers in the state it is reasonable to suppose we ought to have one-half or at least one-third of them. We are doing all this for their benefit. It is an educational convention and it is up to you to get those stay-at-home fellows down here next year. No doubt the officers will do their part to get the convention ready. The officers can do very little compared to what you can do to get after the fellows in a good natured way and get them down here. We feel sure that if we get these dairy school boys down here during their school year they will come the rest of their lives.

In 1918 we had 96 cheese exhibits. In 1919 we had 177 exhibits. This year we had 277 and a few more have come in.

In 1918 we had 14 awards. In 1919 we had 91 awards, and in 1920 we have 138 awards. Last year about sixty different men won prizes. This year 88 have won prizes. The association is growing and next year we expect with your aid to have over 1,000 members.

I am impressed with the opportunities before this association. When you speak of opportunities in Milwaukee most of the boys think of going to shows, getting a big square meal and so forth. But there are other more important opportunities which are connected with the convention. The cheese maker who has never been here does not realize what a convenience it is for him to meet all the dealers and supply men here and talk to them about anything from a cheese knife to a vat, boiler, etc. You can see them and get the prices, and place the order right here. It is better than writing letters. You save money by seeing the dealer's booth exhibits.

The opportunities and inducements for the cheese maker to send his cheese here have been greatly increased. He can perhaps win a big state prize, or at least a county prize of five dollars. This is an opportunity which no cheese maker can afford to overlook. We want to have an enlarged membership and more exhibits—more practical exhibits. We want an exhibit of every test that is being used in cheese factories. Any factory man that wants to see how the acid test, moisture test, etc., is handled should be able to see it running right here. One of these days, we want to have cheese making going on during the convention. We expect to have more commercial exhibits next year. We will have to have a bigger room. I doubt if this room will hold the convention next year. Do your part, gentlemen, and bring along those fellows who do not know the good they could get out of this convention, if they were here.

MR. NOYES: I want to say that the boys who come down here get greater benefits than they think they are going to get. They see their scores, and see where they fell down and they can make it up next year. Years ago I used to enter cheese every year and I got fine results. It pays every man to have a score on his cheese. I have World's fair medals, I have a bronze medal, I have two gold medals and I have a diamond pin that was bought by this convention years ago. I got lots of pointers, and I would have my cheese scored and see if I could improve on it next year. If all the boys will take hold of it and send cheese here they will get wonderful benefits out of it.

THE WORK OF THE WISCONSIN DAIRY COUNCIL

By A. J. GLOVER, Fort Atkinson, Wis., President of the Wisconsin Dairy Council

Ladies and Gentlemen: I do not feel a stranger to this organization, although as I look over the faces here today I do not see very many that were in this cheese makers' convention 25 years ago, or thereabouts when I addressed you at Madison. In those days I was actively engaged in the making of cheese. My first job in a cheese factory was to pump water into the whey. (Laughter) This was done so the farmers could have sufficient amount to take home to feed their live stock. That was in Hutchinson, Minn., in 1893. It is not my purpose either to deal upon the art or science of cheese making or to review for you the history of this association. I can say that its influence has been good. It has helped Wisconsin to be the leading cheese state of the union and may it ever keep up its work to make this state even a greater cheese state than it is today.

I am on for an illustrated lecture. It is no fault of the secretary that I have deviated from my subject and I hope that when you learn why I have done so, you will forgive me.

Something over a year ago I volunteered my services to the Wisconsin Dairy Council. My institution, The Hoards Dairyman, paid all of my expenses. I am doing this work because I believe in the purpose of the Wisconsin Dairy Council which is to assist in the marketing of our products, because you and I know that our system of marketing today is crude. I am not the one to damn the middleman. When his services are no longer required he, like the Arab, will pack his tent and go away. It is my opinion that he will always render service, but it is up to us as men engaged in this industry to see that it is so organized that we can market our product to the best advantage.

A group of leading men met here in August, formed our Dairy Council and we have done some work. I have organized something like 17 counties and you can see the tremendous amount of work it will be to organize our 71 counties. I have found it necessary to return to some counties at least four or five times in order to get the organization perfected. It does not necessarily need to be the Wisconsin Dairy Council. May be there will be a time when we will federate and concentrate these activities into one organization. I am using in some counties the breeder's association, and in one county the Holstein Breeders' Association have said that they will take over the duties of the Council. They have representatives in every township and it will be the duty of these men to visit cheese factories, creameries and condenseries for the purpose of collecting funds to carry on the work of the Wisconsin Dairy Council.

We ought to raise \$100,000 a year with our \$250,000,000 industry. If we spend say \$500,000 each year, I think it would be money well spent. If you want to be generous to the council then give us one cent for every hundred pounds of butter fat received. That will take care of overhead expenses.

How are we going to carry on an advertising campaign with such a small fund? Let me point out what we have done in Milwaukee. I

went to the distributors of this city and asked them if they would put up a dollar for each dollar that the farmers would put up for an advertising campaign for milk and its products. The milk producers association was approached, and they agreed to tax all milk coming in to Milwaukee one cent per can of seventy pounds of milk, and out of that one cent we would get one quarter of a cent. The amount of money raised in this way gives us a fund of \$10,000 or \$12,000 a year in Milwaukee. We expect to spend that money right here in Milwaukee, where the members put up the money. When we start our campaign in Waukesha we expect to have the distributors and milk producers there contribute to carry on the expenses of getting out the materials. It will be necessary to hire a man to keep open an office here in Milwaukee. That man will collect from the cheese factories. He will direct the campaigns in Milwaukee, Waukesha and Oshkosh.

Oshkosh woefully needs a milk campaign to get a better price for their goods. They are selling too low. They need that campaign. Wausau has had it already from its schools and we can always get the support of the schools. I know not of a more effective way of advertising our products. There is no other food product in the world that can get advertising in the schools.

I have told you how we got the money. What do we do with it? We issued five bulletins, two on cheese, two on milk and one on ice cream. We employed a lecturer who went from factory to factory and met groups of people and talked of milk, cheese and butter, and why children should have them. We found a company here, the largest in the city, that gave milk to a school just across the street from them and we found that the milk that those little fellows drank there, improved their physical and mental condition. These children came to school with a breakfast of coffee and bread. The parents said that they could not afford butter or cheese. We showed that when these boys and girls received milk they improved. We carried that message to every school in the state and we have the hearty cooperation of the superintendent, Mr. Potter. We had billboards posted over the city with the slogan, "USE MORE MILK, USE MORE DAIRY PRODUCTS." Besides that we advertised in the daily press. We carried on the work just as long as the money lasted and we spent \$6,000, and I want to say that the cheese industry did not contribute a penny. You did not have the opportunity. I simply did not have the time to get to you.

Milk has a growth producing element, and unless a person gets it in some form or other, he dies. We have people today in the Orient that are suffering from certain diseases, because they have not this important element of growth. You can get it from vegetables, and the cow gets it in her hay and silage. There is no way to make a satisfactory human ration unless it contains some dairy product. A pound of cheese is equal to a pound and half of meat, and today we can buy a pound of cheese as cheap as a pound of meat. We want American cheese to be made a part of the American army ration. In England it is so used.

This association is out to get a better quality of cheese and if you want men to eat cheese it must be good. Being a cheese maker in my earlier career I am finicky regarding cheese, and I find it necessary to buy and cure it myself, or have it cured by someone I know that makes a good cheese. I understand how to get the high moisture in cheese.

I do not know how to make a good cheese by setting my vat at nine o'clock in the morning and being gone at one o'clock in the afternoon. If that process has come in since twenty years ago I have been stupid in not following the improvements in making cheese.

I have gone to the packers in Chicago and said "You are undermining the cheese industry of Wisconsin by paying uniform price for good and bad cheese." They asked me to write a letter to that effect. I did, telling them that if they want to break the cheese industry, they are doing splendid work in that direction by paying a uniform price for the water soaked cheese as well as for the nice, well made cheese. I said "What incentive have the cheese makers to turn out a good cheese when you pay as much for the high water cheese?" The future of Wisconsin lies in turning out a good quality of cheese.

We want to tell the merits of dairy products to the consumer. It is important to the welfare of our nation. Will you fellows help and will you say to your men, your employes, we ought to contribute one cent for each 100 pounds of butter fat delivered to us, so that the dairy council can continue this work?

We have hired a man, he will be here the 1st of February. We will have to pay that man \$3,750 a year, there should be no secret about it. We have got to pay him the expenses. I have gone out and got eight men to stand back of that expense if necessary, but I do not believe that it will be necessary. I do not believe that Wisconsin needs voluntary service. I believe that a cheese industry that brings in \$65,000,000 a year does not need charity. That man's office expenses will amount to about \$7,000. I would like to see you cheese makers say that you will take one-tenth of this expense which will not cost you to exceed \$700. This one cent per hundred pounds of butter fat will take care of the overhead expense.

We have people eating butterine today who are milking cows. In Ft. Atkinson the farmers are buying oleomargarine much more than butter. If we carry to the consumer the merit of our products there will be a greater demand for our products and prices will take care of themselves.

We are coming into competition with foreign countries. In Argentine, land is selling from \$20 to \$30 an acre. Labor is worth eighty cents per day. In 1913 they **imported** 50 tons of cheese. In 1918 they **exported** 6,300 tons of cheese and **imported** only 30 tons of cheese. Now we must look to quality. No matter how much we advertise if you have not got the goods you will not sell it again. While it is necessary to let the consumer know with reference to the food value of a product, it is equally important that we look to quality and uniformity. That means larger cooperation in the curing of our products because we can not make a good cheese unless you cure it properly. I have come to you today to let you know about the Wisconsin Dairy Council. We expect to have a convention here the last week in February or the first week in March, and we want delegates from every cheese factory and creamery to attend, so that we may discuss quality and cooperation with our dairy and food commission, with our marketing department, and your association, and if we will unite in this way the expense will be slight and not a burden to any of us.

DISCUSSION

MR. GLOVER: I will keep you just one moment. I will not be with you tomorrow and I do want to leave this message with you. The Wisconsin Dairy Council wants more than your moral support. We know that we are going to get your support back in your cheese factory. If any of you here have not got this pamphlet, get one. I ask this association as a body to support the Wisconsin Dairy Council. We begin our work on the 20th of this month with our new man. We now have nine and one-half organizations standing back of the expense for one year. It will not require twelve months of course to get the council on a good basis. I would move you, gentlemen, that you give your board of directors the power to contribute whatever they see fit to the support of the man that will take charge of our council.

This motion was duly seconded by Mr. Moore.

The President put the motion as follows: "It has been moved and seconded that this association give the power to the board of directors to use their discretion for the financing of the Wisconsin Dairy Council for the support of the man and his salary for the coming year, not to exceed \$150."

This motion was carried by a viva voce vote and it was so ordered.

SUGGESTIONS FOR THE FUTURE

Under this heading Mr. C. E. LEE said, How many men have we in Wisconsin today that are really working for quality cheese? There are two evils at the present time. We have had opportunities from the standpoint of our department to study these evils and they are high moisture cheese and skimming the milk before making into cheese. We have built up the reputation of Wisconsin for good wholesome cheese, that shall contain not less than 50% of butter fat. Now boys, remember this, do not use a skim milk starter, it is in violation of the law. It is unlawful to make cheese in Wisconsin using a skim milk starter. If we are going to ask people in this country to eat cheese, we must make good cheese.

Last year I furnished Senator Skogmo with a longhorn cheese made by one of our members. This year Senator Skogmo bought eight of them. Now if one man can change in that respect and buy so much more cheese it shows that it is quality that counts. As Senator Skogmo said "Give me more of that cheese and I will buy more of it."

Do not be misled by some men in this state to skim the milk before making cheese. I say that the men who have done this should bow their heads in shame. The only way to protect the future of the state of Wisconsin is to give to the people an honest article that Wisconsin need not be ashamed of.

PRES. REED: Do I understand that it is illegal to skim a starter, that you make cheese with? Do you contend that you manufacture cheese from a starter?

PROF. LEE: The authorities on starter making will tell you that you can make a better starter from whole milk than skim milk.

MR. REED: I mean a regular starter in the can, with the cream in the can. You are manufacturing cheese from the milk, starter is an addition to the process of making.

PROF. LEE: I want to tell you this, that many cheese men have told us that starter in the hands of many cheese makers is a damnation to good cheese. I believe that the starter has a place in the cheese making. I mean the whole milk starter.

PROF. REED: What about the cream on the top of the starter?

PROF. LEE: Keep it.

PRES. REED: If you throw that cream away you have less trouble. I have made a lot of cheese. I never put that cream in there. I always throw it away. It went into the whey tank.

PROF. LEE: You should not do that. That cream is good. Give me cream on top of sour milk. If the cream on top is not fit for human food the stuff below it is not.

PRES. REED: If you have any tendency to gassy curd, you will have more trouble by using that cream on top of the starter.

MEMBER: Use the starter the same as at the dairy school. They were separating the starter.

PROF. LEE: I was told the other day that was so and I asked Prof. Sammis if they used any skim milk starter in cheese making and he said that they did not. The thing is this. We have started on an evil, the thing has gone too far and we do not know when to stop. Your neighbor is the worst enemy in the cheese game. I never tell a man what another man said. One man says, "You stop so-and-so and I will be good." Why if you cannot live and be devoted to the cheese business then you better all go farming. By all means keep your can of starter covered. Some cheese makers take fifty pounds of milk just when it is ready to set and save it over till the next day. That is not a starter.

QUESTION: Do you think that if a cheese maker used only 2% starter that it would be any detriment to the cheese?

PROF. LEE: It would not be noticeable probably. Let us go back to the days of the whole milk starter.

QUESTION: I have found that you have to use the amount of starter in proportion to your milk. You can sometimes carry a heavier starter than you can carry in milk that is rated at 75 to 80.

PROF. LEE: Most of the boys put in their rennet too soon. Try to get through too early. I realize that most of you men are trying to make good cheese, but those fellows that are through at one o'clock have ruined the cheese business. The trouble is with the young boys who are thinking of the other fellow's sister about two o'clock in the afternoon.

QUESTION: Just before you add your other starter, do you take your cream that has arisen and throw it away?

PRES. REED: The next morning I throw that cream away. It is apt to gas and cause you lots of trouble.

QUESTION: Will not that be skimming your starter?

PRESIDENT: I have done it for twenty years. I dumped it off. I did not skim, I simply threw that cream away. You will find those bubbles of gas any day, winter or summer.

QUESTION: All instructions for making will tell you to remove the upper cream before adding any of it for starter making.

MR. CHAPLIN: I think that you are making a mistake to say to take off the cream. If you say that you are taking off the milk at the top of the can it will be more like it.

PROF. LEE: There is no use going around it that way.

MR. NOYES: We know that some of the cheese boys skim off the cream for use for their tea and coffee.

PRES. REED: The question is this: Are you manufacturing cheese from the starter or is the starter part of your process in manufacturing cheese? In my opinion it is an added process in the making. You are manufacturing cheese from milk. Starter is the same as rennet. You are not making cheese from the rennet but from the milk.

MEMBER: This is quite an amusing situation. I think that it is a good thing to make nice, clean, good cheese. I have found in my experience that taking the milk off the top of the can is not skimming the milk. I want to ask—will that cream hurt the cheese maker, his wife or his family? I would like to ask if any of you cheese dealers who would hesitate to take the milk off of the can if they had the opportunity? It seems to me that we understand that there is difficulty with the top of the can. The trouble usually starts there. I have found this. I do not use a heavy starter unless on extreme occasions. As Prof. Lee suggested—keep it well covered and keep it in order. I have carried my starter for many months.

PROF. LEE: The cream belongs to your patron. You might say that you could cut off a quarter of pound of cheese and put in your pocket. Let us get down to facts. I think that the pure starter can be made out of milk with cream in it. The trouble is that some cheese makers are not equipped to make a good starter. It will pay you \$100 to get a can to make a good starter in. We have a patron in our section who has lost eight to ten pounds of cream every night. It surely does not belong to the fellow who took it.

MEMBER: Is it not understood in most factories that the maker takes as much cream as is necessary for his family? I have never heard of farmers complaining about excess of use of milk, cheese or butter for the cheese maker's private use.

MEMBER: Speaking of taking the cream off the starter can. According to the laws back for a long time they can prosecute any person that does that. That I know. I am speaking in the presence of the cheese makers of Wisconsin. They pulled me for it, when I did it innocently. I paid my fine. I am not ashamed of it. I hold that taking cream off the starter is absolutely wrong. People will learn from experience. But I will tell you one thing that there is not one factory in ten that is equipped to make a commercial starter. I have a can that I have used for four years and I find that the scum on top of the can of milk is mighty thin. I do not find that it particularly hurts anything if taken care of. It depends on what lactic acid you have in your starter. I think that when butter fat is lost once and separated from the milk, we cannot fasten it down again. It will float down to the whey tank, unless you use a whey separator.

MEMBER: Is it not a fact where there are combination cheese and butter factories where they use a skim milk starter? I know that it is going on today. They do it—right or wrong.

PRES. REED: I have been told that it is wrong.

MEMBER: Then why should it be allowed to be done?

PROF. LEE: The cheese makers should not wait until the inspectors come around. If they are making cheese and butter in such factories they must all use the whole milk starter for cheese at least.

PRES. REED: I do not understand how you are manufacturing cheese from the starter.

MEMBER: I think that we should not go down as deep as that. We ought to stop skimming the milk anyhow.

MEMBER: I do not think that it is so much with the starter but do not take it off the rest of the milk.

MEMBER: We have never attempted to skim a starter.

MEMBER: There is a chance of the cream at the top spoiling before that at the bottom of the can. I have found where cream at the top was gassy, but the cream was all right otherwise. We pasteurize our starter with live steam. We get it just as hot as we can. As soon as the starter is pasteurized we put on the cover. The starter is then put in cold water and left to stand for fifteen minutes. We let it cool off till evening and then use it the next morning.

QUESTION: Do you pour off the top of the can before using the starter?

ANSWER: The way we did is as follows: We have glass top jars. As soon as we set the starter we wash them out and lay them on the top of the boiler. We set these cans right in the vat in the morning.

QUESTION: Do you pour them off at the top when you are setting your starter?

ANSWER: No sir, we do not. We leave it just as it is.

PROF. LEE: The other suggestion is this. Boys, do not be caught with a dirty cheese factory in Wisconsin. I wish the army of young men over here, could get on a train and go and look at this factory of Mr. Kasper and then look at some of the factories you got your training at. I could not help thinking of it when he said that he put the jars on top of the boiler. Kasper's boilers are cleaner than some of the cheese factories where they are making cheese. I want to tell you this—there is nothing that hurts our inspectors more than to make out a report that does not show that the factory is clean. I called on two men yesterday. The conditions were bad enough so that Commissioner Weigle sent a letter to each of those men and told them if that at another inspection the conditions in their factories were not improved that their factories would be closed. After that warning there was as much difference in those factories between the months of December and January as there was between July and December. The man whose place was the worst met us with a smile on his lips and said, "I am glad you came and told me what to do."

It is simply a matter of getting things in shape. There are cheese makers in Wisconsin who, if their wives would make their meals with such utensils, would look for another woman. Do not let us find conditions in the state as they have been in the past. The dairy and food commissioner of Wisconsin has not one of the easiest positions. He has been picked at by men who have been trying to put out literature that is damnable to the industry. We all have faults but get behind the men who are behind you and stop knocking things down. Don't try to make a moisture cheese until you are told to quit.

MEMBER: I do not think that our dairy and food Commissioner follows up his work enough. The fellows that have been prosecuted twice should not be granted a license.

COMMISSIONER WEIGLE: I want to say that from now that after a man has been fined twice for high moisture his license will be taken away and he will never receive a license. We are going to enforce the law, follow the strict letter of the law. We have babied and patted them on the back too long, and we have gotten nowhere; and it is time now to take the bull by the horns in order to save the industry. We have not enough inspectors to take care of the moisture evil. But I want to emphasize one thing.

There is not a state official in the United States or any other government who, if he has not the full cooperation of the industry involved, can do anything at all. We must have your cooperation in enforcing the laws of the state of Wisconsin. We are going to ask higher requirements from all of the cheese makers of Wisconsin. I will tell you more about that in my address tomorrow.

MEMBER: I am glad of this statement and hope it will hold true of dirty factories too.

PRES. REED: Two prosecutions cut you out under all circumstance anyway.

WHY EVERY COUNTY SHOULD BE ORGANIZED

J. B. LINZMEYER, Green Bay.

MR. PRESIDENT: It was said here among other things that the cheese maker's worst enemy is his neighbor or himself. That is a good reason why every county should organize. We know that there are a large number of cheese makers who live in the same locality who do not know each other, not even by sight. However, when they get together in county meetings and get acquainted and talk over their difficulties, it does away with that saying that the cheese maker or his neighbor is his worst enemy.

The most important thing this year was the price for making cheese. You know the cost for manufacturing cheese has advanced. In some instances it is hard to get a little increase out of your patrons, especially if you can not show why you should have an increase. We have gone before county locals with cost figures on manufacturing of cheese. I have always found that where those things have been brought to the attention of the farmer there was not very much objection to paying their cheese maker the advance for making cheese. That is one of the most important things that the locals are doing.

I have here a list showing the cost of manufacturing Daisy cheese under current cost of supplies.

COST OF MAKING 100 LBS. OF DAISY CHEESE

Boxes at 20c, or \$1.00
 Bandage at \$36 per 1000, or 18c
 Rennet at \$5 per gallon, or 16c
 Fuel at \$8 per ton, or 50c
 Salt at \$5 per bag, or 5c
 Color at \$2 per pound, or 1½c
 Scale board at \$3, or 3½c
 Circles at \$10 per thousand or 10c
 Caps and various small items, 3c
 Depreciation on factory (I take the case of a factory that runs 1,000,000 pounds a year and is valued at \$5,000. It was decided that in a factory of that kind it takes \$200 per year to cover that item of wear and tear, that would be 20c).

Insurance—if you carry it would be at \$30 or 3c
 Taxes of \$30. I learn, however, that that is too low. They are paying more than that amount of taxes, but at that it would be 3c

Interest at 5%, or 25c

This makes a total of \$2.58, without figuring any labor.

Presenting those figures to the various patrons of the cheese factories they can not but admit that the figures are fair and I always find that if you go before an audience of men with a fair argument you are going to get fair treatment in return. Anyone can figure out the list for themselves. We will run off duplicates and send them out to those who apply for them.

I have been asked within the last few days to attend various factory meetings. Now as far as possible I am doing that, talking to the farmers on the care of milk and on the price of making cheese. We can not, however, come to all of these meetings.

PRES. REED: How many copies have you with you here? Perhaps Mr. Moore of the Butter, Cheese and Egg Journal will run them off and distribute them here?

REPORTS FROM COUNTY ASSOCIATIONS BY OFFICERS AND MEMBERS

THE CENTRAL WISCONSIN ASSOCIATION

Mr Hastings, Auburndale: Mrs. E. O. Dix, Auburndale, Secretary of the Central Wisconsin Association has been in very poor health for the last six or eight months and has been unable to attend this meeting. She has given me a few notations here which she would like to have me report on.

We considered certain action on the part of the Dairy and Food Commission to be contrary to the best interest of the dairy industry.

We extended thanks to Senator Olson and the other members of the legislature, helping us obtain the repeal of the whey butter law, requiring the branding of whey butter.

We favored a separate dairy commission with a practical dairyman at its head.

We favored the bill before the legislature to restrict the building of factories where the needs of the locality are at present cared for by existing facilities.

We opposed the bill before the legislature which seeks to obtain funds for the dairy and food commission by raising license fees.

We favor an increase in the appropriation for the commission.

The total expense of our association December 1, 1918 to December 10, 1919, was \$70.94, and we had free hall, music and entertainments.

The expense for speakers was \$12.13 to Mr. J. G. Moore, on May 22, 1919. All other speakers on the program during year paid their own expenses.

The donations in prizes distributed was estimated to be \$500.00.

The cash received towards association funds was \$271.79.

The officers received no salaries.

The number of exhibits for scoring contest was 57.

On December 10 our balance on hand was \$200.85.

We passed resolutions favoring the repeal of the whey butter law. Petitions were sent to all our members to be signed and forwarded to their respective senators and assemblymen asking the repeal of whey butter law.

We merged our association with the Wisconsin Protective Association, and our members are to forward nine dollars for the Protective Association and \$1.00 to be reserved for expense to conduct our local sessions.

The interest of our members is much keener. Personally I believe that cheese makers are realizing the need of an organization more than in the past years.

The donation given by supply houses and others have been appreciated and a great help in the success of the organization. To all I wish to extend my personal thanks.

REPORT OF BROWN COUNTY

By MR. MALCZEWSKI

I have hardly any report to give because another gentleman was chosen to report. Just want to say a little and that is this. There has been quite a little discussion here on about how we are going to enforce moisture test law. I think that one of the ways to do that is to form this association into so strong an organization that every maker will belong to it and we will have to have many more men that will go among these cheese makers often and keep them from bucking and trying to get high prices for butter fat and try to make harmony between the makers. We have this right up in our neighborhood before the association was there, I had a gentleman there who lived two miles from there who never looked at my factory. After we met at the meeting and the first we knew each other was at that time. Next year we charged the same. Do you know that today we are the best of friends and that from one end of our neighborhood to another, farmers are getting to be more friendly since we have had more meetings. I think that we will not be trying to cut each other's throats in another year.

PRES. REED: In getting them all organized there is a tendency to become a slip in the meetings. Our Minnesota brothers have fixed that though. You pay them \$2.00 if you do not come to those meetings. Some men will go quite a ways for two dollars.

REPORT OF CALUMET COUNTY

By R. A. VALLESKY, Brillion

Our strength or weakness lies in or depends upon the degree of organization and no group of workers whether bankers or cheese makers can succeed in this critical reconstruction period if we do not perfect an organization which will include every cheese maker in this good old state of ours. Calumet county is organized, I am proud to say, first to answer to the call to organize into the county unit and will state that in the short space of one year we are organized 100%. There is not a single cheese maker in our county who does not belong to our local and who is not informed of what we are trying to accomplish.

As I said before, I am proud of the fact that we are over the top, and yet when I look over the short history of our local, I wish to say that it was not as easy as it sounds. The most important factor as I see it is the putting up of the proposition to every man so that he understands what we are trying to do and he as an individual will work hard for its success.

The cheese men of this state are facing a crisis, and every man must understand the different angles of our former comparatively simple but now very complex business. We are up against some vital points in the history of the cheese making business and unless we see them very clearly, and are willing to work solidly as a unit we will fail in our undertaking. There has been a sort of strife as a result of common misunderstanding between those working for the state and the cheese makers, and the industry will soon show the effects of the two main horses pulling in opposite directions.

It is not my purpose to discuss this question that faces us, this falls on some one else; but I honestly feel that unless every cheese-maker strives to live up to the very letter of the law as regards moisture, butter fat, cleanliness, etc., not only the guilty but every innocent cheese man will suffer; the fair reputation of the state of Wisconsin as the leader in the cheese industry is at stake and who if not we are its logical defenders.

We cannot dodge this issue and we must consider a plan to get the facts, not only to the cheese makers, but to every patron of every factory. To do this requires an organized effort. Good only results from careful planning and very hard work. It is up to us to get in line, every mother's son of us and if there be any who are not (and of course there are none) but if there are such we must compel him to retire to fields where slipshod work will be accepted from slipshod workers.

I might relate my personal experience briefly in the organization of Calumet county. I put the proposition up to each individual.

On December 13th, 1918, Mr. J. B. Linzmeyer called a meeting to get our county officers elected. The very same evening the officers urged me to keep on and try to get every maker to join. Today we are organized 100% and the best of it is every one is a paid up member.

REPORT OF FOND DU LAC COUNTY

By H. B. LUETHY, Byron

We have not gotten beyond organizing. We had a good meeting at the beginning. A good many of them did not pay up and we got together and called another meeting a month later. There is where we fell down. There were six or seven of us only. We undertook to call another meeting and it was a failure. Our organization in Fond du Lac does not amount to anything. All of our meetings subsequent to the first one were failures.

REPORT OF KEWAUNEE COUNTY

By Mr. L. J. BLAHNIK

Mr. Blahnik was not present. Mr. Prebe made the report instead, as follows: "We have not been doing very much. We did not get quite support enough. We expect to have a meeting in January on the 20th of the month. Otherwise there is nothing to report."

REPORT OF LANGLADE COUNTY

By Mr J. H. HOWE, Antigo

I wish I could express to you how much I appreciate the benefit that it is to me to come here among such a lot of good interesting men. I may feel this more keenly than some of the younger men; because of this fact, because I have been interested more or less in organizations in the rural districts among the farmers. Cheese makers, old or young, are in a position to be leaders in their community in quite a large way. While I have been successful and fortunate too in forming such an organization and have been instrumental in helping along the farming industry, particularly the cheese maker, I had all my trials and difficulties. I want to say that if you do not want to be condemned, to have things cast upon you which are so unpleasant to bear, just crawl in and do not do anything. We should cut out foolishness and get down to brass tacks. Do things on the square. Quite a long time ago, about two years ago, our good friend Brother Linzmeyer happened along, with a message for Langlade county. We finally got together and perfected an organization. Some were prompt in getting paid up, although Langlade is a new county. We have had difficulties in our organization. Cheese Makers have not had the opportunity of knowing what real good can be accomplished by coming together and cultivating our intellect in this way. Men can not live without associating. If we can only sense what real good comes out of meeting together I tell you gentlemen there are good things to be accomplished. I want to say this against Langlade County, all of our cheese makers have not grasped the spirit of the organization and of cooperating. They have not grasped that it means a higher standard of efficiency for the human kind. Langlade county is just in that condition to some extent. We have not had the number of meetings we would have liked to have. We have held seven or eight meetings since the organization. We have had pretty good meetings. There was a sentiment created among the farmers that these cheese makers were getting together to monopolize the cheese industry and that we were going to raise wages. We had to act quick. We had a successful meeting last spring. We had every member invite one to three farmers and we would have a discussion with the farmers. Then we got the farmers to go with us to supper. This is a little thing, but it brings good results. You know the best way to reach a man is through his stomach. If you can get them something to eat, you get them, and things work off much better.

We have not had as many meetings as we should have had. We had one a short time ago electing officers and we are going to have a meeting every other month. The bad point is we can not seem like some other counties to thoroughly organize, and to have the right spirit. You can accomplish some things with a club in the hands of the law if you have to, but you can accomplish so much more when a bunch of men get together and organize into a local. If we have one or two in that community who are running dirty factories we can get after them quickly. Let us get together as one body and accomplish things which are necessary. If we get together on that ground we are going to build up. The cheese makers of Langlade County are not trying to put moisture in their cheese. We are not trying to cut the other fellow's throat.

I feel that we ought to get together and do the best thing possible and forget our little difficulties. The only way is through efforts at co-operation in a scientific way.

REPORT OF MARATHON COUNTY

By PAUL E. LEMKE, President

(Read by Mr. Bitter of Wausau)

I regret very much the circumstances that cause my absence at this convention. I have long planned to attend and bring home to my fellow cheese makers the news from the convention. I also regret to miss the personal interview with the representatives from other counties, the reports of which I am sure would help me to better the condition of Marathon County.

Although Marathon County is somewhat living in the Laputan days, we are now making vast improvements and are gaining in cooperation and it will be the purpose of our next meeting held in Wausau sometime this month to encourage the organization to join the great Wisconsin Dairy Protective Association.

In the past year we had two rousing meetings, one at Edgar and another at Marathon City. There are about forty enthusiastic members and more joining at every meeting. We would like to have more meetings and educate each member how important it is to belong to this organization. But on account of being somewhat handicapped, as you know, Marathon County is a large county, it would be impossible to have every member present at each meeting.

We are starting somewhat slowly but earnestly and can assure you that we will be right in line to do and pledge our support to the Dairy Industries.

REPORT OF MANITOWOC COUNTY

PRESIDENT R. C. KIELSMEIER, Manitowoc

Mr. President: It is somewhat hard for us manufacturers to step up and make a speech before an audience of men that are experienced and have made it a business or practice to talk before a body of men of this kind, but when it means dollars and cents out of our own pockets day after day, I don't think anyone should hesitate about coming here and letting the public know, that we are not getting the right support, protection and cooperation to produce the quality and meet the competition. It is just about a year ago since we met here, and I think it has been one of the most exciting years since we have been in the dairy business. I think you know why it was exciting. It is a disgrace to our dairy industry that so many of our brother cheese makers have been prosecuted, and were looked upon as crooks and as profiteers. We are working for the interest of our farmers, and we need their cooperation in order to produce quality and keep up the reputation of our dairy industry. The number of prosecutions that we have had during this past year is enough to black mark our dairy industry for some years. The little word competition is what caused all these prosecutions and

troubles, and some of them could have been adjusted and avoided had we been better organized.

Our experience during the past year has taught us that it is high time to get so organized that we can say "We are one." Let us see to it that we get good qualified experienced men at the head, that will give us their cooperation. If there are laws on the statute books that are not right, or are such that we cannot work on a uniform basis, let us get together and try and get them changed, so that we will be able to meet competition and produce quality and that we may say "Let our state be the leader now and all of the time."

Our Manitowoc County local is coming along very nicely. We have had meetings once a month and we are better organized and are getting the support of men like Mr. Moore, Mr. Nohl, our attorney, and Mr. Linzmeyer, our secretary, and also the cooperation of the Dairy and Food Commissioner, Mr. Weigle. We have accomplished a whole lot, and I believe our organization is going to be one of the best and largest in the state, of which we are proud. Let us all work together and smile and be happy.

REPORT OF WAUPACA COUNTY

By MR. ALB. GRUENSTERN

We have very little to report from our county, the weather conditions have been unfavorable every time we have a meeting. We have had only one or two that amounted to anything. We have about fifty or more members including farmers and cheese makers and of course we had a very pleasant program and accomplished good results. So far as speaking of organization and cooperation I believe we have had enough of that this afternoon so I will not speak more on that subject. We are planning to have a good year ahead of us and we want to do a lot of good work.

REPORT OF SHEBOYGAN COUNTY

By MR. CHAPLIN

I belong to the association and belong to the Sheboygan Local. We have had a good many meetings this summer. We like to meet with the dairy and food commissioners. Of course we do not always agree with them, because we have felt that it was the farmer that had the cow and it was the farmer's cow that was tested. We did not think that the cheese maker should be punished if the cheese maker did not get the cows tested. We are trying to get organized so that in every county in the state the cows will be tested for tuberculosis. I think that we will succeed eventually in having this done. We have had one set of cows tested. They were shipping milk into the city. The lady who owned them lost eight cows. You can rest assured that she will not have them tested soon again. The last meeting we had was on moisture. I am very much interested in this question. I am one of the people that first tested for moisture in the state. We commenced by first using the old "Gray" test. We were trying to put in all the moisture we could. I finally made up my mind that cheese having over 38% of moisture will not stand up. We wanted to put it up to forty per cent to give

the cheese maker a little leeway. We realized that cheese makers can't take it out after they put it in. If you aim at a point of about 38 you will seldom get over 40%. All butter makers use their test. Why should you wait until the inspector comes and tells you that your cheese is over 40%? Every cheese maker should use his own moisture test. I have been talking to the dairy and food commissioner on that point. If you had cheese in your factory and tried it and found that that cheese stood over 40%, you should not paraffine it. Keep that cheese until it does not test over 40%. I have seen three moisture tests and of those three moisture tests only one had a good scale to go with it. You boys going to dairy school should come ready to test everything that you do. We are trying to get the boys together so that we will know ourselves what we are doing.

MR. WEIGLE: I want to clear up one situation. We have not the enforcement of the pasteurization law. That is in the agricultural department.

REPORT OF SOUTHERN ASSOCIATION

By Mr. FRED MARTY of Monroe

The Southern Wisconsin Association is one of the first offsprings of the mother association. It is eighteen or nineteen years old. It started out fighting its battles pertaining to Swiss, brick and limburger cheese in the name of the Southern Wisconsin Association. For a number of years they had held meetings and battled along as we battle here. They have conceived the idea in order to be successful in the manufacture of cheese and butter that they must introduce a new meaning. They have extended the hand to the dairyman. They have changed the name to the Southern Wisconsin Cheese Makers' and Dairyman's Association.

Their programs are all pertaining to cheese. The discussions are taken up by farmers as well as cheese makers, and we have found that we were making further steps in advance than we have in the former, single way. There are many problems here before you today that the producer should hear pertaining to cleanliness and other things.

The organization was active in many different ways, and especially in the legislation of dairy laws, national and state. Perhaps we were not well looked upon by some of the authorities. It has become the duty of the organization to take the opposite side to the Dairy and Food Commission on one thing. We have tried to repeal certain laws passed in the last legislature. We were not successful. The battle is not over however. It is going to be continued. That is one thing that the association is on record for.

One of the principal things that the organization has found was need was a field worker to go around from factory to factory, not so much in the capacity of an inspector but as an instructor. I can assure you that if the the state dairy and food department today was not handicapped in their activities as they are, the work of the dairy and food commission would be much pleasanter than it is. If the state dairy and food commission was provided with men sufficient to make the rounds so that a man could spend a day at a factory and have a territory of about 36 cheese factories, that would be just right. Now that might seem awfully small to you. Canada has its dairy districts divided into 36 factories. If it was necessary an inspector could make two

or three visits to a single factory. Consequently in place of bringing prosecution, through the medium of instructors a closer relationship between the state and the dairy food department could be formed. Under present conditions it is simply impossible, for in this vast territory there are twelve men covering the entire district in the state of Wisconsin. There are creameries that are fifty miles apart. Now then you must be reasonable. When the inspector arrives there to make a report of one particular factory, it may be the one inspection for that one particular year. You boys must realize that that one day may be to you the report of your efficiency of that one year. It will mean in other words that you must keep your factory clean 365 days of the year. At the outside there can only be two inspections made a year and then only in such cases where it is deemed necessary.

The Southern Dairymans' Association has gone on record to get an appropriation of \$1,000 for a field worker. One thousand dollars from the great state of Wisconsin to the Association representing the greatest of all its industries. The organization was in position to hire a man for a number of years, quite an efficient man, but gradually the men they were able to get for \$1,000 began to be lower in efficiency. A year ago I was elected president of the organization and I decided that we had better lapse one year and put two years' money into one and get a good man to go around. There was considerable criticism offered from various sources that a man was not engaged, but my answer was this: "The minute that you can recommend a man to me that will be willing to start in April and wind up in November and use his own car at his own expense at the rate of \$6 per day, send him to me and I will install him at once." He never showed up. Six dollars to do field work—his expenses were large enough to take up his earnings.

The organization is starting a new movement which eventually will lead to something important in the territory of cheese makers who are mostly immigrants. That they were not as successful as the Americans would be for various reasons. With the greatest of effort it was simply impossible for the men from the Southern Wisconsin district to go to the university and gain, speaking from a technical standpoint, any benefit through lectures given by professors for the simple reason that they could not comprehend the ideas and keep up with their studies. Not that they were illiterate because we know the Swiss nation are highly educated but they are not familiar with the English language. So, we have started a movement to have the University of Wisconsin lend a helping hand. In February the University of Wisconsin is going to give an extension dairy course for the benefit of the Swiss cheese makers in Monroe, which we hope will later on lead to a dairy school proper for the instruction for the Swiss cheese makers—an entire institution. This is all I have to say today.

PLANS OF THE WISCONSIN PROTECTIVE ASSOCIATION

By SECRETARY J. G. MOORE, Milwaukee

MR. PRESIDENT: It had passed out of my mind that I was on the program. I had no news of its being so but it seems it is so. When I read the program, I asked my stenographer to send for copies of all the speeches. I am glad to say that Commissioner Weigle and Mr. Sammis did send theirs. Mr. Thomas asked me for mine, but you know the place that is paved with good intentions—that is where my speech is.

The Wisconsin Dairy Protective Association will hold its meeting tonight at which the plans for the coming year will be acted upon. One thing I am safe in saying however, because I have talked with most of the directors personally and that is that the Wisconsin Dairy Protective Association intends to employ an attorney to look out for the interests of its members. I remember years ago I was engaged in conversation with several men and as they talked to me I wondered who they were and it finally developed that one was the attorney for the Creamery Package Company. He finally asked me to go to Janesville to appear before a Court Commissioner. When we had the meeting before the Court Commissioner it was really laughable to me to see how he made a monkey out of the other side's attorney. It was simply because he knew our business. We want our attorney to become familiar with the dairy game.

In view of the fact that the plans are in embryo it does not seem correct for me to tell you what they are going to do until they have been passed upon by the board of directors. A few days ago I sent a circular letter to every cheese maker in the state regarding high moisture. It was very favorably received in some quarters and it was very interesting to me to get letters in regard to that circular. I got a letter from a former instructor in the university who was making 42% cheese and he was getting a cent premium for selling it in Milwaukee. Most of the boys ought to know how they can be protected by the organization. I got a letter from a cheese maker which ran something like this: "Sir I bought a factory when it was run down. It was a failure when I bought it but I have now worked it up to so many pounds per year. It was worth about \$7,000. The farmers are now trying to buy it back as they think that I am making too much money. If I do not sell to them there is another factory across the way that will make my factory useless." The only thing that I can advise him is this: I will have Mr. Linzmeyer go up there and he will be able to show them the advisability of paying this man the full value of his plant if they want to buy it.

I have been very much interested listening to the discussion here today about the good state of Wisconsin going on the rocks as far as the cheese business is concerned. I want to say that the good ship is not going on the rocks and that there is more than one way of skinning a cat as you have no doubt heard. Last fall the creamery men in the

country called in the federal trade commission and they formulated a set of rules. Various state associations around us have agreed to accept the regulations and I am expecting the approval of the board of directors this evening to have our attorney get in touch with the Federal Trade Commission to meet with us.

If you think that high moisture is a danger, let us formulate a set of rules together with the Trade Commission and let us set our house in order, and I think that we will have the cooperation of the dairy and food commission and not have so many prosecutions. I think in this way we can keep the good ship of Wisconsin off the rocks.

Tomorrow evening there will be a meeting in this hall. All those who are members or who wish to become members of the Wisconsin Dairy Protective Association are invited to attend. A set of rules will be formulated at this meeting for the protection of the cheese makers of the state of Wisconsin.

"THE NEED OF AN INSTRUCTOR IN EVERY COUNTY"

By H. J. NOYES, Muscoda

MR. PRESIDENT: I feel after listening to all the papers this afternoon as though my subject had been very well thrashed over. They say that confession is good for the soul. I believe enough has been confessed to straighten the whole matter out. Let us get to work along that line.

After reviewing the cheese situation in Wisconsin for the year 1919, it seems to me that cheese makers have gone mad. Whether they are making cheese in their own factories or working for other parties, they are scheming in some way to beat the neighboring factories, in paying dividends to their patrons who produce the milk. If they can not do it by honest and fair means they resort to unfair means in many ways.

First, by incorporating too much moisture. Second, by taking weights at the weighing can. Third, adding albumen to the milk or giving short weights to the cheese dealers. Last of all, by skimming some of their milk, where they have whey separators, and running a certain amount of the skimmed milk into the full cream milk and making a part skim milk cheese, then trying to put in enough moisture to make up for the loss of the butter fat. Each and every one of these acts are unlawful, dishonest and unjust, unfair to the neighboring factory, to their patrons, to the consumers and to the reputation of Wisconsin cheese. I do not believe it has been done by all cheese makers but by a good many and when this is done by one cheese maker, thus making higher dividends from five to thirty cents per hundred, his neighbor cheese maker must resort to the same methods in order to compete or he will lose patronage, especially when the patrons boast of receiving higher dividends than the honest maker can pay. The patrons of the former factory often do not know of the methods used by their cheese maker and create dissatisfaction among the patrons of the neighboring factories. Thus the unlawful work spreads over the state to the detriment of the quality and reputation of Wisconsin cheese.

I have done more traveling this year, visited more cheese factories requesting makers not to put so much moisture in their cheese with less

effect than I have for two or three years previous. I believe that every cheese maker at their annual patrons meetings should explain to them that they could only make so many pounds of cheese from the number of pounds of butter fat received, that is, if all of the milk were received in normal condition. If the milk were in poor condition, tainted or sour, less cheese would be made. The factories which received the most average butter fat per hundred pounds of milk, everything else being equal, ought to make the most cheese per hundred pounds and receive more money per hundred for their milk.

All cheese makers in a community should cooperate, work together for best methods of manufacture, help to raise standard of Wisconsin cheese and to receive what is their just dues for the manufacture of it. Wisconsin has won an enviable reputation for her cheese the world over, but what about the last two years, we have been losing it a number of times faster than we made it. We have good laws regulating the manufacture of cheese and dairy products, from the production of the milk down to the finished cheese, but this past year we have heard a lot about poor cheese, too much moisture (which seems the greatest trouble), selling cheese too green and paraffining cheese too green. We read from articles published by our Dairy and Food Commissioner that some Wisconsin cheese contains as high as forty-five per cent moisture, while over forty per cent is unlawful. Then we read that warehouses in New York are full of Wisconsin cheese, that their rinds have rotted and the cheese is spoiling. I will venture to say that nine-tenths of this trouble came from too much moisture. Cheese properly made can be paraffined when four or five days old and not rind rot in a good cooler.

I believe to change all this trouble and to make a high uniform standard of cheese, each county or two counties ought to have a cheese instructor and one who could inspect. Not a **creamery** man to inspect and instruct **cheese** makers, but a cheese maker well skilled in the art of making cheese, with good judgment and one who knows the laws. One who can tell a good cheese when he sees it and how it should be kept and handled, this would require more men but I believe Wisconsin makers and the Wisconsin cheese industry is entitled to it. These cheese factories should be divided equally among them, with power to visit whether they were wanted or not and stay long enough so every maker would be compelled to make cheese as they should be made.

The quality of Wisconsin cheese improved faster and better in the years when we had instructors than any other period in the history of Wisconsin cheese making. We hear sometimes that our inspectors are nearly all creamery men and are not competent to instruct in cheese making, do not know good cheese, never try one, do not even look at one. Often we hear of the inspector being in a community and we inquire of cheese makers in that section as to what the inspector said about the cheese and their answer is "nothing, he never looked at them." I think this should be one of the most important parts of the inspectors' work. Some makers are making fine cheese in poor factories, others are making poor cheese in fine factories. I do not believe a man can inspect a factory in a few minutes and make a fair report. The only way is to have instructors with power to inspect and prosecute cheese makers and creamery men to inspect and instruct butter makers only. I believe in order to do this every cheese maker receiving instruction ought to be willing to pay twenty dollars per year and above all I believe our cheese made in Wisconsin should have more attention.

Every factory when inspected have its cheese sampled and where there is any doubt about moisture they should be tested. It has been said many times that our inspectors know nothing about cheese and some of them have admitted the fact. Our Dairy and Food Commissioner has said that if our cheese did not improve, cheese makers would be required to work two years before getting a license to run a factory. I believe that if this is required the state will be short of cheese makers and I know men who have worked six months in a factory who can make fine cheese and I know men who have worked five years and never made a fine cheese. When a maker is tested and can show fine cheese and his factory is in good condition he ought to have a license regardless of the time he has spent in learning. I would recommend a Dairy School training. I am heartily in favor of having instruction in connection with inspection. I believe that if they found trouble they could stay with the cheese maker a day or two and rectify his troubles and smooth the pathway of some of the hard feeling that has been raised by law enforcement. I believe in it, and it is a good thing and it is beneficial. We have had two prosecutions in our section and I wish to say that the cheese improved very rapidly after the first arrest was made and they paid their fines. They thought they were foolish in putting in all the moisture they had all summer. They did not get a cent more for their work. There has been a great deal of stress put on, that their neighbor is the cheese maker's greatest enemy. That each one is trying to get the making away from the other. I believe that the county organization is a fine thing, and I am in hopes that in a year from now we will not hear so many confessions. If our dairy and food commissioner could have the sentiment expressed here today put in operation I do not think that he would have to resort to law very often. I believe that if every cheese maker would make up his mind that he will make fancy cheese and not even skim the starter, then everything would be all right. (Cheers and laughter.)

DISCUSSION

Mr. UBBELOHDE: Mr. Noyes speaks about having an instructor. A year ago our institute meeting took up this matter to a small extent. Wherever there was a call for a cheese man on the institute program to take up this matter, the idea was to have a group of factories join together and the farmers pay the instructor that could go down to this group. The expense was very light. We have two sets of groups in the state that do that, one in Chippewa Valley and one at La Crosse, and it costs the farmers very little. The improvement of the butter has been enough so that the extra price they get for the butter has paid more than five times the cost of this expense. Prof. Benkendorf's idea was to do this for a cheese maker. The request must go in and they will send you a man on the subject if you ask in time. I agree with Mr. Noyes that really that is the only way to get at it. I go to a good many factories. Cheese makers tell me they have pretty good cheese and I try them and he thinks that they are pretty good. There were several of these cheeses that were to be sent here and they were sent out in September. When they came to send they they had too much moisture. Some of our cheese makers do not realize that they need to spend more time in making. I have quite a trade in selling cheese. I

cannot get enough good cheese at our own factory to supply the trade. We send out through the mail. The thought has been with us to advertise this. I have gotten cheese from other factories and cured it. We have got quite a trade through the mails. They can buy cheaper at Fond du Lac than from us, but they buy it from us in preference. I am not making anything on this cheese that I get from other factories, merely to help out the dairy council. If we could have uniform cheese made there would be very little trouble for the cheese dealer, very little trouble for the cheese maker, and very little wrong about too much moisture. We are trying to get too much yield.

I have been out to a number of cheese factories this winter and have talked over with the farmers regarding the yield of cheese. They are all reasonable. For every pound of butter fat you can make 2.6 of cheese. If you base your talk on that and tell your farmers that you can do that and you cannot do more than that; that it is unlawful to put more moisture in than that and if your neighboring factory pays a little more than you do it is because he has a higher test. The farmers do not care how much moisture you put in so long as you get by with it, so long as he gets more for it. They are willing to pay a little more for the manufacture of cheese also. I think that if we should get closer down to our farmer patrons and tell them more about things they will be perfectly reasonable.

I do not think that it requires an old man to make first-class cheese. We have one boy in our section who has six months' experience and we do not have a finer cheese at our warehouse and we are receiving cheese from 45 factories. His factory was nice and clean and he was getting along well with his patrons. I believe a boy with a year's experience ought to be able to make good cheese. I know some old makers that have never made a good cheese in their lives and never will.

MR. GLOVER: I have been extremely interested in the discussion this afternoon, it has a deeper meaning than has been brought to the surface. It is an old saying "Get acquainted with your neighbor, he might like it." Very often the troubles that we think are insurmountable are attributed to misunderstanding. These local cheese organizations have a tremendous opportunity to improve the quality of cheese, and bring understanding, to bring fellowship and cooperation and that is highly desirable for progress. I am one of those that believe most emphatically that the farmers, that the producers should manufacture their own products. That means taking care of their products until ready to hand to the consumer. I do not mean by that the cheese dealers. But I tell you that there is more harmony in our industry when the cheese maker feels that he is being given a square deal, that he is getting all the market will pay for his product. I am not particularly concerned about the large packers, yet I do not care to see that body of men get control of this industry now. I think that they are buying more cheese in this state than is good for our industry, and it is for us to see that we have more warehouses where we can mature it, and that we make a more uniform cheese than we have made in Wisconsin and you can't do that if you work individually. You cannot do that if you treat your neighbor with contempt. I do not act or speak or look like any one of you do, but my purpose may be the same as yours. In order to bring about a closer cooperation we must look and see whether that individual is going to accomplish good or trying to accomplish evil. If he is trying to accomplish good, if he does not accomplish it just the

same way you do, work with him any way, but if he is trying to accomplish bad let him alone. The sooner you get rid of that kind of an individual from your community the better for you. You should push with great vigor your local cheese organization in order to bring about better fellowship and closer understanding and place it in a position to secure and market your cheese to the best advantage.

MUTUAL INSURANCE COMPANIES FOR CHEESE-MAKERS

By F. W. KUBASTA, *Deputy Commissioner of Insurance*

MR. PRESIDENT: Insurance is an agent institution. Its original form was, of course, crude as have been all of our present developed industries or sciences. The first form of any insurance whatever dates back to 2285 B. C., and this provided that where an outlaw or a brigand had despoiled one of the citizens of a community and had not been caught and properly punished, that the village or community should restore to a certain extent the amount of loss suffered by such individual. It also provided further that if a man was in debt and suffered a loss by storm, that he should be exempt from taxation that year. It even went further and provided that where fires resulted in the destruction of the property of an individual, and the fire causing such loss was the result of carelessness on the part of another, that the person causing the fire should be held responsible and restore the amount of damage in full.

The earliest application of fire insurance known was in connection with the old communes of towns and districts under the old Assyrian form of government. In this case, the judges and priests were appointed by towns and districts with full power to levy contributions from each member of the community, in order to provide a fund against sudden calamity such as drought and fire. If these judges were satisfied that the loss was accidental, they empowered the magistrate to assist the members of the community either in property or in money, and in the event of any member being unable through property to meet his share of the contributions, such deficit was made up from the common fund.

Practical insurance such as we have today was first begun in England through the insurance of cargoes. Today insurance differs perhaps in form, although the result is practically the same. It matters little in what form of corporation we are insured. Insurance must be met by contributions or assessments. In a case of fire insurance, it is perhaps different in several respects, for the reason that an individual or a firm may carry insurance and pay premiums for an undetermined period without ever having a loss or receiving a return for his contributions, whereas, on the other hand, a member of the same company or a policyholder thereunder may have suffered several losses within a short space of time.

Life insurance differs still more materially for the reason that in this kind of protection, we are always certain that if insurance is maintained and kept in good standing that someone must be the beneficiary thereunder.

The point that I am trying to bring forth is this: that regardless of the form of insurance which we purchase, if we do protect our property, as we all should, it is nothing more or less than a common fraternal fund, wherein many must contribute in order that those who suffer loss might receive the benefits in returns thereunder.

There is very little need, I take it, for a statement as to the difference between a stock and a mutual insurance corporation. Stock companies are composed of such persons as purchase stock therein, and who provide the capital or money for the necessary operation of the company. In a stock company, if it is successful, and surplus moneys are accumulated, the same are dispensed in the form of dividends in favor of the stockholders.

In mutual companies, men bind themselves together under a form of agreement, usually in the form of articles of incorporation, by-laws, and policy contracts, wherein they agree to be mutually liable for certain specified amounts.

Under the laws of Wisconsin, domestic mutuals, that is, mutual companies having state-wide territory, may limit the liability to one or more times the additional premium advanced, or an unlimited liability; that is, that each person will be liable proportionately for the amount of all losses occurring as his insurance bears to the total amount of losses and total amount of insurance in force. The unlimited liability company is the usual form of company offering protection to the farmer, and is known as the town farm mutual company.

The success of an insurance company, no matter under what plan or form it operates, depends entirely upon the amount of premiums paid or assessments collected, as the case may be, if it be a mutual company, and the amount of losses sustained. The amount of loss depends to a certain extent upon the ability of the managing officials to pick their risks and annually meet their losses and expenses. Care should be exercised to an extraordinary degree in order that maximum or excessive liability be not accepted where there is an opportunity for an excessive loss. In other words, the liability of the company should be limited to good underwriting judgment as to the percentage of insurance to be carried on any one risk subject to any one loss.

Under the provisions of section 1946, subsections 1 to 18 inclusive, each and every fire company, except town mutual insurance companies, must be a member of a Bureau and file with such Bureau and with the Department of Insurance its schedule of rates which, must be adhered to by the company on all risks of like class assumed by it. It must also be a member of an audit bureau so that its daily reports stating the amount of insurance, the location of the risk, the kind of risk and the rate thereon, together with the premium, can be verified as against the rates which it has filed in order that it does not discriminate as between like insurers.

The mutual companies of Wisconsin have enjoyed a very profitable experience during the past few years. We do not have many of the class of companies which your association proposes to organize; that is, mutual companies which write only cheese factories and creameries. The Northwestern Cheese Makers' Mutual Insurance Company with its home office at Juneau, was organized in 1896 for the purpose of writing fire and tornado insurance covering cheese and butter factory buildings and their equipment. Its first policy was issued in 1896.

I quote herewith the comparative figures for the years 1914, 1915, 1916, 1917, and 1918, as to assets, surplus, liabilities, risks in force, etc.:

Year	Admitted Assets	Surplus over Liabilities	Risks in Force	Net Premiums
1914 ...	\$743.00	\$743.00	\$383,637	\$2,527
1915 ...	862.00	862.00	417,805	2,814
1916 ...	53.04	53.00	546,164	3,486
1917 ...	1,905.00	1,905.00	601,871	4,188
1918 ...	1,676.00	1,676.00	764,463	5,682

You will note that the company has made a substantial increase in the amount of its insurance in force as between 1914 and 1918. The company first started with rates equivalent to one-third of the stock company rates, but this has since been changed so that the rates are now 75% of such as are charged by the bureau or stock companies.

I have endeavored to secure statistics covering the amount of insurance covering cheese factories, condensed milk, and creameries in Wisconsin for the years 1916, 1917 and 1918; also the losses, but up to this writing, I have only been able to secure the figures for the years 1916 and 1917. The amount of premiums received in Wisconsin for 1916 on this class of business was \$125,476, with losses of \$49,014. In 1917, the premium receipts were \$129,572, as against losses of \$79,359. The records of the Fire Marshal's Department disclose that in 1915, there were eight fires of butter factories and creameries with value representing \$40,850, losses sustained, \$27,050; in 1916, 5 losses, values \$18,650; fire loss sustained, \$11,695. In 1917, 13 losses with value of \$104,175, representing a total loss of \$83,850. In 1918, out of ten losses representing a value of \$50,600, the total losses paid were \$35,350. The first ten months of the year 1919 report two losses with values of \$7,400, and losses paid in a like amount. In 1915, the major portion of such losses occurred in the Southern counties of the state. In 1916, the losses were evenly divided between the North and South sections of the state. In 1917, the losses are eight in the Southern half of the state and four in the Northern section, and one in the Central portion. In 1918, there were 7 losses in the Southern half of the state, as against three in the Northern section. The losses of 1919 are evenly divided between the Northern and Southern portions of the state.

Cheese factory fires for the five year period ending 1919 are as follows: 1915, 16 fires, values, \$66,280, losses, \$66,335; 1916, 17 losses, values \$65,435, losses \$58,445; 1917, 22 losses, values \$90,960, losses \$77,570; 1918, 12 losses, values \$53,465, losses \$48,430; 1919, 10 months, 18 losses, values, \$89,500, losses, \$54,195, or a total for a five year period of 85 losses representing values of \$365,640, or net losses of \$294,975.

The majority of losses for 1915 were in the Southern half of the state. The losses for 1916 are evenly divided. In 1917, the majority of the losses were in the Southern section of the state. In 1918, of 12 losses, 9 occurred in the Southern half of Wisconsin, and in 1919, 14 out of 18 losses were in the Southern counties.

It will be noted from the above that the experience on cheese factories and creameries in Wisconsin has been quite favorable. This is reflected in the rate issued by the Bureau covering the rates for stock as well as mutual companies on cheese factories, and which are as follows:

Basis rates: Frame, iron clad, or brick veneered, \$1.00 on building; contents, \$1.00;

Hollow concrete block or tile, 80c on building; 90c on contents;

Brick or stone, 70c on building; 80c on contents.

These rates are subject, of course, to the exposure charges where exposing hazards affect the risk. Creameries, however, take the slightly higher increased rate, as follows:

Frame or iron clad, \$1.50 on building; \$1.50 on contents;

Brick veneered, \$1.45 on building; \$1.45 on contents;

Hollow concrete, block or tile, 90c on building; \$1.05, contents;

Brick or stone, 75c on building; \$1.00 on contents.

These rates are also subject to the additional charges and credits provided for in the tariff affecting the same.

An important part of the management, and upon which the success of the company depends to a certain extent is the amount of liability to be assumed by a company on any one risk. The statutes limit the amount of liability or maximum policy which may be accepted to one-fourth of 1% of the insurance in force, 10% of the admitted assets, or three times the average policy. It is poor business management to attempt to assume all the liability possible on any one risk by a company, unless it has first accumulated a fairly substantial surplus over and above its liabilities. Otherwise an excessive loss on any one risk might necessitate the levying of assessments. It is advisable for a mutual company, especially a company which is just organized, to select its risks as carefully as possible, and to reduce its liability to such an amount as to bring in a respectable premium income, but not to overload its carrying liability. There are 3,000 cheese factories in the state. I am unable to gather any reliable data as to the probable value of such investments, but it is safe to say that the physical investment as to factories and equipment, and the amount of manufactured product carried will represent a value sufficiently large to build up a rightly managed insurance organization of this class.

The most preferable form of operation on a mutual plan is to charge the bureau rate, inasmuch as such rate has been determined as being sufficient to carry the risk, and after a substantial surplus has been accumulated, return such surplus or profits to the policyholders or members of the company in the form of dividends. The company can, of course, write at a percentage of the bureau rate with liability fixed or limited as to the number of additional premiums.

The most successful mutuals thus far are those which have followed the plan of charging the bureau rate and returning dividends. They must at all times bear in mind that the management expense must be curtailed, because if it is not, the overheading or operating expense may require assessments. In the event that the company sustains a loss ratio usually expectant upon the liability in force. The law limits the amount of expense for management to 50% of the premium income. It must also be borne in mind that as a rule, cheese factories and creameries are isolated, and once a fire occurs, the loss is practically total.

It is also well to bear in mind that at the present time, values both as to buildings and contents have materially increased. This is also true of the value of the raw and manufactured product, so that members of an organization should fully protect their interests. If the full amount of protection cannot be secured through a company represent-

ing the class, additional insurance is always available, and reinsurance can be secured through other mutual or stock companies.

A mutual association of this state maintains a separate inspection service, and such service has demonstrated its benefits to the association, in that through the same, hazards have been eliminated and losses reduced.

Section 1897i of the Statutes provided that the original incorporators, during the first year after the filing of the articles of organization, and until the election of the directors, shall be jointly and severally personally liable for any losses incurred during the time or times herein-after mentioned, first upon any policies issued or delivered during any time when the risks outstanding shall be below the minimum prescribed by section 1898d, and section 1898d provides that the minimum number of risks in force shall be 200; second, for the excess of any policy above the maximum single risk prescribed by section 1898 during the time while such policy exceeds such maximum single risk.

You will remember that the maximum single risk was referred to hereinbefore as being 10% of the admitted assets, one-fourth of one per cent of the total amount of insurance in force, or three times the average policy, whichever may be the greater.

Section 1945h of the Statutes provides further that the directors of every mutual fire insurance corporation shall be personally liable for all dues owing and assessments made on policies written upon property in any other state, territory, or foreign country, in which the corporation has not been duly admitted to do business, and wherein such policies have been issued in violation of law of such state or territory.

Section 1897s of the Statutes provides further that each and every company at the time of its examination for license shall have not less than one annual premium upon each application pending or risk outstanding. If any application or policy covers a period greater than one year, the premium shall be on hand for such greater period. No part of the premiums so received shall be paid or used for promotion expense.

In other words, no promotion expense is allowed for the organization of a mutual fire insurance company, and there must be on hand at least 50% of the annual premium and the required amount of premium for policies of a term longer than one year, which is for three year policies, 86%, five year, 90%. This unearned premium immediately becomes a liability.

A mutual company, where it proposes or desires to accept of a line or risk which in amount would exceed good underwriting, it should immediately make provision for reinsurance with some good strong company, either of its own or other class, in order that it may relieve itself of an excess liability.

I would urge upon your association the fact that it should not incorporate the organization of too many mutual companies. If you have a good strong organization of your own which can and will support one or two mutual companies, it is to your interest to do so, but if you start to organize several mutuals, dividing the business among the same, the result will be that the overhead expenses, fees, etc., will consume the profits or savings.

DISCUSSION

QUESTION: What is the rate for frame buildings for cheese factories?

ANSWER: One per cent unless there is an exposing hazard—a blacksmith shop or garage. Then the rate will be increased.

QUESTION: If the boiler room is of cement block?

ANSWER: In the cheese factory the boiler does not affect it, but in a creamery there is a charge for that.

QUESTION: It does not apply to a private garage.

ANSWER: No. I mean a public garage.

QUESTION: I would like to know the reason for organizing this new mutual insurance company?

ANSWER: I do not know of any being organized. I am not urging organization, only telling you the possibilities of it.

MR. LINZMEYER: I want to say that there is and has been a mutual insurance company of cheese and butter interests and the name of it is the Wisconsin Cheese, Butter Mutual Insurance Company. We have secured 100 to 125 applications up to this time and like Mr. Kubasta said the rate established by the rating bureau was \$1 on cheese factories out in the country. Our rate is 75% of the state rate. This rate was adopted at the time of the organization on a frame cheese factory out in the country. The rate in this county is 75c on \$100. On brick and stone buildings it is less. On factories in cities and villages the rates are different according to localities. We need 200 applications to get a license from the state. We have now from 110 to 120. We have to get the necessary applications in a short time so as to be in shape to do business in a month or two. I will be glad to meet any of you after this morning's session to get your application for insurance.

The rate given is \$1 for every \$100 per year. On your dwelling the state rate is 24c sixty feet from your factory, and our rate is 75% of that.

QUESTION: The rate of your mutual company will be three-fourths of what the established state rate is?

ANSWER: Yes.

QUESTION: The state rate on dwellings sixty feet away from cheese factories is what?

MR. KUBASTA: It is 80c for three years.

MR. LINZMEYER: And our rate is three-fourths of that.

MR. HOWE: We have a representative here from the state insurance department. I have been in insurance a little myself and I feel that we are rather sleepy on this proposition. We are here to do things. The question in my mind is just this. It is possible in this body of cheese representatives to establish and build up an insurance company that is going to be of real benefit and a real saving to us if the representatives can show to us whereby we can make a saving along this line. It seems to me that it ought to create a feeling within us to reach out and accomplish that end and if there is no saving, no gain, creating this insurance company I can see that you will not get anywhere with it. I would like to know what saving we would get by organizing this insurance company.

MR. KUBASTA: The saving as Mr. Linzmeyer said to you and as you will note from the Northwestern Cheese Makers' Insurance Association, the mutual company expect to write at 75% of the rate of what you expect to pay. The Northwestern is writing at 60% of the regular rate. You can have a more pronounced saving, but if you should have a bad run

of luck which would depend on the management and your laws, why of course you would not be able to make the showing you would wish to. But if you have sufficient volume, limit the number of your companies, instead of one-half dozen have two or three, because with territory to cover and the amount of insurance in force, you have an opportunity to strike an average; but if you divide up, losses will require levying of an assessment. Do not levy an assessment if possible. The membership immediately lose interest as soon as an assessment is made. I cannot tell you exactly what it will save you in dollars and cents because it has not been tried out yet. But savings have been made by one operating and likely it will be made by the one now proposed to operate.

MR. LINZMEYER: There is this about this insurance question. There are a great many insured in old line companies and they pay the bureau rate. Every dollar that is paid is gone for good. You never expect to get any return unless you have a fire. With a mutual company if the losses and management are such that you accumulate a surplus, the money belongs to the policyholder and they can do with it as they see fit. They have something to say about the money they have taken in by the company as premium. In old line companies you have absolutely nothing to say. The rate Mr. Gasper asks for is 32c, and our rate is 24c. Our rate on dwellings sixty feet away from the factory is 24c.

MR. HOWE: As I understand it that at the present time the insurance that we have is costing us practically \$1 per \$100. At the start the new company would save us 25%. As the company grew we would have the money that would accumulate, a surplus and would decrease any assessment that might be made. I look at it in this way—somebody has got to be the fellow who will push it and one fellow cannot push it alone. If it is worth while let us have it; if not let us lay still. This thing looks good to me. It is the real thing. It requires an effort on our part to get these policies in and get this insurance company started and we ought to do so at once.

MEMBER: The rate of the Northwestern is 80c that provides for assessment. I think that there are insurance agents all over the state that handle it. That company was organized to protect the cheese factories. Why not take advantage of it, instead of organizing another company? They have not had an assessment for several years. I do not have anything further to say but to make the remark that the Northwestern Cheese Makers' Insurance Company with headquarters at Juneau has a rate of 80c on every \$100. That company organized with just such purposes as you are talking of organizing this company and 80c is the rate and you are liable to assessment just as this company would be. If you organize another company it will be splitting up the insurance of this state and you will not save anything. We have not had an assessment in a good many years.

MEMBER: The Secretary of that company gets a salary and works on fees while the treasurer does not get anything because I am the treasurer of that company myself.

MEMBER: I think that our company as it is organized has a chance to make a little money for the boys. Our company is so situated that we can get into farmer's mutual for the most part and we can not get cheaper rates than what we can in our own company. Our boys felt that this was a good thing and want to help to get things started. Furthermore we have got our office, we have our secretary, he can do the work, he is getting a salary anyway and I think the thing is going

to be good for the cheese makers. There are lots of places that are paying \$1 to \$2 per \$100 insurance and it would amount to only 75% on this statement. The boys ought to help this thing along as it will save them money. It is for the benefit of the cheese makers. That is the way I understand it. I understood that our secretary was to handle the insurance work.

MR. LINZMEYER: That is true and for that reason we ought to get this thing organized and the quicker we do it the better. This is a company for butter and cheese only. The Northwestern does a general business. They have insurance all over the state. Regular insurance agents handle their business. We do not expect to pay any commissions like they do. As long as we have this big organization and we all get out and work and work that we are doing is for our own benefit, we do not have to pay any commission to insurance agents to get the risks for us. I believe that it is a good thing and as long as we have an organization our overhead expense will be so small that it will not amount to much.

QUESTION: How many cheese factories have you in your company?

ANSWER: I do not know. I do not know how many policies are in force. They are not all on cheese factories. No creameries at all.

QUESTION: You are paying your agents in different cities a commission?

ANSWER: Yes, they get a commission of 20c of that 80c or 25% of that premium paid.

ANSWER: Well, that is a big item and one that we want to get away from.

QUESTION: How can you insure all over the state without agents?

ANSWER: Because we have an organization covering the best part of the state. That is the reason why we expect to be able to cover the state and insure all of the cheese and butter industries without any agents and without paying any commissions.

QUESTION: Would that include the cheese makers' dwellings, too?

ANSWER: Surely. The dwellings, as well as the household furniture.

MEMBER: The insurance company at Juneau did not advertise their company until last summer. We would have been willing to join this company if they had only advertised.

MR. DAMBOW: I think that this gentleman is mistaken. I insured in this company a number of years ago and I had to pay a heavy assessment and I quit. As I understand this new company will be 75% for the year. Through this organization I think that you should be able to make this insurance company one of the big, strong insurance companies. There will be very little expense connected with it if the boys take hold in their own interest. I think that we will have much cheaper insurance.

PRES. REED: I have an announcement to make to you, this banner standing before you is an award to the Wisconsin Dairy Protective Association for the largest number of cheese on exhibit in the National Show for 1919--Wisconsin's exhibit at the National Show.

Yesterday morning Mr. Linzmeyer gave a talk and he had some notations on the cost of manufacturing 100 pounds of cheese. He promised to have it printed this morning for the members. We have them here now through the courtesy of the Kielsmeyer Company. The cost of manufacturing cheese at the present date. These are based on a run of 1,500,000 pounds. These are all at your disposal gentlemen. As you leave the hall each of you take one.

MY EXPERIENCE WITH MUTUAL INSURANCE COMPANIES

By O. D. SCHWANTES, Clintonville, Wis.

MR. PRESIDENT: I am not going to take up much of your time because I have not had a great deal of experience. None of the cheese makers have turned me down. All considered it a good thing. There is a standard bureau rate. I do not know what they base it on. I have found frame buildings, cheese factories, partly stone buildings. Both carry the same insurance. One man pays a \$1 for a hundred dollars insurance, the other pays \$1.50 for one hundred dollars insurance. If there is standard bureau rate then both are not paying alike. I have been in one of the incorporated factories built this year. It is of hollow tile block and the rate is 90c. Agents from town came out there and wanted to insure the farmers for 90c. The farmers would not accept that. A general agent came from the company and he could do better than that what the local agent could do and he made them an offer for 85c per \$100. The farmers would not accept that, said that was much too much. So then the general agent went back and a couple of days passed and the local agent insured them for 80c. The cheese maker has got his household goods insured there and is paying a dollar for \$100. That means that if his household goods were burned down he would only get 75% of the value of them. The rest of the insurance proposition is pretty well explained here. Any question I will be glad to answer.

THIRTY-FIVE YEARS' EXPERIENCE AS CHEESE-MAKER

By P. H. KASPER, Bear Creek, Wis.

MR. PRESIDENT, LADIES AND GENTLEMEN: Another year has passed since we last met in Milwaukee as an organization to discuss our momentous questions and to talk over and recount the various experiences of the past season.

Let us further believe that in this way and only by such intercourse can we expect to be up-to-date in our chosen profession, for it is here that the best thoughts and ideas in our line of business are exchanged.

In looking over our program, I find that our ever faithful Professor Sammis, in whose hands the responsibility and success of this Association has rested, has prepared a program that is not only a credit to himself but to the entire Association.

I am not going to dwell at any great length in discussing my experience in cheese making, for there are other subjects on this program that are probably more interesting to you than mine. Thirty-five years ago the rivalry and competition that existed among cheese makers was

just as great as it is today and therefore did not make it all sunshine. For the man that could make the most cheese from one hundred pounds of milk was the man of the hour and was considered one of the best makers. Very seldom would you hear any complaint from patrons that the price for cheese was too low. Their aim was to secure yield, to see how much milk it took to make a pound of cheese.

But the majority of the cheese makers who made the best and the firmest cheese were able to pay as much per hundred of milk as those who practiced incorporating moisture. They had more or less trouble with high acid cheese and even if they were successful, the price was so low, $\frac{1}{4}$ to $\frac{1}{2}$ pounds more cheese made from 100 pounds of milk would not vary the price per one hundred pounds of milk as much as it does today, when cheese is selling at 30c per pound and above.

The cheese was not shipped every week the way we do now. Many times it was kept for several months during the summer in the curing room. Even if some of the curing rooms were upstairs in the factory those cheese did not huff. I know the majority of the cheese made today would not stand up under such temperature as they were exposed to. Those cheese didn't have as much acid when they were salted as most of the cheese now manufactured has when you dip the curd.

There was no such a thing as a rennet test, to test the ripeness of the milk, nor curd test, curd mill or curd racks, nor did we know anything about a starter. The only test we had was the hot iron test and I for my part still consider it the most reliable one to test the acid of the curd. Self heating vats were used. Even if the milk arrived at the factory several hours earlier than it does today, it took almost all day to make cheese. Most of the rennet used was home made and varied in strength from day to day. The most of the milk received at the factories those days received better care on the farms, consequently was very sweet and the setting temperature was from 82° to 85° and it generally took from 50 minutes to one hour for the milk to coagulate ready for setting. Most of the factories had only one perpendicular curd knife. Even at that the curd was cut up very fine.

After cutting, it was generally stirred by hand for a few minutes before extra fuel was added to the fire. Then the curd was stirred with a rake until a temperature of 98° to 100° degrees was reached. After that it was only stirred occasionally, just enough to keep it in granular form. As soon as the curd was firm enough, then the water from under the vat was run off to give the curd a chance to cool and to prevent it from matting together. As soon as the curd showed the least sign of acid by the hot Iron Test the whey was removed. That took from 4 to 5 hours from setting time. The curd was kept in granular form until it began to feel velvety and when tried on the hot iron would show from $\frac{1}{4}$ to $\frac{1}{2}$ inch acid and would give an odor like fine toasted cheese, then, it was ready for the salt.

In those days we did not hurry the process of making. We let nature do the work while we did the chores.

During the summer of 1890 while I was making cheese in the state of Minnesota, I learned about the Harris rennet test, to test the ripeness of the milk. From that time on I got interested in making fancy cheese. All our cheese was sold direct to the retail dealer. Our competition was New York state cheese, which the merchants of that state considered in those days the best in the world. But we soon convinced them that as good and better cheese could be made in the Gopher state as the

famous Herkimer Co., New York cheese. The demand for our goods was larger than the supply.

For years I followed the system of cheese making by the granular process, but by the aid of the rennet test it enabled me to improve on my system, not only in shortening the time but also in quality. But the time from setting to dipping and from dipping to salting was almost the same. Sometimes we waited in the morning for several hours before the milk reached the required ripeness ready for setting.

In the spring of the year 1891 I came to Waupaca county and purchased the factory which I have operated up to the present day, with the exception of a few days while I was sick or attending some dairy convention.

This factory was poorly built and had one small window in the curing room and two in the vat room. Some improvements had to be made before cheese could be successfully manufactured. I could not get any encouragement from any of the surrounding farmers, nor would they promise to haul milk there, as the factory had recently been a failure.

The general belief among the farmers was that good cheese could not be made and advised me not to spend my time or money on that factory. But I didn't let them discourage me, and I went about making the necessary improvements on the outside and the interior as well as cleaning the utensils. On the 8th of May I was ready for business and 280 pounds of milk was received. The first day the milk was furnished by two patrons. The second day there wasn't enough milk for one cheese but fortunately the weather was cool. The milk was kept over until the next day and the third day another patron volunteered to haul. That furnished me sufficient milk to make one cheese a day. 780 pounds of cheese was made the first month and during the month of June more patrons were added to the list. By the end of the month I was receiving 2,000 pounds of milk a day. Even with the small supply of milk the factory was kept in operation until some time in November. A little over 17,000 pounds of cheese was manufactured the first season. The second year over 50,000 pounds cheese was made and some twenty years later I made over 300,000 pounds a year in the same factory.

During the winter of 1893, I took the dairy course at the University of Wisconsin and graduated from that institution. The following spring I started to pay for milk by the Babcock Test.

Since the time I exhibited cheese at the World's Fair at Chicago, I have received the following awards:

Awarded Medal and Diploma, World's Fair, Chicago, 1893.

Highest award at the Wisconsin State Fair, 1898.

Gold Medal at Convention, Wisconsin Cheese Makers Assn., 1900.

Highest award at Paris, 1900.

Highest award at Pan-American Exposition, Buffalo, 1901.

Highest award at the Wisconsin Dairymen's Convention, 1904.

Gold Medal at the St. Louis Exposition, 1904.

Highest award at the Wisconsin Dairymen's Convention, 1905.

Highest award at the Eight Monthly Scoring Contests, 1906.

Highest award at the Eight Monthly Scoring Contests, 1907.

Highest award at the Wisconsin State Fair, 1912.

Highest award at the International Dairy Show, 1912.

Highest award at the National Dairy Show, 1912.

Second highest award, Wisconsin Cheese Makers Assn., 1916.

Highest award, Wisconsin State Fair, 1916.

Second highest award, Wisconsin Cheese Makers' Assn., 1918.

DISCUSSION

QUESTION: Mr. Kasper, do you see how much moisture you put into the high scoring cheese you exhibit?

ANSWER: There was not more than 35 to 36% moisture at the highest.

QUESTION: Did you know at the time the percentage of moisture?

ANSWER: No. Years ago when I started to make cheese there was no such thing as a moisture test. The cheese we made those days are practically the same that I make for the convention now. You take your curd when it is properly cooked and you will find very little moisture from day to day. If the curd lays in your vat three or four hours it will be constantly evaporating moisture while maturing. We have got to mature the curd.

QUESTION: Is this not a fact that a sweet curd will hold and not show up the moisture that a ripe curd will?

ANSWER: You make a curd. You set your milk a little sweet. You set according to Marschal test about 3 spaces. Your curd is properly cooked up to 100° and you have got to have lots of time to firm up your curd, at least two hours' time. If you run that way at the proper time your curd will expel moisture twice as fast. At the same time the sweet curd as soon as you get it matted, it will expel more acid than one with a quarter of an inch curd.

MR. NOYES: I would like to say a word there. I think there is where a great many of all the cheese makers fall down, the curing of the curd in the vat. You commence with too much acid to start with, you cook it too fast and you are hurrying it. You work too fast. Let the whey settle on that curd and that whey has got more acid than your curd has got and it puts white spots on your curd, and then you salt it right away, and you have a crusty curd. It retains that whitish color and does not show that even, rich color that it ought to have. That is the one way where you fall down, the curing in your vat. Do not put it right in the hoop. You should let it stand 20 minutes and then put on the rest of your salt. It does not hurt your yield. The first half of that salt you put on your curd comes off somehow. The second part you put on stays in there throughout your curd evenly. Your salt should have time to dissolve. Above all mature your curd in your vat. It will help your cheese.

MEMBER: I would like to have Mr. Noyes come over and see just how many pinholes there will be in the cheese if we followed his directions in making cheese.

ANSWER: I will come over to your factory some day and fill them up for you. (Laughter and cheers.)

QUESTION: I would like to ask Mr. Kasper whether he makes his prize cheese out of the ordinary milk he gets?

ANSWER: Yes, the ordinary milk received every day. I never select any milk.

QUESTION: I was wondering if you did not select your milk?

ANSWER: No, sir.

QUESTION: How much salt do you use in your cheese making?

MR. KASPER: I use about six pounds in a prize cheese. Some curds will take up more salt than others. The more you mature it the more salt it will take. If you make your curd real sweet, salt it from three to six pounds and it will not salt out. The salt will not hurt the cheese any. It is the moisture in the cheese that makes it dry. Last summer I only used

four pounds of salt. Two years ago I used about six pounds of salt. After fifteen minutes the curd falls off.

QUESTION: How soon after grinding do you salt?

ANSWER: About two or three hours. If the curd is salted and not too much acid, there is no danger of it spoiling. Many times I do not salt the curd until evening.

QUESTION: Mr. Kasper uses three to four pounds of salt to each one thousand pounds of milk?

ANSWER: Yes, sir. It depends upon how long you wish to keep the cheese.

QUESTION: Has Mr. Kasper been located in one place most of his dairying history?

ANSWER: Yes, sir.

QUESTION: Is it not possible that you were very fortunate in getting located in a very good dairying country, appropriate for the production of good cheese?

ANSWER: As far as that is concerned we have more swampy land near our place than any place in the state of Wisconsin. Most of the farmers have wet, swampy pasture, part of it is wild pasture, too. If it was not for that I would get 40,000 pounds of milk a day.

QUESTION: You have your farmers take good care of your milk?

ANSWER: Yes, sir. If they bring poor milk I send them home. It is not accepted.

QUESTION: One thing further. What time do you get through manufacturing your cheese?

ANSWER: It takes all day, and sometimes we work after supper, too.

QUESTION: How about the brick cheese? The making of brick cheese?

PRES. REED: Mr. Kasper is an old American cheese maker.

MR. WEIGLE: The law passed this year on brick cheese is that it should not contain more than 42% moisture.

MR. NOYES: There is one point overlooked a bit. Mr. Kasper, like myself, commenced making cheese when we did not have a rennet test, or a hot iron test and we made good cheese then. Mr. Kasper made cheese then as he does now. It took all day then and it takes all day now. He made good cheese without selected milk, today he uses all modern improvements and is still making cheese all day. You can see that the principle is sound. I do not believe that it takes all day and part of the evening to make cheese. I believe with all of our improved methods we know just how it will come along. If you have a little ripeness in your milk it will take a little less time. I have left my curd in the vat and driven to town and did my trading and had a very fine cheese. I had a good time making cheese and I liked it and I was always very anxious to make fine stuff.

MEMBER: Supposing you have a neighboring cheese maker who does not make good cheese, has much moisture and is paying 15 to 20 cents more. The farmers are criticising. They do not care how good a cheese you are making as long as they get the dollars for them.

PRES. REED: That is just the thing that we are trying to thrash out here. That is just what Mr. Noyes says here and Mr. Kasper. "Make good cheese and to hell with the yield."

We have been in the habit for years when one of the old wheel horses have worked for a real long time we have voted him a vote of thanks in the way of a life membership to this association. We have two of those members now. Mr. Noyes and Mr. Aderholt, and Mr. Kasper at this time is entitled to the same thing.

MR. NOYES: I would heartily fall in line with this idea to make Mr. Kasper a life member in this association. Mr. Kasper has always held a high standard of cheese. Not only that but he has held out good and strong to his patrons to give good milk to him. The farmers did not say to him, "Put all the moisture in the cheese that you can get in." They let him make good cheese. He has come to the association and given his time, and his heart has been in the work. He has tried to raise the standard of Wisconsin cheese. He has not lost his patrons and his reputation and I move you that he be made a life member of this association. I wish we could all make this prize cheese, that Mr. Kasper makes.

MR. UBBELOHDE: I second the motion.

The president then put the motion to a vote of the convention and the motion was unanimously carried. Mr. Kasper was declared a life member of the association.

MR. KASPER: I do not know how to express my thanks for the honor bestowed upon me. I thank you very much.

MR. UBBELOHDE: We have another man in mind that has been a member of this organization a good many years. He is not a cheese maker at the present time. He comes and takes care of our cheese every year. He leaves his business and comes and looks after the cheese. He has done it for a good many years and I think that he should be voted a life membership in this association. He is one of the old original cheese men. He has never failed to be present at the convention, but one year. His name is J. W. Cross.

The motion was seconded by Mr. Moore.

The motion was put by the President and unanimously carried, and Mr. Cross was voted a life membership in this association.

MR. ADERHOLT: I have a man in mind who has been a member of this association from the time it started. In a very quiet way he has during the convention and during the rest of the year worked for the good of this association and has stood up for it. And as I say he is a member and has attended the conventions for the last twenty-five years. And it seems to me that he intends to keep up that record for a good many years more. I think that he should be allowed a life membership. His name is J. B. Cannon, one of our judges.

The motion was duly seconded and put by the President. The motion was carried by the unanimous vote and Mr. Cannon was declared a life member of the association.

HOW TO SYSTEMATIZE FACTORY WORK

By H. A. RINDT, Clintonville, Wis.

MR. PRESIDENT: How I came to select this subject was mainly that I noticed in my travels the great lack of system in factories.

The secret of most of our troubles lies in the intake and the man that is in it. I find this is where so many of our troubles come from. Your raw material is your important factor. A year ago last summer I was called to eighteen factories, having great trouble. I found lack of grading experience, and knowledge as to what good milk and curd should be. I was called by one particular man, just at noon. He was dis-

couraged, and had a loss of \$360 that very month. He asked me to come and help him make up the dope he had in his vat. He was undecided whether he should shovel it to the chickens or put it in the press. Having had experience on several occasions similar to this, I was anxious to know just what he expected of me. I asked him if he expected me to make a fancy cheese and a big yield, and get through about two o'clock in the afternoon. If he did, I did not think I would have time to come. But as he begged, I went and I found about twelve hundred pounds of curd with no cook, and very slimy, and it appeared as though it had too much acid and should have been milled an hour or so ago. Yet the man knew if he had milled, it would have huffed, and he would have to stand a big loss. I made cheese that day that brought the market price, but a big loss in butter fat, and asked him to put some of these aside, as I was anxious to know, how they cured up. He asked me to make for him a few days, but as it was in the flush of the season, I could not spare the time. He wanted me to take in this very same tainted and filthy milk inoculated with a culture from a milking machine and to go ahead and make fancy cheese without any difficulty. Now this is impossible, and I explained to him where his troubles came from, that it was he himself that was the cause of all his troubles, and his troubles would get worse instead of better if he continued his system. But he told me he did not have the time. He was one of these men that was making for one and one-half cents per pound and owned the machinery, and worked fourteen thousand pounds of milk a day, with a little boy as helper. We have this same type of men scattered all over the state, that work up from ten to sixteen thousand pounds of milk a day, and have no time for their field work. This very same maker got advice from others. Some advised him to use a cold water system, others the hot water system, and a hundred and one other methods, but everything failed. He at last found his trouble to be exactly as I had informed him. Lacking the courage to remedy it, he was finally forced out of business.

One of the greatest troubles we are up against at the present time is due to the milking machine, and there is no way of keeping them out on account of the high cost of labor. I have traced up these troubles time and again, and I have found them in every instance. One of the greatest mistakes the manufacturers of milking machines are making today is by falsely impressing the farmer with the idea that the milking machine needs very little attention, as far as keeping it clean is concerned. He advises them to soak the rubber hose and teat cups in a jar of lime solution and change this solution every three or four weeks. After the machine has been in use for several months he will find cracks in the hose and joints where a slimy substance gathers, which acts as a culture, and comes in contact with the milk at every stroke of the milker. The milk being warm gives the best of chance for these slimy bacteria to grow. You will not only have pin holes or Swiss holes, but in this case you will have both, and a very slimy body on your curd and it is almost impossible to get a cook. These slimy bacteria have the best of chance to inoculate your milk, as it is drawn from the cow at a temperature of 85°. During the entire time of milking which takes from an hour and a half to three hours before it is cooled down, they have developed to such an extent that it is impossible to make good cheese from this milk. In other factories I have found patrons never have been induced to cool their milk and the maker wondered why it is

that other factories have no trouble. In two particular factories I have found that some of the patrons have hauled their milk every second day the entire summer months and the patrons told me that they have always hauled that way, and gotten their money, and could not see why they should haul each day. Many a factory I visited this summer where I found the makers sleeping in the afternoon from two to six o'clock their curd lying in the vats full of holes and everything imaginable, wondering how it is possible some of the factories never have this trouble. They tell me they have used pasteurized starters, and lactic acid ferment cultures, etc., and results are all the same.

You cannot overcome everything that the man in the intake accepts if it is half manure and other filthy substance. If we could, we would encourage the thicker substance, because it contains more solids, and this would increase our yield, and selling it at thirty cents per pound would mean more to the farmer than keeping it at home.

We have hundreds of these kind of makers in our state, that are working under these difficulties. They are studying, experimenting, trying a process to manufacture cheese out of this kind of dirty milk without any trouble. They have mostly all failed, and it would be a ruination to the cheese industry if we should adopt any system of adding drugs so as to overcome these bad bacteria, which originate from filth and insanitary conditions. We would be camouflaging food for man, which would mean destruction to the cheese industry. What we need is county instructors or inspectors to raise the quality of our raw material, and to look after the welfare of our dairy industry. I think it is just as important to grade our manufacturers and have them pass a civil service examination to see if they are master of the profession they qualify for. All we have to do is to follow the barbers' example or some other licensed manufacturers. They have to pass the state board of health in order to get a license, and this will weed out the culls, to a great extent.

It is not only necessary to inspect the factory where cheese is made in or the conductors that lead the milk to the vat, and inspect the cheese for moisture, etc., which by all means is needed to keep up the quality of cheese. If the milk you take in is tainted and filthy, the sanitary factory conditions alone will not improve the quality of our cheese. For this reason we ought to increase our inspection force to overcome these conditions. They cannot be remedied in a day or two. I would be in favor of raising the penalty and fines at least 200% as at the present the fines are so small that if the maker is prosecuted he is still the winner by far. In the big manufacturing plants where thousands of pounds of butter and cheese are made daily, and where the inspector, inspects his produce once or twice a year, he has profited by the excess moisture system, and in butter by the low fat contents, that if he paid a fine of a thousand dollars he still would be the winner by far, and have defrauded the consumer, and knocked the man who stood up for quality out of business. We have read about the automobile thieves who were stealing the automobiles in Chicago, and at the beginning just a few years ago would pay their fifty dollar fine. They had sold the car they stole for from \$500 to \$1,000. They were making enormous profits. When the penalty was such that it meant eighteen months handling the pick and shovel, there were very few cars stolen. I feel that we have the same picture before us when we look at the small fines that our constant violators of our dairy laws have to pay. Here

is hoping we will improve the conditions and by close cooperation we will in the near future have some plans for selling cheese on quality basis, like butter and most all other merchandise is sold at. This alone will force our reckless men to come up to the mark, and make this world a decent place to live in for those that stand for quality.

The field work is just as important as the factory work. You can send for a book to study, it shows just what to do. But to get the milk so as you can use those methods, that's where the rub comes in. It takes a lifetime to do this in some localities. I know of factories where you can not convince them at all.

"RAISING THE QUALIFICATIONS FOR LICENSES"

By GEO. J. WEIGLE, Dairy and Food Commissioner of Wisconsin

Mr. Chairman, Ladies and Gentlemen, Members of the Cheese Makers' Association, I am asked to address you this afternoon on the question of higher license requirements. Now, I am not going to talk to you on the question of raising your fees. I am not here for that purpose, but I am here to advocate higher qualifications for a cheese maker for the better interests of the cheese industry of Wisconsin and for the proper protection of the cheese maker himself. When you listened to your president's address, what was it he said? He talked quality to you. Mr. Glover, in his splendid address, talked to you on quality. Mr. Noyes talked to you on quality, and I had the pleasure of hearing Mr. Kasper on the question of quality. I have heard Mr. Rindt who brought home so forcibly what was needed in the cheese industry. I have made up my mind that there was something wrong with the cheese industry of Wisconsin. What I want to illustrate is this, that you young men who are starting out, do not forget to study and keep on studying. You will not only find \$10 bills but \$100 bills in every dairy journal that comes to you in every mail.

It is not often nowadays that we hear people refer to the "olden times" for any other purpose than to make a comparison between the prices charged **then** and **now** for the necessities of life; and most of these comparisons go back only a few years. However, I wish to carry you back in thought several hundred years for the purpose of drawing an analogy between the conditions surrounding certain industries in the Middle Ages and the conditions surrounding the cheese industry today, and I shall promise not to mention the subject of prices in the entire course of my remarks.

If you will recall what you know on the subject, you will remember that entering a profession, or even a trade, in days gone by, used to be a matter of serious moment. A candidate was apprenticed in early boyhood to the master who was to teach him his life's vocation and the master was carefully selected for his ability and reputation as a workman. Then ensued a long period during which the apprentice was painstakingly instructed in every detail of his chosen work and during which he slowly acquired the knowledge of his master, ripened through years of experience. Eventually, after what must have seemed an eternity to the youth who had long since grown to man's estate, the ap-

prentice became the journeyman, privileged to travel and work for wage.

But there were still years of effort ahead of the man who had successfully progressed so far. He must gain a large experience through the practical application to every-day conditions of the truth he had already learned; he must prove his ability to understand and solve the problems with which the worker in any line of activity is constantly confronted; and finally, before he could lay claim to the appellation of "master craftsman" or consider himself a finished workman, he must unquestionably demonstrate his ability by the execution of a masterpiece.

Not until all this had been accomplished was our one-time apprentice admitted to the inner circle of his guild, that organization whose function was to perpetuate the traditions and ideals of the craft. Here he was kept in touch with others of his profession, he learned what his brothers were doing and with these other skilled workmen he strove ever to advance,—to develop new thoughts, to increase his knowledge, to improve his technique; and because of all this the quality of his handiwork was continuously bettered and the world was enriched thereby.

The rules and regulations of the guild were hard and fast and swift retribution followed any violation of their tenets. But it was seldom necessary for the guild to punish because the workman **took pride in his work**. To him it was a sacred charge to be entrusted with the carrying on of a work which had gradually grown through the centuries and he felt, and justly so, that to have worked faithfully and well, to have aspired always towards a higher ideal, to have contributed something to the sum total of the knowledge of his craft for the benefit of the generations to follow, was not to have lived in vain.

And now, what lesson can we draw from this record of conditions which existed long before you or I were born? How, you ask, does all this apply to the cheese business of Wisconsin in this twentieth century of ours? I would not for an instant want you or any other present-day group of workers to revert to the hardships of the medieval seeker after knowledge with his years of effort expended in a search for facts which could only be transmitted by word of mouth or acquired by bitter experience. Nor would I want any man to needlessly spend many productive years of his life earning only for another, himself benefiting in no financial way from his labors. These things are not needful because times have changed. Books and schools have opened an easy path to him who wants to learn and the knowledge and experience, the research and the experiments of the whole world are to be had by the poorest for the asking. Furthermore, the ease and speed with which one may now learn, and learn surely, have eliminated the necessity for the long years of the former apprenticeship.

But I do say that we can well sit humbly at the feet of those artisans of the past who built slowly, it is true, but soundly, and there learn the beauties and the benefits of a steadfast devotion to an ideal.

There is too prevalent, in these times, the idea of the necessity for speed, and speed is too often obtained at the sacrifice of quality. We do not give enough consideration to the foundation upon which we hope to erect our monument of achievement. Too often are we swayed by a consideration for immediate though mediocre results; too often is our judgment warped by false standards of value. To make use of a phrase which may be heard on almost every lip, "quantity production" has

become our fetish and we seem to have lost sight of our time-honored standards of quality, the continued observance of which is the only thing that can make our much vaunted "quantity production" anything but a snare and a delusion.

You men are cheese makers. You are members of one of the oldest professions in the world, one which numbers thousands in its ranks. And when I say that cheese making is a profession I speak advisedly, because I believe its science has reached a point which justifies that expression and because I also believe that a man who has mastered the art of cheese making in the same degree that the so-called professional man (in the ordinarily accepted sense of the term) has mastered his business is entitled to the same recognition of his study and ability as the lawyer or physician or the representative of any other profession.

But I tell you frankly—and I regret to admit it—I think there are many cheese makers today who cannot measure up to this standard. I repeat, that I am sorry to be forced to make this admission—I would much prefer to be able to say that the cheese maker who was **not** a master of his art was the exception. But the time has come when we must look this situation fearlessly in the face, when we must meet the issue squarely, if Wisconsin is to maintain her place as the premier cheese producing state of the Union.

The dairy industry is, as you well know, one of the most important, if not the most important factor in Wisconsin's commercial development; and for years the cheese branch of that industry has been going forward by leaps and bounds until now our state is producing the enormous amount of over three hundred millions of pounds of cheese annually which is more than is produced in all the rest of the United States put together. This is a record to be proud of and it is equalled by the reputation which Wisconsin has established for the quality of the cheese produced. But competition is becoming keener; other states are not going to permit Wisconsin to retain this leadership without a struggle. The time is past when we can be satisfied with a "good enough" product even though that product has been better than anything made elsewhere in the past; we can no longer be satisfied with a maker who does not know all these is to know about his work and about the possibilities for improving the quality of his cheese. At the present time we are laying such emphasis upon quantity and are striving so hard to make **more** cheese in the chase for the almighty and elusive dollar that **quality** is being disregarded.

It is a fact, as revealed by the work of the dairy and food office, that the quality standard of the cheese now being produced in this state, is alarmingly lower than it has been in the past. We are in grave danger of doing irreparable injury to Wisconsin's cheese industry through this tendency toward a lower quality standard. The production of vast quantities of cheese will serve no purpose if that cheese is not salable; and relatively poor cheese will **not** be able to compete successfully with a better article on the same market. This will be the condition which will prevail, with other states coming to the fore in cheese manufacture, if we do not take prompt measures to forestall it.

—I do not wish to appear before you in the guise of a "calamity howler" nor do I mean to detract from the excellent reputation which Wisconsin's cheese has established for itself. But I do think it my duty to sound a solemn warning against the tendency toward careless-

ness in the matter of quality which seems to be setting in and gaining headway.

As Dairy and Food Commissioner, I have tried, by patient effort, to raise the standards for dairy products in this state; I have tried, through my field inspectors, to advise with those men who produce or handle or manufacture dairy products and instruct them in the most approved methods of doing their work. The response I have received has many times failed to evidence that appreciation or cooperation which, on the score of personal benefits alone, might have been expected. Plainly, more drastic action is demanded and it shall be my policy from this time on, not only to advise and instruct as in the past, but to **insist** upon compliance with those statutes and regulations which are **designed** to and which **will** protect the dairy industry as a whole and your own individual interests as well.

Nor am I going to confine my remarks to what may be called **destructive** criticism but will offer as a solution for the somewhat gloomy prospect I have presented what I consider to be the logical course of action to be followed. I can express this in two sentences: First, let the cheese maker consistently try to increase his knowledge of his business, viz., of the technique of cheese making, and aim always to produce a cheese superior in quality to his best previous effort. Second, let us raise the standards of the profession by increasing the requirements which are pre-requisites to the granting of a cheese maker's license.

If my first suggestion is followed out it will mean that you, as cheese makers, will devote what time you can spare to the study of all phases of the dairy industry which affect the manufacture of cheese; that you will keep abreast of the latest thought of your profession; that your factories will be maintained as a place where food is handled and stored **should** be maintained, and finally, it will mean that there will develop a pride in work well done—well done with no thought of pecuniary reward but because of the joy of the craftsman in the accomplishment of a worthy task.

If my second suggestion is adopted there will be permitted to enter into the business of cheese making only men who are fitted by training and experience to properly discharge the important duties incident to that work; and the maintenance in the future of that condition which your efforts will enable us to realize now, will be assured.

In this connection and for your consideration and discussion, I wish to offer as a specific recommendation that an applicant for a cheese maker's license in Wisconsin be required, before such license is issued, to have had at least a common school education or its equivalent, to have had at least two years of practical experience as an assistant in the making of cheese and to have graduated from at least a six months' dairy course conducted by an educational institution of recognized merit.

I would like to have you express an opinion as to the feasibility and desirability of such a regulation. Personally, I feel that something of this kind must be done as a matter of protection to the cheese industry. But whether this regulation be adopted as proposed or not, the individual cheese maker **must** assume a different attitude toward his work. He must remember that every time he makes a poor cheese he has done a thing which will reflect discredit in some measure upon every maker in the state and every cheese made in the state; he must place before himself the ideal of our ancient brothers that the standards and tradi-

tions of the craft are a sacred charge upon each member of the guild and that they must on no account be lowered but must ever advance.

Then let me enlist your thoughtful cooperation in what I assure you is a critical time for Wisconsin's cheese industry. With the production of quality cheese increasing in other states and with the high standard of our own product threatened by our own carelessness, we must all unselfishly pull together if Wisconsin is to remain in the future what she has been in the past—the greatest dairying state in the United States of America.

DISCUSSION

PRES. REED: Any suggestions or questions pertaining to the qualifications or pertaining to cheese makers' license as suggested by our Dairy and Food Commissioner, Mr. Weigle?

MR. GLOVER: I desire to support any idea, any plan, any system that will provide Wisconsin with better cheese making. I do not wholly agree with Mr. Weigle that we should have an arbitrary time set for the years a young man should serve in the cheese factory or what course he should take before he is granted a license. Some men can become cheese makers and good ones in one year. Other men can not become good cheese makers if they work at it all their lives. Therefore, to say that a young man should work two years in a cheese factory and graduate from a dairy school of merit would not necessarily mean that he is qualified to fill the position of cheese maker. I think it well for the young man to have a seasons experience in a factory and spend some time in a dairy school, then if he wants to take a cheese factory at the suggestion of his instructors, he should be given an opportunity to take that cheese factory, and if the dairy and food commissioner in visiting his factory finds that he is operating it successfully and well, grant him a license; otherwise grant him no license no matter if he is a graduate of a dozen dairy schools unless he can make good cheese. You know the commissioners suggesting two years' apprenticeship reminds me of a story of a boy that attended college and he was bragging to his father and he said "Father, you know that I am a graduate of two colleges." His dad said, "Yes, and I have a calf who sucks from two cows and the more he sucks the bigger calf he gets."

Now gentlemen let us have a qualified cheese maker and not grant licenses to young men until they have proven themselves capable of making good cheese. Let us not be too particular about the time they have spent in dairy schools or the number of years of apprenticeship. (Applause.)

MR. LEE: I want to ask this question. The commissioner knows as well as the rest of us that there is not a day that goes by when some cheese maker will write to the commissioner asking him to investigate why a certain man was granted a license or permit? How are we going to deal with those questions in the future?

PRES. REED: I do not want to tell tales out of school but there are resolutions that are coming before this convention. There will be a resolution, under which each county is supposed to have an inspector and an instructor and there is a provision in the resolution to take care of the finances. We are going to the legislature and the county boards.

COMMISSIONER WEIGLE: Mr. Glover comes out and tells you that if in two years if a man does not study or learn he does not amount to a row of pins. But as a fundamental he has to have education to start with. When you get men into your office and you ask them a question and they

can not answer the simplest question, and that man has got to answer the problems of the dairy industry of Wisconsin, how is he going to solve these questions of pin hole cheese or the curd test, etc. I believe that a man ought to have a practical experience before we throw him on the suffering people of Wisconsin, and I do not agree with Mr. Glover that all you need to know is how to make good cheese. He should have a public school education and practical experience. So, I say that the length of time does not probably make a good cheese maker, if he can make good cheese in six months, alright. Who is going to tell? Shall we carry on an examination as in other professions? You are going to let down the bars on your cheese making just as they are in the butter industry? Alright. How is Minnesota protecting her butter industry? The scum is being shipped over to Wisconsin. That is what we want to prevent. For that reason, the young man who is going out to be a cheese maker ought to have at least the fundamental principles. He ought to have at least a public school training, so that he can figure out to his patrons butter fat, etc. I know a lot of cheese makers who have others do the figuring for them. I think that he ought to have something at least—a public school training—and he should have practical experience and he also should have some training at the dairy school, taking up the butter fat test and curd test.

MR. GLOVER: I am afraid that Commissioner Weigle mistook the point of my few remarks. I would not lessen for one moment the knowledge that is required of a man that is to make cheese. I would want him to make the curd test, the rennet test, and the Babcock test. I emphasize knowledge rather than the time of getting the knowledge and experience. Now it seems that in specifying two years of apprenticeship it was emphasizing a period of time that was unnecessary if a man could get that knowledge in one year. I would ask for quite as much knowledge as you do but I would not emphasize time so much. I would emphasize knowledge more. (Applause.)

TUBERCULOSIS AND PASTEURIZATION IN 1920

By C. P. NORGORD, *Commissioner of Agriculture.*

MR. PRESIDENT: I am pleased indeed to have an opportunity to appear before this body of men, practical scientists as you are, for you are putting into practical and profitable use every day a large body of scientific principles of recent or distant origin in practically all of the sciences including Chemistry, Bacteriology, Botany, and Physiology.

The subject of Bovine Tuberculosis is no new subject to the dairymen of Wisconsin, but because of its vital effect upon dairying and on the income of the dairy industry, and particularly on human health, especially in the light of recent scientific discoveries, its consideration comes to us with a new and more vital force than ever before.

THE FINANCIAL VIEW

Bovine Tuberculosis is of importance to the dairy industry of Wisconsin both from a financial and a health standpoint. In the light of the

financial success which Wisconsin has made of its dairy industry and the effect of dairy industry on soil conservation, many states are making rapid strides in copying Wisconsin's dairy business. As a consequence the demand for pure bred and grade stock from our improved dairy herds is increasing with rapid strides, and promises great things for the future. The people in every cattle purchasing state are, however, thoroughly alive to the dangers from tuberculosis and to the great losses which may occur in the state. Every state in the union has put up practically impassable bars to tubercular cattle and an iron clad guarantee, that cattle are free from tuberculosis, is required before they can be admitted into these states. The sale which we have enjoyed in dairy stock during recent years has come largely from this out-of-the-state demand. Last year we sold practically three million dollars worth of cattle in inter-state trade. The present situation therefore indicates that he who expects to sell cattle in the future will have to have cattle that he can guarantee be free from tuberculosis. Not only are cattle infected with tuberculosis, but also hogs. Last year Wisconsin lost approximately \$1,780,000.00 in hogs that were condemned or partially condemned at packing plants at Chicago and Milwaukee. The infection of the hogs comes largely through the fact that hogs follow cattle in feeding yards and yards of dairy cattle as well. But a very large part of infection, nevertheless, comes through the feeding of unpasteurized dairy products such as buttermilk, skimmed milk and whey. These are the direct losses which present day markets bring home to the dairy interests. These are, however, small in comparison with the losses that will come in the future when people in general, and the buyers on the markets in particular become thoroughly acquainted with the dangers from tuberculosis.

DANGERS TO HEALTH

While the financial losses from tuberculosis are great, and we are apparently most easily affected by them, the moral responsibility which rests upon us, because of the dangers to human health resulting from bovine tuberculosis, are by far the most weighty. Wherever you mention bovine tuberculosis in its relation to health, you hear the rumor that human tuberculosis cannot be caused by bovine tuberculosis. This rumor is absolutely false and criminally misleading. At a conference of world-wide bacteriologists, physicians, and veterinarians at Washington, D. C., some years ago, Dr. Koch who was largely responsible for this rumor publicly announced to a group of world scientists that this rumor was false and that human tuberculosis was caused by bovine tuberculosis. Some years ago Germany appointed a commission of ten scientists, bacteriologists, physicians, and veterinarians to carefully study this relationship. They found that it is possible to segregate into colonies pure cultures of bovine bacteria and human bacteria and clearly distinguish the difference between the two types of bacteria by means of a microscope. With this positive diagnostic means, the commission made studies in practically all of the tubercular hospitals in Germany, examining by post mortems, the type of bacteria which caused death of the persons whose bodies were infected. As a result of ten years study this commission announced positively that more than 25% of the deaths from tuberculosis of children under 16 years were the direct cause of bovine tubercular bacilli. 25% more were on the border line where the determination could not be positive. England followed with a similar

commission and secured practically the same results. A noted physician of New York, Dr. Park, reviewed the work of these two commissions, found it correct and initiated a similar study in this country with practically the same results. We can, therefore, safely, conclude that between 25 and 50% of all of the cases of tuberculosis among children under 16 years of age comes from the ingestion of milk and other bovine products in an unpasteurized and unsterilized form.

The United States Department of Agriculture, wishing to investigate the effect of milk on infants, made a parallel study upon young pigs. One group fed on tubercular milk for three days were slaughtered at the end of three weeks and 80% showed tubercular lesions in their intestines. Another group fed tubercular milk for three weeks were slaughtered and at the end of 51 days showed 100% lesions. With such results in pigs, whose intestinal tracts are relatively tough as compared with those of children, I ask you candidly what must be the result of feeding new born infants tubercular milk throughout their infancy and youth. What indeed is our responsibility as fathers and mothers in the matter of bringing up our children in a healthy, disease-free condition. We know that in many counties in this state, and many states in the union, from 6 to 15% of all of the dairy cattle have tuberculosis, and a large part of them are constantly giving out germs in the milk. The lesions formed throughout the body do not cause death immediately, and in most instances are never the cause of death; yet we know that the reason for this is the resisting power of the body while in vigorous health. As long as the body is vigorous and in good fighting condition the germs are held under; but let the body be weakened by some disease such as typhoid fever or a severe cold, and the lurking enemy comes forth in open warfare. Thus the dreaded white plague is set loose upon humanity and our loved ones for whom we bear responsibility.

Many of the European countries have been severely inflicted with this disease among cattle, as Denmark in particular where 40% of the cattle were infected with tuberculosis. As a result of the careful study and appreciation of the danger, these countries have practically all resorted to boiling and pasteurizing all of the milk which is used. I believe that our American people would do well to follow this wise and cautious policy, or else remove the diseased animals from the country. Denmark, when she discovered the situation, immediately started on an eradication policy which has brought the disease percentage down to from three to eight per cent today.

ERADICATION POLICY OF THE DEPARTMENT OF AGRICULTURE

Since the establishment of the Department of Agriculture definite policies have been adopted in the Live Stock Sanitary Division with the end clearly in view of eventually eradicating this disease from the herds of Wisconsin. This policy was initiated by ceasing to pay indemnities of individual tests and limiting the payments to whole herd tests. This policy is based on the increasingly well known fact that tests of single animals cannot be depended upon and that only whole herd tests made year by year are dependable. The individual may fail to react even though tubercular either because the disease is too far advanced for a reaction or the disease is in its initial stages and has not progressed sufficiently to react. Five years ago the department adopted the accredited herd policy which last year was adopted by the Federal

Department making it a national policy. It is now under operation in every state in the union. This provides for state testing and state supervision of the herds annually, free of cost to the owner as such herds are guaranteed by the State and Federal Government as being properly tested.

From January 1, 1919 to December 1, 1919, under this accredited herd project, 1,023 herds comprising 27,310 cattle were tested. Of these 3.74% were reactors. Forty-one herds are now fully accredited and 416 comprising 10,026 cattle have passed two clean tests. The popularity of this project has been so great that it has been impossible to keep up with the demands, and a large number of herds are now on the waiting list. The Federal Government is cooperating in this project in furnishing one-half the cost. In addition to the testing under these projects, there was tested in the state last year 121,221 head of cattle.

The area test or the testing of all of the animals within a given area by county or township,—upon receiving petitions from a majority of stock owners in the area, as an effective policy which has been carried forward by the Live Stock Sanitary Division for the past three years. Last winter we cleaned up Washington Island preparatory to stock it with pure bred. This will be a Holstein cattle island which we hope will equal or exceed the Channel Islands in importance. We are just now working on the last township in Waukesha county, the completion of which will mean that Waukesha is the first county in the United State to have all of its herds and animals tuberculine tested. 35,154 animals were tested in the county from July 1, 1918 to December 1, 1919. This will mean much to the health and to the value and sale possibilities of the live stock of that county.

A new policy instituted by the last legislature is that of free testing by the state for the creamery and cheese factory districts where all of the patrons petition the department for the test. Where the test is made in one factory district half of the cost is made by the state. Where two adjoining districts are tested the entire cost is carried by the state. \$10,000.00 were made available by the last legislature for this project. This project is offered to all factories and creameries as an alternative to the policy of pasteurizing the incoming or outgoing products of the factory. The pasteurization of the incoming or outgoing products of the factory is the policy which, as you know, comes from the law passed by the 1917 legislature. This policy you are all familiar with, and a large proportion of you are faithfully carrying out at the present time. It was found impractically impossible to enforce the operation of this policy entirely and uniformly during the war, owing to the difficulties of securing boilers, machinery, coal and labor. It is, however, a policy which has much merit and one which should be carefully carried out.

Some complaint has come to the department and to the Dairy and Food Commission that it is difficult to pasteurize the buttermilk without coagulation. Investigations in the larger factories throughout the state, as well as in some of the smaller, indicate that this need not be a constant result. In fact all of the factories which I have visited have been able to pasteurize without any trouble of this kind whatever. If a reasonable amount of steam under a fairly high pressure is blown into the buttermilk, it has a tendency to separate the milk into small particles and cook them so that these particles cannot adhere to each other to form a mass.

Of course if the buttermilk is allowed to stand for a long time, the particles may settle to the bottom and separation takes place; but the particles do not adhere, and a little stirring will distribute them quite uniformly through the whole liquid and permit pumping readily.

At one of the creameries I saw an effective stirring apparatus used for this purpose. It consists of an eight-inch board hung horizontally in the liquid by two-by-fours forming a rod above the vat. A pole attached to the board permitted moving the board back and forth in the vat. A few movements of this stirring apparatus through the vat secured a good mixture ready to flow through the pump.

Of course the pasteurization of the incoming products relieves factories of the necessity of pasteurizing the outgoing products. It also has the decided advantage of pasteurizing the products designed for human consumption as well as those designed for hog consumption which is a very sensible policy. It is to be hoped this policy will be followed out by all who feel that they can make a product that is satisfactory on their market. The difficulties in such methods of course come to creameries having the gathering systems particularly during the summer when the acidity is high and also when the cream has a low butter fat content. It has been said that first attention should be given to the pasteurization of the products designed for human consumption by means of pasteurizing the incoming product. It is highly desirable that a policy should be pursued which would bring this about. The present law permits of such a policy if the people concerned desire to adopt it and carry it forward. Such a policy has been suggested for several years but it has met with so much opposition wherever it has been discussed both among the men of the factory and in the State Legislature that it seemed in the Legislature unwise at the present time to make it a policy compulsory. It is strange some people are willing to do for their hogs and calves what they are not willing to do for their families and the people who use their products but this seems to be the situation. The present law and the policy of pasteurizing the by-products wherever the incoming products are not pasteurized seems to be the only entering wedge which it is practical and possible at the present time to push. We hope that it may be an entering wedge which shall develop the sentiment and educate the people to the necessity of pasteurizing all dairy products designed for human consumption and that it also may develop methods and educate producers and manufacturers of dairy products to pasteurize products designed for human consumption.

Early in the operation of this law some complaints came from cheese factories, especially swiss and limburg factories, of the amount of time it was supposed it would be necessary for this pasteurization. It has been found, however, that this fear was ungrounded and that the pasteurization of the whey could be started as soon as the curd was taken from the kettles or the whey was drawn off, and that the processes could proceed while the curd was being taken care of and would in all cases be completed when the cheese was made. It is not necessary for me to go into the details by which this pasteurization process can be accomplished, nor would I presume to offer advice on this subject. Our butter makers and cheese makers throughout the state of Wisconsin are excellently trained in the methods of pasteurization and are familiar with the machinery necessary. They are ingenious and resourceful and can solve the problem each under his own conditions and in his own

factory and with his own equipment. Experience and investigation of the way in which various cheese and butter makers throughout the state are solving the problem fully warrants this statement. I can therefore safely leave that matter for your own solution.

I hope that we shall have every factory in the state either pasteurizing or testing its cattle during the coming year. The Dairy and Food Commission will aid in advising, concerning the necessary operations in the factory, and the Department of Agriculture will furnish testers and other help to those whose patrons wish to accept the alternative of testing their cattle.

The advantages of increases in the value of the products resulting from pasteurizing is illustrated in practically all of the factories that pasteurize their incoming products. Washington Island is already getting a large increase for prices of butter due to the fact that they can state in their advertising that butter comes from herds where every animal has been tested. The Legislature made an appropriation of \$10,000 for this work. Several factories have already sent in petitions and we hope soon to begin work under this project who will be the next.

Experience of many cheese factories and creameries in the state clearly indicates that the pasteurization of whey greatly improves the quality of the cheese manufactured. Where whey is transported to the farm in the cans which bring the milk to factories experience shows that in all cases detrimental and dangerous bacteria are developed and brought back to the factory in the milk. In many instances the cans are poorly washed and large developments of bacteria on the inside of the can is permitted which seriously seed the whole quantity of milk in the factory with bacteria, developing gases and odors injurious to the cheese. Many instances have occurred where serious difficulties have been incurred in factories where such difficulties have been entirely overcome simply by pasteurizing the whey. The pasteurization of the whey and running it into the tanks also sterilizes the tanks and later the cans, so that the bacteria are not permitted to develop so that these tanks would become a menace to the whole factory and its operation.

It has been difficult to satisfactorily enforce the pasteurization law because of the inability of creameries and cheese factories to get the needed equipment, fuel, and help to carry it out. Also because no funds were appropriated for the inspection of factories or pasteurization, nor for forcing the operation of the law where it is not being complied with. This matter was called to the attention of the last Legislature but owing to a mistake in the wording of the appropriation law no appropriation was made. The testing in creamery and cheese factory districts is however so closely related to the pasteurization of by-products that some combination can be made, whereby at least part of one man's time can be devoted to inspection work along this line and arrangements are now made with that in view. Plans have also been more carefully worked out whereby the inspectors of the Dairy and Food Commission will also inspect for the pasteurization of by-products and take upon themselves at least a part of the work of enforcing this law. Both the trade in dairy cattle and the trade in dairy products demand that either tuberculin testing of the cattle or pasteurization of the incoming or the outgoing products in the creameries be carried out. Wisconsin has enjoyed a great and profitable trade in both of these lines, particularly in dairy products but the development of dairying in other states and in other countries is rapidly bringing on a competition which will be difficult and with which it will be impossible for us to suc-

cessfully compete unless we take the most advanced and aggressive steps in these sanitary measures.

California is rapidly developing a cheese industry on a large scale and she is now appearing on the market with great shipments of Swiss cheese made in large factories under the most careful sanitary conditions. Our small Swiss factories without steam and in many instances with their out of date methods and lack of sanitation can not long compete with such advanced methods and large scale equipment and products. We must be awake and active in solving the situation if we would keep our high place in the trade. Indeed we must be making much more rapid and aggressive strides to keep far ahead of the procession if we would not be left behind. We hope therefore that every cheese maker and creamery man in Wisconsin who has not already done so, will at once take it upon himself to put in effective equipment for pasteurization and carry forward the work faithfully every day. These laws requiring pasteurizing and tuberculine testing are made for the express benefit of the dairymen, cattle owners, and the whole dairy interests. They were not made by any individuals but they were made by the people, by the dairy interests themselves and by their representatives in the legislature. Any infringement upon these laws and failure to comply with them is therefore an infringement by one individual upon dairymen, creamery or cheese factories, and against all of the others who wish to maintain a high standard, and is a direct infraction against the laws of the people. The people through their representatives have made the laws. If experience shows that they are not wise or can not be enforced the people should see that they are changed but if the law is to stand, it should be enforced without fear or favor. A wise and useful law and industrious and efficient administrators of the law are two important factors but there is a third factor in the enforcement of law which is fully as important as the others, namely public opinion. Without public opinion a good law and efficient administrator is of no avail. Public opinion is made by the people in this instance it should be made by those who are interested in the dairy industry. The forces which are opposing the enforcement of wise laws are organized. Their interests which impel them to oppose then enforcement law are immediate and their activity is engendered by immediate financial gains or prospects of financial gains. Those who support the law and whose opinion should stand behind the law are at present unorganized. They must look to the future for their rewards in the way of markets maintained, health assured; but even tho these ends and returns be remote they are by far the most important. If wise policies and wise laws are to be maintained and enforced it is certain that the good people must organize in a broad and effective way to develop a great clean and effective public opinion to stand behind these laws and measures and to encourage and stand behind the faithful honest and efficient servants of the state who administer these laws and carry forward these policies.

"United we stand, divided we fall" was never more truly applicable than it is to the present situation in all lines of dairying. This is a day of organization, and in line with the spirit and tendency of the day, may we not also make this our slogan and organize the good to successfully counteract all that is evil, that right and justice, wisdom and dairy prosperity may prevail.

DISCUSSION

COMMISSIONER NORGORD: The laws of the state of Wisconsin passed by the legislature of the state which legislature represents the people. Those laws are only passed after hearings in which the dairy people are asked to attend and they appeared in large numbers on this bill and it was under consideration a long time before it became a law. Now, it is a privilege of the people to change that law if they wish to change it. All the laws can be changed by the people and we do not stand for the enforcement of any laws which we want on the statutes when the people do not want it. You people who are here represent a large class of citizens of Wisconsin and you are in contact with many more. If the law is not desirable, it is your privilege to have it changed, but as long as it is on the statute books, it should be enforced unless the alternative which I have presented is adopted. Arrangements have been made whereby the dairy and food commission will cooperate through its inspectors with the department of agriculture in the perfection and the enforcing of this law. I hope that you will all take hold of it. I do not believe that it is a proposition that will cost anyone very much, but I think that it is a proposition which will greatly improve our live stock. It will stop the spread of disease in calves and in pigs. It will help the condition which the dairy products have at stake. Now if there are any questions I will be glad to answer them.

MR. BRUHN: What test do you use?

ANSWER: Doing this work we prefer to use the Intradermal test because we can get over a much larger territory with that test than the subcutaneous test and does more benefit with the money we have available for that purpose.

QUESTION: Will the intradermal test hold good on an accredited herd in Wisconsin?

ANSWER: It will not at the present time, but we hope it will in the next year or two. We asked the association of live stock sanitary officials this fall to permit that test to be used in Wisconsin as in the west, and there is no reason why it should not be used in Wisconsin as in any other state. So I hope that we can get it through.

QUESTION: Will we be permitted to use this test?

ANSWER: That is what I asked them, permit us to adopt the interdermal test as the first test for accredited herd. I think I know why they refused to do it. Experience with the intradermal test shows that that test is really a more searching test than the subcutaneous, and will find more reactors. If that is the case, why should it not be used? There are a certain class that will escape the subcutaneous test and others the other test and if we use the two tests the intradermal first and the subcutaneous last, we will get them all. We are doing our best to get this test adopted.

I do not know just what your failings are in the matter of pasteurization. I would rather you would pasteurize the incoming product so that you would pasteurize for men as for pigs.

At what age would you test your cattle? We do not hold very strong on that. With the subcutaneous test we do not test until six months of age on account of the high temperature of the young animals. With the intradermal test we can test them as soon as they are born, it does not attend upon temperature. What we do with the intradermal test is to inject some tuberculin into the tail and if the animal has tuberculosis it gets into the lymph.

QUESTION: How long does it generally take the state to pay the indemnity?

ANSWER: It takes the length of time it will take to get the papers into the office and sign them and send them to the secretary of states office and then he makes an order on the treasurer and the treasurer makes out a check and sends it to us and we send it to you. There was some delay last year and we had to change methods at that time. The farmers need their money, and they need it bad when they have losses from reactors. It is a bad day when a farmer has reactors especially in pure bred cattle.

If you petition the state department, live stock sanitary division, and have for signers, the patrons of your factory, then you do not need to pasteurize your products and we will send some one there to examine your cattle.

QUESTION: Would it not be advisable to test your cattle, then pasteurize the by-products?

ANSWER: Yes, sir. That is what I would like to have done.

QUESTION: This came up last year before our meeting and the farmers voted to pay one-quarter of a cent more for pasteurization. I think that it is the only thing to do, to test the cattle. Now, Mr. Norgord, how many pounds of cheese was made in Wisconsin last year? If the farmers would pay one quarter of a cent for pasteurization that would amount to at least \$68,000. How many men could be hired to look after the testing of cattle for that amount?

QUESTION: Have any of the cheese makers made cheese from pasteurized milk?

MR. BRUHN: I have made cheese from pasteurized milk more or less for four years. I have had some poor cheese from pasteurized milk and a lot of good cheese. There are reports from the Wisconsin experiment station regarding the making of cheese from pasteurized milk. I think that if I am not mistaken that the bulletin was from the Wisconsin Experimental Station number 27.

COMMISSIONER NORGORD: I think that the best way is to pasteurize the incoming product where you can. As I said in the beginning the experiences of some countries like Denmark reads like a book. The people when they become thoroughly informed want dairy products that have been pasteurized and will prefer them even though you test your cattle. I do not want to put a damper on the question of pasteurizing because I think that just as soon as we can get to making dairy products from pasteurized milk and cream and get the people used to the flavor that we will have the safest proposition that will stand test under any condition. If we test our cattle and pasteurize our incoming product, I think that we are not doing too much to inspect our dairy industry. I hope that the day will come when the demand will come from the cheese makers and the producers for pasteurizing all the incoming products. I think that the public is willing to pay for a product that has been prepared in the safest and cleanest way. We must educate the public to that extent.

I want to say also and to repeat what I have said, that the laws both as to cleanliness and as to help and keeping free from these dangerous bacteria are made by you and your patrons. This is a democracy in the state of Wisconsin and we do not want to put anything across or over anyone, but we want to educate the people and want the people to make the laws in conformity with high standards. They are your laws and it is for your interest that those laws be enforced and I am glad to see the spirit developing among you to make good laws and stand behind the enforcement

of those good laws, because there are three things necessary: one is a good law, the other is a fearless, capable and conscientious public servant to administer those laws, but those two factors amount to nothing unless we have the public sentiment behind it. So I hope that we will have laws, right laws that are the people's laws, right laws built on high standards, and laws that the people can get behind, that they do get behind. Until then we will not have democracy that is a true democracy standing for the liberty of all, protecting the liberty of each one. I hope that that is what we are developing into. When we have built from the bottom up, built well and built safely on the public foundation then will we be safe and the industry be safe.

MR. MARTY: I would like to mention this. If a law is a good law, why not take the bull by the horns and make the law to begin with instead of beating around the bush. We had a compulsory law six or seven years ago that every dairy cow in the state should be tested for tuberculosis. Is there any sound reason why our next legislature should not re-enact such a law? Start in right, give protection to the human race as well as to the animals.

COMMISSIONER NORGORD: That law was a law of some years ago which provided that no animal could be sold in the state of Wisconsin for dairy purposes that was not tested. Now that law seemed to come before public sentiment was ready for it. A bunch of people from the state came to Madison and defeated that law after it had been in operation for only nine months. All the good in the law was lost. It was a great mistake to repeal that law. I think that Wisconsin would have been cleaned up in fine shape by this day if that law had stood. I do not feel that we dare propose such a drastic law. We did not propose such a law to the last legislature, because that I felt that the experience of that law had positively told us that we must have a good share of the people of the state standing for the tuberculin test before we proposed so drastic a measure. That is why we adopted smaller measures like accredited herd, which is like the golden thread winding over the state, connecting up the men who are in advance; then we have the area test, which has already cleaned up all of Waushara county, the biggest and most prosperous county in the state of Wisconsin, all but one township. This creamery and cheese factory proposition. These are the measures that will reach the people who are in advance of the average and after we get enough of these people that are in advance of the others then I believe that we can come with that old law, perhaps requiring that whole herds be tested within a given time. Whether or not, we have reached that stage in educating the public I am not quite sure. I hope that we have. But by some bodies as you here, to take the stand that Mr. Marty has taken, the going forth and talking to your patrons and the public about it is the most effective way to reach that stage of public education. I hope that you will talk this matter over with your patrons. Send your representatives to the next legislature instructed for some definite policy for they listen to you more than. We are more sure to get a law made by the people when the people instruct their legislators before they leave home than if we wait till the law is proposed at Madison.

MR. MARTY: Coming into considerable contact with dairymen of my section who are breeders of high grade stock, it seems to be the unanimous opinion that they are standing today for the rule of the compulsory tuberculin test for cattle.

COMMISSIONER NORGORD: I am glad to hear that. I want to say that Green county did not have the best situation of any county of the state.

But I want to say that there were no ten counties in the state of Wisconsin who together tested as many cattle last year except Waukesha county. The principal reason for that was the fact that when we started out on this campaign we told them what the situation was and I never had such a tough, old meeting to go through with as when I was down there, when I told them they had to pasteurize. But I felt repaid for taking all the knocks I got that day when I saw the results that came from Green county last winter. They woke up, they came across like a mighty avalanche.

USE OF PURE CULTURE STARTERS IN SWISS CHEESE MAKING

DR. J. M. SHERMAN, *U. S. Department Agriculture, Washington, D. C.*

The nature of any cheese is dependent upon the types of microorganisms which develop in it. Thus we have cheese which differ widely in flavor such as the Swiss, Cheddar, Roquefort, etc., due entirely to the fact that each cheese has its own kinds of microorganisms growing in it which result in giving to that particular cheese its characteristic flavor. The raw materials from which these cheeses are made is exactly the same; the methods used in their manufacture are, however, radically different, and it is these differences in the methods used in the making and curing of cheese which determine what types of bacteria will be favored in their growth and hence the flavor of the cheese. We think of various operations in the making of our cheese as being of special importance in getting the kind of cheese we want, and so they are, but their effect is indirect through their encouragement of the growth of certain desirable kinds of microbes and the hindrance of the growth of their undesirable kinds.

Milk is like the soil which contains the raw materials necessary to produce either a good crop of clean hay or a rank growth of mixed weeds, according to the seeds which are planted in it; the bacteria are the seeds from which come forth a good or a poor cheese; the ripened cheese with the products which the bacteria form, the flavor, the texture and eyes, is the crop of hay itself—the result of the growth of the seed in a fertile soil. To carry our comparison further, we know that the quality of the crop of hay is not entirely dependent upon the seed but also upon the quality of the soil and the preparation and care which the soil is given, and further upon the season during which the crop is grown, whether wet or dry, warm or cold; and so will the quality of our cheese depend not only upon the original quality of the milk and the kinds of bacteria which it contains but also upon the care the milk is given, the preparation of the curd, and further upon the “climate” of the curing room, whether too warm or too cold, too moist or too dry.

So let it be plain from the outset that we are not going to tell you that the use of starters will cure all of your troubles in the making of Swiss cheese. We hope to be able to interest you in their use not 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 well regulated curing rooms.

The Swiss cheese industry in the United States although it had had a considerable growth has not been an unqualified success. This is probably due

in the main to the fact that in America the makers of Swiss cheese have not succeeded in making as uniform a product nor on the average as high grade a product as do the makers in Switzerland. This is true notwithstanding the fact that the Swiss cheese in this country has been made almost exclusively by Swiss immigrants many of whom got their training in the old country. Now what is the reason for this state of affairs? It would seem not to be due to any lack of skill on the part of the American makers, since, as we said before, many of them learned the art in Switzerland, and they hold very rigidly to the methods in practice there. Many of you will say that it is because they have better milk than we do in this country. Although it is not universally true, we do know that owing to the climate and the more intensive production of cheese in Switzerland the maker receives his milk in a fresher state than is usually possible in the American factory.

If we grant then that the maker of Swiss cheese in this country has on the average a poorer grade of milk to work with that would probably explain his greater difficulties with "nissler" and other abnormal fermentations. But when we say "a poorer grade of milk" we mean simply that it contains more undesirable types of bacteria, and these may frequently be present in such large numbers as to produce a faulty cheese. But to go further, we know that the prevention of abnormal cheese is not the only factor that the American Swiss cheese maker has to contend with. It is a well-recognized fact that our domestic cheese does not as a general rule have the characteristic Swiss flavor as well developed as it is in the best imported cheese, and in addition, it is not infrequently lacking in eye formation. Since the production of eyes and flavor in cheese is due to the growth of certain kinds of bacteria, it would seem that the frequent deficiency of our American made Swiss cheese in these essential characteristics is due to an insufficient supply of the proper types of bacteria in the milk. Strange as it may seem, it does appear to be a fact that the necessary eye and flavor forming bacteria are not so generally distributed in nature in this country as they are in Switzerland, and so we have more difficulty in obtaining cheese of the best quality.

It would seem, therefore, that the greatest need of the American Swiss cheese maker is to have at his disposal means whereby he could control or prevent the growth of undesirable bacteria and also introduce into the cheese certain desirable bacteria which would insure a uniform product with the development of eyes and the proper flavor. The United States Department of Agriculture realized the possibility of utilizing starters for this purpose about ten years ago and work along that line has been continued as funds and facilities have permitted ever since.

The Department's first success was obtained several years ago when a starter was developed to suppress the formation of gas in cheese while on the press and hence to do away, to a great degree at least, with trouble from gassy or "nissler" cheese. The bacterium which is used to make this starter is apparently similar to the one which is found in the fermented milks of Europe and Asia and that used in the making of the so-called Bulgarian butter milk in this country; hence this starter has become known as "Bulgarius" starter. The bulgarius starter is able to produce such results due to its unusual properties. In the first place, it can grow well at higher temperatures than most bacteria which enables it to grow rapidly during the making process and also on the press while the curd is still hot. Now the bulgarius in its growth uses the same food elements as the undesirable gas forming bacteria, and so by adding it to the milk in

large numbers it is able to get a quick start and thus prevent the growth of the gas producing bacteria in much the same manner as a crop of hay, if given a good start, may crowd out the weeds even though the weed seeds are plentiful in the soil.

After hearing such extravagant claims made for this starter you will no doubt want to "be shown" that it really will do what is claimed for it. For this purpose there a number of examples which we might cite in which the value of the bulgaricus starter has been demonstrated in a very striking manner. One factory, for example, during the past year had only two "nissler" cheese; another went through the entire season without any "nissler" cheese although the same factory had had great loss from this trouble the previous year when the starter was not used. As you will perhaps be surprised to hear that at these factories the milk was delivered only once each day.

The employment of this starter in the factory does not require much expense and only a little extra work. The greatest difficulty that the average factory would have in its use would be to provide suitable means for growing it. For the best results the starter should be grown at about 110° Fahr. and this is difficult to obtain in factories which do not have electricity. It is hoped, however, that some simple and inexpensive apparatus may be made available for this purpose.

We shall not go into the details of how this starter is made and used in the factory, but any one who is interested in it can get detailed information by writing to the Dairy Division, Department of Agriculture, Washington, D. C.

The bulgaricus starter makes the manufacture of Swiss cheese possible where conditions are such that it could not be made otherwise; its function, however, ends when the cheese is put into the curing room; it has nothing to do with the formation of eyes and little if any effect upon the flavor of the cheese. So it is necessary, if we are to be sure of having eyes and the proper flavor in our cheese, to add, in addition to the bulgaricus starter to prevent the growth of undesirable bacteria, another starter containing the bacteria which cause the cheese to ripen properly. For this purpose the Department of Agriculture has developed another starter which contains the flavor and eye producing bacteria. The bacteria used in this starter do not grow during the making and pressing of the cheese but develop slowly after the cheese is put in the curing room and hence the eyes and flavor are gradually formed.

This starter is not as easy to grow in a pure state under factory conditions as is the bulgaricus, so the Department is now trying to develop methods whereby it may be furnished to the cheese maker ready for use without any propagation in the factory. Some progress has been made along this line and the Department is now able to supply a limited number of factories which are equipped to undertake this work. Its use in the factory is, therefore, extremely simple since all the cheese maker has to do is to add a certain amount of the starter furnished him to the milk just before it is "set."

In advising you to use starters for the manufacture of Swiss cheese we are not in fact advocating a radical departure from your present methods. You are in effect adding a starter now in the use of your home made rennet. Many of you no doubt consider the rennet of prime importance in getting the best quality of cheese, and it must be admitted that very often it is. The function of the rennet itself is to curdle the milk; it has nothing to do with the formation of eyes or the desirable flavor. But as a

matter of fact in the preparation of rennet, as it is done in the Swiss cheese factory, a great many bacteria are propagated and thus added to the cheese. Through the rennet you are now using starters in the manufacture of Swiss cheese, but not *pure culture starters*. In the rennets you are growing a mixture of bacteria, both desirable and undesirable kinds. At times you may have the desirable types of organisms in the rennet in large numbers and get excellent results; at times they may be absent or present in insufficient numbers, under which conditions the cheese may be lacking in flavor or eye development; at other times, when the undesirable types are present in larger numbers, the resulting cheese may develop objectionable flavors or be otherwise abnormal. In other words, in the use of homemade rennet it is largely a matter of chance whether you improve or injure the quality of your cheese. We do, therefore, advocate the use of commercial rennet extract in connection with the pure culture starters. But it is not recommended that the change from natural rennet to rennet extract be made in factories which are not using both of these starters.

As you have listened to what we have said on the use of starters the thought in many of your minds has probably been that this is all very good theory but it would not work out practically. In answer to that, we feel that the past year's accomplishments of the factory at Grove City, Pennsylvania, which is operated by the United States Department of Agriculture, as well as the experience of certain other factories, puts the use of starters for Swiss cheese beyond the theoretical stage.

When we consider that cheese is a product of fermentation it is indeed surprising that the use of starters has not come into general use long before this. Compare for example the bread and cheese making industries both of which are dependent upon the action of microorganisms. In bread making, as you all know, yeast is used. The baker does not trust to the wild yeast which may accidentally gain access to his dough; he uses a "starter" in the form of a yeast cake or other commercial yeast preparation. It is the hope and belief of the Department of Agriculture that in the years to come starters will play as important a part in the making of cheese as does the yeast cake in the making of bread.

OUR EXPERIENCE WITH STARTERS WITH SWISS CHEESE

By J. GEMPELER, JR., Monroe

MR. PRESIDENT: The work that the Department of Agriculture is to overcome difficulties which result from improper care of milk from the time it leaves the cow until it reaches the kettle. It has been proven time and time again that fancy open Swiss cheese, equal to the imported article, can be produced in our section and every one who is connected with the industry knows that it is within the power of the farmers and the cheese maker to bring about conditions which will give them a greater average of fancy, open Swiss. However, the production of this class of goods is dependent on so many things which have a great influence on milk before the rennet is ever added that it would take too long to cover these points,

but I will dwell on my original subject of giving you our experiences in the use of *Bulgaricus* starter.

Realizing, that in order to produce fancy, open Swiss cheese, good wholesome milk is required, we decided to undertake to produce it out of milk delivered to our factory once a day. There is hardly a place where milk is delivered once a day that is of such condition that a good Swiss cheese can be made from it, owing to the fact that all the patrons do not take the same good care of the milk as they should. From the beginning we had this kind of milk to contend with and also irregularities in the handling of the milk on the farm. These irregularities would creep in unawares which caused us to be doubly careful that we did not take in any milk that was not in good condition.

On April 10th we commenced the use of *Bulgaricus* starter through the cooperation of the Dairy Division at Washington D. C., and we were taught to take a quantity of whey and heat it to 175 degrees Fahrenheit and hold it at this temperature for twenty minutes, cool it to about 100 or 105 degrees Fahrenheit, and then add the *Bulgaricus* bacteria and keep it at this temperature until the following morning. We had very good results in handling it in this way until the extreme hot weather in June, when the acidity in the whey became so high by the time the cheese was taken out that the whey would curdle long before we could heat it up to 175 degrees. In order to overcome this trouble we changed the process from using whey to sweet milk, heating it to about 175 degrees Fahrenheit and holding it for twenty minutes and then cooling it to about 75 degrees Fahrenheit. But we soon found that at this temperature the bacteria did not develop as they should and we again cooled it to a temperature of 100 to 105 degrees, which gave us better results. During this time we found it difficult to control the acidity in the milk to such an extent that we did not have complete control over the process of making Swiss cheese with the result that one day's cheese would be perfectly sound while the next would develop a hollow sound.

During the month of August we kept on with the use of *Bulgaricus* starter and although the Swiss cheese developed good eyes, it seemed to show considerable gas after it had been cured. We then quit the use of *Bulgaricus* starter from that time on as we had cooler weather and the milk came in in better condition. We did not have full success with the *Bulgaricus* starter during the warm weather owing to the fact, we think, that we did not handle it in the right way, or in other words, we did not have sufficient experience in handling it. We made excellent Swiss cheese with *Bulgaricus* starter during the months previous to the hot weather. This cheese all developed nice clean eyes, white in color and of good texture.

We believe in the use of *Bulgaricus* starter whether the milk is delivered once or twice a day and think that if the cheese maker thoroughly understands the handling of this starter it will eliminate a lot of trouble which usually creeps in on him and for which he can not account. We know it to be a fact that if he is careful in seeing to it that he takes in good, wholesome milk at the door, with the use of *Bulgaricus* starter, he will be able to produce a very good average of nice, open Swiss cheese.

DISCUSSION

MR. MARTY: There is some sort of an epidemic in the southern parts of the state in the Swiss cheese industry, particularly this last year. It forms and is commonly known and called a stinker. There is various differences of opinion. Of course I have my own, but in my talk I am about to give you, I am touching upon that to some extent, but I would like to ask Dr. Sherman whether they have had any experience in the line of the prevention of a stinker in the manufacture of Swiss cheese.

DR. SHERMAN: We have not had any experience on stinkers. We never had them in our experimental work at Washington nor at Grove City, Pennsylvania. We really do not know anything about stinkers. We would like to cooperate with you on that. We would like to receive samples of such cheese if you care to send same to us and we will try to see what we can do with it. Of course, it would be a matter of time.

MR. MARTY: Any Swiss cheese maker in the audience that would like any information along these lines? If so let them get up and give their opinion of a stinker or stink spot.

I have my opinion regarding the manufacture of a stinker cheese. It was not my fortune to be active with the department last year, to give any aid along these lines. Now, remember that there were factories making 90 out of 100 cheeses known as stinkers which brought, as a rule from 5, 8 to 10c per pound less than the market price. Instead of getting 50 to 55c per pound they got just that much less. You can readily see the enormous loss that occurred in that section of the state by the manufacture of stinker. It was quite common, and spread all over this section. There is a reason for that. The reason is very easy to explain. But, for some reason or other they do not seem to grasp the opportunity at the right time to prevent its cause. Stinker cheese is caused mainly by a lack of uniformity in coagulation and there are three main factors involved—the physical element is one fault, the physical condition of the cow, the other being the feed, and the organic caused by development of impure water, especially so during the drought and the saliva of the animal continually rinsed in tanks without being emptied. Definite organisms during that period will develop. Now, a common rennet test tried during these periods would have been sufficient to inform the cheese maker. We all know that whenever milk requires more rennet for its coagulation its fault can be overcome. You were taught that by a little increase or higher percentage of ripeness in your milk, you were aiding the coagulation factor in your milk. Now the Swiss cheese makers were in practice and familiar with the different tests. They could have tested their milk and by a little higher percentage of lactic acid in their rennet they could have aided the coagulation in their milk, causing a clear and more thorough precipitation. Now, in order to prove my statements, you will find that a stinker is named properly so because it is a cheese that is putrefied, in a decomposed condition, it gets worse as it goes along. When the curd is cut, the mass of milk is cut, if the cheese maker would make a thorough examination, he would have found as I have found in years gone by in Swiss cheese kettles, that there was still a curd in the kettle there; that going straight across the center and going about an inch apart, he would have come into a channel that was yet floating, when that mass was cut, the general mass, you will find that there is more or less of a milky substance in your entire mass. All your work firming and cooking of your curd will not expel the milky

substance of that curd. You get what is known as two different kinds of cheese in the same kettle. One is the sound, the healthy curd particles from which during the process of manufacturing the whey expels, it shrinks and it firms up; while the other stays in a mushy long stringy shape, yet they are distributed throughout the entire mass, but by a thorough examination and taking out a handful at random you will find that some are nice, firm and dry and others soft.

When the mass is finally done it is firm enough. You will find that when the entire mass settles in that kettle a sound curd being heavier than a thick curd, the sound will drop right down through the others to the bottom of the kettle, while gradually comes along that lighter curd and it comes down and you all know that the last thing that you do you give it a thorough motion a last motion to give it a more uniform distribution, so that you get the development of the eyes and holes equally distributed in the cheese. Now gradually the sound curd goes to the bottom. The curd which is lighter, from which the action of the rennet was insufficient in which there is contained this milky substance which is not precipitated from the curd, which will gradually settle. The last thing which is done if the masses are so bad, it will settle uniformly over the top surface which is characteristic of a stinker. Now if the troubles are of minor importance in that same mass one group will settle here in a cluster form, and the others will settle there. Those are what we call the pockets.

Now the treatment I would suggest and you may rest assured when you increase the percentage of lactic acid or ripeness of your home made rennet to at least 47 to 48 ripeness, that would mean that you would carry your rennet at least three days, or in other words thirty-six hours, you will find that a great deal of this trouble that has cost thousands, in fact hundreds of thousands of dollars loss in that section of that state in the year 1919 could be overcome by this simple little remedy.

THE NEED FOR THEORETICAL KNOWLEDGE IN THE MANUFACTURE OF SWISS CHEESE

By FRED MARTY, Monroe, Wis.

MR. PRESIDENT: As a past field worker for fifteen years in the capacity of Inspector and Instructor of the Wisconsin Dairy and Food Commission, and other state dairy organizations, I have long noticed the need of more technical knowledge and application of same in the manufacture of Swiss cheese.

The first move towards a branch Dairy School was made by myself a year ago before the Southern Wisconsin Cheese Makers' and Dairymen's Association, with the result that the Dairy University of Wisconsin has now completed arrangements with the above mentioned Association to carry on a one week's course for the special benefit of the Swiss cheese makers of that district. I have chosen this topic before this Association in the belief that any move that is made of importance in the Dairy industry of Wisconsin should be brought before this, the Mother Association, for its moral approval and support.

The branch of foreign cheese is materially different than American cheese, in that it is a sweet curd cheese, in which lies the difficult art of

controlling the different fermentations without a controller, whereas, in the manufacture of American cheese you have the acid and rennet tests with a pure lactic acid culture as your controller. With the ever new ideas of increased milk production by the use of silage, etc., the introduction of milking machines, and its usual subsequent failure of proper instructions and caution that should go with the appliance of each new kind of feed and feeding, the proper and only successful way of applying the milking machine to assure a healthy condition of the cow's udder, the necessity of cleanliness of the milking machine and a harmless solution in which the teatcups and tubes are kept between milking. In my opinion there are in use many such solutions that are detrimental to the manufacture of cheese.

When applied to the cow without being rinsed out in pure water, in my opinion, there can remain sufficient solution in the tubes to neutralize the calcium salts in the milk, which eliminates the curdling element in milk.

In the manufacture of Swiss cheese we are dealing with milk that must be free from any abnormal fermentation due to the fact that a starter for its control can not be used unless so applied by an operator who is experienced in technical knowledge of milk and its products.

SEPARATE DAIRY SCHOOL FOR SWISS CHEESE MAKERS

A separate dairy school should be inaugurated for the benefit of Swiss cheese makers, and entirely different methods than those that are now practiced in the dairy schools for American cheese should be installed.

The eligible student to this institution for the manufacture of Swiss cheese should have at least three full years of practical experience as a helper, as my experience as an instructor of the foreign cheese department at the Dairy School of the University of Wisconsin for years showed me that the student without sufficient practical knowledge of making cheese was slow and in many cases unable to properly understand the meaning and application of theoretical knowledge in the manufacture of cheese. Especially was this the case of a Swiss cheese maker student who was not sufficient master of the English language to get full benefit of the lectures given by the different professors. Besides, if a student of limited practical experience who did not meet with the different mechanical faults and various other troubles that are experienced in daily practice, and therefore did not understand the meaning of theoretical appliances to remedy the trouble.

DELAY IS COSTLY

It is an acknowledged fact that the cheese maker is becoming a more important factor to a community of milk producers whose financial success depends entirely upon his knowledge and skill as a cheese maker.

The high prices of the land, and dairy herds of today makes this fact all the more important. Every year that has elapsed has sacrificed the cost of construction and maintenance of a separate Dairy School for the Swiss cheese industry of Wisconsin, and I am safe in saying that the year 1919 stands out alone with a loss of hundreds of thousands of dollars in the Swiss cheese section of this State, due to the absence of a Dairy School for Swiss cheese.

APPEAL FOR INSTITUTION

I appeal to you members of this Association who have the Swiss cheese industry of our state at heart to assist the Southern Wisconsin Cheese

Makers' and Dairymen's Association to bring about an educational institution for the manufacture of Swiss cheese, an industry that made Wisconsin famous; without it we will never reap in full measure the fruit of our labor. But we will each year retract the mistakes of the past, and instead of progressing, we will each year gradually decline in efficiency.

A school of teaching in the manufacture of Swiss cheese would continuously introduce new life and up-to-date methods to the beginner, as well as to the older cheese maker.

"Since there is no branch of manufacture where theory is so closely related to practice as in the manufacture of cheese, it would teach them the composition of milk, its different ingredients, and their intended purpose.

"They would learn why milk coagulates when rennet is added, they would learn the kind and per cent of acidity the rennet should contain for the milk on hand; they would learn how to prevent the manufacture of "cracked cheese;" "Glaess Swiss cheese" as well as Swiss cheese that set too many eyes or holes. They would learn the reason of the epidemic that was so common this last season of a cheese containing "stink spots" as well as many other reasons of mechanical faults in the manufacture of Swiss cheese. An educational institution would soon turn out enough students to constantly supply our entire Swiss cheese district which would soon introduce a more skillful method of manufacture.

Besides, it would acquaint them in the proper handling of the various milk tests, which they so far have entirely ignored, because they are unknown to them. All of this would lead to a more uniform quality of Swiss cheese.

Therefore knowing that the members of this Association practically represent every county in the state, you will be in a position some day to lend us your helping hand, as this matter will no doubt some day shape itself into a branch Swiss cheese dairy course by the Dairy University of Wisconsin, who in turn will appear before the Legislature of Wisconsin for financial aid, and we ask you to help us through your Assemblyman.

FAULTS SEEN IN FOREIGN CHEESE

I want to say that the exhibit is a credit to the state of Wisconsin, especially so what is on exhibit in the line of Swiss cheese. We have one of the most ideal Swiss cheese on exhibition that has perhaps been in a convention hall of the Wisconsin Cheese Makers' Association, and I would ask the management for the good of all here to have that cheese on exhibition in this hall. Let them see what a real shape of a Swiss cheese looks like and have them cut it so that they can get an idea of the workmanship and holes.

The brick cheese was excellent. To give you an idea what an amount of work it is to judge a cheese. No doubt judges are always open to criticism, and I want to tell you it was a hair-split proposition to decide on first, second and third. The least little fault had to be taken into consideration and the cheeses changed positions several times. We had twelve to fourteen cheese exhibits here, brick cheese. Some would have won out in workmanship in spite of the poor raw materials. Those of you will remember this in future exhibits. There is cheese here that is so beautiful in appearance, the workmanship so excellent that it hurt me when I had to turn that cheese down for the simple reason that by closer examination you could find that there were millions of tiny holes in that cheese. Now, you should not send a cheese with the expectation of getting

anything more than a complimentary score on a cheese when it has pinholes. The man who makes those cheeses that are such top-notchers is well capable of making a prize winning cheese but he falls down by the fact that the cheese has fine little pin holes. There were abnormal conditions in the milk. Consequently we cannot place a cheese with pin holes as a prize winner so it had to take the next best score. We had twelve of them and we shaded them down to six. Then they went down to three and finally one, two, three. Everything was taken into consideration and we did the best we could.

On the limburger cheese we did not have quite as good an exhibit. There is considerable limburger on exhibition in which the workmanship is very crude, very poor, although the prize winners were excellent. Numbers one, two and three were excellent, but any below that the workmanship was crude.

There was some brick cheese on exhibition here that contained over 44% of moisture. The score on that cheese was 90. There were three scores of 92, 91 and 90 that averaged over 42% of moisture. Mr. Aderholt made the moisture test on the lowest and highest, and he found that the average score of prize winning cheese was 38 and a fraction for moisture.

PRES. REED: Mr. Aderholt has those figures and is going to present them in a few words on the moisture test.

MR. MARTY: So if there is any question that you brick cheese makers would like to ask I am glad to answer any of them in regard to Swiss, block or limburger cheese. If there is anything that you would like to ask, out with it. You students over there take part in this discussion.

MEMBER: I would like to know how long limburger should be cured in the cellar and at what temperature?

ANSWER: Limburger cheese in earlier days was supposed to be completely cured in the factory. And they used to hold this quite long, but today limburger is made somewhat different. Limburger cheese should be on the shelf for four weeks before it is packed. Limburger cheese should be packed in a moist condition to prevent mold. Instead of laying around in boxes and deteriorating in quality and burning up the parchment paper, manila and tinfoil with excessive heating, by having it in common cheese cellars, do not pack a limburger cheese unless you expect to haul it right away. Pack it in a moist shape and put in cold storage to finish the curing process. Four weeks is about the period it should be held. The temperature of the curing room should be about 70 Fahrenheit in the spring and fall. In the summer time if you are successful enough that you can get it down a little bit lower all the better for your curing. But in the spring and fall I would recommend that you have the heat 70 and a little better. Your cheese works up better, gets a better color and gets the same appearance and natural color as that of a summer made cheese when the surrounding temperature was in sympathy with the cheese. Working in spring and fall you have extreme cold you will get the pinkish color on the outside of the limburger cheese which is detrimental to that cheese but if you will increase the temperature a little you will get better results.

QUESTION: What per cent of acid do you suggest in brick cheese?

ANSWER: The original intent and purpose of a brick cheese was that milk must be fresh from the cow and made into cheese from milk ripeness 18 to 19 in acidity. If your milk is in fine shape, good sweet condition, stay away from a starter, but in a season of drought in summer, we find gassy disturbances in a sweet curd with the result that there are many makers that think they cannot go over that particular season without mak-

ing a spongy open brick cheese. The market for brick cheese got used to it and took it for granted. They would say we are getting into the hot season, and brick cheese always opens up during the hot season. That should not be the case. During that period introduce one-quarter, and if not sufficient, one-half per cent starter and overcome that little gassy disturbance. It will mean that you make a closer brick cheese. It would increase your yield for the period of the last part of July, August and September. For one-fourth of your year you can increase materially your yield of the brick cheese. The same thing is true of the manufacture of limburger.

QUESTION: How long ought brick cheese to be on the shelf before packing?

ANSWER: Brick cheese the same as limburger cheese used to be finished, cured and dried and everything else at the factory in by gone days. Every nationality has a peculiarity in its demand for cheese. Some want sharp cheese, some mild cheese; in other words some want old cheese and some want new cheese. The biggest demand for brick cheese for some reason has been drifting to a medium-cured brick cheese. They want fresh cheese, a cheese without any smeary surface on it, you will find that that cheese will require a period of at least three weeks curing at the factory. Now, it sounds long to many of you because I know as well as you men that you are sending in brick cheese two weeks old and perhaps younger. What I want to say is this, that any brick cheese with a heavy smeary surface on it is objected to by most of the trade. They do not want it. They want brick cheese which has a thin rind but if you get a brick cheese with an old rind they do not like it. They all know the cheese cured on the shelf (the old style of smearing cheese) gets sort of dark appearing in the center—I hate to say it but there is in the market brick cheese only five days old. You ought to give this cheese two or three smearings which would mean a period of two or three weeks. I have a brick cheese here, the third prize winner, which is in ideal shape. It will take from coast to coast in any market; better than the one that took first premium, but not quite so good in workmanship. Now I would like to ask Mr. Gottlieb Schu-biger, how old is this cheese?

ANSWER: I made it the second day of November last year.

MR. MARTY: You see age does not hurt it very much.

QUESTION: Don't you think that silage feed is injurious?

ANSWER: You take any abnormal feed for instance silage or any food that is abnormal—that is developing into abnormal acids or fermentation that it will naturally act improperly upon the animal. I am a big fighter against silage feed for our state, and in spite of my efforts it is coming into our state. When that silage comes from a clear wheat field and is fed right it is not injurious to a cow but we usually find that some men have a nice cornfield and the next man has not such a nice field, and then we have a man that has a poor field. Here comes the important question. One will cut when the corn should be cut, but they used to have only one corn shredding machine in a certain community and it would start in with Mr. Jones, but by the time they got to Mr. Green they had frost—when that was put into the silo they did not have as good a feed as Jones. I am not against such methods but I am preaching precaution, so in regard to improper feed, what will silage do to a cow in the way of green silage over which frost has come? When you go into the silo the tears will come into your eyes. It will put the cow out of commission. It takes them off their feed. It almost eats the inside out of them. Can you expect good

milk from a cow in that shape? You must feed your cows with caution and care.

QUESTION: I would like to ask what do you ask the cheese makers to do in order to get a uniformity of weight and size of brick?

ANSWER: Well, it is a very good question, and it is one that a little more emphasis should be put onto. We find that every cheese maker takes it upon himself to make his own size brick cheese. In other words, I have noticed that some have nothing but straight molds, that is for three brick cheese. Some day they get a little too much—well they just slap it in and make a six and a half to seven pound brick cheese, and I can call them young block cheese. The next day they have not quite enough to put one mold away, yet not quite enough to fill that mold—well, the result is they use that mold and make it a three and one-half or four pound brick. Now, why not have an individual mold, get it down to one mold and get a uniform cake of brick cheese?

Here is a perfect size brick cheese. I wonder how much it weighs?

ANSWER: About six pounds—no, five and one-half pounds.

MR. MARTY: That is what the maker says. Five and one-half pounds—that is some better than six pounds.

“FAULTS SEEN IN THE CONVENTION CHEESE”

By MR. WM. HUBERT, Sheboygan

LADIES AND GENTLEMEN: The first cheese that I am going to show you took second premium. The only thing that barred it from taking the first was a defect on account of the bandage. That cheese was tied for first score, and the making put it down one-quarter of a point and it gets only second prize.

This cheese scored 99 and one-quarter. The moisture test is 35.9 while the moisture test for the first cheese in class 1 is 34.1. In class 2 which is young Americas and longhorns I think that tested 33.6.

This cheese here was frozen when it reached the convention. It was frozen solid. You see how it acted. That man was naturally scored down. It was the fault of the express company. He sent two cheeses—the longhorn came later and was frozen solid.

This cheese was paraffined too young. It had 36 and a fraction of moisture. It has the rind rot which I think was caused from having been paraffined too young.

QUESTION: Is the rind rot on both sides of the cheese? I think that many makers have the tendency of putting cheese on the shelf without turning it over and then there is the one side rind rot, because it is not turned on the shelf. Too many cheese makers forget to turn the cheese on the shelf daily.

MR. HUBERT: Here is one of faulty appearance besides being poor cheese inside. Here is a cheese that tested the highest but one for moisture, one of the highest being 42.9. Here is another cheese with much moisture. Here is one that has 40.7 moisture. We have had very few that went over forty. That cheese that had 42.9 moisture scored 80. This cheese here had a score of 77. It has a nail hole here with the moisture running out of it. It is pin holey also. Here is a piece of the cheese that had a high

score but we found mold in it. There was not a crack in it. We figure that a mold may have dropped in the center of the hoop and stayed there. Here is a cheese of poor appearance, of bad flavor, a stinker and sent to the convention for a score. It got a score of 88. Here is a pretty cheese. Here is another cheese scored down on account of being lopsided. You will notice that it is nearly one inch out of proportion, bigger on one side than the other.

QUESTION: How is it caused?

ANSWER: Done by the press. It looks very much as if it was done by the press. It is poor press work.

This cheese had too much acid, it scored 81 and one-half.

QUESTION: What is the matter with it?

ANSWER: Acid and mushy.

QUESTION: What caused that cheese to have that much moisture in it?

ANSWER: I am not a cheese maker. I know cheese but I can not tell you.

QUESTION: How much acid in that moisture cheese?

ANSWER: It scored 74. I have not the moisture test.

Here was a man penalized on account of checked and moldy surface. The mold has gotten into it very near half an inch in some places. That is one of the most important things in taking care of cheese.

Number 58 scored 85. Here is a cheese that has 39.9 moisture. It had one mistake. It was paraffined too soon.

QUESTION: I would like to have these men preach on the question of moisture. The moisture that I would like to have explained by someone that is able to explain the cause of the moisture in this cheese. What would be the suggestion to remedy this matter.

MR. CHAPLIN: All I can tell you is to use your own moisture test. Test your own cheese, then you will quickly know how much moisture you are getting. I realize that some of the younger men here have probably learnt to make cheese since we have been making high moisture cheese. Put it plain. You must have a good cook on your cheese. You must not work too fast. If you are going to work take it quietly and do not overload your acid. Do not hurry your cook. You will hardly get a high moisture cheese unless done accidentally by taking milk a little too ripe. The main thing is the cook—less acid and more cook, and more length of time in your vat. I do not think that it must all be done in the vat. But you can help it a good deal by giving it time in the vat.

WHY AND HOW TO MAKE NEAT APPEARING CHEESE

By WM. WATERSTREET, Spring Green

MR. PRESIDENT: Neatness in the make up of cheese is as essential as is neatness in any other line of work. In my line of work, that of manager of a cheese house, I handle many cheese and I am always pleased when, on removing the cover of a cheese box to find therein a cheese which is not only a good cheese but is also a neat cheese in every respect. Many times I find therein cheese very irregular in shape and with rinds unclosed and often rinds that are cracked. In this case I know that had the cheese maker been a neat worker this would not have occurred.

I have, in my neighborhood, a cheese factory which could easily bear a sign with the word "Neatness" above the front entrance. There is neatness about the building with its close fitting screen doors and windows in the summer and about the driveway and its neatly mowed lawn. The cheese maker himself is very neat and all utensils used in cheese making are clean. What kind of cheese do you think this cheese maker makes? I know you will say "Good." This maker is one of the best to be found and his cheese are always good and are perfect in appearance. Many times when cheese comes to me in too uneven appearance, this maker re-presses them for me and they come back with edges even, I can assure you. If one maker can furnish this neat product, couldn't each maker do the same if he would use care?

Utensils used in cheesemaking should be clean. Press should be kept clean and hoops should be clean and free from grease. Hoops that are rusty should be retinned. Care should be exercised in dressing the hoops. Warm them in cold weather. Clean cloths should be put in the bottom of the hoop and smoothed so as to prevent wrinkles in the cloth which in turn makes the cheese rind rough. Cheese with rough rinds or cracked edges, when put in storage are more susceptible to mould and the mould works into the cheese through the crevices very rapidly and often causes heavy losses.

To handle curds to best advantage each cheese maker should have a vat cover to keep the curds at an even temperature. When curds are ready to go to press they should be weighed in each hoop so that each cheese will have the same weight. It is best to make cheese large enough to fill the box nicely, but not too large for the box as when the boxes of too large cheese are put in storage the cheese will be damaged by the weights of other cheese on them. When curds are put to press the pressure should be given gradually. Cheese should be dressed when pressure has been on from one to one and one-half hours. In dressing cheese, makers should observe closely whether the surfaces are properly closed. If not, the surfaces should be softened with warm water and further pressure will close them. Bandages should be put on smoothly. In the early morning, following, the cheese should be turned in the press and given light pressure for an hour or an hour and a half. Turning the cheese and the additional pressure will give the cheese perfect shape. This extra attention is well repaid when the maker takes from the press a smooth rinded, even-edged cheese. These perfect cheese should be welcomed in the curing room by very clean shelves.

In conclusion, every cheese dealer everywhere would appreciate having cheese maker give the little details of cheese making all possible attention thereby giving Wisconsin credit for not only the biggest production of cheese but the biggest production of neat appearing cheese.

ELECTION OF OFFICERS

MR. MOORE: I move you that unanimous consent be obtained that the acting Secretary cast the unanimous ballot of the association for the present incumbent, Mr. Charles Reed of Thorpe, Wisconsin, as President for the coming year.

The motion was duly seconded and put by the vice president, Mr. Kaik.

The motion was carried unanimously and the acting secretary was instructed to cast the unanimous ballot for Mr. Reed for President.

PRES. REED: I wish to thank you for the honor. I will put my heart into the work as in the past years.

MEMBER: I move that the rules be suspended and the acting Secretary be instructed to cast the unanimous ballot for the former officers for the succeeding year.

Which motion was properly seconded.

The motion as carried unanimously and the acting secretary was instructed to cast the ballot for the remainder of the officers and director which he did, and the same officers were declared elected for the succeeding year, and Mr. Bruhn for the regular term as director.

HOW TO AVOID CHEESE TROUBLE IN HOT WEATHER

By JOHN D. CANNON, Neenah, Wis.

MR. PRESIDENT: In the first place I will say, that we have always had trouble, and I feel now the we always will have. But I think some of this trouble could be avoided, if makers *would* use more care, in their daily routine of work, and inspection of their milk at the intake. It seems to me that at a great many factories too little attention is paid to the inspection of milk and cans. In some factories which I visited last summer, I saw that the receiving of milk was left entirely to the helpers. These young men I happened to know, and was satisfied they had but very little experience in handling milk. The intake is the starting point of 75 per cent of our trouble in cheese making. At some factories which I know, milk is all received, and not any attention is paid to the condition. It might be delivered in old rusty, slimy cans, and it all goes in just the same, and where those conditions exist in the small territory which I cover, why we must expect, that the same practice is carried on in all localities, where cheese is made. Every cheese maker should be a competent judge of milk, and should inspect every can of milk he receives, and also keep close tab on the cans and be sure they are clean, and in case he finds milk that is badly off on flavor, he should have the courage to reject it. Last summer I consider one of the worst seasons I ever experienced in cheese making. Of course we had a very hot summer, and the cheese makers had a lot of things to contend with. The patrons in some localities were very careless about giving their milk the proper care and in some cases no care at all. For instance I found patrons using milking machines that hadn't been

washed for ten days, and I want to say to every maker in this convention hall that if he has got patrons using milkers to watch their milk very closely. Make a curd test of it at least once or twice a week. Milking machines are here to stay, gentlemen, and you are going to have trouble that you have never had before just as soon as your patrons begin to use them. The milking machine is not to blame for being unclean. Very good milk can be produced by them if they are kept clean.

The next thing to be particular about is your starter milk. This should be taken from the most careful, and cleanest, patron you have, and it should be the mornings milk. Should be heated at once to 180 Fr., let stand for a while, and then cooled down to 65 or 70, and kept in this condition until used. Startoline should be added sometime in the afternoon or evening using judgment in regard to the amount of acid it develops. Care should be taken not to allow your starter to become over-ripe. Where your milk is all delivered early at the factory, you can in most all cases, dump your starter in the vat the first thing, but it should be thoroughly stirred and made free from lumps.

After your milk is all in and you have raised your temperature to 86, a rennet or acid test *should be made*. During this war time period of cheese making, I noticed that some of the makers have laid aside their rennet and acid test. *This practice I consider absolutely wrong.*

When milk is working normal, it should be ripened so as to give you about $2\frac{1}{2}$ hours from setting, to dipping. Curd should be cut at least 4 times with wire knives. Curd should be stirred carefully at least 10 minutes before heat is applied and you should take $\frac{3}{4}$ to 1 hour to raise your temperature to 100 F. Right here is where a lot of trouble is caused, cooking too fast. Some of the makers run the temperature from 86 to 100 F. in 15 minutes, and the next thought is, start your whey off, and get the whey separator going. I think the separator has done its share toward causing trouble in cheese making, but the separator is not to blame. Curd sinks and racks are a thing of the past, and but very little hand stirring is done at present, which is absolutely necessary, for at least 50 per cent of the curds. In my opinion a great many of the makers are wandering away from the true process of cheddar cheese making.

A CHEESE DEALER'S ADVICE TO CHEESE MAKERS

By FRANK SCHUJAHN, Fond du Lac

MR. PRESIDENT: I do not know why Mr. Sammis has put me on for this subject. He knows well enough that I am not an orator. In giving my advice to the makers as a dealer, I wish to state the necessity of cooperation or the linking together of the farmer to the consumer. The maker needs the farmer and the maker needs the dealer, or as you may call it, the maker's selling agency, and in order to have a selling agency, you want the producer, you want to produce an article that meets with the approval of the consumer. You cannot do that without the farmer, nor can you do without the dealer, and unless you co-operate so that your dealer or sales agency gets the support of the consumer it is all a failure. Take for instance other organizations, machinery manufacturers, or dairy manufacturing apparatus, or even cereal manufacturers, food people, they have their

organizations the same as you cheese makers have, only that they have a better foundation and in that respect are making more of a success. You will find that those people will exhibit their productions and put their sales agencies with their exhibit, back up their sales agencies with their exhibits, and ask the consumer or user to scrutinize and criticize their manufacture and go home and try to improve them if they are at fault.

The same thing should hold true with the cheese maker. He should cooperate more with the dealer. He should come to the dealer as a sales agency and ask for just criticism and constructive criticism. If he has that from the dealer which certainly everyone is willing to give and you find that he is helping you, you should go to your patrons and try to get their moral support. By following out these lines you will have begun the work.

You take for instance the Apple Dealers Association. You have noticed that you have only one grade of apples in a box. Any packer that puts anything different in such a box is put out of the association. You have it in other lines likewise. If any man does not try to produce the best article that can be produced he will not be allowed to belong to the association, and he will soon find himself a lost sheep. Our greatest trouble, as you have heard throughout the session has been lack of cooperation. The cheese makers have tried to get by with as much moisture as they could and the result has been disastrous. The dealers are to blame just as much as the makers. If the dealer had never accepted, it would have never been made, but competition during the war has driven us to that extent that we would accept anything the cheese makers offered. The farmer also has done his share in demanding the best yield that could be produced, whether legal or illegal, as long as he gets the money. Hold more meetings in your community, call your dealers together and get their advice. Call in your patrons to be at those meetings and have them cooperate with you. Tell them it is illegal and immoral to make an article that is inferior simply for the sake of the yield.

To demonstrate this, Mr. Wheeler has been kind enough to bring a cheese here that is six years old that was properly made at the time. I think that it is the best cheese on this table. There is also a cheese there paraffined right off the hoop. The next cheese is paraffined a week later and cured out in our warehouse and it shows you the difference and quality. Any man that would see these cheeses would certainly select the first one as the better quality and while the middle cheese is just as good quality when made as the last cheese it is inferior now for the reason that it was paraffined before the cheese had a rind; before the moisture in the cheese had evaporated. This rots your rind and makes it unsightly, and it certainly is not a satisfactory article to the consumer. The other cheese which is a week older and has a dry rind is an article that will carry in the cooler.

Here is another example. This side of the cheese is rind rotted and has been scraped and reparafrined. This side is what shows paraffining high moisture cheese from the hoop. You will find it rind rotted one inch deep. No consumer wants cheese like that, no retailer nor wholesale grocer. This cheese was carried for a consumer since last June and put into storage since last July carried for a customer until the present time. He now wants it. Supposing your sales agent shipped him this cheese. What will he do with it? He bought an A No. 1 article. It is hardly necessary to tell you what is bound to happen. Aside from that, I do not think that the man who made it would want to step up here and say that

he made that cheese, nor do I think that he would want to get into any dairy or national convention with this cheese. The man who made this cheese that stands a test for six years can be well proud.

Therefore it would be wise for everybody who is making cheese to attend meetings with the dealers in smaller circles in your own county frequently, say every month. They might be held in the evening and you should invite the patrons to come and to be there. Ask them to come, criticize and suggest, and bring cheese that you have made for exhibition and criticism and I think that you will gain the confidence of the farmer in that you are trying to make the best article that can be produced regardless of the extra one-quarter or one-half pound yield, and I think that if you exhibit cheese like this one they will see that it is a very poor article when quality is at stake.

Then again from this cheese side rind has been removed three or four times. If you want to sell this cheese the rind must be removed from the other side. In order to sell it you will have to sell it for ten or fifteen cents a pound less in competing with good cheese. Does that help the farmer? While he may have gotten his money from the cheese maker and while the cheese maker has gotten his money from the dealer, nevertheless, the loss will react on the farmer sometime.

There is no need for me to tell you how to make good cheese. You have heard enough about how to make it. I would advise that no American cheese should be paraffined until it is six or seven days old. If you ship your cheese before it is five days old your dealer is going to be unable to judge whether it is going to run acid or cures out good cheese. In the course of time when a man had put a lot of this cheese away, when a man asks for a sample of his cheese he has to send him inferior quality. We have the same thing manifested among the brick cheese makers and you very frequently when we reprimand them for shipping the new cheese they state that their curing room does not permit them to hold the cheese. If that is the case they should enlarge their curing room. You are not only forfeiting the good will of the consumer and the dealer but you are injuring the reputation of your cheese and your neighbor.

I have a cheese here that was made the 2nd or 3rd of January. I picked it out of a lot that was shipped yesterday. There is salt right on top of the rind. The cheese has never been washed. I would like to ask this audience what they would pay for this cheese if used on their own table. I do not believe that I would find a buyer here today that would pay 5c per pound for it. If you do not, don't ask a man who is a couple of hundred miles away to do it.

Here is another cheese paraffined too young, probably a week old when paraffined—probably a week since it has been paraffined. But you see what the paraffin does—it falls off. It has no rind. That cheese, if the paraffine would stick on there, would spoil in the course of time. You get a bad flavor. Now, why not cure the cheese and put it on the market in the shape that the consumer is pleased to buy it? I assure you that a man that bought a piece of cheese like that exhibited this forenoon would use it three to one besides this one. It will help the demand for cheese.

We, as a nation are not eating as much cheese as we ought to. We are not producing the article that we ought to. My advice would be, especially in American cheese, as I said before, cure your goods and it should be five days on the shelf, at least. It needs turning over every other day and wiping it off and then ship it without being paraffined. If you have

your cheese well cured and dried before paraffining you can put it into storage and it will not deteriorate and in fact it is going to improve.

We have many people that are using press cloths and not circles. The result is what you have seen on exhibit. You have no rind there. The printed cloth is taken off when two or three days old. It is checked and looks unsightly, gets moldy and deteriorates rapidly. By all means use circles. I know that in a certain section certain buyers have driven from factory to factory and told the makers to ship down the goods without using circles and that they would buy them anyway. Tell them not to teach you anything that deteriorates the quality of the cheese. Some save scale boards, by not scale boarding their cheese, but these things deteriorate the quality of your cheese.

I would recommend that every cheese maker get into a small organization in your county, meet regularly, call in your dealers and farmers and decide those things. Try to improve the quality of your cheese and you will all gain by it. You are not going to enrich the dealer, you are going to have satisfied consumers and satisfied retailers and you will have satisfied farmers. You must educate them to what is good. As long as you teach them to beat your neighboring factory in getting a bigger yield you are going down hill very rapidly.

During the past five years, we have had the fortune to be able to dispose all of our underdone cheese across the water but they may not want it now and you will soon find that you have done the wrong thing the last five years. The demand will not be as heavy as it has been and our production will be heavier and in order to take care of it you must satisfy the consumer. I thank you.

"THE CHEESE DEALER'S ADVICE TO CHEESE MAKERS"

HORACE DAVIS, Plymouth

When the prohibition law was enforced in this United States, we had little idea of its effect upon the cheese business. But has already had its effect. The saloon free lunch all over the country bought and gave cheese to their patrons and they gave a vast quantity of it, usually a cheaper article. With the doing away with all saloons, that demand has ceased. Where we formerly could get rid of acid, bad flavors or other off goods, we have not that outlet. The question now is, what is an off cheese worth, and that is a conundrum that is bothering the cheese dealer very constantly at present. We have not this year been able to sell sour cheese. We have got some in and we have tried various buyers that formerly bought sour cheese and we could not even get an offer. When some factory men were unfortunate enough to have such cheese and asked the dealer what he would pay for it, he told them he would sell it for their account. That cheese has been shipped down to New York and has not brought a demand; so be careful, mighty careful, do not make sour cheese. The same argument is true of off flavored, pinholed and other off goods. There is no market for it, even though a year before last the dealer was able to handle it for you. That same dealer this past year had his difficulties in trying to dispose of these goods and in many cases advanced a certain amount of money, and

those goods have not been sold but shipped on commission and are not really bringing the amount of money advanced by the dealer. So that it has resolved itself right along this one point, there is a demand at market price for good cheese and there is practically no demand for poor cheese and if you are unfortunate enough to make poor cheese, you will have to expect and get a greater and greater difference on those goods, so that it will show you a very material and serious loss.

The greatest production of cheese is in the summer, and I want to call your attention to the fact that at that time of the year the entire amount of cheese made is not consumed, and large volumes of cheese goes into the cooler, and if through the process of making the cheese in the cooler it does not keep and gets into condition of rind rot of this nature, you destroy the dealers' ability to advance you money on goods through the season of greatest production, destroy your market later in the year for cooler goods and it will mean very low prices in the summer for the goods produced at that time because it will destroy all value on cold storage cheese. That is reverting back to the farmer that has been so short sighted as to insist that the cheese maker should make a higher yield of cheese because some neighboring factory did so.

I fully coincide with the former speaker that cheese should remain on the shelves and be turned once a day. I have been in factories where there has been no cheeses in the factory; they had all been shipped out. What cheese there was, was in the process of manufacture in the vat.

The paraffining of cheese by the factory has produced bad results. They paraffine it too young, so that in a little warm weather it will all blister before it reaches the dealer or the cooler. They paraffine it so young that it scales off, and moisture produces the result as you see here on this one cheese, where the bandage does not stick to the cheese and under that bandage you will find it all slimy and wet. In former years the cheese makers bought scale boards and used them on their cheese in shipping them to their destinations. How many of you are doing it today, and how many did it last year? A lot of the cheese comes in, and if the dealer does not handle it right away in many cases the cheese sticks to the box, breaks off and damages the goods. You have got to use the scale board or cap, and you should use both. It was necessary that the dry air act upon the surface of the cheese before it forms a rind. You have stopped that. You are shipping in rindless cheese, and where you paraffine you perform a still worse job than putting in a cheese that is without rind, and it will form moisture and become rind rotted.

There have been a number of dealers that have complained about cheese having green mold through the cheese. We have been unfortunate enough to experience that in a quantity of cheese this past season. We are trying to give it a careful investigation. We believe it is caused by several different things. One of your judges here this morning said that they found a perfectly sound cheese that showed no crack with green mold in it. There are some makers in the country that have a bag for surplus curd left over from one day to another. They do not have enough additional curd to fill a hoop, but they still have some left over. They have been putting that curd in one bag day by day and I investigated one factory and we found that the mold germs were in that bag and that in dumping into the curd left day by day it simply impregnated it with the mold germ that was there, and when he took that curd out of the bag that day to put in his vat he put that green mold germ into that milk. If you carry over any curd in a bag see that it clean. Take the longhorn and sew up

two ends of it. Put your curd in there and in the morning tie a string at one end and lower it into the corner of your vat so that your curd will become softened and moisten and then put that curd in one lump and do not scatter it in the whole vat. If any bad condition is there it will only be in one cheese.

I have been told by a number of makers that it is the cheese dealer's fault for the poor quality of cheese. I differ. The cheese dealer is dealing with a lot of cheese makers all over the state, friends of theirs, and they have been interested and doing the best they could for the factories that were patronizing them. That is the logical way for a factory man and a dealer to get along. We try to help. Here, last night, it was stated that the cheese dealers should cut the factory for the poor quality. The war is over, gentlemen. The quality of cheese in the state of Wisconsin has got to improve from what it has been this last year. I hardly remember a season in which there was more poor cheese made than in the month of June last year. And gentlemen, the cheese dealers took their cheese and paid you market price for it and in many cases a premium and they have lost money in doing so. There is nothing that will bring men to their senses quicker than the loss of money and the cheese dealers state to you today, that with the market conditions and the demand for quality, they shall insist that the manufacturer of cheese shall give a better quality, or that poor quality cheese shall only be paid for at what its estimated value will be. They want you to cure your cheese in the factory before shipping. They want you to stop paraffining cheese if it is best, or if paraffined to let it first form a rind and become mature. They want you to box your cheese right in longhorns, have cheese of the same height instead of big ones and small ones in one box, just for the sake of one sixteenth of an ounce in weight. Do not make your cheese so large that your longhorn America, Daisy or any style you make is one quarter or one-half inch above the size of the box, because in hot weather that causes cracked and molded goods and there is a loss. I hope that these gentlemen over here who are still in school, and you makers who have been at it for a number of years will commence to realize that a new era has started. We want your cooperation and we want to cooperate with you, but a better quality must come from the state of Wisconsin.

One of the reasons for our great troubles this year has been that the railroads under the government administration have withdrawn a large part of their refrigerator service, so that dealers in shipping goods have not been as close to the destination under refrigeration as formerly. It has had to be shipped in box cars and with high moisture, factory paraffined cheese, that cheese has arrived in many cases in blemished condition, the wholesale grocers have said that if they have to retrieve such losses again, they will have to cut out the cheese business.

MR. UBBELOHDE: Why paraffine cheese at the factory at all if shipped out in a week or less?

ANSWER: I do not believe that factory paraffining is beneficial to the product. I think that it is a detriment and I would like to see all paraffining discontinued by the factories. The fact is that by your paraffining you are trying to bottle up lots of moisture that you are trying to sell for 30c per pound.

I want to say to you also that the agricultural department of Wisconsin is considering a law to prohibit the paraffining of all cheese under the age of seven days and Prof. Doane here in Wisconsin running a series of Experiments at Plymouth some seven or eight years ago, in a pamphlet

recommended that cheese should not be paraffined, I think, under three days at the least, or four days.

MEMBER: Not only was it four days, but those were 38% moisture when made.

SPEAKER: Yes. I had last week a shipment of 98 Twin Daisies, and we inspected the goods when they came in from an outside point, and we called in the maker and told him his cheeses were green and we did not know what curing would do. They were removed to Plymouth. They pronounced them acid upon arrival there. I was there four days later and I looked at the cheese and pronounced them sour. There was a difference of twelve days in the three inspections on a lot of cheese running 43% moisture. When one looks at it three days old it was green, four days later it was acid, then four days later again it was sour.

I want to say another thing to you. For some reason the year before last, lots of this cheese of an acid nature improved, but last year it turned sour. I do not know what did it. It was seemingly the same character of cheese as two years ago. It has become self-evident during the past year that factory paraffining has been an abomination, and paraffining any cheese before it has a rind has been very bad and a serious loss to all of us.

PRES.: Any questions?

MR. UBBELOHDE: I wish to ask a question. A year ago our institute commissioner put on a program at the institute, so that in any community where they have an institute they can have a cheese man put up there to reach the farmers and try to have a cooperative circle formed, to have the farmers employ a man to go around as instructor at the cheese factory. One man to supervise 30 or 40 factories. Would that be a good idea?

ANSWER: Last night I attended a meeting here and a discussion of moisture came up. One maker got up and stated that he was making a fairly good cheese. But a neighboring factory paid a better dividend than he did. That it was a matter of moisture or perhaps a difference of butter fat in the milk. This other factory paid better and the farmers asked him why this other factory paid more money and he said they make a higher moisture cheese and that he made a better cheese. They then told him to bring in as much money as the other man. Those farmers are in fact dishonest; because when they try to force a maker with all his money invested in that small factory to violate the laws of Wisconsin they should be prosecuted criminally. They agreed for this little extra dividend to force the man who owns the small factory who has his entire investment in it, to make a cheese that they know is unlawful.

What kind of a position does it put the maker in? This is a matter of education that we ought to in some way that we as an association put up to the farmers. If you force a maker to make this poor and inferior article it will result in the fact that Wisconsin Cheese will lose its reputation, so that it will be selling for less money and that will touch your pocketbook more than this little moisture that you are trying to make this maker put into the cheese.

Gentlemen, I can not emphasize too strongly the importance and the danger that the state of Wisconsin is getting into by this process of excessive moisture and factory paraffining from the hoop. I earnestly call it to your attention to give it your thought because it is endangering Wisconsin's reputation for cheese. When you see a lot of goods in cold storage get that way, what chance has the wholesale grocer, who buys that goods. If he can not dispose of it before he gets that way, if the poor quality was

in it when made, and if you ship that cheese down south it would rot all to pieces and be a total loss, and the grocer would write to the wholesale dealer, "What kind of cheese are you shipping me? If I can not handle cheese without such loss, I will go out of the cheese business."

DISCUSSION

MEMBER: I am just eating some of this old cheese. It is mighty fine. Why can not we make more of this? When we get home we will think of it. If we can get cheese that will be as good as this and as mild as this in six years we will eat 12 pounds per capita instead of four pounds per capita.

MR. LEE: The commissioner has sent word to me to make this request of you. The dairy and food commissioner has by law been asked to collect figures in reference to the cheese production in Wisconsin every two years. The figures must be in our offices by March 1st for the year 1919. Now we want your cooperation in this matter. Do not make us crowd our office by sending out two or three notices and even to send out a notice that if the report is not in and filled that we will have to prosecute. Cooperate with us. Let us have those figures. We can not make definite statement unless we get reports from all the men. Bear this in mind.

The other announcement is this. All licenses must be renewed. Do not do as some of you do or did last summer. Do not wait until the inspector comes to you or to your factory. Send in your renewal to the office.

Another thing is this. Last year there were a few men who did not renew until October. Inspectors will be instructed this year that if they get to a factory in the state and if they find a maker or an operator without his license he will prosecute him. The law is specific on that. A man with a permit issued last year either on the factory, or as a maker, is not to be renewed. The permit holds good until you get a license, even if it is five years.

I also wish to call your attention to the fact that there is a standard for moisture in brick cheese and that this is 42%. The brick cheese makers must stay under 42% and the American cheese makers under 40%.

COW TESTING AND CHEESE FACTORY PROSPERITY

By PROF. GEO. C. HUMPHREY, Madison

The wealth and prosperity of every cheese factory community lies principally in its dairy industry. A maker may operate a factory with a comparatively small number of cows and a relatively small amount of milk, but to enjoy the degree of prosperity which every cheese maker enjoys, it is necessary to encourage as large a number of most excellent dairy herds and as large a milk production as possible. Successful dairy farming and herd management make for a prosperity that is enjoyed by all associated with the dairy industry, including the farmer, dairy manufacturers and all business corporations and classes of society directly or indirectly concerned with it.

SUCCESSFUL DAIRYING AND COMMUNITY PROSPERITY

It is a pleasure to go into communities where homes, barns, cattle, farms, roads, community halls, churches, schools and even the town pump have the look of prosperity. Wisconsin enjoys the distinction of having such communities and they are associated in most instances with an enterprising community dairy industry. It takes effort, inspiration, education, leadership and money to put across community welfare projects. Any man or organization who is not willing to fall into line and become a booster if not the leader for his community, is forgetful of what the Lord intended him to be and of the benefits of prosperity. It is as easy, apparently, to burn up the rubbish and let something useful take its place as it is to let it accumulate and become a nuisance or unsightly to the eyes of everyone who may have to contend with it. The writer recalls a town in Wisconsin in which the enterprise on the part of every citizen was very noticeable in the matter of having every back lot as well as front lot, neatly cleaned and picked up, which made an impression upon visitors as well as the townspeople, productive of a sense of great pride and admiration for the town. Another town in the state was recently visited where the spirit on the part of all was a bubbling fountain of enterprise and prosperity. For example, its people loved music in the home, on the streets, at public gatherings and for the sake of keeping its young people engaged at something that afforded them not only pleasant pastime, but a training for useful manhood and womanhood. The matter of having music was not only talked about, but things had been accomplished. It was not enough to have just a pick-up band that might become badly disorganized at any time by a few men dropping out, and to insure a greater interest and a better organized interest in music the band master was made a member of the high school teaching force. Boys and girls were given instruction in band and orchestra work. A high school band as well as a city band was organized. The high school band was reinforced from year to year by a junior high school band. An orchestra could easily be secured for any event. Band practice and band concerts were inspirational and elevating to the society and welfare of the town. Not everybody tried to organize and lead a band. The band master was the leader, as he was hired to become. The members of the various bands and other musical organizations followed their leader with harmony and rhythm that resulted in the greatest success and enabled audiences to enjoy concerts with a feeling of thrill and rapture. The people of the town were satisfied to be the audience. They attended to their respective duties and delighted themselves on every occasion they had, to think or speak of their musical accomplishments and to glory in their enterprise and prosperity.

ORGANIZATION NECESSARY FOR ALL SUCCESSFUL ACCOMPLISHMENTS

To come down, however, to some of the facts of everyday life and the sweat of the brow that earns the livelihood and makes the money with which we pay for the necessities and luxuries of life, every cheese factory community must have cows and a successful class of dairy cows that work harmoniously and to a successful end.

Successful dairying requires organization and the moral support of not only the farmers of the community, but all other classes of people. The cheese factory operator is in a position to do much to encourage better dairying in his community. There are many details in the business or-

ganization of every dairy farm that draw heavily upon the thought, time and strength of the farmer or dairy herd owner. He can hardly be expected to give the necessary attention to all of the details day after day and year after year, that make for the highest degree of success, and would be foolish to attempt to do so when he can avoid it. In the everyday feeding, care and management of a herd of cows, there is necessity for knowing at least once a month what each cow is doing from the standpoint of feed consumption and milk production, if greatest results are to be secured. Dairymen cannot afford to keep a cow a year or possibly several years, whose ability is too low to insure a profitable return for the feed and care she receives. Records of production indicate that undoubtedly thousands of farmers have cows that are of the unprofitable kind. Such cows are rubbish in the dairy industry that needs to be disposed of to make room for a better class of cows, or to relieve the community of the burden of having them interfere with its prosperity. Organized effort and community enterprise is doing much in many communities of Wisconsin to eliminate such cows. Such organization is needed and should be supported in every instance.

COW TESTING ASSOCIATIONS

One of the most successful organizations and community enterprises that has been adopted for helping dairymen to increase their individual prosperity and the prosperity of their communities is the cow testing association. A cow testing association, as perhaps most of us have come to know, is a group of about 26 farmers who organize and employ a man to take charge of the work of testing the cows of their herds once each month and make a statement relative to the feed consumption and milk production of each individual cow. The organization is a comparatively simple one. It is desirable to have the members of the association as close together as possible in order to make it easy for the cow tester to go from one farm to another in making his monthly rounds and to do his work. Seven directors and a president, vice president, secretary and treasurer look after the welfare of the association. The present plan of financing the association is to charge a membership fee of about \$2.00 to cover equipment and supplies and to have each member of the association pay in addition to this, \$2.50 to \$3.00 per day for the 12 days in the year when the tester is at his farm. The success of the association depends upon the tester and his ability to not only tabulate the records of production with reference to milk and fat of each cow, but to offer helpful suggestion with reference as to most suitable rations and methods of care and management of the herd. Wisconsin had on July 1st, 103 active associations. From a collection of 115 monthly reports obtained from 65 associations in the state, it appeared that as a result of cow testing association work, the members had during the year constructed 28 new silos, installed 38 milking machines, equipped 15 barns with drinking bowls, placed 170 pure bred bulls at the head of herds, and secured 73 head of pure bred females for the foundation of better herds.

In addition to the support which cow testing associations receive from their members, and the local community, the Wisconsin State Dairymen's Association, the University of Wisconsin and the U. S. Department of Agriculture are giving support to them. These forces support the general field men and give general supervision to the state-wide work which cow testing associations are accomplishing.

A REGISTER OF PRODUCTION FOR ALL COWS

One of the present interesting features of cow testing association work is a Register of Production, established a little over a year ago by the Wisconsin Dairymen's Association, and the University of Wisconsin in co-operation. Cows completing a record of 365 pounds of butter fat in one year in a cow testing association are eligible for registry in this new register. 207 animals became eligible for the register during the first year and consisted of registered, grade and native animals. This Register of Production promises to prove of great value in the selection of the best cows of many respective herds and which will become the foundation upon which better herds may be secured. To communities with the opportunities which Wisconsin offers to sell high grade and pure bred dairy cows, the Register of Production will be a means of greatly increasing the value of cows and herds from a standpoint of selling prices.

Seiling valuable surplus stock as well as large quantities of milk, does much to increase the returns and prosperity of every dairy farm. The rapid development of northern Wisconsin sections and the opportunity for growth in dairying, including many cheese factory districts, makes every phase of the dairy highly important. Cow testing and cow testing associations are the primary and most secure foundation upon which most productive and successful herds of dairy cows can be developed. Not only cheese factory operators, but the butter makers, condensery operators and wholesale milk shippers, can well afford to give this movement every support possible.

Mr. A. J. Cramer, state leader in cow testing association work, in summing up the advantages of cow testing, makes the following suggestions with reference to how cow testing associations work will improve and develop the dairy industry of the state:

It will encourage dairy farmers to purchase good dairy bulls.

It will enable cows to receive better feed and care.

It will determine profitable and unprofitable cows in a manner to bring about more profitable herds.

It will weed out cows that do not produce milk at a profit.

It will encourage the growing of a larger amount of feed and lessen the amount of feed to be purchased.

It will encourage the building of more silos and a better equipment for handling and encouraging the production of cows.

Altogether, it will mean a greater prosperity to be enjoyed by the dairymen and people of Wisconsin and by every cheese factory in cheese factory communities.

DISCUSSION

PROF. HUMPHREY: Those associations are accomplishing great work. They are removing the rubbish from our dairy herds. They are encouraging better cows, and the best. The possibility of cows producing milk in Wisconsin is not understood today. When we talk about cows making 25 to 30,000 pounds of milk and 1,000 pounds of butter, we think of the very best cows, but when I tell you that the average cow is making four to five thousand pounds of milk and possibly two hundred pounds of butter fat, you can appreciate the contrast and differences that there are in cows.

Many communities in which you are attempting to manufacture cheese

are burdened with lots of rubbish in the way of cows. They do not produce enough to pay their feed bill, to say nothing about the amount of time, effort and money spent by the farmer to maintain them. Get rid of that kind of cow—that is the worst of the cow testing association—to encourage production that will average up to eight, nine and ten thousand pounds and up to the production that reaches up to 25,000 pounds.

This county test association today with the State dairyman's association, and the University of Wisconsin cooperating has established a register of production, another feature of cow testing. In that register of production a native cow of no particular breeding, if she makes 365 pounds of butter fat a year she may be admitted to this register. A graded cow and a pure bred cow may be admitted to this register. It is quite encouraging to the farmer who does not own high priced stock to put his cows on record. That kind of a record gives him the basis for the keeping the best cows, not only for milk production but for raising heifer calves. It is going to encourage Wisconsin dairy industry from the standpoint of men from all over the union and abroad who are coming to buy our cows, and the prosperity of the state of Wisconsin is greatly increased by the opportunity that we have to sell cows. Good grade cows are selling from \$300 to \$400 per head. Pure bred cows and calves are selling for fabulous prices. A year ago in this very hall men were much elated that \$106,000 was paid for one pure bred cow. We have a good many farmers that are going out and paying one, two and three thousand dollars for the right kind of pure bred sires and county testing associations are what are giving them the courage of their convictions and enabling them to get the stock that will help them to get the better production of milk which we are all anxious to obtain.

I am glad to be here and listen to the talks that I have heard. It is going to make me feel that we need to go out much, go out and urge them that our farmers cooperate more closely with the cheese makers, that they take into consideration something more than raising that calf. They must have in mind the idea of market as well as the milk. I thank you for your attention.

REPORT OF THE RESOLUTIONS COMMITTEE

MR. BRUHN: It is the aim of the Resolutions Committee to present resolutions as near as we could judge the sentiment of the audience. If we have failed to do so it is only fair to change them.

There were other resolutions sent to me, but owing to the fact that the other members of the resolutions committee were not here I was not going to take it upon myself either to sanction or denounce any of them.

1. Resolved that our thanks are hereby extended to the Merchants and Manufacturing Association of Milwaukee, to the manufacturers and dealers of dairy supplies, to the cheese dealers, officers of the Association, speakers of the convention and all others who have helped to make this convention a success.

2. Whereas the loading of cheese with water, albumen and other substances not permitted by the food standards of our state and nation creates unfair competition to law abiding cheese makers and tends to demoralize both cheese makers and patrons and, whereas, the manufacture and sale of cheese so made involves fraud and lawlessness, therefore resolved that

we strongly condemn the manufacture of adulterated cheese and we pledge our moral support to the Dairy and Food Commissioner in his effort to stamp out this evil.

3. Resolved further that the so-called standardization of the milk fat in milk at cheese factories constitutes an evil, and that such practice is entirely uncalled for and should be curbed.

4. Whereas the penalty for manufacturing adulterated cheese appears too low for good results, therefore resolved that we favor a higher penalty for that offense than the present law prescribes.

5. Whereas our ever growing dairy industry always has suffered because of insufficient supervision and whereas under present conditions it appears impossible to provide sufficient supervision, therefore resolved that we go on record as favoring a law that would authorize any county by action of the county board, or by popular vote, to employ a competent dairy instructor to whom should be given the power of a state dairy instructor, the salary and expenses of such instructor to be divided between the respective county and the state.

6. Resolved that the by-laws of this Association be so amended by a two-thirds vote that persons who, in the future, are found guilty of repeatedly violating our dairy laws, shall be barred from membership in this association.

Submitted by the Resolution Committee.

J. G. CANNON,
A. T. BRUHN,
E. L. ADERHOLD.

It was then moved and seconded that the report of the resolutions committee be adopted as read.

The motion was unanimously carried and it was so ordered.

MR. NOYES: I understand that a resolution has to be adopted by a two-thirds vote.

PRES. REED: We have adopted the resolution. Now to make it the amendment to the constitution, you have to go through another motion by a two-thirds vote.

MEMBER: The first motion covered the whole business. There were no objections to it. It was unanimously moved that we amend the constitution as indicated by the resolutions of the Resolutions committee.

The president then called for a rising vote on the resolutions to amend the by-laws of the constitution that any person or persons who are found guilty of violating the pure food laws will be barred from the membership in this association. The vote was unanimous and the amendment was declared adopted.

PRES. REED: The Wisconsin Dairy Protection Association held a meeting of their board of Directors the other evening and drew up a bunch of resolutions and handed this association in here to be acted upon as you see fit. These resolutions were handed to our committee by the chairman of their committee. Our Secretary will read them to you.

SECRETARY SAMMIS: I understand that these resolutions were handed in after our resolutions committee had completed their work. They had no opportunity to act upon them.

WISCONSIN DAIRY PROTECTIVE ASSOCIATION RESOLUTIONS

1. Whereas under the present rules for licensing cheese makers anyone who has had one year's experience in a cheese factory is eligible for a license, and whereas the situation as regards the qualifications necessary to have the best results, seem to have been well expressed by our Dairy and Food Commissioner in his address on "Raising the License Requirements" therefore be it

Resolved: That the Wisconsin Cheese Makers' Association hereby declares itself as unanimously in favor of requiring applicants for license to have a common school education or its equivalent and to have at least two years of practical experience as an assistant in the making of cheese and to have graduated from at least a six months' dairy course conducted by an educational institution of recognized standing.

2. Whereas at the 1918 and 1919 conventions this association went on record as being in favor of the repeal of the law requiring the branding of butter made from whey cream and whereas experience has shown that our objections were well founded therefore be it

Resolved: That we again express our disapproval of said law and earnestly request the next legislature to repeal said branding law.

3. Whereas the Wisconsin cheese has been recognized in all the markets as being the best and this reputation has been of untold benefit both to producers and manufacturers and every one connected in any way with the cheese industry of the state should do everything possible to maintain that reputation and whereas certain practices due to the intense and many times unethical competition of the condensaries have crept in such as the incorporation of albumen and excessive amounts of moisture, therefore be it

Resolved: That we strongly condemn these or any other practices which will tend to lower our standard and mar the reputation Wisconsin now has for producing the best cheese in the country.

4. Whereas the Attorney General of the United States has succeeded in compelling the packers to dispose of many of the lines of food and other products controlled by them and especially does the Attorney General's report condemn the control of meat substitutes and whereas exception has been made in allowing the packers to continue to handle eggs, butter, poultry and cheese and whereas these specific items have been left for future consideration and appropriate action, therefor be it

Resolved: That we are unalterably opposed to the packers being allowed to continue their fast growing control over dairy products and favor such necessary steps being taken to present these objections to the Attorney General of the United States and

5. Whereas the Wisconsin Dairy Protective Association has recognized the need of having special council to represent their members in all matters pertaining to the industry and whereas, the elimination of the packers from the dairy industry is just as essential as their elimination from the control of other lines, therefore be it

Resolved: That we not only commend the Wisconsin Dairy Protective Association in taking action looking toward having an attorney especially

trained in dairy matters but pledge our support of an expense necessary in any fight they may make to eliminate the packers control of the dairy industry.

It was moved that the first resolution be laid on the table. This motion was properly seconded and it was carried by unanimous vote and the first resolution was laid on the table.

Resolution number two. It was moved and seconded that this resolution be adopted, relative to the whey cream branding law. This motion was carried by unanimous vote and the resolution was declared adopted.

Resolution number three. It was moved and seconded that this resolution be adopted as read. Motion was carried and the resolution declared adopted. Resolution number four, relative to the packer's control of the dairy industry. It was moved and seconded that the resolution be adopted as read. The motion was carried and the resolution was adopted.

MR. BRUHN: I move that resolution number five, relative to special council be referred to the executive committee of this association. I believe that they have better ideas if we can stand the expense than what the members in general have. I believe that the members of the executive committee will be able to understand the financial condition better.

MR. SCOTT: I move that this resolution be dropped.

PRES. REED: There is a motion before the house that has a second that this resolution should be referred to the executive committee.

MR. UBBELOHDE: About the only way that we can raise more money than we are doing now is to raise the membership fee. We have got hard work to make both ends meet. We will have to raise the membership and I think that that is left to the executive committee to do that. They would have to decide whether it is advisable or not, but it does not seem to me as though we ought to.

PRES. REED: Are you all ready for the question?

Question was called for.

The President then put the motion and it was unanimously carried and it was ordered that the directors may act in their discretion relative to sharing the expense for engaging counsel as suggested by the resolutions of the Wisconsin Protective Association.

AWARDING OF PRIZES

The Secretary then proceeded to read the list of prizes indicating the name of the prize winner, the kind of cheese made, the prize taken, and what the prize consisted of. During the reading, the first prize cheese in each class was cut up and distributed to the audience.

MR. SAMMIS: Whenever the committee of the officials of the organization awarding these prizes made a decision they tried to do the best that they could. We acted only as agents for the donors in distributing the prizes. If they want to change our decision in any way, we want to correct and make it right. We must put this up to you. The entry blank says that all cheese was to be here on Saturday. As a matter of fact we give a little leeway, any cheese that got here before Wednesday night with the entry blank was included just as if it came in on Saturday. Every entry blank except two were sent to J. W. Cross at the Auditorium. By an unfortunate mistake two were sent to the Republican Hotel. He never

gets his mail there however. If we were to apply these rules very rigidly the \$50 in gold offered as award No. 19 would go to the highest scoring cheese which came in by Wednesday night. This would be L. J. Breher, Sheboygan Falls. A day or two later we found that by an unfortunate mistake, Mr. P. H. Kasper, Bear Creek, had addressed his letter to Mr. J. W. Cross, Auditorium, and then somebody here said that he should send it to the Republican Hotel, and so his entry blank got into the hotel mail box and stayed there until yesterday, a day after the prizes were awarded. As a matter-of-fact Mr. Kasper's entry blank showed that in using extract he scored higher than Mr. Breher. Is this all correct as I state, Mr. Breher?

ANSWER: Yes.

SECRETARY SAMMIS: And Mr. Kasper?

MR. KASPER: Yes. I do not wish to decide which one should have this money. I do not know who is entitled to it, either.

It was moved and seconded that this money—this fifty dollars—should be divided between Mr. Kasper and Mr. Breher equally on the account of the error. This motion was carried by unanimous vote and it was so ordered.

The secretary then went on with the prize winners.

SECRETARY SAMMIS: There are 277 entries of cheese. This is sixty per cent more entries than last year. The program next year will be bigger and more prizes, and you will have to have bigger suit cases to carry them home.

PRES. REED: The next number on the program is telling how the prize cheese was made by the man who made it. Mr. Schneider is the man who made that wonderful prize cheese. Come up here Mr. Schneider. Mr. Schneider was not in the audience, however.

MEMBER: I make a motion that we call on the second prize winner, Mr. W. H. Thurk.

Mr. Thurk was then called on the platform.

MR. THURK: About making good cheese, the first thing is taking in good milk. To make that cheese, I took most of the morning's milk. I had about 2,000 pounds of milk in the vat and about eighteen pounds of good starter. The starter was about four and one-half years old. I cut the curd about nine times. I cooked it to 106 for one hour and forty-five minutes. I matted it about four hours. I then forked it over three hours and put on about three and one-half pounds of salt and put it to press at about half past six.

QUESTION: How much acid did you run in the whey?

ANSWER: There was no acid at all. I did not use any test of any kind. I did not use any kind of test all summer.

MOISTURE TESTS ON 1920 CONVENTION

By E. L. Aderhold, Neenah

AMERICAN CHEESE

No.	Test %	No.	Test %
20	34.1	31	42.9
252	40.7	118	35.2
239	40.2	207	40.2
22	38.6	225	35.8
26	36.4	4	40.4
28	37.0	221	38.6
29	38.3	205	37.0
37	38.8	56	36.4
16	32.4	25	38.1
40	35.9	261	39.6
94	36.0	250	34.0
52	35.6	224	35.5
89	33.4	229	36.0
251	39.6	201	39.7
47	37.5	212	37.2
96	35.0	53	36.2
214	35.8	245	33.6
17	39.0	265	38.2

Eighteen high scoring cheese averaged 35.6% moisture.

BRICK CHEESE

Highest scores.		Lowest scores.	
No.	Test %	No.	Test %
534	38.3	512	42.8
518	39.7	522	44.0
524	36.8	501	41.5
Average	38.3	Average	42.8

Under normal conditions the price of cheese is governed by the law of supply and demand. Demand is influenced by the quality of the goods. If all cheese contained five per cent more whey than is possible with good quality the supply would thereby be increased by five per cent, and the price correspondingly decreased. Nothing would be gained. Much would be lost.

The cost of bandaging and boxing the cheese would be increased by five per cent as would the cost of handling, storing and transportation. The high moisture stuff spoils quickly. It gets out of shape, rind rots, molds, and gets bitter or acid. It leaves a bad taste in the consumer's mouth, which tends to lessen the demand.

When a can of watered milk is received at a factory the quality of cheese is not really affected thereby. When a cheese maker loads his cheese with moisture the entire product of the factory is adulterated and of poor quality.

The practice of loading cheese with whey is like "a man holding the penny so close to his eye that he can't see the dollar behind it." The sensible thing to do about it is to turn that excess whey into pork, and give the cheese consumers a square deal.

American cheese with over forty per cent of moisture is not of good quality and the sale of it is forbidden by law. That is one of our best dairy laws. It is easy to comply with. Cheese makers asking for that law, should gladly live up to it, and patrons should insist on their doing so. Any competent cheese maker will have his product within the moisture limit when he tries to make a good article.

STATE PRIZES OFFERED TO WISCONSIN MAKERS OF AMERICAN CHEESE.

(See also Special Prizes, County Prizes, Premiums and Diplomas.)

CLASS 1. CHEDDARS, FLATS AND DAISIES.

- (1) **First Prizes, for American Cheese in Class 1.**
 - \$35 Gold Watch, 16 size, 25 year, engraved Hunting Case, 17 jeweled, Waltham movement, from the Marshall Dairy Laboratory, Madison.
 - \$25 Leather Cushioned Rocker, from the Pauly & Pauly Cheese Co., Manitowoc.
 - \$25 Silver Set, from Chris Hansen's Laboratory, Little Falls, N. Y.
 - \$10 in gold from Stoelting Bros. Co., Kiel, Wis.
 - Gold Filled Waldemar Watch Chain from the J. B. Ford Co., Wyandotte, Mich.
 - Pair Silver Salt Shakers from Diamond Crystal Salt Co., St. Clair, Mich.
 - One gallon B-K from the General Laboratories, Madison, Wis.
- (2) **Second Prize, for American Cheese in Class 1.**
 - \$20 Leather Traveling Bag, from the Association.
- (3) **Third Prize, for American Cheese in Class 1.**
 - \$10 Silk Umbrella, or Cash, presented by the Association.
- (4) **Special Prize, for American Cheese in Class 1.**
 - \$10 from Parke, Davis & Co., Detroit, Mich., for the best cheese in class 1, made with their Curdalac or Spongy Pepsin, and so stated on the entry blank.
- (4A) Silver Salt Shakers from Diamond Crystal Salt Co., St. Clair, Mich., for the best cheese made with their salt.

CLASS 2. LONG HORNS, YOUNG AMERICAS, AND SQUARES

- (5) **First Prizes, for American Cheese in Class 2.**
 - \$35 Gold Watch, 16 size, 25 year, engraved Hunting Case, 17 jeweled, Waltham Movement, from the Marshall Dairy Laboratory, Madison, Wis.
 - \$25 Silver Set from Chris Hansen's Laboratory, Little Falls, N. Y.

- \$25 Leather Cushioned Rocker from C. E. Blodgett Cheese, Butter and Egg Co., Marshfield.
 \$10 in gold from Stoelting Bros., Co., Kiel, Wis.
 Gold Filled Waldemar Watch Chain from the J. B. Ford Co., Wyandotte, Mich.
 1 gallon B-K from the General Laboratories, Madison, Wis.
- (6) **Second Prize, for American Cheese in Class 2.**
 \$20 Leather Traveling Bag, from the Association.
- (7) **Third Prize, for American Cheese in Class 2.**
 \$10 Silk Umbrella, or cash, from the Association.
- (8) **Special Prize in Class 2.**
 \$10 from Parke, Davis & Co., Detroit, Mich., for the best cheese made with their Curdalac or Spongy Pepsin, and so stated on the entry blank.
- (8A) Silver Salt Shakers from Diamond Crystal Salt Co., St. Clair, Mich., for the best cheese made with their salt.

SWEEPSTAKE PRIZES FOR CLASSES 1 AND 2

- (9) **First Sweepstake Prizes, for the one best Cheese in Classes 1 and 2.**
 Silver Loving Cup, engraved with the Winner's Name, from W. C. Thomas, of the Sheboygan County News and Dairy Market Reporter, Sheboygan Falls, Wis.
 \$25 from the A. H. Barber Cheese Co., 216 N. Canal St., Chicago.
 Four Cheese Hoops, any style, from the Damrow Bros. Co., Fond du Lac.
 \$5 from the De Laval Separator Co., 29 East Madison St., Chicago.
 The Manitowoc Plating Works will retin six cheese hoops free.
- (10) **Second Sweepstakes Prize, for the second best Cheese in Classes 1 and 2.**
 Silver Loving Cup, engraved with the Winner's Name, from W. C. Thomas, of the Sheboygan County News and Dairy Market Reporter of Sheboygan Falls, Wis.
- (11) **Third Sweepstakes Prize, for the third best.**
 Silver Loving Cup, engraved with the Winner's Name, from W. C. Thomas, of the Sheboygan County News and Dairy Market Reporter of Sheboygan Falls, Wis.

SPECIAL PRIZES ON AMERICAN CHEESE, ANY STYLE

- \$15 in three prizes offered by the Wisconsin Cheese Producers Federation, Plymouth, for cheese sent to the Convention from any Federation factory and so stated on the entry blank, provided that the cheese must score at least 93 points, and not more than one of these three prizes may go to the same maker, as follows:
- (12) \$7 for the highest scoring cheese, described above.
- (13) \$5 for the second highest.
- (14) \$3 for the third highest.

- (15) \$5 Gillette Safety Razor offered by E. L. Aderhold, Neenah, Wis., for the cheese scoring highest on body and texture, and scoring at least 28½ points, from any factory shipping cheese to the Wisconsin Cheese Producers Federation, and so stated on the entry blank.
- (16) \$10 offered by the Brillion Iron Works, Brillion, Wis., for the best cheese at the Convention made with a Junker Curd Mill, and so stated on the entry blank.
- (17) 250 lb. sack of paraffine, or its cash value, for the neatest appearing, paraffined cheese at the Convention, as decided by the judges.
- (18) Bundle of Bandages, from H. L. Mueller, Sheboygan Bandage Factory, for the American cheese scoring highest in texture.
- (19) \$50 in gold for the highest scoring American cheese made with Viking Rennet Extract, and so stated on the entry blank.
L. H. Pieper, Plymouth, Wis., offers Single-Piece Sanitary Medal Followers, for cheese made with Pieper followers, and so stated on the entry blank, as follows:
- (20) Choice of six followers of Cheddar, Twin, Daisy or Squares for the highest scoring cheese made in any one of the styles named.
- (21) Choice of twelve followers of Long Horns, or Young Americas, for the highest scoring cheese made in either one of these styles.
- (22) \$5 Cash from the Winnebago Cheese Co., Fond du Lac, for the best American cheese from Fond du Lac County, and so stated on the entry blank.
- (23) \$5 Cash, from the Central Wisconsin Cheese Makers', Butter-Makers' and Dairymen's Association for the best cheese sent to the Convention by any of its members, and so stated on the entry blank.

PRIZES OFFERED TO WISCONSIN MAKERS OF SWISS CHEESE, CLASS 3.

(See also Special Prizes, County Prizes, Premiums and Diplomas.)

- (24) **First Prizes for the Highest Scoring Swiss Cheese.**
 \$25 Leather Cushioned Rocker from the Association.
 \$25 Silver Set from Chris Hansen's Laboratory, Little Falls, N. Y.
 Gold Filled Waldemar Watch Chain from the J. B. Ford Co., Wyandotte, Mich.
 \$5 from Marty-Gempeler Co., Monroe, branch of Carl Marty & Co., Chicago.
 \$5 cash from the De Laval Separator Co., 29 E. Madison St., Chicago.
 1 gallon B-K from the General Laboratories, Madison, Wis.
- (24A) \$35 Gold Watch, 16 size, 25 year, engraved Hunting case, 17 jeweled, Waltham movement, from the Marshall Dairy Laboratory, Madison, Wis., for best Swiss cheese made with Marshall rennet.

- (25) **Second Prize for the Second Highest Scoring Swiss Cheese.**
(Providing there are ten or more entries.)
\$20 Leather Traveling Bag, from the Association.
- (26) **Third Prize for the Third Highest Scoring Swiss Cheese.**
(Providing there are twenty or more entries.)
\$10 Silk Umbrella, or cash, from the Association.
- (26A) Silver Salt Shakers from Diamond Crystal Salt Co., St. Clair, Mich., for the best cheese made with their salt.

PRIZES OFFERED TO WISCONSIN MAKERS OF LIMBURGER CHEESE, CLASS 4.

(See also Special Prizes, County Prizes, Premiums and Diplomas.)

- (27) **First Prizes, for the Highest Scoring Limburger Cheese.**
\$35 Gold Watch, 16 size, 25 years, engraved Hunting Case, 17 jeweled, Waltham Movement, from the Marschall Dairy Laboratory, Madison, Wis.
\$25 Leather Cushioned Rocking Chair from the Association.
\$25 Silver Set from Chris Hansen's Laboratory, Little Falls, N. Y.
Gold Filled Waldemar Watch Chain from the J. B. Ford Co., Wyandotte, Mich.
1 gallon B-K from the General Laboratories, Madison, Wis.
- (28) **Second Prize for the Highest Scoring Limburger Cheese.**
(provided there are ten or more entries in this class.)
\$20 Leather Traveling Bag, from the Association.
- (29) **Third Prize for the Third Highest Scoring Limburger Cheese.**
(Provided there are twenty or more entries in this class.)
\$10 Silk Umbrella, or cash, from the Association.
- (30) **Special Prize for Limburger Cheese.**
\$30 in gold from the Viking Rennet Company, Juneau, Wis., for the highest scoring Limburger cheese made with Viking Rennet Extract, and so stated on the entry blank.

PRIZES OFFERED TO WISCONSIN MAKERS OF BRICK CHEESE, CLASS 5.

(See also Special Prizes, County Prizes, Premiums and Diplomas.)

- (31) **First Prizes for the Highest Scoring Brick Cheese.**
\$35 Gold Watch. 16 size, 25 year, engraved Hunting Case, 17 jeweled, Waltham Movement, from the Marschall Dairy Laboratory, Madison, Wis.
\$25 Silver Set from Chris Hansen's Laboratory, Little Falls, N. Y.
\$25 Leather Cushioned Rocker from the Association.
\$5 cash from the De Laval Separator Co., 29 E. Madison St., Chicago.

\$5 cash from F. C. Westphal, Cheese Dealer, Randolph, Wis.
 Gold Filled Waldemar Watch Chain from the J. B. Ford Co.,
 Wyandotte, Mich.
 1 gallon B-K from the General Laboratories, Madison, Wis.

- (32) **Second Prize for the Second Highest Scoring Brick Cheese.**
 (Provided there are ten or more entries in this class.)
 \$20 Leather Traveling Bag, from the Association.
- (33) **Third Prize for the Third Highest Scoring Brick Cheese.**
 (Provided there are twenty or more entries in this class.)
 \$10 Silk Umbrella, or cash, from the Association.
Special Prizes for Brick Cheese.
- (34) \$30 in gold offered by the Viking Rennet Co., Juneau, Wis., for
 the best brick cheese made with Viking Rennet Extract, and
 so stated in the entry blank.
- (34A) \$5 cash from the Winnebago Cheese Co., Fond du Lac, Wis., for
 the best brick cheese from Dodge County and so stated on
 the entry blank.
- (34B) \$6 from F. C. Westphal, Randolph, for the best brick cheese from
 Columbia county.
- (34C) \$4 from F. C. Westphal, Randolph, for the second best.

SPECIAL PRIZES OPEN TO MAKERS OF AMERICAN, SWISS, BRICK OR LIMBURGER

(See also State Prizes, County Prizes, Premiums and Diplomas.)

Kielsmeier Co., Manitowoc, Wis., offers \$40 in cash prizes for
 the highest scoring cheese sent to the Convention by cheese
 makers shipping cream to the Kielsmeier Co., at either Plym-
 outh, Manitowoc, Owen, Wausau or Spring Green.

- (35A) \$15 First prize for shippers to Kielsmeier Co.
 (35B) \$10 Second prize for shippers to Kielsmeier Co.
 (35C) \$5 Third prize for shippers to Kielsmeier Co.
 (36) \$10 worth of Vanite Washing Powder from the Van Tilburg Oil
 Co., Minneapolis, for the highest scoring cheese, any class.

The Sheboygan Dairy Products Company offers cash prizes open
 to all shippers of cream to one of their six branches, and so
 stated on the entry blank.

- (37) \$5.00, First prize for shippers to S. D. P. Co. at Madison, Wis.
 (38) \$3.00, Second " " " " " "
 (39) \$2.00, Third " " " " " "
 (40) \$5.00, First " " " " at Antigo, Wis.
 (41) \$3.00, Second " " " " " "
 (42) \$2.00, Third " " " " " "
 (43) \$5.00, First " " " " at Fond du Lac, Wis.
 (44) \$3.00, Second " " " " " "
 (45) \$2.00, Third " " " " " "
 (46) \$5.00, First " " " " at Green Bay, Wis.
 (47) \$3.00, Second " " " " " "
 (48) \$2.00, Third " " " " " "

(49)	\$5.00, First	"	"	"	at Stevens Point, Wis.
(50)	\$3.00, Second	"	"	"	"
(51)	\$2.00, Third	"	"	"	"
(52)	\$5.00, First	"	"	"	at Sheboygan, Wis.
(53)	\$3.00, Second	"	"	"	"
(54)	\$2.00, Third	"	"	"	"

The Wisconsin Dairy Protective Association (formerly the Wisconsin Cheese and Butter Industry Protective Association) offers cash prizes for the twenty highest scoring cheese sent to the Convention by its members in Wisconsin, and so stated in the entry blank.

(55)	\$5.00, First Prize for cheese made by members of the W. D. P. A.				
(56)	\$5.00, Second	"	"	"	"
(57)	\$4.00, Third	"	"	"	"
(58)	\$4.00, Fourth	"	"	"	"
(59)	\$4.00, Fifth	"	"	"	"
(60)	\$3.00, Sixth	"	"	"	"
(61)	\$3.00, Seventh	"	"	"	"
(62)	\$3.00, Eighth	"	"	"	"
(63)	\$3.00, Ninth	"	"	"	"
(64)	\$2.00, Tenth	"	"	"	"
(65)	\$2.00, Eleventh	"	"	"	"
(66)	\$2.00, Twelfth	"	"	"	"
(67)	\$2.00, Thirteenth	"	"	"	"
(68)	\$2.00, Fourteenth	"	"	"	"
(69)	\$1.00, Fifteenth	"	"	"	"
(70)	\$1.00, Sixteenth	"	"	"	"
(71)	\$1.00, Seventeenth	"	"	"	"
(72)	\$1.00, Eighteenth	"	"	"	"
(73)	\$1.00, Nineteenth	"	"	"	"
(74)	\$1.00, Twentieth	"	"	"	"

The Wisconsin Pure Culture Co., Madison, Wis., offers to send every prize winner at the Convention two starter cultures at any time on request; and to every cheese exhibitor one starter culture at any time on request.

PRIZES OFFERED FOR CHEESE MADE IN THE LEADING COUNTY

(See also State Prizes, Special Prizes, Premiums, and Diplomas.)

First Prize for the Highest Scoring Cheese Made in the One County Sending the Largest Number of Cheese to the Convention.

- (75A) \$10 Gold Filled Watch Fob, offered by the Marshall Dairy Laboratory, Madison, Wis.
 (75B) \$10 cash offered by Chas. E. Reed, Thorp, Wis.
 (75C) One Facile, Jr., Babcock Test, from the A. H. Barber Creamery Supply Co., 300-306 W. Austin Ave., Chicago, Ill.

Special County Prizes in Four Leading Counties, offered by the Sharples Separator Co., West Chester, Pa., for the best cheese made in a factory using a Sharples Separator, and so stated on the entry blank, in the four leading counties, as follows:

- (76) \$10 in the county sending the largest number of cheese.
 (77) \$10 in the county sending the second largest number of cheese.
 (78) \$10 in the county sending in the third largest number of cheese.
 (79) \$10 in the county sending the fourth largest number of cheese.

County Prizes Offered by Cheese Dealers

For the Highest Scoring Cheese in the Counties Named.

(See also State Prizes, Special Prizes, Premiums and Diplomas.)

County—Prize	Amount	Donated by
(80) Brown—First	\$3.00	Fairmont Creamery Co., Green Bay
Brown—First	3.00	C. A. Strauble Co., Green Bay
(81) Brown—Second	2.00	Fairmont Creamery Co., Green Bay
Brown—Second	2.00	C. A. Strauble Co., Green Bay
(82) Brown—Third	1.00	Kraft Bros. Cheese Co., Plymouth
(84) Clark—First	5.00	C. A. Strauble Co., Green Bay
(85) Door—First	3.00	C. A. Strauble Co., Green Bay
(86) Door—Second	2.00	C. A. Strauble Co., Green Bay
(87) Door—Third	1.00	Jos. Dusek Co., Chicago
(88) Dodge—First	5.00	Jos. Dusek Co., Chicago
(89) Dodge—Second	2.50	Jos. Dusek Co., Chicago
(90) Dodge—Third	1.00	Jos. Dusek Co., Chicago
(91) Dunn—First	5.00	Jos. Dusek Co., Chicago
(92) Dunn—Second	2.50	Jos. Dusek Co., Chicago
(93) Dunn—Third	1.00	Kraft Bros. Cheese Co., Plymouth
(95) Grant—First	5.00	H. J. Noyes & Son, Muscoda
Grant—First	5.00	Kraft Bros. Cheese Co., Plymouth
(96) Iowa—First	5.00	Neenah Cheese and Cold Storage Co.
Iowa—First	5.00	Plymouth Cheese Co., Plymouth
Iowa—First	5.00	Fairmont Creamery Co., Green Bay
(97) Kewaunee—First	3.00	C. A. Strauble Cheese Co., Green Bay
Kewaunee—First	3.00	Fairmont Creamery Co., Green Bay
(98) Kewaunee—Second	2.00	C. A. Strauble Cheese Co., Green Bay
Kewaunee—Second	2.00	C. A. Strauble Cheese Co., Green Bay
(99) Kewaunee—Third	1.00	C. A. Strauble Cheese Co., Green Bay
(100) Langlade—First	3.00	C. A. Strauble Cheese Co., Green Bay
(101) Langlade—Second	2.00	C. A. Strauble Cheese Co., Green Bay
(102) Langlade—Third	1.00	Kraft Bros. Cheese Co., Plymouth
(103) Marathon—First	5.00	Fairmont Creamery Co., Green Bay
(104) Marinette—First	3.00	C. A. Strauble Cheese Co., Green Bay
Marinette—First	3.00	Fairmont Creamery Co., Green Bay
(105) Marinette—Second	2.00	C. A. Strauble Cheese Co., Green Bay
Marinette—Second	2.00	C. A. Strauble Cheese Co., Green Bay
(106) Marinette—Third	1.00	S. D. and J. D. Cannon, Neenah

County—Prize	Amount	Donated by
(107) Outagamie—First	5.00	Fairmont Creamery Co., Green Bay
Outagamie—First	3.00	Neenah Cheese and Cold Storage Co.
Outagamie—First	5.00	Fairmont Creamery Co., Green Bay
(108) Outagamie—Second ...	2.00	Fairmont Creamery Co., Green Bay
(109) Oconto—First	3.00	C. A. Strauble Cheese Co., Green Bay
Oconto—First	3.00	Fairmont Creamery Co., Green Bay
(110) Oconto—Second	2.00	C. A. Strauble Cheese Co., Green Bay
Oconto—Second	2.00	C. A. Strauble Cheese Co., Green Bay
(111) Oconto—Third	1.00	Jos. Dusek Co., Chicago
(112) Pierce—First	5.00	Jos. Dusek Co., Chicago
(113) Pierce—Second	2.50	Jos. Dusek Co., Chicago
(114) Pierce—Third	1.00	Kraft Bros. Cheese Co., Plymouth
(115) Portage—First	5.00	John Kirkpatrick, Richland Center
(116) Richland—First	10.00	Neenah Cheese and Cold Storage Co.
Richland—First	5.00	C. A. Strauble Co., Green Bay
(117) Shawano—First	3.00	C. A. Strauble Co., Green Bay
(118) Shawano—Second	2.00	C. A. Strauble Co., Green Bay
(119) Shawano—Third	1.00	Plymouth Cheese Co., Plymouth
(120) Sheboygan—First	5.00	Kraft Bros. Cheese Co., Plymouth
(121) Taylor—First	5.00	S. D. and J. D. Cannon, Neenah
(122) Waupaca—First	5.00	Fairmont Creamery Co., Green Bay
Waupaca—First	3.00	Neenah Cheese and Cold Storage Co.
Waupaca—First	5.00	C. A. Strauble Co., Green Bay
Waupaca—First	3.00	Fairmont Creamery Co., Green Bay
(123) Waupaca—Second	2.00	C. A. Strauble Co., Green Bay
Waupaca—Second	2.00	C. A. Strauble Co., Green Bay
(124) Waupaca—Third	1.00	S. D. and J. D. Cannon, Neenah
(125) Winnebago—First	5.00	Neenah Cheese and Cold Storage Co.
Winnebago—First	5.00	Kraft Bros. Cheese Co., Plymouth
(126) Wood—First	5.00	
(127) The Wisconsin Cheese Factory Supply Co., Marshfield, Wis., offers \$5 for the best cheese from Clark, Marathon, Portage or Wood counties, and		
(128) \$2.50 for the second best.		
(129) Clark—First	5.00	Ripon Produce Co., Marshfield
(130) Marathon—First	5.00	Ripon Produce Co., Marshfield
(131) Wood—First	5.00	Ripon Produce Co., Marshfield
(132) Taylor—First	5.00	Ripon Produce Co., Marshfield

HYPOZONE. The Milwaukee Dairy Supply Mfg. Co., Milwaukee, Wis., offers 71 gallons of Woolf's Dairy Hypozone, one gallon in each county for the best cheese sent to the Convention from any county.

COUNTY PRIZES OFFERED BY THE ASSOCIATION

\$235.00. Forty-Seven \$5 County Prizes from the Association. \$235.00.

The highest scoring cheese from each county in the state, not in the Cheese Dealers' County Prize List above, will receive from the Association \$5.00 cash, provided that this Association Prize will not be awarded in any county sending less than (10) ten entries. At the 1920 Convention, six counties qualified for these prizes, and \$5.00 was awarded in each of the following counties, Columbia, Lafayette, Dane, Green, Calumet and Manitowoc.

1920 EXHIBITORS, SCORES AND AWARDS

American Cheesé, Class 1

Awards	Scores
Theo N. Fortney, Unity	93
Leo Nett, Spring Green	93.5
G. F. Ridderbush, Unity	91
Dell Hunt, Sauk City	87.5
Silvan G. Schweiss, Plain	96
A. H. Lindow, Medford, R. 5	89
Albert Drone, Muscoda	92
Edward Keller, Hilbert, R. 2	90
Jacob Heinrich, Seymour	85
J. A. Hernke, Hilbert	92.25
Reuben Abraham, Oshkosh, R. 3	92
Wm. A. Deering, Seymour	94.75
Henry Beck, Spring Green	94.75
Wm. S. Walsh, Platteville	93
A. W. Hahn, Plymouth	95
Jule Bouleanger, Casco	46, 97
P. C. Battes, Bear Creek	92.5
Chas. Bleser, Manitowoc	95.25
J. H. Howe, Antigo	102
C. H. Schneider, Heiler	1, 4A, 9, 15, 16, 18, 20, 23, 36
Clarence A. Norlander, Star Prairie	94.50
M. E. Meisner, Clintonville	124
P. W. Knudson, Barneveld	Tie 96
Aug. Zimmerman, Waterloo	93
Elmer G. Everson, Dodgeville	91
P. H. Kasper, Bear Creek	$\frac{1}{2}$ of 19, 3, 17, 122
Art E. Henschel, Marion	49, tie 79, $\frac{1}{4}$ of 123
John Gremer, Kaukauna, R. 3	14, 58
R. J. Vogt, Fremont, R. 2	94.75
John Fischer, Boaz	95.50
A. T. Wachsmuth, Catawba R. 1	80.25
Rich. M. Schmitz, Unity, R. 1	92
Mathias Holzmann, Unity, R. 1	95.50
John Dormer, Yuba	95.50
C. M. Engebretson, South Wayne	95
John D. Behm, West Bloomfield	74
Ernst Boll, Sheboygan, R. 2	97
Ed J. Scray, De Pere, R. 2	92.50
J. F. Bachmann, Fremont	92.50
W. H. Thurk, Sugar Bush	15, 2, 10, 12, 55, 107
Jesse L. Johnson, Bear Creek	93.50

Alvin F. Jindra, Two Rivers, R. 3	94.50
Geo. J. Buchen, Luxembourg	99 93.50
Otto Voeks, Sister Bay	85 95.25
Herman Kalkofen, Greenwood	tie on 51 95
Oscar Olson, Tavera	93.5
Hy Schwelke, Manawa	1/8 of 123 97.50
H. J. Kuschel, Pound	105 94.5
Raymond G. Stocker, Omro	125 96
Otto Kielsmeier, Manitowoc	X..... Complimentary 96
Emil B. Schultz, Clintonville	95.50
H. A. Rindt, Clintonville	Tie for 35C, 60, tie 79, 1/3 of 123 97.50
Louis Schultz, Antigo, R. 4	40, 100 96
Hans Puellman, Manitowoc	95.25
Otto Glawe, Antigo	Complimentary 95.25
Geo. A. Wegner, Van Dyne, R. 1	22 79.50
Aug. H. Kautz, Clintonville	68 96.25
Alvin F. H. Bartelt, Kewaskum	85
Wm. Hintz, Polar	41, 101 95.25
Frank Van den Heurvel, Seymour	92.25
John G. Fischer, Stratford	95
A. C. Werth, Appleton	96.50
Louis C. Wagner, Oconto Falls	110 94.75
Wm. F. Bennin, Luxemborg	Tie on 98 94
O. B. Schwantes, Clintonville	(tie) 47, 48 95.50
Emil Sonnenburg, Cato	Tie for 52, 64, 75A 97
A. G. Tuma, Beaver	106 94.25
Arthur A. Bastian, Brillion	94
E. H. Kielsmeier, Columbus	93.50
Ella Hendrix, Askeaton	Tie on 81 95
Theo J. Dickrell, New Holstein	93.75
John N. Dickrell, New Holstein	94
Walter L. Koepke, Larsen, R. L3	96.25
Albert Albert, Thorp	81.50
Bert McKinney, Gratiot	95.50
Walter H. Miller, Merrill R. 6	94.50
Otto Schwartz, Walsh	104 95.75
Wm. C. Dahl, Medford, R. 2	121, 132 91.75
P. E. Otto, Wausau	90
George J. Feit, Cato, R. 2	70 96
Wm. J. Frank, Manitowoc	66 96.75
Albert Koopman, Jr., Grafton	92.25
Frank J. Pwonka, Peshtigo	89
L. J. Breher, Sheboygan Falls	94.50
Wm. P. Grimes, Neenah	94.25
Wm. Buckley, Greenleaf, R. 1	84.50
Wm. J. Hoffman, Ringle	90.25
Ralph W. Leeseburg, Suring	109 95.25
Math. Meyer, Stanley	62, tie 127 97.25
Louis J. Blahnik, Kewaunee, R. 2	Tie on 98 94.00
Earl Stetler, Muscoda	93.75
Otto H. Yordi, Bear Creek	95
John Tischauser, Tilleda	118 93.75
Albt. Gruenstern, Tigerton, R. 3	Complimentary 95.50
W. A. Zietlow, Marion	4 96.75
Fred Stapel, Clintonville, R. 1	65 97
P. H. Mickle, Twin Bluffs	116 96.25
Chas. A. Flemming, 255 27th St., Milwaukee	93.50
Chas. Mullen, Lone Rock	39 95.25
Geo. M. Wright, Loganville	37 96.75
P. H. Kasper, Bear Creek	Complimentary 99.38

Robert Druckrey, Gillett	111	93
Alb. Gruenstern, Tigerton, R. 3	117	95.50
John F. Jeske, Antigo, R. 1		92.00
Edw. Gruenstern, Marion	63	97
Frank B. Hinz, Rice Lake		96
Thos. Jahimiak, Sobieski		90
Ernest A. Cobb, Sun Prairie	38, \$5.00	96.25
M. Christopherson, New Franken		90
J. F. Wederwart, Seymour		94
Bert McKenney, Gratiot		96
J. J. Voith, Junction City	115	93

American Cheese, Class 2

A. G. Schwanke, Brillion		95.50
Wm. J. Frank, Manitowoc, R. 4		95.50
W. H. Thurk, Sugar Bush	61	97.25
Erwin O. Wunsch, Cleveland		95
Otto Kielsmeier, Manitowoc		92.25
A. W. Hahn, Plymouth	7, 13, 35B,	57
H. J. Possley, Reeseville		71
Rich Gotter, Greenwood	50	95.5
W. A. Scott, Waldo	8	94.5
Oscar Stock, Manitowoc		92.75
John H. Peters, Plymouth	67	96.50
Thomas S. Martin, Navarino, R. 1	119	91
E. H. Junker, Brillion	72	95.75
L. J. Breher, Sheboygan Falls	½ of 19, 6, 8A, 35A, 56, 120	98.50
Alex Witt, Loyal	Tie for 51	95
Mrs. O. E. Dix, Auburndale		93.50
O. E. Heller, Chilton	(tie) 47, (tie) 48, 73, \$2.50	95.50
R. H. Guenke, Auburndale	126, tie 127, 131	97.25
O. F. Greunke, Grafton	tie on 128	97.13
C. F. Heckman, Cleveland	69, 76	96.25
Frank F. Oetlinger, Kewaskum		91.75
C. H. Schneider, Heller		95
Hans Paellman, Manitowoc		93
H. A. Kalk, Sheboygan Falls	77	97
Chas. J. Fokett, Reedsville		90.25
Wm. Biedenbender, Hilbert		90
A. G. Schwanke, Brillion		94
W. L. Sommer, Cleveland, R. 2		93.25
Albert Koopman, Jr., Grafton		95
A. G. Tuma, Beaver		92.50
Herman Kalkofen, Greenwood		92.50
A. F. Zeimi, Plymouth		94.50
John Fuhrman, Brillion		95.25
Ernst Boll, Sheboygan, R. 2		97
Otto W. Sixel, Cleveland, R. 2	Tie for 52, 75B	97
Raymond Masanz, Edgar, R. 3		92.75
Otto Weyer, Manitowoc		94
Chas. Blaser, Alverno		93
L. Dyke, Waldo		94.75
Allen Fokett, Reedsville		92.50
Aug. C. Reis, Waldo		88.25
Edwin Jort, Cleveland		93.50
Joseph Wick, Alma		94.25
Alfred H. Lerche, Hilbert		86.50
Arthur A. Bastian, Brillion		93.50

A. C. Werth, Appleton	5, 11, 108	99
Alvin F. Jindra, Two Rivers, R. 3	71	95.75
John Weyer, Manitowoc		95.50
E. H. Junker, Brillion		94
Math Meyer, Stanley	21, tie for 35C, 59, 84, tie 128, 129	97.50
Alfred H. Lerche, Hilbert	Complimentary	76
Fred Benishek, Manitowoc		93
E. H. Fischer, Random Lake	54	95.25
Chas. A. Flemming, 255 27th St., Milwaukee		93.25
Fred T. Borchert, Kewaskum, R. 3		93.50
Ed. J. Seray, De Pere		90.25
Arwin Kalk, Plymouth		93.50
Fred W. Nussbaumer, Waldo		90
Albert A. Liebetrau, Plymouth		94
A. C. F. Witt, Granton		95.75
J. H. Deicher, Glenbeulah		93.50
C. W. Cootway, Wrightstown	80	97
L. F. Roesler, Hortonville		97
B. L. Splitt, Wausau, R. 4	103, 130	94.50
G. C. Riedel, Hilbert	\$2.50	95.50
John Babler, Barton		92.50
E. G. Hodges, Marshalltown, Ia.	Complimentary	96.13
John Jenni, Deerfield		93.50
E. H. Kielsmeier, Columbus	78, tie on 88	96
O. R. Schwanter, Clintonville		94.25
Otto C. Giese, Big Suamico	Tie on 81	95
Art Giese, Big Suamico	82	94.50
Eugene Buergi, Dodgeville, R. 2	Tie on 96	95.50
Walter Popp, Marinette		93.50
E. C. Klemm, Manitowoc		94.25

Class 3—Swiss Cheese

Jacob Blaser, Mt. Horeb, R. 1	26A	94.50
John B. Wittwer, Black Earth		94
Adolph Wyssbrod, Arena		94.75
Fred Schaller, Mt. Horeb		94.50
Nick Engelbert, Mt. Horeb		93.75
Anton Bauz, South Wayne		96
Arnold Klossner, Monticello, R. 1		93
John Bussman, South Wayne		95
Jacob Aeschlimann, Woodford		95.25
Emil Baumgartner, Monroe		96
John Mubacher, Darlington, R. 1	24, \$5	98.75
Christ Koenig, Clarno		93
Arnold Zumbach, Monroe, R. 9		94.75
Marty Gempeler Co., Monroe	Con-plimentary	93.50
Xaver B. Buholzer, Monroe		95.75
Christ Stettler, Juda	25	98.50
Fred Kratzer, Gratiot, R. 2		92.50
John Christen, Monroe	24A, \$5	97.25
John Bodertscher, Rice Lake, R. 3		95.25
Robt. Emmenegger, Gratiot		96.25
Joseph Lauber, Blanchardville		94.50
Ernest Feuz, Gratiot		93.50
Albert Schlappi, Browntown		94
Robt. Hermann, Dallas		97
Albert Oertig, Argyle	26	98

Class 4—Limburger

August Martini, Monticello, R. 3	94.50
Fred Kehrl, Beloit, R. 27	93.50
Hans Soliva, Brooklyn	92
Fred Bahler, Darlington	93.25
Martin Hammer, Monticello	27 96
George Schickert, West Bend	93.50
Fred Wittwer, Blue Mounds	93.50
Rudy Lengacher, Monticello, R. 2	28 95
Edw. Wittwer & Bro., Monticello	Complimentary 93.50
Edw. Wittwer & Bro., Monticello	Complimentary 93.50

Class 5—Brick Cheese

N. B. Henkels, Spechts Ferry, Ia.	92
Hans F. Widwer, Rosendale	92.50
Fred Schaller, Mt. Horeb	93
Ernest Schwartz, Rosendale	45 95.75
Fred Mani, Mt. Horeb	94
Jacob Disler, Hartford, R. 3	94.50
Hans Kuepfer, Pardeeville	95
Fred Baertschi, Albany	95.50
Joe G. Heinecke, Allenton, R. 1	94.75
Emil Baumgartner, Monroe, R. 9	94
Wm. C. Nass, Ixonia, R. 1	94.25
Rudolph H. Schaller, Mt. Horeb	92
Oswald Schneider, Appleton, R. 1	96
Alfred Hirsig, Lomira	90 94.75
Adolph Wyssbrod, Arena, R. 2	94
Jacob Aeschlimann, Woodford	93.25
Jake Balsiger, Pardeeville	32, 34B, 43, \$5 96.50
Fred Buetschli, Cambria	94.25
Joe Schmidt, Beaver Dam, R. 1	89 95
Harry Weaver, Beaver Dam, R. 1	94
Fred Baertschy, Mayville	90.75
Jacob Tschau, Brandon, R. 1	94
Gottlieb Schubiger, Rosendale	33, 44 96.25
Gust E. Strassnurg, Columbus	Tie for 34C 96
Henry Egli, Dalton	94.50
Robert Scholler, Riley	92.50
John Bremser, Watertown, R. 1	94.50
John Durtschi, Barneveld	94.25
David Gobeli, Bruce, R. 2	90
Arnold Klossner, Monticello, R. 1	94
Ernest Wuethrich, Bruce	95
Alfred Tschau, Oconomowoc	91.25
Walter Reber, Juda, R. 2	31 96.75
Carl F. Schmidt, Waupun	92.75
Abraham Blatter, Rubicon, R. 1	94
Emil J. Roll, Mayville	94.50
Ulrich Furrer, Hollandale	94
Fred Ladermuehle, Brownsville	92.50
X. B. Buholzer, Monroe	95.5
Emil Schneider, Lomira	94.75
Wm. Lichtenberg, Beaver Dam, R. 4	34A, tie 88 96
Chas. Meyer, Alma	93.25
John J. Pirick, Beaver Dam	94.5

Aug. H. Raether, Watertown, R. 8	90.75
Hugo A. Lautenbach, Gardeeville	Tie for 34C, 53
Peter J. Hiesler, Theresa	96
E. W. Bantrock, Cambria	95
Anton Suttén, Sun Prairie	94
Max Prag, Randolph	94

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