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## **Proceedings of the Wisconsin Cheese Makers' Association annual convention 1922 assembled in its thirtieth annual convention in the Milwaukee Auditorium, January 11, 12 and 13, 1922. 1922**

Wisconsin Cheese Makers' Association  
Madison, WI: Cantwell Print. Co., 1922

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**PROCEEDINGS**

OF THE

**WISCONSIN CHEESE MAKERS'  
ASSOCIATION**

**ANNUAL CONVENTION 1922**

Assembled in Its Thirtieth Annual Convention in the Milwaukee  
Auditorium, January 11, 12 and 13, 1922.

Compiled by  
J. L. SAMMIS, Secretary



Madison, Wisconsin  
1922



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## LETTER OF TRANSMITTAL

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Office of the Secretary,  
Wisconsin Cheese Makers' Association,  
Madison, Wis., 1922.

To His Excellency, JOHN J. BLAINE,  
*Governor of the State of Wisconsin.*

I have the honor to submit report of the thirtieth annual meeting of the Wisconsin Cheese Makers' Association, showing the receipts and disbursements reported the past year, also containing papers, addresses and discussions had at the annual convention held at Milwaukee, in January, 1922.

Respectfully submitted,

J. L. SAMMIS,  
*Secretary.*

# WISCONSIN CHEESE MAKERS' ASSOCIATION

## THIRTIETH ANNUAL MEETING

Auditorium Building, Milwaukee, 1922

### Officers

CHAS. E. REED, President.....	Thorp
H. C. RINDT, Vice-President.....	Clintonville
J. L. SAMMIS, Secretary.....	Madison
A. F. ZELM, Treasurer.....	Plymouth

### Directors

A. T. BBUHN.....	Spring Green
O. A. KIELSMEIER.....	Manitowoc
RAY A. YOUNG.....	Monroe

### 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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### Life Members

H. J. NOYES, Muscoda, Wis.	J. D. CANNON, New London, Wis.
E. L. ADERHOLD, Neenah, Wis.	J. W. CROSS, Milwaukee, Wis.
P. H. KASPER, Bear Creek, Wis.	JACOB KARLEN, JR., Monroe, Wis.
JOHN KIRKPATRICK, Richland Center, Wis.	

### Official Reporter

Miss Louise D. Mason, 425 East Water St., Milwaukee.

### 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., 1922

The thirtieth annual meeting of the Wisconsin Cheese Makers' Association was called to order Wednesday, January 11, 1922, in the Auditorium Building, Milwaukee, by President Chas. E. Reed. An address of welcome was to be given by Mr. Frank Cleveland, Assistant Secretary of the Milwaukee Association of Commerce.

ADDRESS OF WELCOME

By MR. RYAN, Milwaukee Association of Commerce.

Ladies and Gentlemen: Mr. Cleveland, the head of the Convention Department of the Association of Commerce, was to have welcomed you to the city, but about a week ago he ate something that does not seem to agree with him and he has been in bed ever since suffering from ptomaine poisoning. So I am here to bid you welcome to Milwaukee.

We in Milwaukee all know what the cheese industry means to Wisconsin, but we also know it means a great deal to Milwaukee itself. I don't think there is a convention that comes to Milwaukee—and we have probably over three hundred of them a year now—that is more genuinely and more thoroughly welcome to the city as far as the business men are concerned than the Wisconsin Cheese Makers' Association.

Your cheese is marketed through the city of Milwaukee and in the matter of dollars and cents it is up to the Milwaukee business men to welcome you here, and also anything that is good for the state of Wisconsin is good for the city of Milwaukee. We realize the state of Wisconsin can get along without us, but we cannot get along without the state of Wisconsin.

Therefore, I am here to bid you a hearty welcome to the city of Milwaukee, and anything we can do to make your stay a pleasant and successful one we will be glad to do.

RESPONSE

By MR. A. T. BRUHN, Spring Green.

Mr. Chairman, Fellow Cheese Makers: We have been welcomed here to Milwaukee for twenty years or more. We know we are welcome, but we don't know the reason why. Business men in Milwaukee

realize why they welcome us. They think they need us, but I can assure you we need Milwaukee every bit as much, that is, we all need cooperation. The manufacturer cannot get along without the producer. We have got to have cooperation between the producer and the consumer, and that is what the city business men have realized much more than we farmers and cheese makers.

The old idea that the farmer is an independent man is wrong. He is no more independent than the fellow selling stuff to him. Where would he be if he manufactured his own tools to work with? Think of the farmer who intends to make his own Ford to run it next summer. You need men in town manufacturing their products just as badly as the men in town need the product you manufacture or produce. So you see cooperation is absolutely essential.

When Professor Sammis wrote me he would put me on the program for a response to the address of welcome he said, "Get a little talk on the slogan for this convention, 'Cleaner Milk and Better Cheese.'"

When I first started making cheese I learned that a fly would carry two million bacteria. We told the farmers they had to wash their hands when they milked. Here is the dope I have been handing out to them for a number of years. I asked them "have you ever helped your wife do the family washing? If you have, have you noticed how little bluing it took for the bluing of water? It took perhaps as much as you could put on the end of an ordinary penknife to color a tubful of water. Yet I defy any of you, after that is thoroughly mixed, to extract one drop of that water without getting some of the bluing along with it." That is only to illustrate how finely dirt can be divided; for instance, barn dust, and so on. One-fourth of the dirty matter in ordinary barnyard dust is either bacteria or dead bacteria cells. If we have a cube of dirt an eighth of an inch square in a can of milk and it is divided as finely as the bluing we would have part of the bacteria in every drop in that can.

Scientists have told us that bacteria under favorable conditions will multiply every twenty minutes. What are the favorable conditions for bacteria to grow? We all know the quality of the cheese depends on the kind of bacterial growth we have in the milk. We soon realize that the bacteria produce a good flavor at a low temperature, and produce a poor flavor at higher temperature, that is, at the heat of the body. If milk isn't cooled the harmful bacteria begin to grow immediately, while if it was cooled down to 60 or 70 degrees those bacteria begin to grow, which produces the flavor we want. If you tell that to your farmer he is not apt to understand it, but I tell him that if I want to raise corn and plant it at the time of year when I ordinarily cut it, I will get no corn. If I sow oats at the time I generally reap them, I will not get oats. We have the same condition. Oats do not grow under the same conditions as corn. We have the same condition in milk. The kind of flavor we want in milk is produced at a temperature of from 60 to 70 degrees. There isn't a farmer who is foolish enough to plant corn in the spring. Just as soon as you have convinced him that the same thing holds good in milk you have won your case.

## PRESIDENT'S ANNUAL ADDRESS

By CHARLES E. REED, Thorp, Wisconsin.

Ladies and Gentlemen: Again we are assembled in annual convention, this being our thirtieth anniversary. I trust and hope that all members will feel as in former years that this is your convention and solely for your benefit and entertainment.

The officers and board of directors feel fully repaid when we see before us so many smiling faces and so large an attendance of members earnestly waiting for a chance to get in on the discussions of the different subjects to be brought out in the convention.

I will make my remarks brief and only touch on several different things that have been brought to my notice by different members throughout the past year. Again the idea of establishing more auction boards for sale of cheese has been mentioned. We had some lively discussion on this subject at the last convention, but the sense of the members seemed to be that there is no way of compelling all the cheese to be sold on such boards.

Now comes popping up a new version. One member asks why does not the Cheese Dealers' Association come to the front and say none of us will buy any cheese except same is sold in open on a call board. This seems to be the only remedy as we have found out that nothing can be done by legislation.

We have, I think, passed through the era of when most of the talk was to improve the quality of cheese. You can all remember the old song about better quality.

Leave this to the Division of Markets and the cheese grading question, if such is put in force, and see how it works as an experiment; give it a trial, as one member said, and if it does not, after a stated time, do what is thought by the majority that it should do, then step on it. When this part of the program comes up, do not sit still in your seats, but enter into the discussion; ask questions and voice your opinions. The Division of Markets I am certain wish to be practical and not work any hardships on anyone. Therefore you should each express your opinion and thereby these men on the commission can figure out what is best for all concerned.

Many say "Why work Sundays?" I say the same, but it is yourselves that keep this up. I have noticed in the dairy papers of late considerable comment pro and con on this subject. Work it out to the best advantage of all if you can, and if not keep right on working seven days a week. No other industry does; why should the largest industry in the state keep on doing so?

Last convention you voted to have the Board of Directors put on exhibits at the State Fair and any other dairy shows they might see fit. Just a word in explanation why we did not. It has been voted that all financing should be left to the board. Well, these exhibits we found out could not be carried out without a large expense. Should the money be used in this way, we would necessarily have to cut down on the annual convention, which has become one of the things you all

look forward to. Therefore, striving to make the 1922 convention surpass all others, we decided it would be for the best not to make such exhibits. Another thing is what is termed by our secretary, convention boosters. Members in different parts of the state have been talking convention and helping plan for same ever since last January. I would like very much to see that some action is taken this year to have a committee at large appointed to help carry on this good work. And again go through the year talking and getting new ideas that should be brought up at the coming convention. Let it be one good live member in each corner of the state. This would, I think, help to bring out at the convention the very problems that are confronting the makers at home, and would be a great help to the secretary in getting up his program. If such is done do not wait until the end of the year to offer your suggestions, but hand them in as fast as you can and before same is forgotten or grows cold.

You all know that the past year has been a strenuous one for the cheese makers on account of the weather conditions being so abnormal. The cry is back to normal, but it seems in most parts of the state the weather man did not believe in normalcy as far as conditions in making cheese were concerned. I notice that we will also have some discussion on this topic. Be sure to take your part. Education and mutual benefit is the thought behind the gun of the Wisconsin Cheese Makers' Association.

Don't forget to try your scoring skill at the scoring contest table. Visit the supply mens' booths, enter into all discussions, ask all the questions you have in mind; someone will be able to give you a satisfactory answer. Attend all sessions, and when you again return to your home start right in to be a booster for the thirty-first convention, telling your neighbor who missed this one all about it and thereby make him see that he is not only wanted, but needed, at every convention.

I thank you.

## REPORT OF THE BOARD OF DIRECTORS

MR. BRUHN: We have examined the books of the Secretary and Treasurer of this Association and found them to be correct. Signed: A. T. Bruhn, O. A. Kielsmeier, Ray A. Young.

CHAIRMAN: What is your pleasure in regard to the report of Board of Directors?

MR. MARTY: I move it be accepted as read.

Motion seconded, put and carried.

## REPORT OF TREASURER

MR. A. F. ZELM, Plymouth: I am glad to meet you fellows here. As far as the report is concerned, I will state Mr. Sammis handles it all. I guess Mr. Ubbelohde explained it last year. All the treasurer has to do is to take care of the dues.

I thank you very much for the attendance and I hope next year you will bring more.

CHAIRMAN: Mr. Zelm is our treasurer, but the treasurer of the state of Wisconsin is the treasurer of all these associations. Therefore he can't make a report because he simply handles the money during the days of the convention and turns it over to the state of Wisconsin.

## SECRETARY'S FINANCIAL STATEMENT, JULY 1, 1920, TO JULY 1, 1921

READ BY J. L. SAMMIS, MADISON, JAN. 11, 1922, AT 30TH ANNUAL CONVENTION.

### Association Account with State Treasurer. Receipts.

1920			
July	1	Balance forward from last report.....	\$ 789.03
		State Appropriation.....	600.00
1921			
Jan.	12	Deposited membership fees.....	658.00
		Total .....	\$2,047.03

### Association Disbursements From State Treasury.

1920			
July	1	Louena Findorff, Mailing list corrected.....	\$ 15.90
July	29	State Printer, 800 Manilla Envelopes.....	4.50
Sept.	10	State Printer, 825 Annual Reports.....	251.61
Sept.	24	Auditorium rental .....	200.00
Sept.	2	Postage on Annual Reports.....	23.52
Oct.	1	Postage stamps .....	25.00
Dec.	12	J. C. Grieb, Convention Prize Chairs.....	180.00
Oct.	2	Abel and Bach, Convention Prize Bags.....	135.00
Dec.	14	Schwaab Stamp and Seal Co., Badges.....	165.00
Oct.	14	Postage stamps .....	20.00
Dec.	5	Postage on Convention Programs.....	110.42
Nov.	29	State Printer, 1,000 envelopes.....	4.87
1921			
Jan.	11	H. C. Larson, Convention expense.....	7.22
Jan.	13	Secretary salary .....	450.00
Jan.	31	50 voucher jackets for bills.....	.14
Feb.	7	State Printer, Envelopes, letter heads, bill heads, etc.	31.64
March	1	State Printer, 500 gummed labels.....	2.91
April	1	State Printer, 2,000 letter heads, 2,000 envelopes.....	23.05
June	1	State Printer, Letter heads.....	8.70
		Balance on hand June 30, 1921.....	387.55
			\$2,047.03

### Secretary's Donation and Program Fund.

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

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

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

### Cash Prizes Received from Secretary's Donation and Program Fund.

Bank of Sturgeon Bay, Sturgeon Bay.....	\$ 10.00
Kielsmeier Co., Milwaukee.....	30.00
Pauly and Pauly Co., Manitowoc.....	30.00
Winneshago Cheese Co., Fond du Lac.....	20.00
C. A. Straubel Co., Green Bay.....	48.00



A. H. Barber Cheese Co., Chicago.....	10.00
Kraft Bros. Cheese Co., Plymouth.....	35.00
Sheboygan Dairy Products Co.....	60.00
De Laval Separator Co., Chicago.....	30.00
C. E. Reed, Thorp.....	10.00
Plymouth Cheese Co., Plymouth.....	10.00
L. O. Rehm, Kiel.....	10.00
Jos. Dusek Co., Chicago.....	25.50
Stoelting Bros. Co., Kiel.....	20.00
H. J. Noyes & Son, Muscoda.....	5.00
Sharples Separator Co., Chicago.....	50.00
H. R. Noble, Dodgeville, Sec. Iowa Co. Holstein Assn.....	10.00
J. D. and S. D. Cannon, Neenah.....	15.00
Central Wis. Cheese Makers Assn.....	5.00
A. Grossenbach Co., Milwaukee.....	20.00
First National Bank, Brillion.....	10.00
August F. Westphal, Hartford.....	20.00
Hunter, Walton & Co., New York.....	5.00
Wisconsin Cheese Producers Federation, Plymouth.....	15.00
Manitowoc Savings Bank, Manitowoc.....	10.00
C. Reiss Coal Co., Manitowoc.....	10.00
Glander Art Studio, Manitowoc.....	10.00
M. Hasenfuss, Manitowoc.....	5.00
State Bank of Kiel, Kiel.....	10.00
Wernecke-Schmitz Hardware Co., Manitowoc.....	10.00
Schuette Bros., Manitowoc.....	10.00
J. L. Sammis, Madison.....	5.00
Refund to Association Prize account.....	9.00
Received from A. Grossenbach Co., Milwaukee, for cheese.....	2,275.02
Received from J. W. Cross, cheese sales.....	13.54
Cheese sold to J. L. Sammis.....	10.16
Cheese sold to A. J. Marschall.....	5.04

**Received from Program Enterprise.**

Brillion Iron Works, Brillion.....	10.00
W. C. Thomas, Sheboygan Co. News.....	20.00
Marschall Dairy Laboratory.....	20.00
Carl Marty & Co., Chicago.....	20.00
Brodhead Cheese and Cold Storage Co.....	5.00
Louis F. Nafis, Inc., Chicago.....	10.00
Damrow Bros. Co., Fond du Lac.....	40.00
Schwaab Stamp and Seal Co., Milwaukee.....	10.00
J. G. Cherry Co., St. Paul.....	20.00
Woodland Box Co., Woodland.....	10.00
Bank of Sturgeon Bay, Sturgeon Bay.....	10.00
Butter, Cheese and Egg Journal, Milwaukee.....	20.00
Kiel Woodenware Co., Kiel, Wis.....	20.00
Kielsmeier Co., Milwaukee.....	20.00
Elliott & McGarraghy, Chicago.....	20.00
Pauly and Pauly Co., Manitowoc.....	20.00
Winnebago Cheese Co., Fond du Lac.....	10.00
Plymouth Exchange Bank, Plymouth.....	10.00
Eagle Chemical Co., Milwaukee.....	20.00
Lewis, Mears Co., 127 Reade St., New York.....	10.00
Manitowoc Plating Works, Manitowoc.....	20.00
Citizens National Bank, Green Bay.....	10.00
Grunert Cheese Co., 208 W. Kinzie St., Chicago.....	10.00
Baker Ice Machine Co., Omaha, Neb.....	10.00
C. A. Straubel Co., Green Bay.....	20.00
Marty Gempeler Co., Monroe, Wis.....	5.00
R. Gerber & Co., 327 W. South Water St., Chicago.....	10.00
Creamery Package Mfg. Co., 61 W. Kinzie St. Chicago.....	22.00
A. H. Barber Cheese Co., 216 N. Canal St., Chicago.....	20.00
Vilter Mfg. Co., Milwaukee.....	20.00
General Laboratories, Madison.....	20.00
Kraft Bros. Cheese Co., Plymouth.....	20.00
Sheboygan Dairy Products Co., Sheboygan.....	10.00
Oakes and Burger, Cattaraugus, N. Y.....	20.00
Wis. Dairy Supply Co., Whitewater.....	22.00
De Laval Separator Co., Chicago.....	20.00
Iwen Box and Veneer Co., Shawano.....	20.00
Dow Cheese Co., Plymouth.....	10.00
Pyramid Oil Co., Minneapolis.....	20.00
Milwaukee Hotel Assn., Ben Scherer, Sec.....	20.00
Colonial Salt Co., 431 So. Dearborn, Chicago.....	10.00
Juneau Boiler Works, Juneau.....	20.00
Republican Hotel, Milwaukee.....	20.00
Plymouth Cheese Co., Plymouth.....	20.00
Plymouth Refrigerating Co., Plymouth.....	10.00
Jos. Dusek Co., 726 Randolph, Chicago.....	20.00
Wm. J. Haire Co., 30 S. Market St., Boston.....	10.00

Stoelting Bros. Co., Kiel, Wis.....	40.00
Reinhold and Meyer, Plymouth.....	10.00
G. V. Anderson, M & M Bank Bldg., Milwaukee.....	20.00
A. H. Barber Cry. Supply Co., 300 W. Austin Ave., Chicago.....	20.00
D. and F. Kusel Co., Watertown.....	20.00
Elyria Enamelled Products Co., Elyria, Ohio.....	20.00
J. B. Ford Co., Wyandotte, Mich.....	20.00
H. G. Liebrecht, Plymouth.....	10.00
C. E. Blodgett Cheese Co., Marshfield.....	20.00
A. D. DeLand Co., Sheboygan.....	20.00
Sharples Separator Co., Chicago.....	22.00
Colby Cheese Box Co., Colby, Wis.....	10.00
Conley Foil Co., 541 W. 25th St., New York.....	20.00
Quincy Mkt. and Cold Storage Co., Boston.....	10.00
Torsion Balance Co., 92 Reade St., New York.....	20.00
Toledo Scale Co., Toledo, Ohio.....	20.00
Wis. Dairy Protective Assn., Milwaukee.....	20.00
Mojonnier Bros. Co., 739 W. Jackson Blvd., Chicago.....	20.00
Globe Plating Works, Manitowoc.....	10.00
Wis. Timber and Land Co., Mattoon, Wis.....	10.00
Chas. A. Parfrey, Richland Center.....	20.00
A. H. Arnold & Bros. Co., 308 S. Canal St., Chicago.....	20.00
Richardson Bros. Co., Sheboygan Falls.....	10.00
Puerner Cry. Co., Marshfield.....	10.00
Stanley Woodenware Co., Stanley, Wis.....	10.00
C. L. Santee Agency, Fond du Lac.....	10.00
Northern Wis. Produce Co., Manitowoc.....	10.00
Lincoln Box Co., Merrill.....	20.00
Sheboygan Bandage Factory, Sheboygan.....	10.00
John Kirkpatrick, Richland Center.....	10.00
Frint Motor Car Co., Milwaukee.....	20.00
First National Bank, Brillion.....	5.00
J. S. Hoffman Co., 219 N. Franklin St., Chicago.....	20.00
Chris Hansen's Laboratory, Little Falls, N. Y.....	20.00
H. B. Stanz Co., Milwaukee.....	5.00
Walter Voechting, Sheboygan.....	10.00
Geo. Segal, 105 Hudson St., New York.....	20.00
Milwaukee Corrugating Co.....	10.00
Linstedt-Hoffman Co., Manitowoc.....	10.00
Reymann & Lovengren Co., Copenhagen.....	20.00

**Booth and Space Rentals at Convention**

Damrow Bros., Fond du Lac.....	50.00
Eagle Chemical Co., Milwaukee.....	45.00
Manitowoc Plating Works.....	45.00
Creamery Pkg. Mfg. Co., Chicago.....	45.00
De Laval Separator Co., Chicago.....	90.00
Marschall Dairy Laboratory, Madison.....	45.00
A. H. Barber Cry. Supply Co., Chicago.....	50.00
Stoelting Bros. Co., Kiel.....	45.00
G. V. Anderson, M and M Bank Bldg., Milwaukee.....	45.00
D. and F. Kusel Co., Watertown.....	45.00
J. G. Cherry Co., St. Paul, Minn.....	45.00
J. B. Ford Co., Wyandotte, Michigan.....	45.00
Sharples Separator Co., Chicago.....	90.00
Chris. Hansen's Laboratory, Little Falls, N. Y.....	45.00
Office Specialties Sales Co., Milwaukee.....	45.00
Oakes and Burger, Cattaraugus, N. Y.....	45.00
Toledo Scale Co., Toledo, Ohio.....	45.00
Wis. Dairy Protective Assn., Milwaukee.....	45.00
Globe Plating Works, Manitowoc.....	45.00
Rexine Co., Sheboygan, Wis.....	45.00
Frint Motor Car Co., Milwaukee.....	90.00
C. L. Santee Agency, Fond du Lac.....	45.00
Chicago Dairy Produce, Chicago. Space and table.....	25.00
Pyramid Oil Co., Minneapolis, Minn.....	45.00
Culver Mfg. Co., Culver, Ind.....	45.00
Burroughs Adding Machine Co., Detroit, Mich.....	45.00
Wisconsin Dairy Council, Milwaukee.....	50.00
Milk Plant Monthly, Table and chair.....	10.00

**Sundry Receipts.**

H. G. Kalk.....	8.00
W. C. Fischer & Co., Indianapolis, Ind.....	1.00
Refund of Express charges from Aud.....	5.49
Leo von Arx, Staples, Minn.....	1.00
M. Christopherson, express charges.....	.44
American Ry. Express Co., repairs.....	4.40
E. E. Bragg, Somerset.....	5.00
Total.....	\$5,692.59

## Disbursements from Donation-Program Fund.

Paid exhibitors for cheese and prizes, as per stubs, checks and printed list of exhibitors.....	\$2,759.29
Kraft Bros. Cheese Co., Plymouth, refund.....	5.00
C. A. Straubel Co., Green Bay, refund.....	6.00
Emil Sonnenberg, Cato, prize 1920.....	5.00
John Hubacher, Darlington, to correct error.....	3.90
Jos. F. Junk, Brillion, to correct error.....	.18
John Bremser, Watertown, membership paid twice.....	1.00
Carl Blaser, Rio, membership paid twice.....	1.00
C. H. Schneider, Heller, membership paid twice.....	1.00
Refunds, checks 29, 31 to 44, memberships paid twice.....	15.00
Christ Abbeuhl, Clear Lake, to correct error.....	2.20
Ernest Wuethich, Bruce, refund.....	1.00
Erwin Wunsch, refund.....	1.00
Alex. Witt, refund.....	2.00
Carl Indermuehle, refund.....	1.00
S. G. Schweiss, to correct error.....	1.00
Gust Burge, Stevens Point, to correct error.....	.90
Refund George Segal, 105 Hudson St., N. Y., paid twice.....	20.00
C. E. Reed, expense legislative hearing.....	19.75
J. D. Cannon, Neenah, expense legislative hearing.....	12.71
H. J. Noyes, Muscoda, expense legislative hearing.....	5.35
O. A. Kielsmeier, Manitowoc, expense board meeting.....	10.00
H. A. Rindt, Clintonville, expense board meeting.....	13.58
C. E. Reed, Thorp, expense board meeting.....	20.88
Ray A. Young, Monroe, expense board meeting.....	16.16
A. F. Zelm, Plymouth, expense board meeting.....	6.34
Elmer E. Bragg, Somerset, refund fee overpaid.....	3.00
Olsen Publishing Co., Milwaukee, Convention programs.....	518.69
Times Printing Co., Monroe, ad.....	10.00
W. C. Thomas, Sheboygan Falls, ad.....	10.00
Fred R. Ubbelohde, Convention expense.....	38.73
T. A. Ubbelohde, Convention expense.....	41.16
T. A. Ubbelohde, Treasurer.....	50.00
H. J. Noyes, Convention expense.....	24.20
Fred Marty, cheese judge.....	28.16
E. L. Aderhold, Convention expense.....	16.45
Alex Schaller, cheese judge.....	25.92
H. A. Kalk, Convention expense.....	14.73
C. E. Reed, Convention expense.....	37.04
C. E. Reed, president.....	100.00
J. W. Cross, expense.....	6.16
J. W. Cross, superintendent.....	50.00
Milwaukee Auditorium, booths, railings, etc.....	541.45
New Glarus Post, ad.....	10.00
Dr. F. B. Hadley, Convention expense.....	9.52
Fred Marty, cheese judge.....	15.00
Alex Schaller, cheese judge.....	15.00
Wm. Hubert, cheese judge.....	15.00
John Cannon, cheese judge.....	15.00
O. A. Kielsmeier, Convention expense.....	21.04
Geo. C. Humphrey, Madison, Convention expense.....	7.98
Miss Louise D. Mason, Stenographer, on account.....	50.00
J. D. Cannon, Convention expense.....	31.95
Office Specialties Co., typewriter rent, etc.....	5.55
Republican Hotel, Convention expense.....	58.14
A. T. Bruhn, Convention expense.....	21.78
Secretary's Office and Convention expense.....	118.72
Expense, mailing reports, programs, circulars.....	111.81
W. F. Hubert, Convention expense.....	40.18
P. M. Franzen, Convention Hall signs.....	9.60
Olsen Publishing Co., 10 M ballots.....	1.50
Express on Convention prize cheese.....	10.66
Clerk, typewriting and addressing.....	9.50
Express charges paid by error (see refund).....	5.49
College of Agriculture, 250 mailing tubes.....	4.00
Express on cheese, M. Christopherson, (see refund).....	.44
Postage on diplomas to winners.....	21.00
H. G. Davis, Convention expense.....	6.24
Alvin F. Jindra, Convention expense.....	15.40
Butter, Cheese and Egg Journal, ad.....	20.00
Green County Herald, ad.....	10.00
A. L. Cross, Convention cheese photos.....	6.00
Express moisture ovens, Madison to Milwaukee.....	5.50
Wehrmann's, Madison, Repairs on secretary trunk.....	10.00
Wisconsin Foundry Co., repairs on oven (see refund).....	4.40
Miss Louisa D. Mason, stenographer, balance due.....	55.00
W. C. Thomas, Lithographed Convention diplomas.....	27.57
W. C. Thomas, envelopes, tags, tickets, blanks, etc.....	106.50
Balance of Program-Donation fund.....	370.19
<b>Total .....</b>	<b>\$5,692.59</b>

## DISCUSSION

By SEC. J. L. SAMMIS, Madison.

The secretary's report has degenerated into telling a few stories, I guess, or something of that sort, for the reason that the complete financial statement of all the operations, including the checks sent to every cheese maker, every bill paid and every receipt and every bit of money received is printed in the annual report, which is mailed to you, so that it hardly seems necessary to read them this morning.

The Board of Directors have already informed you they have examined this report and found it correct. They must have worked hard, and no doubt they did, because it is a long one. I wish I could read you the names of all these good friends of the cheese makers' convention. All these people who have filled up the convention program, a hundred pages of advertising matter, the friends of the association, how much we owe them for their cooperation! There are more friends who will help us next year. We believe we may have a bigger program next year.

There are 233 prizes for fine cheese offered in this program. Last year there were only 188, an increase of about twenty per cent. Last year we had about 777 paid-up members. This year it is hard to tell how many we will have, but probably over a thousand. With the great interest in cheese matters, with the fine weather, with the reduced rates on railroads and the removal of government tax on transportation, we expect a record-breaking attendance.

The supply men have contributed to our success this year. We have six booths in this room, overflow from the other room. We have had to decline several applications for exhibit space because we didn't encroach too much on the seating capacity.

The important thing I want to impress on your minds is the way this association has grown. Ten years ago two or three hundred cheese makers met together in the little convention hall at the Republican Hotel and all the cheese could be stood up behind the bar. It was good, what there was of it. Today, this year instead of seventy-five or eighty exhibits, we have 350 exhibits. We have about six tons of cheese exhibits in there, an increase of twenty-five per cent over the cheese exhibit of last year. This shows an increasing interest.

Let us look forward into the future. The past was a happy time, the present is a busy time, the future depends on what we will make it. The future is all ours to make. If we can look forward ten years, or five years, we ought to have, out of 2,700 cheese factories in this state, a thousand exhibits, if only four out of ten factories exhibit. We would have to send the supply men into the small room while we took the large room for our exhibits. We ought to have, out of three thousand cheese makers, a thousand, fifteen hundred or two thousand if we keep on growing at the rate of twenty, twenty-five or thirty per cent a year. The way we grow depends on you. The officers can work their heads off, but the success of the association depends on the cheese maker in his own home town. Tell your neighbors about the

parade we have Thursday noon, and about the banquet. Whenever you meet a cheese maker tell him about the convention. If the convention isn't a big success next year it will be your fault. Your officers will do what they can, but they can't do it all. The past year has been distinct from all others by the activity of the members throughout the state. In this way we have built up a booster committee, people in their own home towns who never meet a cheese maker that they don't say, "Bill, I am going to the convention; come along." They are bound to have their locality represented. We want about a thousand of these boosters. If you people aren't willing to exert yourselves a little as you go about your daily work, it is all in vain for the officers to try to build up a convention. I am sure you will. I am satisfied that you will. If you won't, then I don't want the job myself, for without your cooperation I can't do anything. But I am sure every one of you will cooperate. Be a booster in your own town. All of you who will boost for the next convention hold up your hands. If anyone can't vote conscientiously for this I don't want to hold my job. Next year I am going to ask you if you did your duty. I am going to remember that and I am going to ask you to tell me. The list of prizes has just begun to grow. We need more.

MR. NOYES: I wish to call attention to how Professor Sammis has worked this last year and how he has stimulated everyone. We went out and talked to our town a little bit and we got two bankers and a garage man and two other men to give prizes in this convention this year, and if you will all do that you can get your bankers and your merchants and your garage men to advertise in that program, and you will get them interested. Show them their name on that program after they did it and we will accomplish more than we have ever done. Professor Sammis hasn't left a chip unturned to help this convention along. I have been connected with him a few years. We want to keep him here and make him work, and he is perfectly willing. He is wound up all the time.

SECRETARY SAMMIS: There is one more item which I have overlooked. Every year we bring down to the convention a carload of live stock, of which we are more or less proud. They come from the dairy school of the university. Last year we had about thirty, this year about fifty or sixty. These young men have had dairy school training and they are ready to go out in the factories about the first of February. They vary in experience. Some of them have had several years' experience. Look them over. You will get just the fellow you want. I want you boys to make a little motion, stand up here and make a little noise.

CHAIRMAN: We have had, as Mr. Sammis says, many boosters throughout the state, and there is a little item on the program that reads "My Experience As a Booster." He has told you his experience, I will tell you mine, but I would like to have volunteers from members in the audience to tell their experience as boosters this past year, how much good they did. I am not going to call on any names.

MR. F. W. KOLLER, Thorp: It has been the custom up in our town for one or two to attend the convention. Professor Sammis, as I understand, wrote to our cheese buyer, who happens to be our present president. He got ahead of me in getting money. I have to give credit to the business men on that, because I think our president accumulated about fifty dollars donated by the different business men who, I know, as Mr. Noyes says, feel proud that they helped the cheese makers. As far as I am concerned, I think I did my share. I have got a lot of fellows who are real slow about getting away from home. I think if they came here once they would come again.

CHAIRMAN: Mr. Koller mentioned me. We didn't have the hardest part of the state of Wisconsin to boost in because we live in the county that carried the laurels. I noticed when the train came in yesterday evening there was about double the attendance from Clark county that there was a year ago on the first day of this convention.

Another suggestion comes to me. Each of you who boosted for this 1922 convention write a little article to your local paper, have your printer print it in his paper to circulate, about how much of a success the 1922 convention was and how you and your neighbors boosted in your neighborhood and you will have that same pressman helping you boost.

Has anyone any suggestions to make on anything that we should do for the 1923 convention outside of going out under the circumstances we have just been talking about? Any suggestion on program or any line-up anyone has in mind? That is the next thing on the program, "Suggestions for the 1923 convention." The officers never do that. They send circular letters out. If you will forward some of your ideas while you are present at the meeting it will save postage stamps.

MR. WILLIAM HUBERT: While at this cheese convention a thought occurred to Mr. Cannon and myself. We have got various classes of early made cheese. We found this year September cheese goes into your No. 1, October goes into the later cheese. We found it nearly impossible to distinguish between September and October, and it has made some of the scoring very difficult, as probably you will hear a little later, and we have come to the conclusion that you ought to have your June cheese scored in one class and your September and October in the other. This is for you to think over. It is only a suggestion.

CHAIRMAN: Was that to spread a wider field between the two classes?

MR. HUBERT: Yes.

CHAIRMAN: The suggestion comes to Mr. Hubert, one of the judges, through experience in that line.

I wish to announce that it would be in order for each of you who wish to attend the banquet—I hope you all do—Thursday evening at six o'clock, that there will be provision made for purchasing of your tickets at the door or at the lobby here, and if you buy them beforehand it will avoid a rush and lots of confusion. The banquet is at six o'clock downstairs in this building and the cheese makers' parade in Milwaukee will be Thursday noon.

## APPOINTING OF COMMITTEES

As a committee on resolutions I will appoint Fred Marty.

MR. MARTY: I would rather not take the time. I am pretty busy today.

CHAIRMAN: All right, if you are too busy there are others. Ray Young, of Monroe, as the chairman; Otto Rohde, of Spencer; N. E. Possley, of Appleton. It is not necessary to appoint the other committees until the regular time of appointing committees.

As far as appointing booster committees, I think we will leave that to the volunteer hands that went up to the secretary as a membership list, and all of you that volunteered will sure get a letter.

This meeting stands adjourned until 2:30.

## Second Session—Wednesday, 2:30 P. M.

Meeting called to order by President Reed.

## HOW TO ORGANIZE NEW COUNTIES

By JOHN FUHRMAN, Brillion.

Mr. President, Ladies and Gentlemen, and Member Cheese Makers: To organize new counties is quite a job, and I have had quite a lot of experience the past summer and have been successful in quite a few instances. I believe we should have a hundred per cent organization throughout the state of Wisconsin. Our business is a big business and it is going to be still larger. We don't get any protection whatever, and if we want any we must get it ourselves. We must get together like everybody else; everybody from the bootblack to the banker is organized today. They are holding down their end through organization. Organization is just like fire insurance. If you don't need any organization you don't need any fire insurance. You don't want to wait until the thing has happened, you want to organize before it has happened.

A good many say we don't need to be organized, we don't stick together anyhow. Is there any reason why we shouldn't stick together, be brotherly and neighborly? We have had too much unclean competition, and that is something we should get away from. They say organization doesn't do anything in that regard. One man is a little jealous of the other man when you get together. The only way to organize a county is get some of your live members and get out and do the work. You are not going to get paid very heavily for it. If we stop to consider the organization we already have and the good it has done, it is pay enough. A lot of boys say we have spent a lot of money and we haven't got anything in return. We have just one little instance. There was suggested what they call the neutralized cream law. What would that have meant if it had gone onto the books? We realize 90 per cent of the whey cream that has been hauled this last

summer had to be neutralized before it could be pasteurized. That would have meant a whole lot and it would have gone onto the books if it hadn't been for the association. Mr. Moore, of our association, went down to Washington.

Another thing, our filled milk bill. Our dairy and food commissioner has got a lot of assistance and has done a great deal of work toward that end of it. Much credit is due to him for the work he has done on it. Those things must be handled through organization. You can't handle them single-handed.

Organization is like fire insurance. How many of you had fires? You have been paying your premiums right along, but supposing you didn't have it and you are on your way back home and you see the smoke coming out of the roof, could you go over to Henry Jones and say, "Henry, I think I will need fire insurance?" You should get together and have your county locals. The best, the cheapest, and the most practical way is to have each county take care of their own organization work and have one man from the state that takes care of your trouble calls in case you have trouble.

The insurance company doesn't send out a man to collect when your premium is due. You pay or it falls down. That same way it should be worked in the county organization. You should get together and stick together, and when you have the county local organized don't go down there and resolve to do a lot of things and go back home and do otherwise.

That reminds me of a little story. When Pat was very sick the doctor was called and he said Pat couldn't live. Pat knew what was coming and he began to think if he had a clean slate to leave. He and Casey weren't very good friends any more and he had threatened to give Casey a licking. He called Casey and he came to his beside and he said, "Hello, Casey," he says, "Casey, you and I haven't been very good friends. You know I says I would give you a licking. I think I am going to die and I don't want to go to wherever it is going to be until my slate is clean." He says, "Casey, will you forgive me?" Casey said he would and everything was square. Casey was going when Pat said, "Wait a minute, Casey. If I ever get better this don't count." (Laughter.)

When you have your county organization, you get together, resolve to do a thing, and you are all going to do the same thing. Then don't change your minds. You should work toward your neighbor as you want your neighbor to work toward you. That is one of the biggest things we have to compete with. And another is sanitation of cheese factories. We can do a whole lot to cooperate with the dairy and food inspector's force. I know it positively can be done because we have had it in our own county. There is no reason for pulling a man into court and fining him. In Calumet county we had a committee of three men to investigate if anything was wrong. It makes a man more ashamed than when the dairy and food inspector comes; when you have your friends come over it counts. They get busy and clean up. Our inspector used to report to the secretary, and if they found anything wrong they reported it to the secretary. We don't want to see



anybody pay a fine of twenty-five or fifty dollars. We can get away from all that stuff. If we would work in harmony throughout the state we could accomplish a whole lot.

We have our dairy laws and we have to comply with them. They tell us how we must run our factories. They don't say we must get so much money for doing our work. We want to show the farmer we are on the square, and we always want the farmer to be on the square with us, and if there is no other way, we can do it through organization and get what we are entitled to. We have seen this summer where makers have been cut down, where they absolutely had to steal if they did business. We are not going to be in that kind of a rut as soon as we organize.

I am not with the Wisconsin Protective Association any more. I haven't been since the 15th of November. I am not talking for that job. It won't do for you to have a field manager to collect your dues. You can save that money. But you must have somebody at the head of it that can go out and take care of troubles when they do come. You can have if each and every man pays his dues. If we have a field man and a man in the office it is too great an expense. It is not the cheap man that does the work. We know that in the factory. And that is why I say we should have one good man at the head of it and that is plenty, and then if trouble arises he can easily go and help the man out. Of course we don't figure if a man belongs to an organization he can do anything he wants to do and ask for protection. You should be on the square if you want help.

We have got an organization. If we let it drop now it will be only the same day of suffering over, what we have dropped off now. I believe if in each county a few good, live men get together and start making quite a show, get your cheese makers acquainted and organize a local and call your meeting once a month you will have a chance to get together and talk over your troubles. Have your scoring contests, have a picnic, get together, have the farmers come with you and the cheese makers and get together and get better acquainted. All those things can be done if you are properly organized. The old saying is "In union there is strength." Every man in Wisconsin ought to belong to the organization. The fees are not very great. Every cent that was spent in the association was well spent. I wish all these counties that aren't organized yet and those that have been organized and have not got a regular set of officers could go and start to work up. I have tried several times to have meetings up in Shawano county and the weather man was against us. Every time we called our meeting, sent out our cards, that very night it would pour. If you have that in your own counties, if it should happen to fall down one week, call it the next week, but by all means organize.

I want to thank you for your kind attention.

## CENTRAL WISCONSIN ASSOCIATION

By MRS. O. E. DIX, Auburndale, Wisconsin.

Mr. President: It is a pleasure to be present at the thirtieth annual anniversary of the Wisconsin Cheese Makers' Association, for I have been ill, and unable to attend for quite a number of years.

Dairying is the foundation of national prosperity. The brindle cow, through the great arts, cheese and butter making, has climbed the golden stairs for the Wisconsin farmers.

We seem to be undergoing what may be termed as a national awakening, relative to the tremendous importance of dairy products for life. The only assurance of sturdy, healthy children is a constant adequate supply of milk and its products in the daily ration. To the old timers who have followed the path of the dairy cow, lo, these many years, the recognition that came to the industry, and the prominence it has achieved is indeed a source of profound satisfaction. We can scarcely realize that the weak, insignificant struggling industry of a half century ago has now become the giant in agriculture.

Conditions and systems are prevailing today in some instances, where we find the factory doors closed at noon and the maker at leisure, ready to enjoy a spin in Lizzie Ford, to follow the road of pleasure. The great school of experience has taught every efficient cheese maker the impossibility of manufacturing a good article in that length of time.

Therefore, with these conditions in existence what encouragement is there for the cheese maker who devotes all of his time and attention in the production of a high quality cheese, unless steps are taken to change the present market system, or establish a grading law to be followed accordingly? Will you bear me out if I say that it requires from seven to eight hours to produce a close, meaty, well-made cheese, or, in other words, the cheese maker who attempts to produce the best kind of cheese, providing he starts his vat of milk at nine o'clock in the morning, and is not through before four or five in the afternoon.

I have often wondered whether the former class of cheese makers have the good of the republic at heart, and understand that they are undermining the industry. However, it seems they care very little for its building up, or to manufacture a cheese the people will relish and consume in larger quantities, so that the farmer who milks the cows will receive a compensation great enough to induce him to enlarge his dairy herd and improve the facilities to handle milk in an up-to-date sanitary way.

The value of cheese manufactured the year round runs up in the millions of dollars. In number we are about 2,800—the success of the factory depends largely upon us. You will agree with me that our responsibility cannot be overestimated.

No cheese factory can be successful, no matter how good and up-to-date the buildings and equipment you have, or how good a board of

directors trying to manage it, if you employ a poor inefficient cheese maker, who has not the good of his work and patrons at heart, endeavoring to do his best. Efficiency is the slogan of success in American life today. No matter where you go, you will find the honest, truly faithful men and women are getting the most out of life.

We cannot expect to keep the good cheese makers in the business or induce bright young students to go into the industry, unless they can earn more than a scant living at it. In this connection it may not be amiss to mention the fact that many cheese makers are lacking "backbone." They have not enough confidence in themselves, nor their ability to ask a fair wage. If *you* don't put a value on your work and ability, who will? It is only human and perfectly proper for your employer, or the farmers to hire you as cheaply as possible. When you have proven yourself worthy, and find you are capable of doing your work as it should be done, don't be afraid to ask a reasonable wage. Nine times out of ten, you will get it.

In early youth, my father was stricken, becoming totally blind, from which he has not recovered up to this day. Through a personal friend of the family, cheese making was suggested for me, which I have followed ever since. The past ten years have been spent at my present position, and I want to tell you, friends, the task was a hard one, accompanied with a great deal of labor, grievance, and disappointment which words fall to express. Yet I gave heart and soul to make good and prove myself worthy. I will leave it open to anyone for investigation, having built up from a very small beginning one of the largest cooperative factories in central Wisconsin. Allow me to advise you, and more so the students who are about to finish school, if you have in mind a position or are planning a change, don't seek the best jobs, make a good factory out of a poor one—that's the kind of makers we need and want in the state of Wisconsin. We have many factories calling and waiting for just such men, who are willing to work to accomplish success. You need not worry regarding your pay, for nine times out of ten you will get it, and with pride will establish a lifelong reputation which cannot be overestimated. The past few months I have visited my patrons' homes and studied the problems confronting them. Producers, more so the younger generation, having purchased farm homes when prices were soaring high, need our support more today than ever before. Their income has been cut in two, and they have advanced taxes and interest on capital to meet, yet they must not get discouraged or lose confidence in men or organizations which kept a ready market open for their product. No farm crops net greater returns than dairy products. That alone should create a greater confidence, love and respect for the faithful honest cheese makers who are trying their best to achieve prosperity in their community.

In behalf of the members of the Central Wisconsin C. B. D. A. A., I am glad to be able to report to you the excellent success and attendance of both meetings held at Marshfield and Wausau the past year. We can point with pride to a substantial increase in our membership, organized in 1914 with sixteen members, and now we have 350 active

members on our books. We also received a unanimous support in the prize contest, and I believe it the largest exhibit of cheese and butter ever assembled for exhibition in central and northwestern Wisconsin. The premium funds for the year were estimated at about \$800, which is a wonderful advancement from former years. Valuable resolutions were drawn up and a copy of them has been forwarded to your worthy secretary and staff of officers for recognition.

The merchants of the city of Marshfield and other near-by towns have adopted the resolutions regarding the oleomargarine menace and pledged themselves to cease handling substitutes for butter. The finances of the association are in good condition, considering we have received no appropriation from the state, having a balance of about \$260 after paying all bills at the end of this recent convention.

In closing I wish to extend my personal thanks to each and every one for their assistance at the conventions that has been given me these many years. While the work has been hard and pressing at times, yet I have enjoyed it. Again I hereby voice my appreciation for your loyalty.

I can think of no better counsel or message to give to the members than to fill the program with earnest effort that the success of the meetings will bring about friendship, good cheer and fellowship for one another, an aim for closer cooperation which gathers together the scattered units of our occupation and welds them into a coherent industry possessing vitality and spirit. Instead of confusion, jealousy and misunderstanding, there is confidence, respect and assistance, instead of aimless drifting there is certainty of purpose and loyalty to one another.

## FOND DU LAC COUNTY ASSOCIATION

By MR. E. C. DAMROW, Fond du Lac.

Mr. President, Ladies and Gentlemen: I would call you brother cheese makers, but I am not making cheese. Just a few things of what our organization has been doing the last year and some of what we call the big stunts we pull off.

We all feel that during this financial stress we have gone through there is only one thing that has pressed Wisconsin ahead of any other state and that is that brown bossy. If it would not have been for her Wisconsin would have been in the same condition as practically every other state in the Union. Although the farmer didn't get a dollar, on the average he got fifty cents. In some of the other states the farmer didn't get a cent.

In Fond du Lac we organized and there is something doing. The first thing we did was to try to help advertise the cheese. Our fair never had what we considered a proper refrigerator, so that was the first thing we went after, to get the Fair Association to provide a proper refrigerator. We now have a dandy that is 8 feet wide, 24 feet long, 7 feet high, with double glass wall on three sides, ice chest

on the end and a nice cement floor in the bottom, and the cheese makers in the county certainly showed their appreciation by filling the thing pretty nearly full after the first day.

One of the stunts we wanted to carry out was to have a cheese day in Green County, as we thought we would cut up cheese and make sandwiches. The cheese makers donated approximately four brick cheese, about six Longhorns and I think four Daisies. We had crackers or wafers donated by the National Biscuit Company, and when the cheese sandwiches got going it was about one of the biggest things ever put on at the fair. We ran short of wafers and the bakers volunteered to donate all the bread we would need. Everybody that came along wanted to know where they could buy this cheese, and, of course, we promised that on the last day we would sell what we had left. The last day kept us busy selling the cheese. The thing we wanted to impress was that the thing that had made this state was a product of the country.

In our organization we had some of the secretaries or patrons present at our meetings. At one of the meetings, one of the cheese makers said last summer he was forced to make cheese at two cents a pound and another talked about the whey cream that belonged to the farm. One of my friends said, "I have never met an honest man that wouldn't rather steal than starve." Those are the conditions. You all know it costs three cents and over three cents, depending on the size of the factory. Of course, in that discussion this cheese maker was present, and so were some of the patrons. A few of the patrons had made cheese themselves, and it is easier to argue with those patrons. They know the cost of supplies, and it is easy enough to figure up what it costs to make cheese.

There were several instances when I was called out where there was trouble in the factory, and I must confess there are very few cheese makers, not only in Fond du Lac, but elsewhere, who take the time and actually figure what the supplies cost and what it costs them to make cheese. By talking these figures it is easy to have a committee appointed of patrons who can figure, and I believe there is a very rare occasion where patrons cannot figure this out for themselves.

I went outside of the county up in Colby, where everybody asked me what are the boys getting for making cheese in Fond du Lac, and are they taking a cut? I arranged for a meeting there and I asked them to bring their secretaries in and some of their patrons, especially those who can read and write. When I came in to Colby in the evening I heard a to-do. They were going to get my head. They were all loaded for me. I talked for an hour and a half. They wanted mostly the cost of making cheese. I just had a report from the Dairy Division. I made up a list myself. I knew the life of the tools. We talked there for an hour and a half or two hours on the cost of making cheese, and I don't remember of one secretary that was there that was going to get my head who had even a question after I asked if I had made it plain and covered all the points. I said, "You must consider I am not here for the interest of your cheese makers or your

farmers; I am here for the interest of the dairy industry. I want to see the good man stay on the job and the poor man that is not going to make good get out of here." In one case I was called out where one of the neighbor factories wanted me to have a meeting with his farmers. That was a Federation proposition. One-half of the farmers wanted to quit if he joined the Federation and the other half wanted to quit if he didn't. I went out there and I said, "What is the trouble? I am not going to talk for the Federation and you will not catch me talking against it. It is immaterial to me what you do." I showed them the points, the necessity of sticking together. I said, "If you break up the factory, and he don't make a living, he will stay out. He doesn't care who he sells to, even if he sells at a sacrifice. You are now well satisfied with your cheese maker. If you get another one that can't make cheese, and makes six or seven cent cheese, who is the loser? If you go to the condensery and split the milk up you can't make expenses." I know one cheese maker down in northern Illinois who quit under the steam roller of the condensery. I begged these farmers to keep the thing up. Nothing doing! The result was when we got \$1.50 and \$1.80 and up to \$1.90 for milk the condensery down there was paying a little better than half of that price. Up in Neillsville, where a co-operative factory let their factory close, let their cheese maker go, they telephoned me to come down and see what was the matter. They are paying well on butter fat. I said, "How is the test?" That was the trouble; the test wasn't right. These are cases I cited to them. I said, "Before we take a vote I want to know is there anybody here that is not ready to stay with the majority?" There wasn't. Then I said, "Lets take a vote." We appointed a chairman and a secretary and kept a record. The cheese maker didn't want to vote. The farmers voted thirteen against the Federation and nine for. The cheese maker didn't vote for the Federation; nevertheless, some of the farmers asked me what I thought of the Federation. I said, "I will not talk for it or against it, but one thing that was absolutely necessary was for you to stick together," and they did.

I think there were several other plans we started on last fall. We got rather a late start in Fond du Lac county. We will do better next year. The cheapest way to advertise is to have some of your choice cheese, and let us hope the weatherman will do better with us next year than last year so that we can make cheese when it ought to be made, in June.

## MARATHON COUNTY ASSOCIATION

By MR. HUGO WILKOWSKI.

I haven't very much to report. I was just elected secretary a short time ago. We are trying to have meetings every month. As Mr. Damrow says, we went after the Fair Association, and they put in a fine refrigerator. Marathon County isn't organized as well as it should be, but we are going to try our best for next year and organize Marathon County 100 per cent.

## SOUTHERN WISCONSIN ASSOCIATION

By MR. FRED MARTY, MONROE.

Mr. Chairman, Fellow Cheese Makers and Members of the Association: The Southern Wisconsin Cheese Makers' Association is perhaps a close second to the Wisconsin Cheese Makers' Association, with a membership of over 500 members, and is represented today in convention with an exhibit of the foreign types of cheese to the extent of 110 entries, thereabouts, maybe more or less. It looks to me as if you American cheese makers will have to get a hustle on yourselves for the coming year or eventually we are going to beat you with an exhibit here of Limburger, brick and Swiss cheese. There is an exhibition here today 110 foreign cheese entries against about 240 American cheese. There is no comparison at all. I think we are the winner by a great percentage. We are winners and it will behoove you, in order to keep ahead of us, to get after your fellow cheese makers to get entries down here. Two hundred and forty entries for the great state of Wisconsin is no representation at all. When you beginners sitting to your right over there start out into the field let it be one of your watchwords to regularly attend any convention and all organizations and meetings wherever you can in the future in the state. Join. Listen for somebody to keep your eye upon. You will find in time you will win out.

Mrs. Dix said in her splendid remarks that any cheese maker who is worthy of his efforts is entitled to fair wages. I want to ask you right here at this particular time, why can't you American cheese makers organize, get together at this particular convention and get yourselves on the merit basis and break away from this union proposition where one loafer and one slacker can get the benefit of the merits of a man that is recognized as a professional in his trade? Let merit be the guide to the extent of what you get for your service. I have reference to a basis of salary equal to that in the southern and southwestern part of Wisconsin where the makers are stimulated to do their best through these sources. Their wage is based on a percentage. For example, if you are cut on your cheese by local buyers you are going to suffer on the cut in proportion. If you get the top market price by your local buyers you are going to get the benefit of the top market price. As Mrs. Dix has referred to, an inspector must get to your cheese factory by 12 o'clock. If he got there by 1 o'clock there was no cheese maker there to make the inspection of the building. There is too much haste.

She hit the nail on the head when she spoke of the improper matting of your curd before it is put to press. Where do you find today the man in the cheese factory who has the patience to wait until all the gases have developed, until it is smooth before milling it and putting it to press? If you put yourself on the percentage basis there is a special inducement there for you. There is no reason in my mind

why the American cheese makers can't put their salaries on a percentage basis. In our section the cheese makers get from 12 to 14 per cent of the gross income of the cheese. I want you to get that. He furnishes the necessary supplies of manufacture and the fuel, but don't forget this, the cheese factory in which that cheese is manufactured is owned by the farmers, and rightly so. The upkeep of that building is owned by the farmers. Do you realize where you are working today? After convention take a pencil and start to figure. Take the lowest figure, 12 per cent, and see how much the Swiss cheese makers of southern Wisconsin have beaten you out with your 200 or 300 per cent. You are giving your labor away and you are not getting anything in return.

Our Association convention will be at Monroe next week, January 19th and 20th. We have a splendid program and hope to have a splendid audience, as usual. We invite you cordially, anyone who finds it possible, to come there, and hear all about Swiss, brick and Limburger. We have patrons, not only cheese makers, and in that way we get the two sides. It is so much easier for a farmer to listen to a speaker than for you to go back and tell him what you have heard. If it is possible we would like to have you present at our convention.

There is one point I forgot to mention. Two years ago we started in Monroe a separate school for technical training of cheese makers in Monroe. We have been successful in attendance. We have carried it on in 1920 and 1921, and the third term is called for the first and second week of February at Madison this year. If it is possible for any one of you makers to attend that course we will make arrangements for a small amount of expense. It is entirely for the manufacturer of Swiss cheese. It is both theoretical and practical. We invite all those who care to take the course to refer to Henry Elmer, Secretary of the Southern Wisconsin Cheese Makers' Association, Monroe.

## MANITOWOC COUNTY CHEESE MAKERS' ASSOCIATION

By AD. R. VALLESKY.

This county association for the first time in its history held a number of scoring contests the past year. The final contest held in November was very well attended and the afternoon was set aside for educational purposes only. As Mr. Hubert, Mr. Cannon and Mr. Osterhaus were present the makers grasped the opportunity and there was a liberal and open discussion. I had the honor of superintending the meeting and can assure you that precaution prevailed in dwelling upon everything essential regarding our cheese making. The makers present were so well pleased with the discussion that it was resolved to make 1922 a better and bigger year for exhibiting and attending meetings and contests. Our association is assured that we had the



best Wisconsin cheese judges and felt proud that about 75% of our cheese exhibits were in Wisconsin Fancy grade according to the Division of Market rules. The three judges felt well satisfied and I would like to hear a word or two from them now showing you how they appreciated the afternoon with us.

MEMBER: Who were your judges?

MR. VALLESKY: Mr. Hubert, Mr. Osterhaus and Mr. Cannon.

MR. OSTERHAUS: Mr. President: I would consider the meeting of their local very successful. They had a splendid representation of product from their county and the cheese makers were there to learn what they could from associating with others and from the remarks of the judges. The discussion was entered into very freely and I am sure those making the remarks or those acting as judges in that particular case appreciated the open and responsive spirit of the cheese makers of Manitowoc County at that meeting. Such meetings should be helpful in the broadest sense and there ought to be more getting together in such meetings for such purposes.

CHAIRMAN: Mr. J. G. Moore, Secretary of the Wisconsin Protective Association, has a very short talk on the future plans of the Wisconsin Dairy Protective Association.

MR. MOORE: Mr. President and Ladies and Gentlemen: I am very glad that after looking over the program I decided to write down what I had to say, because you noticed that your President emphasized the fact that my remarks must be short. As a matter of fact it hasn't anything to do with that at all. In looking over last year's report I noticed the stenographer had made some bulls in reporting my address and so I decided I would be on the safe side and have my talk written out, but had I known that my friend Miss Mason was going to report this meeting I might have saved myself this trouble.

## PLANS OF THE WISCONSIN DAIRY PROTECTIVE ASSOCIATION

By J. G. MOORE, Milwaukee.

At the cheese makers' convention last January, the speaker presented a telegram received from Washington on the subject of tariff hearings on dairy products and it was the decision of the convention that it was not necessary to take any action on the subject further than to pass a resolution "that if the present duty is twenty per cent ad valorem that this Association recommends that it shall remain as it stands today."

As Secretary of the Wisconsin Dairy Protective Association, we attended the hearings before the Ways and Means Committee of Congress at Washington, on January 11th, 1921, and found the importers of cheese from New York City and elsewhere were there demanding

that the tariff on cheese be reduced or at least changed from an ad valorem to a specific duty of four cents a pound.

In 1917 we imported over six million pounds of cheese and for eleven months of 1920 the last figures we had, the amount had risen to over fourteen million and the need of a protective duty would seem apparent.

The tariff as it now stands in the emergency tariff bill included both the specific and ad valorem features and the tariff on butter was increased from  $2\frac{1}{2}$  to 6 cents per pound with a probable raise to ten cents in the permanent tariff bill.

That the tariff rates have a direct bearing on the amount of imports, is seen when we consider the amount of Canadian imports of butter. In 1920 under the old tariff of  $2\frac{1}{2}$  cents per pound the imports from Canada during the month of July were more than a million pounds greater than in July 1921 under the six cent rate in the emergency tariff.

As it is now, the nearly universal custom of cheese factories to skim the whey, every cheese maker has a greater interest in matters affecting the butter industry than ever before and therefore you were vitally interested in the fight held in Washington last February against the ruling of the Commissioner of Internal Revenue, Williams, taxing butter made from cream, which had been neutralized, ten cents per pound. As the margin of the butter manufacturer is small, this tax, if allowed to stand, would have to be borne by the producer and it is very evident that it would have had a most disastrous effect on the man who milks the cows and would have been the means of driving many of them out of business.

It took strenuous effort on the part of the various State Associations, of which this Association was one, to get this rule rescinded and we doubt very much if that desirable result could have been effected had it not been for the very efficient organizations maintained by the dairy states of the Middle West.

In his address before this Convention last year, the then Dairy and Food Commissioner, Mr Weigle, referred to the attempt of certain parties attempting to manufacture cocoanut cheese and the action of the Commission in bringing suit against these parties. Mr. Weigle further stated that "There is no substitute for cheese, just as there is no substitute for butter or for any other honest dairy product and the manufacture of these frauds and imitations is a menace to the industry and are deceptive to the consumers thereof."

No mention was made of that greater fraud on the industry and the consumers of dairy products, "filled milk," and it was left to the initiative of this Association to start the ball rolling to curb the growing menace of substitute milk by securing the introduction of a bill at the last legislature to prohibit the manufacture of skimmed milk and cocoanut oil.

This bill was passed almost unanimously by the legislature and while its constitutionality has been attacked by the interests behind

this fraud and the case is now in the hands of the Supreme Court, we believe that their decision will be in line with the decision of the Supreme Court of the United States upholding the decision of the Supreme Court of Ohio along similar lines as being within the province of the state police powers to check fraud on the public. Bills have been introduced in Congress on this same subject, the Voight bill driving at the prohibition of filled milk in inter-state commerce and the Beck and Fordney bills along the lines of the old filled cheese bill, seeking to tax it out of existence.

There is merit to the contention of some who say that the passage of the Voight bill will not stop the manufacture of filled milk as the manufacturer could ship the condensed skim to points within any state and then mix with cocoanut oil and thus evade the provisions of the law. However, it seemed the concensus of opinion at the meeting held in St. Paul during the Dairy Show, attended by men from coast to coast, that the Voight bill had the best chance of passage as it had been recommended by the Agricultural Committee.

The cheese maker is interested in this legislation because the milk fat thus displaced by the cheap cocoanut oil is placed on the market as butter or sweet cream and affects the price of those commodities which in turn affects the price of cheese. It is a case of all interested in the dairy business hanging together or hanging separately.

One of the troubles which the cheese maker has to contend with is unfair competition. In my address before you last year, I referred to unfair competition as defined by the Federal Trade Commission and the action taken by the creamerymen of the country along those lines.

One of the biggest factors in this matter of unfair competition is the so-called statements put out by cheese makers which do not contain the necessary information which would enable any one interested to figure them out to see if they were correct.

We had a cheese maker call on us last spring to complain about a neighboring maker who paid for a certain month \$1.19 a hundred while the neighboring factories, some of them co-operative, paid but \$1.12 and \$1.13. This cheese maker, a man of large experience, said he had paid \$1.16 but that in order to do so he had paid some of that money out of his own pocket in an endeavor to meet the expected competition.

We have enlisted the Department of Markets aid in an endeavor to get the uniform statement for all factories so that a statement cannot be put out that gives the impression that one man is paying more than another, when as a matter of fact, analysis would show that the cost of making has not been deducted from the alleged price they are claiming to pay.

Last year we also referred to the cost of making as being the main trouble the cheese maker was suffering from and we reiterate it now.

Last spring we were called to attend some meetings two or three weeks after the regular meeting had been held to fix the price of mak-

ing and succeeded in securing a better price than had been agreed upon and at a meeting at Thorp, called by the president of this Association, Mr. Reed, at which over a hundred patrons were in attendance, representing over twenty factories, we secured the passage of a resolution making four cents the price for making as well as the appointing of a committee to work out a uniform statement. Whether these reforms were carried out I, of course, do not know, but at least a start was made in the right direction.

One of the matters troubling the cheese maker seems to be the activities of the Wisconsin Cheese Federation. This organization has the backing of the University of Wisconsin and the Department of Markets and its spokesmen are making large claims as to what its activities have accomplished for the patron. We heard it stated that if they could handle a sufficient amount of the cheese produced, they would be able to pay the producer six cents a pound more for his cheese than he now gets under the present system. We hope they do. The cheese makers seem afraid of this proposition and they are in a peculiar position. We have heard it reported that one of the representatives of the Department of Markets said that "the cheese maker is only the hired man of the farmer" and yet he has a large amount of money invested in the business and has very little to say as to the product manufactured or the price he obtains for the use of his investment. This condition will, no doubt, continue to grow more onerous and the only way we see out of it is for the farmer, if he wishes to have all the sayso, to own the buildings and equipment and pay the maker a definite salary or for the maker to become a real business man and buy outright the milk and handle it as any other manufacturer would his own product.

It is not fair to expect the maker to run the risks incident to the owning of a factory and then refuse him a voice in the management of it.

Organization can accomplish greater things than the individual alone can accomplish and the only way you cheese makers can face the future with confidence is to maintain a good strong organization.

I want to say in this matter I received this noon a subpoena from the Division of Markets:

"SUBPOENA.

"STATE OF WISCONSIN,  
"DEPARTMENT OF MARKETS.

"To: J. G. Moore, 222 Brumder Bldg.,

"Milwaukee, Wisconsin.

"You are required to appear at the Council Room in the City Hall, Milwaukee, Wisconsin, on the 14th day of January, 1922, at 9:00 o'clock in the forenoon to give evidence in the matter of a hearing to determine whether a general order ought to be issued under Section 1495-14 of Chapter 571, Wisconsin Session Laws 1921, against the manufacturers of butter and cheese, prohibiting certain methods and practices in business, alleged to be unfair;

"You are further required to bring with you and produce as evidence all cheese factory statements and creamery statements now in your

possession, and all other papers or statements relating to the butter fat test of and prices paid for milk and cream.

"Given under my hand this 9th day of January, 1922, at Madison, Wisconsin.

"GEO. L. MOONEY."

If any of you gentlemen can stay over for that meeting I am sure the Department of Markets would be glad to have you, to give your idea of what should be done.

"In connection with this matter of price for making, a cheese maker submitted me the following and asked me to submit it to you:

**"Yield of Cheese to a Pound of Butter Fat.**

**"Regulation of Payment.**

"The convention of cheese makers should not close before some set standard of payment has been arrived at.

"One cheese maker, whom we will call Jones, pays the farmer \$1.85 per cwt. of 4% milk. His contract with the farmer we will say is .02½ cents for making and one-half (½) of the whey cream. Supposing the market price for the week is .18 cents per pound and cream .40 cents per pound of butter fat. All he can pay on a basis as given above is \$1.70 per cwt. of 4% milk on a 2.65 to 1 lb. of butter fat scale. . . . These figures prove that there is a deficit of .15 cents per cwt. and it is only logical that the farmer will be the victim of some short weight scale or some other method of unfair practice, and still be of the belief that he is receiving more for his milk than any other cheese maker can pay. . . . This puts the honest cheese maker in a position where he is invited to become a criminal.

"The convention should have a resolution put on record which will prompt the department of markets to set a standard of payment on a basis of a set amount of yield to a pound of butter fat. Let it be 2.6 or 2.65 or 2.7 cheese to a pound of butter fat, just as the convention may see fit. This would eliminate any and all unfair competition and would put Jones on the same basis as his neighboring factory.

"Mr. James Gray Moore,

"222 Brumder Bldg.,

"Milwaukee, Wis.

"Respectfully submitted,

O. A. KIELSMEIER."

In this short address, Mr. President, I haven't attempted to say what the Wisconsin Dairy Protective Association will attempt to do this next year, but to try to show you what we have done in the past year. We hope to do a great deal, but it depends a great deal on the co-operation of the members.

## NATIONAL CHEESE ASSOCIATION

CHAIRMAN: The National Cheese Association is an association that was formed two years ago, of which Mr. Sammis is the president and Mr. Stoltz is the secretary, and they have met in connection with the National Dairy Show. The main purpose, as near as I can find out, at the last meeting of the National Cheese Association at St. Paul, was to make an incentive for the Wisconsin cheese makers and the

cheese makers of the other states where cheese was manufactured to get a larger exhibit of cheese at the National Dairy Show, and some way of getting prizes. We all know a gold medal is out-of-date; we want a prize of merchandise. The cheese exhibit at the National Dairy Show was a very small item, while the butter was large. The ice box in the dairy building in St. Paul is as large as this room and continues clear through to our cheese exhibit. Half of the butter exhibit was in there and the other half was in cold storage, and our cheese exhibit was in there. While there wasn't any cheese machinery exhibit there wasn't any cheese exhibit. The idea of the National Cheese Association is to interest you in sending cheese to the dairy show. Mr. Sammis is chairman of that committee and Mr. Stoltz is chairman of a committee on definitions and standards, and as he in this letter says, he is making six other appointments. He wants the Wisconsin cheese makers to make one appointment.

"Prof. J. L. Sammis, Sec'y.,  
 "Wisconsin Cheese Makers' Association,  
 "Madison, Wis.

"Dear Prof. Sammis:

"As chairman of the committee on Definitions and Standards I am making six other appointments.

"I am appointing a representative from the Bureau of Markets and Crop Estimates, one from Canada and one from the New York Association. Two from Wisconsin and one from the coast.

"I am writing you as the secretary of your association to take before your association, your president or yourself to recommend two members to serve on this committee. One of these men representing the Swiss cheese and the other the American cheese.

"Wishing you the season's greetings, I beg to remain,

"Very truly yours,

R. B. STOLTZ,

"Secretary National Cheese Association."

### DISCUSSION

Now it is your privilege to do with this matter as you choose. Do you want a man appointed to act for the Wisconsin Cheese Makers' Association on the fixing of standards in the National, one for the American cheese and also one for the foreign types of cheese? If you do, I will appoint the committee or you can suggest those names or nominate the name of the man.

MR. EMERY: I would like to inquire what that standard is, whether it is standard for the National Dairy Show or standard for the national food law. I assume it is for the national food law.

CHAIRMAN: I assume the same.

MR. MARTY: I was a charter member in a movement of a National Cheese Association in Chicago a year ago and the reason of this standardizing, Mr. Emery, is to get a uniform standard on dairy products from state to state, from coast to coast. In place of having different standards in the state of Michigan and in the state of Wisconsin, in

Iowa and Minnesota, to start a national movement of standardizing dairy products, the finished products. That will make equalization of competition. That is the intent of the committee.

MR. EMERY: The question I raise is, what is this standards committee? It is an organization, a committee appointed by the United States Department of Agriculture. Why not go back twenty years? Congress made an appropriation for the National Secretary of Agriculture to appoint competent men of various organizations for making standards of various products, including dairy products. They did their work and the law provided that when they had done this work, when they had held their hearings of these various organizations and business men and manufacturers had had their hearings, this committee might submit tentative standards of various organizations and finally they would report to the Secretary of Agriculture, and when that Secretary of Agriculture had given his O. K. they would advertise it as the national standard. And then the question came up in the matter of glucose, and they took back all they had done.

The United States Department of Agriculture in recent years, without any set authority of law, but probably under general authority of law, are preparing standards, making recommendations for standards, which is simple. My question is whether this committee and those gentlemen are to act in connection with that committee or some independent committee.

CHAIRMAN: Mr. Stoltz is chairman of this committee and he wants the representation from the different states that haven't a cheese organization. We have standards for cheese in Wisconsin; New York has different standards, and he wants to get reports from different states and then wait upon the Department of Agriculture.

MR. EMERY: Much in them is very desirable. As a matter of fact it has been claimed—never on the floor of Congress—that Congress had not authority to make standards. Up to the present time no national authority has been established. It is something citizens of any state should be careful about, these decisions of the United States Supreme Court with state legislatures. When I refer to this in the article "Filled Milk Business" in the case that went up from Ohio, that the State of Wisconsin had finally that product and had prohibited certain product. You are never going to be able to do anything that does away with the constitutions of the states. It is very desirable that we have a uniform standard so far as business. For twenty years I have stood perhaps almost alone defending the right of the State of Wisconsin to fix the standards in any conflict with national laws. You cannot do that. When there is any conflict between the national and the state law, the national law governs. But I think it very desirable, very important that an organization as large as this, or an industry of such vastness as the cheese industry of Wisconsin, should have a very competent man to be heard on all those councils lest something be put over on Wisconsin.

CHAIRMAN: I have read the communication, you have heard Mr. Emery upon it.

MR. UBBELOHDE: Some years ago when the Dairy Show was held in Chicago, perhaps ten or twelve years ago, it was at the time of the foot and mouth disease, this Association sent me down there to represent this Association. The Secretary of the National Dairy Show wanted to have organized a cheese association to cooperate with the National Dairy Show, the National Butter Association, and I got down there and I spent three days looking up the cheese and didn't find it. There was none there. Mr. Damrow was there also. When the meeting was called there were several reporters there, I was the only cheese man in the hall. New York had been notified, Ohio, several other states and there was nobody there and they dropped it there and it is not taken up again. The butter men were represented, everything else in the dairy line excepting the cheese. There was no cheese there. There was no exhibition there. Mr. Damrow and I went all over hunting for American cheese.

MR. MARTY: I want to say that the new movement, the National Cheese Association, was started a year ago last October in Chicago.

CHAIRMAN: The last meeting in St. Paul Mr. Sammis appointed his special committee. I am to act with him on one, on the securing of larger exhibits of American and foreign types of cheese to the National Dairy Show, and also in making some arrangement for the making of prizes to give for the cheese. And Mr. Stoltz is chairman of the other committee upon Definitions and Standards. As I understood it at that time it was, as I stated before, to get all the states that are manufacturing cheese on a more uniform basis as to quality or standard and the definition of what cheese is. It doesn't conflict with the National Pure Food Law or any other law. We have a standard in Wisconsin, New York has another one, Michigan has another one. Why not get together and represent your industry as it is at home and then compromise between the three and the United States Department of Agriculture will be helped a whole lot. That was the idea given out, wasn't it Mr. Michels? Only Mr. Stoltz is asking for an appointment.

MR. BRUHN: I can't just figure what this is. Is it for a chemical analysis, is it on the percentage of fat, water, and so on, or the value?

MARTY: The chemical compound of cheese.

CHAIRMAN: The chemical analysis, moisture content, etc. Get them as near uniform as possible.

MR. DAMROW: I move it be laid over on the table until tomorrow afternoon session.

MR. BRUHN: I second the motion.

CHAIRMAN: We might as well—

MEMBER: I move Mr. Marty from Monroe represent the foreign type of cheese.

MR. BRUHN: I second the motion.

MR. DAMROW: I make an amendment to that motion, to three o'clock tomorrow afternoon.



MR. BRUHN: I am satisfied.

Motion put and carried.

CHAIRMAN: Lest I forget, we are going to have a banquet tomorrow afternoon at six o'clock.

We have come to the point on the program where there is no name attached to it, it says, "Sunday Work in the Cheese Factory. Discussion by Members." The question stands now for some one to start the discussion. The dairy papers for the past several weeks have been full of the subject, shall we make cheese on Sunday, or shall we not? And what shall we do with the farm product if we don't? We have from now until the time you want tonight. It is 4:30 now. Thrash it out today.

MR. DAMROW: It has been decided this afternoon, the topic brought up. Being an old-timer it is not very clear in my mind. Mrs. Dix, also Mr. Marty, tell us that the average cheese maker is in too great a hurry to leave the cheese factory. Mr. Fuhrman says get together, have a dance or hold a banquet. I want to get clear on this how this can be established. Starting this discussion, Sunday work, in my travels between the boys in five different counties I find quite a few of the cheese makers have for the last years skimmed on Sunday their milk and have an understanding with their patrons, some of them one Sunday a month, and that the farmers are expected to have a small loss on their Sunday milk, taking their skim milk back home. I believe that with the least notice it is not necessary for anybody to say that the cheese makers are leaving their factories at twelve o'clock. I believe I am getting around as much as anyone and I find few cheese makers that are leaving their factories at twelve o'clock. I do believe if every cheese maker goes home and takes it up with his patrons at his meeting and explains it to them, I believe the farmers are fair minded enough to let their cheese makers have a Sunday off. I hardly believe there is a factory that would deny the rights to their cheese maker.

MEMBER: Do we close this subject, and if it takes to six o'clock there is another subject I want to have brought up this afternoon and that is the Farmers Board at Plymouth.

CHAIRMAN: That comes up another time.

MR. UBBELOHDE: Mr. Chairman, I would like to ask Mr. Damrow what we will do with our milk on Sunday. I am speaking of the farmer now. I am milking four times a day.

MR. DAMROW: What do you do, Mr. Ubbelohde, when you are making cheese? What difference is there if your factory skims on Sunday? I can't see the difference.

MR. UBBELOHDE: That is what I want to know, whether the cheese maker is willing to skim. We skim every day, but our neighbors don't. We have got to have skim milk for our calves and the pigs. Will the cheese maker be willing to make provision to skim for the farmers on Sunday?

MR. DAMROW: That is the subject I mean, because those factories I mentioned are skimming the milk for the farmers, not the farmer doing the skimming alone, the factory.

MR. RINDT: I think this is a matter that can only be settled between the maker and his patron, because in every locality there is a different problem. If we come here to conventions and settle the price per pound of make, who will get the same price, I would like to know? Will a maker go home to the same conditions we discuss here? Does this help him any in getting his patrons lined up so that they will give him his Sunday? Furthermore, in the factories around my locality we have only one separator, and we have ten or twelve thousand pounds of milk. We don't gain anything by separating, but we will have to make a lot of changes, so I don't see how we are actually gaining anything.

MR. ARTHUR JOHNS: In regard to Mr. Rindt's statement, a factory, in my opinion, running in the neighborhood of twelve thousand pounds of milk isn't running at the greatest advantage or the greatest saving to use a separator with a capacity of four thousand pounds per hour. They ought to have a separator that would handle at least eight thousand pounds per hour, and if he did have that I don't see why he couldn't skim his twelve thousand pounds in less than two hours. On Sunday he could skim that milk at eight o'clock and have his cream out of the way by nine o'clock and have the most of the day for himself to attend church or for pleasure or rest. We can get together and decide to cut out Sunday make here until we get blue in the face, and go back home and we have got to get some definite remedy to compel the man to quit making Sundays or we will never accomplish anything in cutting out the Sunday making. I think every man can see if we have a fair-sized separator we ought to be able to get the greatest share of the day by skimming the milk. I would suggest, in order to get some kind of a remedy to do away with the Sunday cheese making, to have a bill framed up prohibiting Sunday cheese making and skim the milk instead.

CHAIRMAN: In connection with what he has said, here is the Canadian law, which is:

"It shall not be lawful for any person on the Lord's Day, except as provided herein, or in any provincial act or law now or hereafter in force, to sell or offer for sale or purchase any goods, chattels, or other personal property, or any real estate or to carry on or transact any business of his ordinary calling or in connection with such calling, or for gain to do, or employ any other person to do, on that day, any work, business or labor.

"It is not lawful for any merchant, tradesman, artificer, mechanic, workman, laborer or other person whatsoever on the Lord's Day to sell or publicly show forth, or expose or offer for sale or to purchase any goods, chattels, or other personal property, or any real estate whatsoever, or to do or exercise any worldly labor, business, or work of his ordinary calling...."

Those are the laws in Canada and that is signed by the Canadian government.

MR. ROHDE: Mr. Chairman, I agree with Mr. Rindt, and furthermore I don't see what you are getting at with the skim-milk. I will have to have a different tank. You can't run it in the whey tank. If you do, it is going to coagulate. I don't think it can be done.

MR. BRUHN: Your contention is what are we going to do with the skim-milk after buying extra equipment. I believe we have a law similar to the one in Canada in Wisconsin today. I am not sure.

CHAIRMAN: They enforce it in Milwaukee too.

MR. BRUHN: Providing we have a law like that and live up to it, can we skim on Sunday? So far as the law is concerned, I don't see how we can do anything. A statement was made this forenoon that the best way to make them quit making on Sunday was to pass a law we have to make on Sunday. [Laughter.] I think that is something that is optional to the maker. We can suggest things here; we can talk the matter over and suggest ways and means by which we will be able to get away from the making of cheese on Sunday, but so far as passing resolutions or making laws, I don't see how we can go to that extent.

MR. DAMROW: As I understand, Mr. Rindt says we can pass resolutions here until we are blue in the face. Mr. Rindt, you have a neighboring factory. His patrons would allow him half a dozen Sundays during the summer. I believe there is such a thing. I believe if you would ask the same favor of your patrons the following year, you would get it. I have worked twenty-five years every Sunday during the summer months. I am having part of my Sundays off now and I know how I feel about it. Let me tell you, Mr. Rindt, if a man has got half a dozen Sundays out during the season he feels more content to go back Monday morning to work all day in his workshop. He will take greater pride in it. He will enjoy more with his fellow men than he does if he works every Sunday in the year. You don't think for a minute the farmer has got to work every Sunday. He milks his cows on Sunday and he has got practically the Sunday to himself. I don't think they will deny the cheese makers having a few Sundays off during the summer months. He likes to have a day off as well as the next man. It is only a suggestion to the boys. We never heard, a few years ago, of anybody having a day off. Mr. Rindt, if you feel like working every Sunday, I am not going to stop you. You can work every day.

MR. RINDT: I know Mr. Damrow very well and he knows me very well. What I was coming to, the way I have my factory arranged it would be considerable expense and considerable work. I would have to change my factory, which I would be willing to do if this thing works out, but that one point I was coming to, that each locality has a different problem and each would have to work out its own problem. I don't think that it is right to enforce it.

MR. ROHDE: It will take a lot of equipment.

CHAIRMAN: You would be one of those. How much extra equipment did you have to put in to separate?

MR. KOHLER: Where a man is separating every day—Where he is separating only this one particular day what is he going to do?

CHAIRMAN: I am asking Mr. Rohde what he did.

MR. ROHDE: We were separating for sweet cream, we were not separating for butter, therefore we had to get a cooling system for cooling our cream and we had to clean our whey tanks. Of course, the whey tanks were clean to put the skim milk into. If you put that skim milk into the whey tank I don't believe that would work at all; it would coagulate. Furthermore, you couldn't use the separator as it was.

MR. WESTPHAL: I think where there is a lot of trouble the cheese makers are really afraid to put this question up to the farmers. And another thing, if they are next to a condensery they can't compete with them. The other day I talked with a barber and we were talking about organization and he said, "You are really coming to it. Not long ago we used to shave every evening and Sundays and there would be the regular customers that came on Sunday. I know some people that didn't go into a barber shop for six months after we quit shaving on Sundays. After six months he came regularly on a Saturday night." If there is any way to do away with Sunday work it can be done at once, but I think if a cheese maker makes cheese for six months straight, if he could get a few more hours on a Sunday, he would enjoy it very much. In separating, as far as I can figure it out, I think I can get done by 10 o'clock. Now on the average I get done about half past 4 and 5 o'clock, and then the day is gone. There were very nice articles in the Butter, Cheese and Egg Journal about farmers taking pleasure rides and the cheese makers standing above that heated vat and fighting pinholes. On Sunday they come late, and if you say anything, "Well, it is Sunday today."

MR. JOHNS: In regard to the opinion as to the equipment, I leave it to any maker in the audience that in order to take whey out to the whey tank he has a jet or a pump, anyway, and to separate skim milk from coagulating it wouldn't take more than a four, five or six barrel tank that could be shifted over that tank and the farmers could take the skim milk home.

MR. ROHDE: Supposing the farmer was feeding whey to the hogs all week and he gave them skim milk, would the hogs be satisfied the next day on the whey?

MR. JOHNS: If you were handed a few poor apples six days a week and were handed a fine, nice, juicy apple on Sunday, would you take it?

MR. BUERGI, Iowa County: I was the first cheese maker when the creamery changed over to the cheese factory. The farmer says, "What are we going to do for buttermilk?" He says, "We will separate every two weeks for churning." Three times I did that. I had to put steam out in the tank. By the time it got out there it was nothing but curd on top. That will happen to you if you separate your milk on Sunday.

MR. WESTFAHL: As far as I can see the argument is on the extra equipment. There is nobody arguing on the point we are going to run the skim milk into the whey tank. As that gentleman said a minute ago, it certainly will take a lot of equipment. If it takes fifty or a hundred dollar tank I would rather have all my Sundays off. The helper can cool that milk while you are taking in the milk, and on account of that additional expense I think we can all afford to do that.

MR. DAMROW: If you run the sweet skim milk into your whey tank it will thicken, but as far as equipment is concerned it depends on what kind of a separator you use. We use the De Laval separator and we skimmed every day last year. We took a sanitary pipe and let that piping out of the window into a five barrel tank and the farmer took his skim milk home. As far as equipment is concerned, if you have the right kind of machine it amounts to very little.

MR. RINDT: Supposing a man has twenty or twenty-five thousand pounds of milk, he can't give them away. It is pretty hard to get in cheese factories, as Mr. Moore stated a few minutes ago.

MR. DAMROW: If you don't want to skim milk nobody asks you to do it. This is only brought up to the cheese makers that like to skim. Let me tell you, I don't agree as to what your investment will be. If one or two of your neighbors are situated in a way that it don't cost them much to rig up to skim Sundays, I don't care what your argument is.

MR. PRINTZEL: What are we going to do with the skim milk? I have made cheese for fifteen years. This year I took a job with a farmer factory that was pretty well knocked to pieces. When it comes to Sunday making I asked them, "What are you going to do?" They said, "Do what you like." I have every Sunday off this summer and I really want some more, and we are going to try to get it if we can. [Applause.] I tell you, I have a whey tank and we do as much as thirteen thousand pounds of milk and I didn't use my whey tank pumps or pipe, but the farmers take home their skim milk and make cottage cheese and they state the hogs like it very much. The gentleman over there, if he gives me the 22,000 pound run, I am willing to buy two or three separators. [Applause.] We skim all our milk every Sunday and I get through in time to go to church.

MEMBER: I would like to ask if he got paid on the butter price or the cheese basis.

MR. PRINTZEL: As it happened the factory ran about a thousand dollars in the hole last year and they were willing whatever they got. As I run the factory, we got good results. I churned the cream into butter, but at the same time if I could have shipped the cream I would have done it.

CHAIRMAN: His question was what you got for making butter.

MR. PRINTZEL: I got two cents a pound for churning butter.

MEMBER: Do you find in the greater part of the state the railroads on Sunday don't run their regular trains and you cannot ship your

cream in sweet condition? I don't think it would be a paying proposition to most sections unless you are near a large city. I have tried it and it can't be done.

CHAIRMAN: I look at this not to be a paying proposition.

MR. PRINTZEL: I have an idea that we get fair wages six days a week. That ought to be enough.

MR. RINDT: Is it fair to have the men quit working on Sundays and have the condenseries go on running, any fellow that has condensery competition?

MR. SHULKE: I am in a condensery territory and the farmers deliver their milk or send to a condensery. I would like to know what they would say to me if I told them to send it.

CHAIRMAN: I have listened to all of this discussion here and it appeals to me you cannot make it go as a forced case. Each one of you that can get in co-operation with your patrons, you are the fellows in luck.

MR. JOHNS: As far as condensery competition is concerned, condensery competition is very hard competition and there isn't a man in the audience who can get up and say that the man can meet condensery competition by making on Sunday. How about it if we ship the cream on Monday morning, because the majority of the time the difference between the sour cream price and the sweet cream price isn't so very great and I think our Sunday freedom is entirely welcome. I think he will have a very hard time to meet the condensery competition by making on Sunday.

MR. BILGRIEN: This gentleman says he milks his cows three or four times a day. I would like to find out what kind of cattle those are.

MR. UBBELOHDE: They are pure bred Holsteins.

MR. BILGRIEN: Coming back to Sunday work, I believe I am one of the oldest cheese makers in Dodge county. I am making foreign cheese. We couldn't do anything with shutting down on Sunday. We are making in most of the factories twice a day. When I started out in 1883 I had to get up at 5 o'clock in the morning. I was a second hand man in a big factory and I had to take my horse and go out four miles and gather milk in the morning and in the evening. I made Swiss cheese in a copper kettle, and if there is anybody in here that knows what that means; smoke and flames come up in your face. I had to be up nights every other night until 12 and 1 o'clock to turn that big Swiss. Our farmers in Dodge County, they are people of five and six farms which will bring about six thousand pounds of milk in some factories, but we haven't very many. We have people who furnish twelve, thirteen or fifteen hundred pounds of milk a day. They wouldn't think of shutting down on Sunday. And then we meet the competition in the condensery, and if our people want they stay. You people in the northern counties who make American cheese, who make only once a day, can make your own rules, can say, "We are not here to make on Sunday."

MR. WESTFAHL: This gentleman speaks about fifteen years ago the way he used to make cheese.

MR. BILGRIEN: Thirty-seven years ago.

MR. WESTFAHL: I don't think we should go back that far. I think we should be up-to-date as much as we can, positively. I don't know, but I think that gentleman today has a man working for him.

MR. BILGRIEN: No sir, I am retired.

MR. WESTFAHL: That is a very good idea; if I only had to help out in a pinch. But I don't think any expression like that is up-to-date any more. I don't think we should go back that far.

MEMBER: The big trouble is the freight is too much. You give the cheese maker his Sunday off and you won't see him from 12 o'clock Saturday afternoon and you won't see him until Monday morning.

MR. JOHNS: There certainly isn't anyone having any objection to have him lay down and watching the fellow.

MR. SCHMITTFRANZ: Why not take this matter back to our annual meetings. If a cheese maker wants to work and the farmers are willing to let him work, all well and good, and if he doesn't want to work on Sunday and he can convince his patrons that he should have a Sunday off, then what are you going to do when your competitor is hustling?

CHAIRMAN: That is what I said a few minutes ago. It is only the individual who knows his own factory like Mr. Westfahl, who is talking on the other side of the question.

MR. WESTFAHL: This gentleman said cheese makers are sporting too much. Perhaps he is one. Any good cheese maker will stay in his factory and stay until the cheese is cleaned up, whether it is Saturday or Sunday or what time.

VOICE: He may.

CHAIRMAN: Your discussion is not leading to anything. Keep to your point and get the sense of your members in this meeting. The sense seems to be that you can't make the thing compulsory. It may not work out in a majority of instances. The audience is getting restless; let's decide that question.

MR. GOTTER: Why not drop this and let those who work on Sunday work, and those who don't want to, drop it.

MR. SHULKE: Leave the Sunday working question to the individual maker according to his surrounding circumstances.

Motion duly seconded, put and carried.

Meeting adjourned.

## THIRD SESSION, THURSDAY, 10:00 A. M.

MEETING CALLED TO ORDER BY PRESIDENT REED.

CHAIRMAN: The first number on the program this morning is cheese. We have transposed the reminiscence of old times by Mr. Al. Winckler, of Cumberland, and I understand that Mr. Winckler is not present. Mr. Sammis and I got together and landed on Mr. Winckler. Forty-two years he has been making cheese, and he is still running the vat in his own factory near Cumberland. He agreed to be here, but he is between 62 and 65 years old, and being indisposed he could not get here, so our friend, Mr. McCready, agreed to tell us a few stories about the old time experiences of making cheese.

MEMBER: Has Mr. Winckler made cheese forty-two years near Cumberland?

CHAIRMAN: Near Cumberland, and in the southern part of the state. He has made cheese forty-two years at his own vat.

## REMINISCENCES OF OLD TIMES

By MR. MCCREADY.

Mr. Chairman and Gentlemen, and, I might say, Fellow Cheese Makers: While I cannot claim the distinction of being the oldest cheese maker in the state, I think I have had as varied interest in the cheese business as any man in the state. I have been in the cheese business twenty-seven years; twenty-three of those twenty-seven have been spent in Wisconsin. My first experience in the cheese business, that I recollect, was at the age of 16. There is a saying: Some are born to fame, others achieve fame, and still others have it thrust upon them. I think I can say the same of cheese: Some are born to cheese, some acquire cheese, and others have it thrust upon them. I was thrust upon the cheese business, and I have been hard to shake loose ever since.

At the age of 16, like a great many other fellows at that age, I thought I knew it all. When I graduated forcibly from school—I say forcibly because there were two men behind me—I went home and told dad I had decided not to go to school any more. Passing the door of the house, was the team of the Harrison Cheese Factory. All the milk in Canada at that time in that section was hauled to the factory in large trucks, holding big open top cans which held 50 to 75 pounds of milk. I hopped on this cheese wagon, and was making up my mind what to do. I soon found out at the cheese factory. That was the biggest day ever known in the Harrison factory, it was a holiday. Dominion Day, the 1st of July. The old boss saw me, and he asked me if I wanted to go to work. I was the best little scrubber they ever had in Canada for three years. My first two years in the cheese factory were spent scrubbing vats and whey tanks. Our tanks were not underground, they were above-ground, but very little above. My job was to go out with a ladle and skim the vat. After we had accumu-



lated enough of that whey grease, we boiled it down to use as a cheese dressing. If I made a good job of skimming, and I didn't fall into the vat, I had the job of scrubbing out the vat. It was just a case of stubbornness that kept me at it. My dad was bound I was going to school, and I was bound I was going to work. We worked from 6 o'clock in the morning until 8, 9 and 10 o'clock every week day in that factory, but not on Sunday. I never made cheese on Sunday in my life, unless it was in Wisconsin. That Sunday work proposition, I don't know how you are going to settle, but I know it is a pretty hard line of endeavor when a man has got to put in more work than the fellows in Waupun. How it is going to be arranged, I don't know. I believe a time is coming when you won't have to work on Sunday.

Let us get back to the old cheese factory. We had on that Monday I speak of, more milk in the extra vat than we had ordinarily in the others, so the big two in-take cans which held about 1,000 lbs. were filled. In addition to having the vats, we had the whey cans filled with curd, and the regular cans. We did not have press room enough to handle all the curd we had that day, and at 8 o'clock that night when we had the curd in the press—we had the old upright curd press—one of the boys told me that about 1 o'clock we would remove the curd. I managed to stick it out, but I frequently realized I didn't have as much education as I might have, and my one brother prevailed upon me to attend the agricultural college in the winter time, so my additional education was also forced upon me to a certain extent. I wish I had gotten more of it.

After spending four years in this factory, learning my trade, I remembered the names of Babcock, Farrington, Russell, and others that I had come in contact with as a student of the school. This brother prevailed upon me to come to the dairy school at Madison, and I just wanted to show the folks what I could do, because my brother wrote to the dairy school inquiring in regard to the course. The Canadian school opened in January, and we found that the Wisconsin school opened at the same time. I wrote along the latter part of November in regard to this course, and immediately we got a letter from Professor Farrington: "Your brother's application has been received and accepted. Have him come at once." I came to the dairy school at Madison on the 5th day of January, 1898, and my number was 118 and I was the last man in. I don't need to tell you what we used to do at the dairy school in those times, raising just as much Ned as the rest do. After taking the course at Madison, I was advised I had to work one season in the state in order to secure a license. I advised Professor John W. Decker that I would take a job making cheese, and at the Cheese Makers' Convention at the Capitol in Madison I was approached by a gentleman of my own nationality. You can imagine when a couple of Scotchmen got together, what happened. He started me in at \$35.00 a month and my board, and he paid me more than he made on me. He had a cheese factory at West Lima, and I helped build the cheese factory. The patrons who were going to

patronize that factory, were all afraid I was too young. I had a brilliant shock of red hair, and was only 20 or 21 years of age at that time. The first can I ever received in the state of Wisconsin, was not a can of milk at all, it was a churn. This patron drove up to the factory, and he says: "I can't afford to buy a milk can. I have brought the milk in this churn, and if you will accept it, I will continue to bring it in this churn until I can afford to buy a milk can." He did eventually get a milk can.

The first cheese I made sold for 7c a lb. The cheese was sold to Mr. Nesbit, and I asked Mr. Nesbit how he wanted me to make the cheese and he said: "Go right up and dance on it." You could dance on them all right, for I had to hold them three weeks, and so we made them so you could dance on them. That was a factory that ran very little milk the first year, but I understand later it got to be quite a considerable factory. The factory was located on the side of a hill, and I claim we had the most sanitary factory, because I had been raised with a scrubbing brush in my hands and nature took care of the rest. I remember when John W. Decker came to inspect the factory, he asked me if I didn't have trouble in staying on the side of the hill, and I said: "Not when the wind was not blowing." That one summer's experience on that ridge taught me a great many things about the cheese business I didn't know when I left Canada, and one of them was this: In Canada among the best cheese makers a curd is never salted until it is ready to salt, regardless whether it is 7 o'clock in the evening, or 12 o'clock at night. One thing we never had to contend with in Canada, was that word yield. I didn't know how to stop it, but I did hear the one word quality. It wasn't how much you can make, but how good can you make it?

The worst cheese factory I was at was fifteen miles away at Yuba, and the maker was Shorty Walden, a Canadian, who had been in this country long enough to be spoiled. That was, I think, about the first time I came in contact with the word yield. I said, "You just wait until the end of the month, and we will see whether Shorty Walden gets a bigger pay check. I contend that I can make a firm cheese, but I will never cut them to death and lose my price." It was one of the biggest crimes in Canada to cut cheese to 104. What we waste in the press, is what you fellows get back in your moisture. I made cheese in that factory, and Mr. Austin was the buyer who used to come up and see me up on the ridge. Neither he nor I, knew very much about cheese, but we always got the money for it.

I have often heard you speak of trouble with patrons. Fortunately, I didn't have very many patrons. Mr. Nesbit said, "I want you to handle these men as you would in your own factory, we want them to build up their herds." They knew nothing whatever about the cheese business. As I say, when they brought the first can of milk in a churn, you could see they were not ready to accept your test.

You have had trouble with your tests, I had trouble with mine, and the first month's test I chalked out on the wall so we could all see it.

The second month I noticed one of these fellows that slipped considerably on the test when he brought in his milk. I called in one or two of the patrons that were in the factory, and requested that they watch me test this milk, and two days after when they checked up with their milk, this man had a test on the wall of 2.6 as compared with his test of the first can. He began to roar, and I let him roar. I said to him, "I am going to tell you something, neighbor. I am here to make this factory a success if I can. I am working for my small bit of salary, and I am going to tell you I don't know what you have been doing, but I do know I am not going down in the pocket of Wm. Jones to make up your test when you have been monkeying with your milk. This test stands, and if you don't like it, I will go a little bit further and write to Madison." The test came back where it belonged, and I never had another kick that year. In the fall of the year when I was going to leave, the patrons called a meeting and asked Nesbit what I was worth. I asked him \$50.00 a month and my board to come back next year, and Nesbit said, "I can't afford to do that." The patrons of that factory wanted to make up the difference between what I wanted, and what Nesbit would pay, and it was one of the proudest moments in my life to have that proposition put up to me. [Applause.] I believe that half of the trouble in the factories is nothing more than just a little bit of bullheadness on the part of one, and not enough on the part of the other. I believe you can get along with your patrons if you happen to approach them in the right way. As the boys used to say in France, this "going up in the air" about a little thing that is not worth mentioning, and making a big fuss over it, doesn't make a successful cheese factory.

Going back to Sunday work. The men asked if I would work on Sunday. I said, "This is a small factory, and the conditions are such we can handle your work on Monday morning. We have lots of vat room, and it is not necessary to work on Sunday." I don't know what the discussion was yesterday, as I wasn't here, but someone perhaps was telling you what the law was in regard to making cheese on Sunday. In Canada there is no law any more than there is in Wisconsin. It is a fact in Canada you cannot buy cheese on Sunday, and I don't know but they are better off. You can't ride a street car in Canada. The man that runs a street car is as much entitled to his rest as the other fellow is. It is a day of rest. If it had not been, I would not have lasted three weeks. I started in a factory where they had sixty pound tubs. I wrestled these things from 8 o'clock in the morning until 10 o'clock at night until Saturday night. When I got back Monday morning, I was ready to go to work. I believe that you can go and talk to your farmers, say, "Here, I don't want to lose you any money, but I don't want to work Sunday any more than any other man. If you people will arrange it you can. If you want to, skim it. If you don't, keep it home and make your own butter." After one year of cheese making, U. S. Baer was appointed Dairy Commissioner, and the position of State Cheese Inspector was open. I applied for it, and was appointed. While I don't claim I have made a brilliant success of

showing anybody how to make cheese, I do know there were many times when I helped a good many cheese makers out of trouble. One was by teaching them they were salting their curds too soon. A man in a cheese factory in Canada is never in a hurry about salting his cheese. He goes from one vat to another, from one curd to another. My big trouble was, as soon as I got my curd milled, I had to sit down and watch it. I conceived the idea of going out and snaring gophers. That was one pastime I had. When I started in West Lima, I started salting my curds earlier than they should be salted. Try to get two vats in your factory instead of one, because there would be less danger of over-salting.

My experience as a State Cheese inspector was interesting and sometimes amusing, and I hope was of some benefit to those I called on. I remember one experience I had. Our late lamented friend Tom Johnson was buying cheese at the time, and he told me of a factory in Richland county that was having trouble. This was a cheese maker who had spent all his time in the making of cheese, so he informed Johnson that he didn't want me. So Johnson said, "All right if you want to take cuts on this cheese, but I would prefer to have McCready see what he can do." I went up there, and found out the main trouble was that he was salting his curd too soon, and I found out he was a horse-shoe shooter. We shot two or three games of horse-shoe, and I think I beat him. When we got back to salt the cheese we had to grind it again. He was a little bit sore. We salted the curd at 5 o'clock, and his trouble disappeared that day. I beat him shooting horse-shoes, and I got the pin holes out of his cheese. That was one experience. About the second year I was on the job, a firm by the name of White & Herrmann, of Charles City, Iowa, wrote the Dairymen's Association to send their best cheese inspector to Iowa for one week. I was very glad to get the letter to know that I was the best one, because there was only one other with me, and that was Aderhold. I happened to be down at Spring Green at the time, and Aderhold was up in the northern part of the state, and I was very convenient. I went to Charles City. They had a very fine factory, but they were making a very soft cheese. They didn't get very much money for it, and Mr. Herrmann, the banker, was very much surprised to think that Mr. White, a man of 30 or 36 years of experience, couldn't find the trouble. I went into that factory, and said as little as I could and kept my eyes open. They didn't use a rennet test, they didn't use a hot iron test, they were all through at 11 o'clock that forenoon. They asked me what I was going to do. I rigged up a rennet test out of a pill bottle, and held that milk before setting, a little longer than they usually did. About half-past eleven they had the curds dipped into the curd sink, and we had them cut and piled over, and I said I would go up to dinner now, and when I come back this curd will be ready to mill. I went up, and I knew they were getting nervous, so I took my time. At half past one I got a call from the cheese factory. Mr. White was there alone. The foreman had struck, and three men quit before 11 o'clock. I said I have handled more curd than that myself. It was their first experi-

ence of ever matting a curd to the point where it would tear before it was salted. I was very much pleased with the result of that one week's trip to Charles City, and I don't believe I ever enjoyed a trip more in my life, because I was going into a factory to work for people who wanted to know how to make cheese. The cheese got fourth highest score. That is throwing bouquets at myself, and I will quit.

I don't know very much more I could say, any more than I believe I am the only man in the state of Wisconsin who has held all the offices that have been held, or that are open in this Cheese Makers' Association. I was your President, Vice-President, Treasurer, and Secretary. I have never been one of the Board of Directors. I just wanted to make that remark. There is one thing I want you to know. There has never been a time in the state of Wisconsin that I have not been interested in seeing Wisconsin make a better cheese than they are making if it is possible, and I know it is possible. I want you to know it is one of the biggest industries this state can ever expect to have, and it is one a man should feel proud to belong to. I want to say this, loyalty to the industry to which you belong, and which you are a big part of, is one of the greatest things you can have. We have a fine Dairy and Food Department in Wisconsin. These men are put over you to help you, as well as keep you straight. These laws are made for the betterment of the cheese industry, not to persecute you with. I heard Mr. Emery say yesterday that every man could bank on a square deal; if you are entitled to a square deal you will get it, and if you are not, you are not entitled to the cheese business. These are a few of the reminiscences. I wanted you to know that my heart is with you in the cheese business in the state of Wisconsin. I thank you. (Applause.)

MR. RINDT: I make a motion that we accept Mr. McCready as a life member of this association.

Motion seconded, put, and carried unanimously.

MR. BRUHN: It seems to me if I had made cheese for 42 years, that is, actually made cheese for 42 years, I don't believe it would make a great deal of difference if I was a member of this association or not. I believe a man who has worked 42 years in the cheese industry ought to be a member of this association. I believe it is no more than right to elect Mr. Al Winckler as a life member of this association.

Motion seconded, put, and carried unanimously.

MR. CASPER: There is another member, Mr. Fred Marty. I move he be elected a life member of the Wisconsin Cheese Makers' Association.

Motion seconded, put, and carried unanimously.

MR. MARTY: I want to thank you. I would like in the future to do all I can to help you along.

CHAIRMAN: The next number on our program is, "Present Day Problems in the Cheese and Dairy Industry," by our dairy and food commissioner, Honorable J. Q. Emery. (Applause.)

MR. EMERY: Mr. Chairman and members of the Wisconsin Cheese Makers' Association. I feel I should not be quite a man if I failed to

appreciate the reception you have given me this morning after an absence from this association of about 8 years. I shall not attempt to make any flights into idealism. We have practical problems to deal with. The subject assigned me is "Present Day Problems."

## PRESENT DAY PROBLEMS

By J. Q. EMERY, Dairy and Food Commissioner.

Some of these problems are not only present day, but they have been problems of past days and are likely to be future day problems as well. Their solution, theoretically, may seem quite easy; but their practical solution is quite different.

Without disparagement to any other speaker who has spoken during this convention, I must say the address given yesterday by Mrs. Dix and the speech of Mr. McCready this morning bearing on the relation of quality, to me tells the story, and I commend it to every member of this association. I hope those addresses will be published in the dairy papers and that they will be preserved and read and re-read with great care. They will help solve the problems that are concerning the cheese makers today.

In the solution of problems, there are always certain self-evident truths called axioms, that must be recognized. Such is the case in relation to the present day problems I am to consider.

The first of these axioms, that is, self-evident truths, is that the demand for cheese, like the demand for eggs, is dependent upon *quality*. Good, fresh eggs are in great demand as an article of food; but stale or unsound eggs are not wanted. People refuse them.

A like condition prevails as to cheese. Properly made, well-cured cheese is desirable. It is wanted. It creates a demand for itself. But improperly made cheese, or cheese made from unfit material, or improperly cured cheese is not wanted. It injures and diminishes demand.

Poor cheese, and we have a poor market here. People don't want the stuff, they won't pay for it. I recollect a little experience I had in Madison in one of the families with which I am well acquainted, one of the prominent families. I was taking dinner with them, and there was some very fine cheese on the table. I asked her if it was Wisconsin cheese. She didn't know about that, but she knew this, whenever she bought this cheese her bill for cheese was a great deal larger than it was when she bought the other kind, and that tells the story. What she did others did.

Since preparing this paper, and just before leaving Madison, I read in one of the dairy papers an editorial that so completely expresses my own thought and describes the situation as I do, that I here insert that editorial:

"We notice in a recent news item that Denmark will prohibit the export of cheese of the Cheddar type unless it is at least six weeks old. This shows that the Danes have figured out the dairy business a good

deal closer than some of our American manufacturers who allow their cheese to go to market before it is sufficiently cured, with the result that this immature product cures a great many consumers of their liking for cheese, and spoils very many appetites that might be lined up for the product were the goods of such a nature that its consumption stimulated a desire for more. Personally we find it almost impossible to get a first class article of cheese in our local market. It is usually not sufficiently cured, and it is only in high-class grocery stores in the large cities that a really good piece of cheese can be obtained. The average groceryman, while he carries cheese, does not consider it of sufficient importance to have on hand cheese that is a trade winner, and for that reason, the consumption of cheese in this country has never reached the proportion that it has in foreign countries where the manufacturer, the dealer, and the consumer are in accord as to what constitutes a first-class article."

It becomes apparent, that in cheese making, the first and fundamental problem is a supply of pure, clean, fresh milk. The cheese maker has a very large and important part in the solution of this problem. To secure milk of the requisite quality calls for intelligence, skill, tact, energy, industry, courage and ambition to produce a fancy cheese, and a keen appreciation of the necessity of solving the problem, and the strong determination on the part of the cheese maker to solve the problem successfully. Cheese makers possessed of these characteristics and making daily use of them usually solve this problem with a high degree of success. The cheese maker who is noticeably lacking in these characteristics usually fails in the solution of this problem.

There are a few agencies or instrumentalities which the cheese maker may employ in the correct solution of this problem. First, the cheese maker must make good use of his eyes and nose in determining the quality of the milk offered or delivered. This calls for the requisite skill which the cheese maker is assumed to possess. Second, the sediment test may be regularly employed from day to day on suspicious offerings and the sediment obtained exhibited to the patron as an educational means of convincing him of the faulty character of the milk he is delivering. This can be done in such a tactful, successful way, without undue publicity, that the patron can be led to recognize the defective and unlawful character of the milk he is offering, and be impelled to improve its quality. Cheese makers who are determined to get good milk usually get it.

Right here I want to relate an incident that it seems to me is in point to illustrate some of the means of getting the desired results. In the town of Albion, where my home is, my wife's uncle was one of the early settlers, taking up his land from the government. He was perhaps more than ordinarily prosperous; he had a farmhouse on it, he had a barn, and he had cattle, while others were living in log houses, and sheds for the cattle, and were letting their cattle run at large. There was a run from the pasture to the barn. His father was an Englishman. The son, my wife's uncle, was cutting his wheat with a cradle and the field was just over the fence. He spoke to his father, and asked him to get up the cows and take care of the milk. His father drove the cows, and they no sooner got in the yard than they

kicked up their heels and ran into the pasture again. When he got them up to the barnyard again they did the same thing. Finally he said, "Lance, you will have to come and help me drive up these cows." He said, "Father, if you will only take a few nubbins of corn you can call those cows into the yard." Like a good many other people, he said, "Damn them, they have got to be drove." The nubbins of corn that would call the cows are worth a great deal more than "Damn them, they have got to be drove."

Third, the Wisconsin curd test may be used to determine the character of milk offered and to demonstrate the kind of cheese that the milk offered by any patron will make.

I do not urge that this test must be used daily on all the milk offered, but I do urge its frequent use on suspected samples, when cheese below fancy or No. 1 is being produced. These tests may be accompanied with frequent visits to farms where milk is produced, to learn conditions actually prevailing and to offer friendly and tactful suggestions for improving those conditions where necessary. I regard all this as an integral part of the cheese maker's function.

I hope this audience recalls the worth and experiences of Mrs. Dix, what she said yesterday, how she had gone out to her patrons with practical illustrations of the problem I am here laying down.

To be sure of the quality of the milk he is receiving, the cheese maker should be skilled in the use of the lactometer and the Babcock tester, and when those instruments are used all the work should be done with strict accuracy.

Please excuse me here if I express my dissenting opinion from an implied inference in some of the remarks yesterday. I don't think it was intended. It was something like this. That under certain conditions cheese makers may do a little stealing. Members of this association, I dissent from this proposition absolutely. I want to say to you that in my judgment the cheese business demands in every phase of it, in the cheese maker, in the patron, in the cheese buyer, absolute integrity. (Applause.) The cheese business demands confidence, mutual confidence. There can be no confidence, or there cannot be sufficient confidence where there is a lack of integrity. So I say, remember that commandment, "Steal not," but let integrity be mixed with every cheese you produce. If the cheese maker may practice a thing like that, so may the patron, so may the cheese buyer. I believe that it is an unsound doctrine, and I believe the saner doctrine is to heed that scriptural warning of the man who built his house upon the sand, and when the winds came and the floods came it fell; but the other man who built his house upon a rock, and the rain descended and the floods came, and the winds beat upon that house, he saw that it fell not. Why? Because it was founded upon a rock. I say to you gentlemen, do not under any conditions found the building of your industry upon the sandy foundation of untruthfulness, or any of its kindred faults, but found it upon that sound rock of integrity in everything you do.

To secure the use of the Babcock test as the basis of determining the relative value of the milk delivered by different patrons is one of the



objects of this association, as set forth in its constitution, and an object worthy of the efforts of the association as an organization and alike worthy of the individual efforts of the members of the association. But even where the Babock test is not made the basis of determining the relative value of every patrons' share of the income, it should be frequently used in connection with the lactometer to determine the standard of the milk delivered, especially in suspected cases of watering or skimming.

We have started the proposition. It is fundamentally necessary to have cheese of quality, and we call it in Wisconsin fancy or No. 1 grade. To have that we must have good milk.

A second present day problem is the proper manufacture of good milk in fancy or No. 1 cheese.

Prohibition has done away with the market for sour cheese. Sour cheese has caused heavy losses during the past season. This seems inexcusable. Such losses are not necessary and cannot be afforded.

I make this statement upon the advice and counsel of those whom I deem amply competent to pass judgment.

The cheese maker who knows how to make fancy or No. 1 cheese and yet produces sour cheese deserves to be eliminated from the business.

The following statement is a sample of letters I receive from operators of cheese factories who are seeking to eliminate incompetent or indifferent or indolent cheese makers.

"I wish you would put me in touch with a high-grade cheese maker, one who has experience and a record behind him that will recommend him, one who is sure enough of his ability that he is willing to accept a penalty for low-grade cheese as well as a premium for fancy goods. We want a man who knows milk. We can get plenty of cheese makers, but we've had our cellars stocked with unsaleable goods for the past few years and we would like to get a man for once who will make a marketable product."

The following occurs in the first of the Articles of Incorporation of the Wisconsin Cheese Makers' Association: "*The business, purpose, and object of this corporation shall be to educate all its members for better work in the art of making cheese, the care and management of factories, the sale of their products and the weeding out of incompetency in the business of cheese making.*"

These objects are certainly worthy ones and deserving of success.

And this splendid audience looks to me this morning as though that is what you mean.

The least the association and its members can do is to give a very cold shoulder to heedlessness, indolence or carelessness in the cheese making business.

It is a function of the cheese maker to detect varying conditions of milk resulting from varying conditions of the season, and adapt his processes of cheese making to the varying conditions he must necessarily meet. Adequate time is one of the indispensable requisites in the making of a prime article of cheese.

Someone said here yesterday that if the grading of cheese becomes established and successful it means the lengthening of the days of the cheese maker. We have heard Mr. McCready here this morning,

what is necessary for cheese makers in order to produce a good quality of cheese. I start back to the important fundamental proposition, that the essential in the business is quality, and if it takes more time to make a cheese of quality, is not it up to us to give the time?

The cheese maker who slights his work by shortening the necessary time, or by other means, becomes liable to his patrons for losses that are caused to his patrons by such lapses of duty.

There have been prosecutions started in Wisconsin along this line.

And this liability for losses through carelessness, negligence, or incompetency is just. When any man assumes responsibility for another man's property he deserves to be held to strict accountability. Today, the farmer's milk is delivered to the cheese factory. It is the farmer's property. It is manufactured into cheese. Shortly, that cheese is sold and the money received from the same deposited in the bank. The amount of money deposited in the bank represents the value of the farmer's property which he deposited with the cheese factory. No one questions the necessity of the most scrupulous care, accuracy and rectitude in handling the money upon the part of the bank, giving the farmer credit for every cent of his money. I maintain that the cheese factory management is equally obligated to account efficiently for every cent's worth of property delivered by the farmer to the cheese factory.

A third problem I mention is that of keeping the cheese factory in a clean, sanitary, non-stinking condition. This is a function of the cheese maker. The first essential for the solution of this problem is determination on the part of the cheese maker to solve this problem from day to day. Given such determination on the part of the cheese maker and he is going to find a way or make a way to keep his factory, utensils, and premises in a clean, sanitary, non-odorous condition.

Not only is it discreditable, but it is disgraceful as well as unlawful to keep a cheese factory and its surroundings in such a condition that offensive odors emanate therefrom. Think of an article of food being manufactured under such foul conditions, then recall that during the summer season, the season of cheese making, there are numerous tourists, literally from all parts of the United States, who on approaching and passing cheese factories are shocked by the offensive odors that emanate from some of them. Such a condition of affairs does not tend to promote, but to injure greatly, the reputation and marketing of Wisconsin cheese. The first essential requirement in the successful and profitable marketing of cheese is the production of a prime article.

And how can a cheese maker or the cheese factory management expect his patrons to keep their barns clean and furnish clean, sanitary milk when on their approach to the factory those patrons meet offensive odors, the evidence of filth? This is a problem that demands successful, every-day solution. Its solution calls for energy, ambition, perseverance and self-respect.

The fourth present-day problem which I mention is the problem of eliminating the nuisance of flies from all cheese factories. That this problem can be successfully solved is proven by the fact that in many

cheese factories the nuisance is eliminated. The first requisite for the successful solution of this problem is the recognition of the necessity for such elimination and the second requisite is the vigorous determination to effect the elimination of that nuisance. Filth is the breeding place of flies. So, the first thing to be done is to remove filth, cesspools, weeds, junk, foul, dirty whey tanks, etc. A third thing to be done is to wage relentless, unremitting war on the pests by such varied means as are employed in homes where the fly pest is successfully banished. As in the case of correct spelling, there is no especial credit to give for elimination, but its lack is a disgrace. It is a menace to health. Moreover, the fly pest in cheese factories is unlawful.

The fifth present-day problem I mention is the problem of cooperation. By this, I mean the need, the necessity of all the different units in the cheese industry pulling together with one common purpose, instead of pulling apart. The tug-of-war type of practice, where one group of units pulls against another group, must prove disastrous to the cheese industry. I hope you will all take that thought. Instead, hearty team work is the requisite, with the Golden Rule as the motto or standard, "Whatsoever ye would that others should do to you, do ye even so to them." With each actuated by this spirit cooperation must be the rule rather than the exception.

Not long ago I began reflecting upon this question. In the turmoil we have been in as a result of war and other things, men talk about wanting to do right, and I said to myself, "Who determines what is right," and the answer comes to me as never before, that it was for the solution of that problem, it was in answer to that very question, what is right that the great Teacher gave this maxim to us as a guide, "Whatsoever ye would that others should do to you, do ye even so to them," and if we take this maxim and we are called upon to act, put ourselves in that position, we shall not go far from the right course. I hope, I may say, I devoutly pray the spirit may permeate the cheese making industry in Wisconsin.

There are certain duly and well-fixed standards to which all can and should give loyal and hearty support. With hundreds of thousands of patrons all differing as to what constitutes good milk a definitely determined standard fixed by competent authority is absolutely essential. The legislature of Wisconsin, the law-making body of the state, as provided by the constitution, in the exercise of its legitimate function of determining public policy, has *defined* and *standardized* milk, the raw material from which cheese is made in the following language: "Milk is the fresh, clean lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within eight days before and four days after calving, and contains not less than eight-and one-half per cent of solids not fat, and not less than three per cent of milk fat."

For the meeting of this requirement, the farmer, the cheese factory patron, is primarily responsible. This standard and requirement is so reasonable, so fundamentally necessary, that it seems incredible that any right-thinking person should wish or seek to evade it or lower it.

The success and prosperity of the cheese industry is absolutely dependent upon this fundamental requirement. As hereinbefore stated, the cheese maker, also, has a large responsibility in seeing to it that this standard is maintained.

Another standard requirement equally necessary has been made by the legislature of Wisconsin in the following language: "Cheese is the sound, solid, and ripened product made from milk or cream by coagulating the casein thereof with rennet, pepsin, or lactic acid, with or without the addition of ripening ferments and seasoning or added coloring matter and contains, in the water-free substance, not less than fifty per cent of milk fat and cheese known as American or Cheddar cheese not more than thirty-eight per cent of moisture and cheese known as Brick cheese not more than forty-two per cent of moisture," and I understand that provision was inserted by the legislature on request of this body: "except that Emmenthaler cheese, commonly known as domestic Swiss cheese, shall contain in the water-free substance not less than forty-three per cent of milk fat."

For meeting these required standards, the cheese makers are chiefly responsible. They are the ones whose knowledge and skill must transform the milk into cheese so defined and standardized. The people of the state of Wisconsin, the sovereign power of the state, represented in senate and assembly, have commanded that these standards be maintained.

Still another general standard requirement has been fixed by the legislature in the following language: "It shall be unlawful to manufacture or prepare for sale food as defined in section 4600 of the statutes, unless in the process of its manufacture for sale or its preparation for sale it is securely protected from filth, flies, dust or other contamination, or other unclean, unhealthful or unsanitary conditions." And section 4607b-6 provides: "No person shall by himself, his servant, or agent, or as the servant or agent of any other person, or as the servant or agent of any firm or corporation, manufacture for sale any article of food for man from any unsanitary milk or from any unsanitary cream." And section 4607b-7 of the Wisconsin statutes provides: "All premises and utensils used in the handling of milk, cream and by-products of milk, and all premises and utensils used in the preparation, manufacture, or sale or offering for sale of any food product for man from milk or cream or the by-products of milk, which shall be kept in an unclean, filthy, or noxious condition are hereby declared to be unsanitary."

These three general provisions of law that have been quoted comprise the underlying principles of the dairy laws of Wisconsin. Other statutes are in the main mere amplifications of these fundamentals, these essentials to the success and prosperity of the cheese industry of Wisconsin. They represent the principles of the Golden Rule in its application to the several groups comprising that industry and the general purchasing and consuming public. They stand for the square deal among all these groups.

It is one of the legal functions of the dairy and food commissioner to secure the effectiveness of these standards to the highest practical degree. Where the highest good to all involves general compliance with these standards, it would seem to follow that he who would obstruct or would conspire to obstruct compliance with these standard requirements could not be classed as a friend to the cheese industry of Wisconsin. Certainly, he could not be classed as a law-abiding citizen.

As before stated, the successful solution of these problems calls for team work on the part of the various individuals and groups engaged in this industry. This team work is indispensable to success. The degree of success must be measured by the extent of this team work. If every unit in this enterprise waits to perform its part, its share, until every other unit shall have fully performed their part, we shall never have team work. Rather, let each group adopt the following as the ideal for its effort: "If any one thing means more to the success of any man or any institution than any other one thing it is that habit of performing more service than anyone has a reasonable right to expect or that one is actually compensated for."

The adoption and practice of that principle of Mr. McCready is the fundamental and chief cause why Mr. McCready after his years of work keeps the position he does, and that Mrs. Dix, who spoke to us yesterday, has the position she has in central Wisconsin. I want to read that again: "If any one thing means more to the success of any man or any institution than any other one thing, it is that habit of performing more service than anyone has a reasonable right to expect or that one is actually compensated for." (Applause.)

The sixth present-day problem is the problem of marketing the cheese of the characteristics provided by the legislature, made from clean, fresh milk as defined by the legislature and produced in compliance with the legislative standard for sanitary conditions. Such cheese needs a remunerative market and should readily find such a market. The cheese buyers have a large responsibility in the solution of this problem. By this I mean that when strictly fancy or No. 1 cheese has been produced the producers of such cheese should on account of its merits be assured that it will command a higher price in the market than cheese of an inferior grade. Cheese buyers are at times very kind to the cheese maker who has produced an inferior or off-grade cheese, by paying for such cheese a higher price than its relative merits call for. I think that the kindness should be manifested toward the cheese maker who has produced the prime article of cheese and who thereby contributes to the welfare and success of the cheese industry rather than to the cheese maker whose product is inferior and is an injury to the cheese industry. One of the strongest hopes for the success of the cheese industry of this state is that the cheese market will be discriminating in the prices paid for cheese of varying quality and by so doing make it profitable in dollars and cents for the cheese maker to produce the highest quality of cheese. It is as true today as it was two or three centuries ago when uttered by that great Athenian, Thucydides, "Where the rewards of virtue are the greatest, there will be found the best citizens."

Another present-day problem presents itself in the following law enacted by the law-making body of the state:

"No by-products of any creamery or cheese factory shall be returned to any farm or feeding station for animals unless such by-products shall have been treated in accordance with the rules and regulations of the Live Stock Sanitary Board for preventing the spread of contagious or infectious diseases of animals. It shall be the duty of the dairy and food commissioner by himself, his assistants, chemists, inspectors, or agents, to enforce the provisions of this subsection."

Pursuant to the terms of this subsection as amended, two additional cheese factory dairy and food inspectors have been recently added to the inspection force for the enforcement of this law, so that there are now twelve regular inspectors with two assistants, or chief inspectors for cheese factories, creameries and dairy inspection work. It seems evident that in the enactment of this law and making special provision for its enforcement, the legislature of Wisconsin had two objects in mind, namely, to aid in preventing the spread of bovine tuberculosis among farm animals, and by such prevention to diminish tuberculosis among the people of the state, especially among children. The high percentage of incipient tuberculosis found in slaughtered swine (do you know it amounts to 30%) is surprisingly great and the extension or spread of this condition is attributed by experts to be in a large measure due to the consumption of the by-products herein mentioned. A second object to be accomplished is the improvement of the sanitary conditions of the cheese factories and creameries of the state, which will inevitably result from the pasteurization of the by-products as required by law.

I make this last statement upon the judgment of a number of men in this state who to say the least are equal in knowledge and experience to any cheese makers in the state.

The rule adopted by the State Department of Agriculture in circular No. 8, issued by the Live Stock Sanitary Board in pursuance of law, reads as follows:

"All by-products of creameries, skimming stations, cheese factories or condenseries shall before being returned to any farm or feeding station, be heated to at least 145 degrees Fahrenheit and held at this temperature for at least twenty-five minutes, or when not held at the above temperature for at least twenty-five minutes shall be heated to a temperature of at least 180 degrees Fahrenheit.

"Any person, firm or corporation, who by himself or his agent, or as agent for another, violates any provision of this section or any rule, regulation or order, issued pursuant thereto by the Department of Agriculture, Commissioner of Agriculture or Live Stock Sanitary Board, shall be punished by a fine of not less than \$25.00 nor more than \$200.00, and this makes it a circuit court case, or by imprisonment in the county jail for not less than 30 days, nor more than one year, or by both such fine and imprisonment."

The advantage of treating by-products are:

To the farmer,

1. Prevents the spread of disease;
2. Furnishes better feed.

To the operator,

1. Aids him in improving the quality of milk, and hence the quality of the product;
2. Aids in keeping the plant and its surroundings in a sanitary condition.

It is to be noted that whenever all the milk or cream received at a cheese factory or creamery where all of the cows have been tuberculin tested for tuberculosis and the reactors have been excluded from the herds, this law is not operative. Also, when the milk or cream used in the manufacture of cheese or butter has itself been previously pasteurized, the pasteurization of the by-product is unnecessary.

Adjustments in cheese factories and creameries for compliance with the terms of this statute should now be promptly and effectively made in this lull of manufacturing activities.

And from the conference with all the inspectors in the field but one, I have arrived at the conclusion that practically 75 per cent of these establishments have the equipment now for doing this work. No uniform rule can be prescribed for the accomplishments of the results called for by the law, as conditions vary so greatly in different places. Each plant must find its own solution of the problem. Expensive outfits are not essential. A good beginning has already been made among the factories in meeting the requirements of this law.

Perhaps it may be expected that I here discuss the condensed skim-milk, cocoanut fat present-day problem. Conditions make it improper that I do so further than to state those conditions.

I make this statement upon the advice of a lawyer and member of the attorney general's department to whom I read this paper.

A law was passed by the Wisconsin legislature of 1921, which in its effect prohibits the manufacture and sale in this state of a condensed skim-milk vegetable-fat compound. The bill passed the assembly by a very large majority and passed the senate by unanimous vote. As to who prepared this bill, secured its introduction into the legislature, and piloted it through the legislature I do not deem it fitting for me here and now to discuss.

Proceedings have been instituted in the Supreme Court of Wisconsin by the Carnation Milk Products Company and the Hebe Company, corporations, to declare that law unconstitutional and to enjoin the dairy and food commissioner from enforcing that law. These proceedings operate to prevent the dairy and food commissioner from attempting to enforce this law pending the determination of the case by the court. As the supreme court does not take testimony in any case, a referee, Judge Zimmerman, of Dane county, was appointed to take the testimony in the case. He has taken the testimony and it is expected that he will some time this month be prepared to report his finding of the facts to the supreme court. When he so reports, arguments in the case will be presented to the supreme court. The case will then, after due deliberation, be decided by that court.

As to the constitutional validity of the law, and that is what the court is going to pass on, it may be stated that in a case that went up

to the Supreme Court of the United States from the district court for the southern district of Ohio, involving the validity of the Ohio law prohibiting the manufacture and sale of such a product, Hebe being the article named in the case, the United States Supreme Court sustained the validity of the Ohio law. In rendering its opinion in that case, the United States Supreme Court, among other things said: "If the character or effect of the article as intended to be used be debatable the legislature is entitled to its own judgment, and that judgment is not to be superseded by the verdict of a jury" or, we may add, by the personal opinion of judges, "upon the issue which the legislature had decided."

In a presentation of a case and hearing before a committee of the whole of the senate, I quoted this opinion of the United States Supreme Court as tending to sustain the validity of such a law, and I added this question is debatable and so comes under the committee of the whole. We are now here in this presence debating this question.

The solution of this last-named problem now rests with the courts.

I have but one statement I deem I should make. The question is pending in congress. I have taken the counsel of those of sufficient experience to be qualified to offer judgment, and I am told that under the terms of the Voigt bill if it should become a law, it would be entirely practicable for the manufacturers of this product to ship the evaporated or condensed skimmed milk from this state to any other state, and also ship the cocoanut oil to that state; also, that it is practicable to establish manufacturers where it is a paying proposition in those states. That being the case, my judgment is clear that the Voigt bill if enacted into law, so far as accomplishing the purpose for which it is intended, would be a failure. I have said to people who have called at my office asking my attitude, that I was not only not in favor of the bill, but seeing as I did the effect of the bill, that I cannot avoid being in opposition to the bill. If this bill should become a law it is not only of no effect in accomplishing the purpose sought, but it stands in the way of enactment of the law that would give protection to the industry. (Applause.)

CHAIRMAN: As it is very near the noon hour, and today is the day the parade has been advertised for, Professor Sammis has arranged with the chief of police he won't pinch any of you unless you blow your horns too loud. There are about 1,000 tin horns and banners relative to cheese. We are going out on Cedar street, and I will be at the head.

Meeting adjourned.



## FOURTH SESSION—Thursday, 2 P. M.

Meeting called to order by President Reed.

**BETTER CHEESE FACTORY BOOKS AND RECORDS**

By C. N. WILSON, Madison, Wisconsin.

The annual meeting between the factory patrons and the cheese maker is usually quite an event in the community, as most of you will be willing to testify. Neighbor Jones and Neighbor Brown have talked the matter over in advance and have decided that Cheese Maker Smith ought to work for less money this year inasmuch as the price of things has gone down considerably. With the decline of prices why shouldn't the cheese maker make cheese and supply boxes, bandages, etc., for less money? When the situation is analyzed it is likely that we will find that the cheese maker has been making cheese for too little money for the past two or three years. This gives rise to the question how is the cheese maker going to be able to show to his patrons what is an adequate charge for making their milk into cheese.

In the absence of adequate information and cost records on the part of the cheese maker the annual meeting is likely to develop into a dickering between all parties whereby the patrons present their side of the case with a request that the maker accept less and the maker insists that he cannot run the factory on less. The outcome varies in some sort of a compromise. The meeting emphasizes more emphatically from year to year the crying need of cheese factory accounting records and that is what I am going to discuss with you today.

The Department of Markets has prepared a bulletin outlining a system of accounts for cheese factories in response to repeated requests for same and the system which we have prepared is based largely on the ideas we have collected from the cheese makers themselves. In other words, the system is your system. We have merely arranged your ideas in accordance with modern accounting usage without going into technical accounting any more than has been absolutely necessary. By means of lantern slides I wish to show you what this system includes and how it is to be handled. I will endeavor to make it so clear to you that it can be readily understood by all the cheese makers in Wisconsin.

Accountants and bookkeepers generally consider that there are three steps in handling business transactions. The first consists of entering all transactions in a form of book or record in the exact order of their happening, thus keeping an exact history of the business. The second step is to classify the transactions recorded in the first step according to the character of the transactions. The third step is to draw conclusions from the classifications of the second step. A record desirable for recording the history of a cheese factory business is called a cash journal. It consists of two sheets which open opposite each other and

by means of lantern slides we will endeavor to explain the workings of this record.

Cash Journal. You will notice five columns for factory accounts headed cream and butter supplies, boxes and bandages, freight and drayage, repairs, labor. These columns provide a classified record of the factory expenses that appear the most frequently. Less frequent items of expense are recorded in the column headed "General." When payments are made to patrons the amounts are entered in the column headed "Patrons' Accounts." When money is received by the factory for the sales of cheese or any other commodity the date is entered in the column provided for that purpose, the amount of money is entered in the cash column, no matter whether it is cash or check and when a deposit is made in the bank it is in turn carried to the "Deposits" column. The "Items" column is provided to show just what the transaction is that is being recorded.

Now we will turn to the right hand or credit page. Columns are provided to show the sales, both local and shipments, of cheese, butter or cream. It is advisable to issue some sort of a sales ticket for each sale and number these consecutively, the numbers of which will be recorded in the column provided for that purpose. The column headed "Factory Accounts" is provided for the purpose of recording such other factory transactions as are not sales of commodities manufactured. For example, some factories sell gasoline, oil, empty barrels and other similar commodities. Sales of stock at cooperative factories are recorded in the "Factory Accounts" column. The supposition is that all payments are to be made by check, the number of each to appear in the "Check No." column and the amount to appear in the "Bank Withdrawals" column.

One line is used for the record of each transaction and the two pages opposite are used together. We will explain briefly the method of recording two or three transactions. Let us suppose we receive a check for \$875.00 for a shipment of cheese. On page 1 we will enter in the "Items" column the words "Cheese Shipment," record the date, the amount of cash received and deposited in the proper columns. Then turning to page 2 in the "Explanations" column we will enter the name of the firm from which we received the remittance for shipment, then in the column for "Cheese Shipments" we record the weight and amount received. In the history of almost any cheese factory the next thing to do would be to pay the patrons. On the pay roll or patrons' settlement sheets we have determined how much is to be paid each patron. It is not necessary to show each payment in detail in the cash journal, but the pay roll figures may be summarized and the entire amount of the pay shown by one entry in the cash journal as follows: Show on page 1 of the cash journal under the heading "Patrons' Accounts" the total of the pay, under "Items" write pay roll or patrons' settlements. Turning to page 2, under "Explanation" we write for period Dec. 15 to 31, under "Check No." the exact numbers of the first and last checks issued on the pay roll 0-50 or whatever the case may be, the total amount of the checks is then entered in the

"Bank Withdrawals" column and the entry is completed. All information gathered in the cash journal is classified by means of a ledger so that at the end of the year it is possible to determine exactly how much money was spent for this or that, how much was received for each type of sale, and all other desirable information with reference to the factory's activities for the year. We are not showing any ledger sheet form, as any of the ordinary ledger forms that are available at any stationery or book store will answer the purpose very nicely. The ledgers are opened according to a definite arrangement so that the information obtained through it is classified in the order called for on income tax returns. The cash journal and ledger are the fundamental accounting records, the information for which is gathered through auxiliary records which we will now attempt to explain.

*Milk Sheet.*—The first of these auxiliary records is, of course, the milk sheet. The one presented herewith is a very common type prepared for payments on the monthly basis. It can be modified to meet the needs of the factory that pays twice a month. Columns are provided at the extreme right to show the number of pieces and estimated weight of cheese produced daily. This feature was suggested by some of the brick and limburger makers as being a good check on the factory output where small sizes of cheese are produced. Perhaps it would apply equally well to the larger sizes. Our friend, Sammis, says if we will hang the milk sheet up by the corner and put the figures diagonally in the squares it is easier to add both ways. He doesn't charge anything for the suggestion and if you feel that it is worth while try it out.

*Summary of Patrons' Settlements.*—The summary of patrons' settlements or pay roll sheet, as some of you will see fit to call it, is the same size as the cash journal sheets and will fit into the same binder. This form is largely self-explanatory and I don't believe it is necessary to go into any lengthy discussion. One line is used for the transactions of each patron for each pay period. We list the total weight of milk, the test and weight of fat, the average price of fat and average price per 100 pounds of milk, each patron's money for cheese and cream. We then list the deductions for cheese or butter drawn, cash advanced and any other deductions due to the patron having bought salt, gasoline or any other commodity and having had same charged on his milk account. The total deductions from the total due patron will give the amount to be paid by check. The total of all checks is then carried to the cash journal entry which we have previously explained.

*Patron's Envelope.*—The next slide shows us a form of patron's envelope. This envelope form is a composite form worked out after having studied the envelopes put out by over 600 cheese factories in the state. We found these envelopes varying from a brief two or three line—your milk so much, your money so much—proposition to some very comprehensive statements. We believed that a patron's statement should be a combined statement of the entire operations of the factory and the patron's individual dealings with the plant. We be-

Have that the factory statement part of it should contain a statement of the total milk received, the general average test, the total pounds of butter fat, and the pounds of cheese from 100 pounds of milk. We believe that each cheese sale should be listed separately showing the weight and price per pound. Adding to this the whey cream sales and butter sales (if any) will give the factory receipts for the period. Subtracting from this the costs of making and other factory expenses will show the net amount for distribution to patrons. The patron's statement follows with an itemized account of his factory dealings. One of the arguments against a statement of this length is that it is too much work to make it out. The factory statement, being the same on all of the envelopes, can be filled out by means of a hectograph, thus shortening the work greatly. In fact, at one meeting of cheese makers where I talked recently, one cheese maker had with him a hectograph which he had purchased a short time before from Montgomery Ward & Company for \$2.48 or something like that. He was so enthusiastic about it as a means of duplicating that he brought it to the meeting to show the other men. I believe that the more you tell your patrons about the business of manufacturing their milk into cheese the more interest they will take in the factory. I believe they are entitled to know the financial side of the story as well as the manufacturing side of it. I also believe that when they are told the entire story they will be willing to meet the cheese maker half way at the annual meeting, and maybe go a bit farther than that. The time to give them this story is chapter by chapter, one chapter for each pay period. Persistent publicity pays. By means of full and complete statements each pay period advertise your cause. Let the patrons learn the truth and the truth will never hurt.

*Stock Card.*—I now wish to call your attention to a stock card by the means of which it is possible to find the cost of each commodity for the year. This card also acts as a buying guide. Perhaps the most valuable phase of this card, however, is its use in case of any possible fire loss adjustment. Some place in our office we have a letter on file which states that in one instance last year a card of this nature was worth \$500.00, the figures shown on the cards being used as a positive basis of adjustment by the agents of an insurance company. The writer of the letter stated that he would have been willing to accept \$500.00 less in settling if he hadn't kept the card record.

When I left the office yesterday there were on my desk three inquiries as to the cost of making cheese. One letter read "Would you please state a fair price for making cheese for a factory which receives about 1,500,000 pounds of milk a year?" Now that is a hard question for me or anyone else to answer. If somebody would ask me how much a shoe factory ought to sell a pair of No. 14 shoes for I would not be able to give them a very definite answer. The shoe manufacturer would, though, for he keeps his own cost records and does not have to rely on the judgment of anyone else for that information. The only means I have for determining the cost of making cheese is to

present the several elements of cost that enter into the proposition. Each factory will have to supply the figures pertaining to these several elements from its own factory records. The condition of the records will determine to what extent the cheese maker will be able to supply this information.

The several cost elements as shown by our next slide are boxes, bandages, circles or caps, scale boards, rennet, salt, acid, color, fuel, wages, depreciation on the building and equipment, taxes, insurance, general breakage, cleaning supplies, interest on investment and any possible cost of pasteurizing whey. To determine your individual factory costs supply accurate figures for each of these elements gathered through accurate records. By so doing you will be able to know your own status and break the news gently to your patrons if you feel at the annual meeting that it is necessary for you to ask for more money for making. The expression "breaking the news gently" brings to mind an Irish story. McCarty, O'Toole and Shaughnessy were hod carriers on the top floor of a new building that was being built. McCarty fell to the pavement eight stories below and was killed. An ambulance was called to bear his lifeless remains to his home. In the meantime Shaughnessy and O'Toole held a hurried conference and decided that they appoint themselves a committee of two to precede the ambulance and break the news gently to the widow. When Mrs. McCarty came to the door O'Toole inquired "Does the widow McCarty live here?" Mrs. McCarty indignantly and heatedly replied, "I'm no widow." O'Toole broke it gently by remarking, "The devil you're not. Wait till you see what we're bringing up here."

Our last slide shows a composite collection of the several forms used in the system of accounting of which I have been speaking. I would like to see it in use in over 2800 cheese factories in Wisconsin. If it were so used I feel sure that it would help to alleviate some of the animosities that exist between cheese maker and patron. If all the cheese makers assembled here today would only adopt one form of the several I have shown you I feel sure it would be a step in the right direction. The system is inexpensive. A few dollars will place the entire system at your disposal. You have to buy envelopes anyway. Why not buy the envelope with a statement such as I have outlined? It will cost no more and the results obtained will make it worth while. The envelope probably is as important as any record outlined in the system as it is the one medium through which the creamery operations are placed before the patron in the true light.

CHAIRMAN: The next is Mr. Sammis, and he says he will take 5 minutes with some slides on "Better Milk Inspection."

## BETTER MILK INSPECTION METHODS AT CHEESE FACTORIES

By PROF. J. L. SAMMIS,

Dairy Department, University of Wisconsin, Madison

"Cleaner Milk and Better Cheese" might well be adopted as the motto and aim of every cheese factory during this present reconstruction period. If the cheese factory business is to be conducted on sound business principles, like banks, factories, stores, farms, mines or railroads, careful attention must be given to the quality of the raw materials received every day. How long could any banker or merchant stay in business without carefully inspecting every check or piece of money presented at his office? What grocer, clothier, or hardware man would expect to keep out of bankruptcy if he didn't carefully check over every shipment of goods as soon as they were received for his shelves, to see that they were up to the required standard of quality and quantity he ordered and paid for? How then can a cheese maker expect to run his factory in a satisfactory and prosperous manner, unless he inspects and tests every lot of milk from which he is to make cheese?

### The Cheese Maker's Responsibilities

Among the duties which the expert cheese maker is expected to perform are (1) to keep his factory as clean and neat as it is capable of being kept, and his equipment clean and in running order, (2) keep his starter, well water, whey tank, drains, records, etc., in first class condition, (3) to make his cheese in workmanlike manner, and have them neat and attractive in appearance, (4) to perform such duties connected with the shipment, and sale of cheese, and the payment of patrons, as required of him, and (5) what is of equal importance to any other duty, to have a general oversight over the milk and its quality from each patron. In a great many factories the maker is given the right and duty of refusing any lot of milk considered by him unfit for cheese making. Patrons look to the maker, with his superior experience and judgment regarding milk to inspect their milk for them, and give them warning when anything is wrong. In fact, most patrons depend on the maker for this service, and take it for granted that the milk is all right, as long as they do not hear from the maker about it. The maker owes this service to the patrons.

Another important reason why the maker should inspect milk is that he may know every day what kind of milk he has in the vat to handle that day, and that he may, if possible, advise or instruct patrons how to bring better milk for tomorrow's cheese vat.

### The Patron's Responsibilities

Aided by the maker's advice, when necessary, the patron is responsible for the health of his cows, the care and cleanliness of his pails, strainers,

cans, milking machine, etc., for the feeding and water supply of his herd, for the cleanliness of cows, barn yard, barn floors, walls, ceiling, for the handling, cooling and storage of night milk, etc.

Patrons vary greatly in the care and intelligence with which they meet these responsibilities. Often, the washing of utensils with a dish rag instead of a brush, or the lack of washing, or the neglect of proper cooling of milk especially in the busiest season, or on Saturday nights, Sundays, holidays, etc., result in serious deterioration of the factory milk supply. The first warm nights of summer often find the milk cooling tanks out of order, and the milk becomes overripe, or otherwise defective.

#### **Necessity for Daily Milk Inspection**

With all these and other possible chances occurring daily on 10, 50, or 100 farms bringing milk to one factory, the maker's supervision, inspection and testing of the milk supply daily cannot be too well and carefully done.

At some American cheese factories, during several past seasons, milk inspection has degenerated into a very hasty glance at the milk as it comes into the intake, and often this duty is left entirely to a helper or less experienced man. At about 200 Swiss cheese factories in the state, intake rooms are an unknown thing. The milk is poured through a round hole high up in the wall, falls into the weigh can, and runs out of the gate before the maker knows anything about its quality. This condition at Swiss factories is deplorable, and should be corrected, if the Swiss cheese industry is to "come back." The simplest way to do this is to provide a set of steps along side of the weigh can on which the maker can go up and smell or otherwise examine each can of milk, before it is poured out, instead of afterward. The best way, though more expensive, is to build a regular intake room as a part of each factory, where the maker meets each patron daily, and where they both work together in unloading and inspecting each can of milk.

#### **An Ounce of Prevention Is Better Than a Pound of Cure**

The old, careless way has been to let milk quality gradually go from bad to worse, in the rush of the summer work, until losses in yield, or cut prices from gassy or acid cheese bring the maker to his senses, and start the patrons complaining. Such a system might be compared to the work of a careless bank clerk who cashed every check offered, and took in any kind of money, good or bad, until finally and suddenly brought face to face with serious losses. Either case is foolish or criminal, and contrary to common sense.

A much wiser and safer plan would be to inspect carefully everything that came in every day, whether money or milk, and in the factory to keep a daily sheet of milk quality, as well as of milk weights. To do this requires daily use of a suitable milk test.

#### **Choice of Milk Quality Tests for Daily Use**

The various forms of sediment test, when used for the first time at a factory, are successful in that patrons are greatly surprised. The test

is quickly made and is convincing. The newest form, called the Vacuum Sediment Test works more rapidly than the older forms, and gives good satisfaction.

But if the sediment test is used regularly for a few days at a factory, patrons soon begin to learn how they can strain the milk on a little thicker cloth at the farm, and thus get an almost perfect looking sediment test at the factory, although the milk was very dirty before straining, and may yet contain many gas-forming bacteria, dissolved manure, etc., so that it is not really fit for cheese making. The sediment test therefore is better adapted to the use of traveling inspectors than for daily use by the cheese maker.

The Wisconsin Curd Test has come to be thought of and used as a special test to be used as a means of getting out of trouble. In fact, the time and labor required to make a curd test on the milk of a set of factory patrons is so great that makers do not use the curd test daily, but only in emergencies, when defective cheese and cut prices or low yields make some such emergency methods necessary. Makers appear to have decided that the test is too much trouble to make daily in a busy cheese factory. The fact needs to be emphasized here that, when a curd test is made, the curds should be kept warm over night, at about 100 degrees, in order that the gas-forming bacteria in each curd may grow well and make their presence apparent by the formation of gas holes. The tin water tanks often supplied with curd tests are not suited for keeping the curd warm more than an hour or two, and even in a boiler room the fire is apt to get low and the curd tests become entirely cold early in the night. An incubator with constant temperature regulation is needed, as described below, in order to make the curd test really effective, when it is used.

The Fermentation Test is the oldest of these milk quality tests, and has been widely used in Switzerland and elsewhere. This test is free from the objection often urged against the Wisconsin Curd Test, as to time and labor required for its use.

The milk samples taken in glass tubes for the fermentation test are simply placed in an incubator or warm box, and left there until evening or early the next morning, when they are inspected and the results recorded. The presence of gassy milk is seen by the gassy curds in some of the tubes. The night milk and morning milk of each patron can be tested in separate tubes without trouble, or if desired a separate sample tube can be filled from each can of milk at the intake. The problem of keeping the samples warm over night is often solved by Swiss cheese makers in Europe by placing the tubes in a small cupboard or closet, kept warm by a lamp, or an electric lamp with an automatic regulator shown here.

#### The Incubator Milk Test

The modern development of the egg incubator, familiar to every farmer who raises chickens, has reached such a point of excellence that the egg incubator can readily be used for the fermentation test in the cheese factory. Manufacturers of incubators (whose names



will be furnished on request) have recently placed on the market, special incubators made especially for cheese factory milk testing. These special incubators are simpler than egg incubators and require no ventilation openings. The egg trays are removed, leaving plenty of room for the metal racks holding the test tubes of milk samples, in an inclined position, so that they can be readily inspected at any time through the double glass top of the case, without danger of cooling off or contamination.

This incubator is also equally well suited for holding the curd test samples at constant temperature in case a curd test is made. With the incubator, also, the methylene blue test can readily be performed, placing 10 c.c. samples of milk in test tubes inside the case. The fading of the blue color in each tube can be seen easily through the glass top, when inspected at 15- or 30-minute intervals.

The incubator thus placed within the reach of cheese makers, at a moderate price, is the one thing that was needed to make the daily use of the fermentation test practicable in the cheese factory.

Supplied with a two gallon kerosene tank, and a water-cooled burner, the incubator needs very little attention and only occasional filling to keep it going steadily for weeks or months. The water-cooled burner keeps the wick in the best possible condition, so that it gives entire satisfaction.

Incubators, heated by steam heat on a constant pressure steam main or by electric current when available continuously, can also be obtained, but most factories will prefer the simple kerosene lamp as a source of heating. Students at the Dairy School are taught the use of the Incubator Milk Test in their daily work, and the milk sheet on the wall of the intake shows at a glance the quality of milk delivered by any patron during the past weeks. The record is made daily in any convenient manner on the milk sheet, as by putting down 0 when the milk shows no gas, a small g when it shows a little gas, and a capital G when it is very gassy.

Using this test daily, the maker is able to show any patron his record and his sample tube any day, and aid him by advice in cleaning up his milk supply when it appears defective, and this can be done early in the season or at any time, so as to prevent conditions from becoming so bad as to produce gassy cheese or loss of yield from working out gas from the curd.

The constant attention given by the maker to milk quality by means of the Incubator Milk Test keeps the patrons interested in the subject of improving the milk supply, and warns them when danger is ahead.

Every cheese maker who had trouble from gassy milk and cheese last season is advised to begin the use of the Incubator Milk Test at the beginning of the coming season, and thus keep his milk in better condition in 1922.

#### What to Do With Gassy or Other Defective Milk

This plan of daily testing and recording permits the "grading of milk" in the factory when desired, and enables the cheese maker to

run the milk from patrons whose record is bad into a separate vat, or to run it through the separator instead of using it for cheese. Thus at a Swiss cheese factory the milk from the patrons whose records are good is run into the Swiss cheese kettle, while the rest of the milk may be run into a vat for brick cheese, or run through the separator, and the cream sold with the whey cream. As fast as patrons improve the quality of their milk supply their milk is added to the kettle.

This plan contains the possibility of being developed, in a large factory, to the point where the good milk is made separately into good cheese, and the defective milk handled in another vat, from which these backward patrons are paid according to the yield and selling price of the cheese obtained in that vat. This may or may not be done, at the option of the maker and patrons. But in any case the daily use of the Incubator Milk Test is sure to detect the first beginnings of defective milk at the factory so that they may be corrected before the trouble becomes so bad as to cause losses in yield or quality of cheese.

#### DISCUSSION

MR. ADERHOLD: How long does it take to make that test?

PROF. SAMMIS: We put the samples in the incubator and then we pay no attention to it, and we don't look at it until the next day. The farmers test will establish his reputation. Twenty-four hours is the proper time to run it.

MEMBER: What temperature would you hold those samples?

PROF. SAMMIS: Run it 100 degrees if you want to give the gas in the milk a chance to grow.

MEMBER: Last summer I had trouble with gassy milk, and I used fermentation milk at a temperature of about 90, and I also used the curd test. I had some that showed very gassy.

PROF. SAMMIS: The difference in temperature is very important there.

MEMBER: I should imagine the difference in the fermentation test is whether you had one milking or two milkings. Milk which is used once a day won't go so high as milk that is used twice a day.

PROF. SAMMIS: What I have tried to say is this: We should make a daily inspection of milk, and make a record on the milk sheet and not wait until next summer when we have a lot of trouble. Use it as a preventive before the trouble occurs.

## HOW I INSPECT MILK AT MY FACTORY

By H. A. RINDT, Clintonville, Wisconsin.

First, I am going to consider the qualification of the cheese maker, and some of the things that are vital and, in my judgment, very important. It is not only the taking in of the milk and trying to detect the milk by scent that qualifies the maker for the position he holds or that brings him success and harmony between him and his patrons. It requires skill, tact, and gumption, which are absolutely essential in order to master the situation. The cheese maker should be a leader in his community and should be acquainted with the past history of every patron, and his habits and what kind of a system he has for cooling his milk. This will help the maker in many instances to advise his patron just what the cause is of him delivering poor milk.

For example, if the maker knows that his patron has only an ordinary wash tub for cooling his milk and he has a one hundred and twenty pound milk can full of evening milk, sets this in the wash tub and adds a few pails of water around this can, even though the patron changes the water around this can of milk, there is too big an amount of milk for the little amount of water to cool it properly, especially when the weather is exceptionally warm. In this case he notices something wrong with the patron's milk, or by the use of a curd test he can advise his patron at once to divide this milk in two cans and use two tubs in place of one, and change the water around the milk oftener, and show him what a loss it is to him and the factory in dollars and cents by one patron delivering poor milk and, at the same time, the cheese maker can eliminate his troubles at once without spending any extra time. In order to come to some conclusion as to what ails the patron's milk, we have got to study the producer, his habits, his way of living, the conditions of his barn, and yard, his way of straining milk, and what kind of a strainer, how washed, and where it is hung after washing; what system he has in washing his milk cans; if with hot or cold water, or if brush or rag is used, and what kind of a cooling system he has, and then with the aid of our laboratory, such as it may be, if it only contains a sediment test thermometer, curd test and a fermentation test, and the symptoms of the milk we can in many instances offer a remedy for our patient right in the intake without going through any trouble and spending any time. The cheese maker must study each individual patron from a business standpoint, so that he knows just in what way he must approach him in order to master any difficulties which may arrive.

Some men can be driven, others you can lead, some you have got to show, and others are anxious. The maker should be able to answer all questions pertaining to his business, soils, feeding, testing, marketing, the different methods used in paying for milk, the easiest and

best way of taking care of milk, and be able to make him see that it is for his own benefit to buy new cans when needed; or the old ones mended, or to take his milk back home good natured when it is spoiled. I have ordered some patrons to take their strainers and all their milking utensils and put them in their milk cans and add two or three pails of boiling water in every can and then cover the can and let them stand for a while. I have overcome some of my yeast and fermentation troubles.

In my experience I find these some of the worst kinds of troubles. Now I am going to consider the duty and responsibility that rests upon a cheese maker. It is his duty to inform his patrons from time to time of the new dairy laws so that they thoroughly understand them. As I see it, I feel I am responsible for every patron that pays a fine on account of dirty milk and poor cans. Then I feel my patrons look upon me as a man engaged in the manufacturing of cheese, that I ought to know what kind of milk and cans are lawful and they are depending upon me to instruct them, so that they are safe within the law, and when some morning they find the state inspector in the intake, they will drive up to the intake with a smile and the result will be there will be no wounds inflicted by the inspector for the cheese maker to heal. Of course you will find a man here and there who will not take your advice. In this case it would be for your own benefit to notify the state inspector and have this man punished according to law. This will be a good example for the remaining patrons; they will think the more of you, and the man who has paid his fine will have to feel ashamed, and will take your advice next time, and will respect the cheese maker thereafter, and do as he is instructed to. I feel that the cheese maker should be an example to his patrons in the way of keeping clean his factory and the surroundings, his whey tank, etc. Then you've got to live up to what you preach. In order to make myself clear, I'm going to tell you of a few incidents, and the fruit from this kind of work. I know of where the patrons have found mice nests in the tester, and from the appearance everything indicated that the tester hadn't been used for at least six or eight months; and in another case where the patron had been kicking on his low test, and the cheese maker never tried to prove to this patron that his milk was really so low in butterfat, his test had been running three-four very near all year around, whether his cows had freshened, or were just stripping; so this patron was forced to believe that the cheese maker was not testing, or did not know how to test. So in the fall of the following year, when his cows were mostly all stripping, he separated his evening's milk and mixed it with his morning's milk, and his test raised from three-four to four-two, and he continued this for four months, and the more milk he skimmed, the higher went his test. You can readily see what happened after this patron knew he had the cheese maker foul. He started to look for trouble, he kicked about his test more than ever, and this cheese maker who used the lead pencil instead of the tester, had to be good. Does such kind of work bring proper results with-

out any hardship? Isn't this an awful position to be in, and how can you expect the patrons to have confidence in you. I could mention many more, but time does not permit me. A cheese maker is tried out in many different ways and he must expect that there are some traps set for him. Therefore he must be tactful, use good judgment, and go to the bottom of anything that might cause him trouble, and convince his patron that he is right, then a stitch in time saves nine.

Let me show you here how easy it is sometimes, with the best of intentions, that a man can fall in one of these traps. A cheese maker owned a farm in connection with his factory, and therefore kept a helper in the factory who had one year or more experience. During the haying and harvesting the owner would naturally be very busy on his farm. The owner always did the testing in his factory but it happened he had lots of grain out and wanted to get this in under roof, as soon as possible; having lots of confidence in his helper and feeling that he understood his work he let him do the testing for that month. In the evening the owner looked over the test sheet, and finds Mr. Jones' test very low, three-two. This was rather a surprise, for in the several years he had owned the factory Mr. Jones had never been below four. He instructed his helper to test this milk again, and this proved up the same, three-two, the helper having dumped the composite samples so the sample jars could be used the next day again. The owner not feeling satisfied with the test, took the test sheet and gave Mr. Jones the same test he had the month before, four-two. This factory had a custom to hang the test sheet of past months testing in the intake, so every patron could see his test the next morning. Mr. Jones came along, and noticed his test four-two, and this is what he said: "Ha, ha, the same test; so it makes no difference how many pails of water a man adds to his milk. I have added five pails of water, a pail to each can. I am done with this factory," and he never hauled there again. The point I want to emphasize is, after you have been tried out by your patron, and have mastered the different problems successfully, they will have confidence in you, and there will be no doubt in their minds, and they will follow your instructions, and this surely ought to help you in getting the better grade of milk. After having discussed some of the essential factors that bring unity and success, how to build up a better grade of milk, by applying the right application at the right time, and at the right place, I am now going to offer some figures and records, and some of my own experience in inspecting milk. And a little later will refer to the chart I have brought. As a rule, if we study the horse, harness, wagon and the man on the seat, we find in most cases this is in harmony with the milk in the cans. I used to think I could detect most any kind of milk by scent that would cause trouble in making cheese, but I have lost this idea and haven't found it since. Milk that has not been cooled soon enough after milking, or down to a temperature where the foreign bacteria have stopped from developing, or have started to develop, but have been checked later on, or milk that has stood around for an hour or so after milk-

ing, or milk where dirty and filthy utensils have been used, such as milking machines that have not been kept clean, or open seamed or wooden milk pails, dirty strainers and poor milk cans, etc. This is hard milk to detect in the intake, because it smells fairly good, looks all right, and it seems to be fairly well taken care of. I want to tell you, friends, this kind of milk causes the worst kind of trouble in making cheese; in my experience I find this milk has developed on the gassy order and ferments after it has been heated up in the vat to the proper setting temperature. And nine times out of ten, this yeast develops so slowly that you will not notice very much trouble in the making of cheese, but your trouble comes after your cheese is on the shelf. And in other cases I find that the curd seems to work fast, and at the same time you have a hard time in getting your curd firm enough; and after matting a while you will find your lactic acid bacteria overcome by the fermentative bacteria, which have had time to develop to where the lactic acid has lost its power. This kind of milk oftentimes is hard to detect even with the use of a curd test or fermentation test. Here is where a man's experience and the knowledge he has gained, by constantly being a student, is a great help to the man inspecting milk; it isn't the straw that floats on top of the milk, or the dirt at the bottom of the can, or the milk can that is rusty, that always causes your trouble, nor does it require an expert to examine this kind of milk to find these faults, they are visible and every cheese maker should know that this milk is unlawful, and of no credit to his factory and should try to remedy this without the aid of the court. But when we have coagulation, fermentation, bad flavor, gas and pin holes that originate from sick cows or colostrum milk, etc.; in this case the cheese maker has got to do some real field work in order to locate these troubles. I want to say right here to the inspectors, that they could help the milk can condition through the country, and make it easier for the cheese maker and themselves, by paying a little more attention to the bigger milk and cream companies, cream and milk cans such as the condenseries and whey cream companies. What do they expect a farmer thinks, and the feeling this creates, when the farmer sees cream cans around the cheese factory; and at the depots and on the condense wagons, that are ten times worse than those that he had been sent home with from the factory, full of milk and had to have mended or fixed, on account of a deep groove or an open seam. I do not want to criticise the inspectors, then I know the few inspectors we have, they can't be everywhere, but I feel there is no excuse for this, then a blind man can smell some of these cans, and wherever you go by train or otherwise you will see more or less of this kind of cans. Let us members of this association refuse to put cream in cans of this kind, and report to the dairy and food department wherever such cans are used, and work together with the dairy and food department, and coordinate and cooperate with them; then by so doing we are only doing our duty. Before I close I want to remind the members of this association that I think it would be a good idea to go on record, and that we instruct our secretary that he write a letter to each hardware dealer and

milk can manufacturer in this state that we demand a more sanitary milk can, that the seams and grooves should be flushed with solder, so that the farmer after buying a milk can does not have to take it back the next day and have it mended, and the seams resoldered.

## THE USE OF THE METHYLENE BLUE REDUCTION TEST IN INSPECTING MILK AT CHEESE FACTORIES

By PROF. E. G. HASTINGS, University of Wisconsin.

The writer is well aware of the numerous demands made on the time and energy of the cheese factory operator. It may seem unwise to suggest any additions to his present tasks, but one who is at all acquainted with the manufacture of cheese as it is conducted in many of our factories can not help but feel that a little attention and effort directed toward the improvement of the quality of the raw product may bring returns out of all proportion to the expense involved.

The ease with which the fermentation test can be carried out and its value in the inspection of your milk has been presented at this meeting by Professor Sammis. He has emphasized the necessity of daily inspection of the milk from each farm. I am certain that the adoption of his suggestions will be of immense value to the industry through the improvement in the average quality of the cheese and the resulting increased demand therefor. I am a cheese consumer. I know that the consumption of cheese in my home would be several fold what it is if I could be certain of being able to obtain constantly a good product from my grocer, instead of the variety that would put Joseph's coat out of the running. Uniformly good cheese has been made, and it can be done again in all of our factories. The first requisite is good milk. What is good milk for cheese manufacture? There is every reason to believe that the best milk for cheese is that which contains the smallest number of bacteria. Bacteria are helpful or harmful to the cheese maker, depending on the kind. The methods given by Professor Sammis enable you with little effort and expense to follow from day to day the kinds of bacteria in the milk of your various patrons. The methods of which he has spoken will tell you little concerning the number of bacteria.

In the past when speaking of the quality of milk for cheese, the emphasis has always been placed on the kinds of bacteria and the proportion which the harmful bore to harmless kinds. The statement was always made that if the milk for cheddar cheese making contained only lactic bacteria, the milk would be of good quality. This statement is as true today as ever. Two difficulties confront us; first, we are not so certain as to how successful our tests are in detecting the most common of the harmful bacteria, the gas-formers, and we know little of the importance of other classes of harmful bacteria not detected by the fermentation test.

I am sure all will agree that if the milk has been so produced and handled that it contains when delivered at the platform but few bacteria, the maker has opportunity by the use of appropriate starters to insure the constant predominance of helpful and necessary bacteria. Please note that I say appropriate starters. The starter that is appropriate for the cheddar maker is most inappropriate for the Swiss cheese maker. In other words, if the maker can include in his routine inspection some method of measuring the number of bacteria in the milks delivered to him, he will be able to make a better judgment as to their relative value than if he relies on the methods which tell of the kinds of bacteria alone.

It seems fortunate to me that such a test is available. It has been widely used in such great dairy countries as Denmark and Holland for the purposes for which I am suggesting it today. It is, therefore, no new and untried method. It involves the addition to the milk of a small amount of one of the dyes, methylene blue. The blue color thus imparted to the milk disappears sooner or later, depending on the number of bacteria in the milk and on the temperature at which the milk is kept. By keeping the milk samples at a constant temperature, the time required for the milk to resume its normal color will depend on the number of bacteria it contains. A milk the acidity of which has reached a point at which it can be detected by taste will lose the blue color in a few minutes (3-10). A milk which contains but few bacteria will remain blue for ten to twelve hours. In cheese factory practice a milk that is still blue after four hours at 98°F. can be classed as good milk. If the maker wishes to draw a line which shall divide the milks into two classes by the use of this test, the time mentioned is probably as desirable as can be established. It should be kept in mind that milk is to be classed as more desirable in the same proportion as the time required for the color to disappear exceeds the period mentioned and that as the period is less than that given, the value of the milk diminishes.

The test is known as the reduction test or the methylene blue reduction test. Most fortunately it can be combined with the fermentation test and made in the same tube of milk by taking a definite amount of the milk and adding a definite amount of the solution of the dye. The number of bacteria will be indicated by the rapidity with which the color disappears. The kind of curd obtained after twelve to fifteen hours in the same tubes at the same temperature will reveal much concerning the kinds of bacteria in the milk. One observation at the end of four hours at 98°F. will enable the milks to be placed in two groups. More frequent and extended observations will enable the operator to make a finer adjustment and to place the milks in a larger number of groups.

It is to be noted that if any sort of inspection, other than what can be done at the weigh can is to be made, the combination of the fermentation test and the reduction test is the simplest process that can be used and probably the most valuable. The methylene blue is added to the milk in such quantities that there will be one part of the



dry dye to 200,000 parts of milk. The mixture will have a robin's egg blue color. The temperature recommended is believed to be the most suitable. It is to be noted that the only thing required by the test beyond what is necessary for the fermentation test is the solution of the dye and some means of measuring the amount of the sample taken.

This form of milk inspection must be carried out more or less constantly in order to prove of greatest value. It is probably not essential that the inspection be made every day, but inspection of each patron's milk two or three times per week would certainly give the cheese maker a good idea of the relative quality of milk delivered by the various patrons.

I think it has been shown by experience that little can be done towards the improvement of the supply unless some incentive is offered to the farmers in the way of increased returns for a better grade of milk. A differential in prices can not be carried out successfully unless the factors involved in the grading of the milk are such as to admit little or no discussion. In the grading of cream for butter making, the main emphasis is placed upon the acidity of the cream and upon its content in butter fat, two things that can be measured exactly. The reduction time as determined by the method which I have outlined is again something which can be determined exactly. The milk is either colored at the expiration of the selected time or else it is not. In other words, we have a test the reading of which does not involve any so-called personal element.

The use of the reduction test certainly will involve no injustice to any milk producer. I am not so certain that this can be said of either the Wisconsin curd test or the fermentation test. The combination of the reduction test and the fermentation test can also be used in determining the grade into which the milk shall fall. If a milk retains its color for a longer period of time than four hours, but shows an extremely gassy curd in the fermentation test, it would be ranked as of poorer quality than one that lost the blue color before the end of four hours, but which showed a good lactic curd in the fermentation test.

The great difficulty with using the results of the fermentation test as a means of grading milk when there is to be a price differential is the fact that the personal element in judging the curds enters and there is always opportunity for disagreement between the operator and the farmer. If the results of the examination are to be used simply to enable the maker to determine which of his patrons should receive direction as to improvement in methods of production, the fermentation test has no disadvantages, but the additional information secured by the use of the reduction test will be of great value.

I feel very certain that the factories should take the initiative in the improvement of the quality of milk by improving the condition under which the whey is handled. In a recent number of the Wisconsin Agriculturist, an article appeared which discussed the offensive odor which is to be noted in the neighborhood of many of our cheese

factories and mentioned the fact that this was not a good advertisement for Wisconsin cheese. An editorial appeared in the same issue in which the importance of improving the condition about factories was pointed out.

I spent a short time last summer in one of the northern Wisconsin towns in which there was located a cheese factory. The whey tank of this factory contained a miscellaneous accumulation of materials, such as old barrels, some woven wire fencing, etc. It was evident that the whey tank had not been cleaned for many weeks. The operator was having trouble with his cheese. The patrons were carrying back to their farms in the milk cans the whey from this tank. Due to imperfect washing of the cans, the milk was being seeded with the bacteria from the whey.

Three years ago the legislature passed a law requiring the scalding of whey before it was returned to the farmers. The arguments in favor of this process were that it would assist in preventing the spread of such diseases as tuberculosis and contagious abortion from farm to farm, and that it would improve the quality of the milk and hence the quality of the cheese.

There has been considerable opposition to the law and its enforcement has been difficult. The writer is certain that if the cheese factory operators realized the profit that would accrue from scalding the whey no such law would be necessary. The process has been widely introduced in Ontario because the factories have found it results in such an improvement in the quality of the cheese, as to far more than pay for the cost of fuel and labor. Again, if the farmers realized the value of the process in protecting the health of their cattle and hogs, and in enhancing the feeding value of the whey, they would demand that the whey be scalded. There are no valid arguments against it and many for it. No law requiring it should be needed. The factory that has begun the improvement of the quality of milk through scalding the whey is in a position to ask the farmer to do his part in the production of good milk.

Many thousand tourists are passing through the cheese districts of Wisconsin every summer. They are receiving their impression of this great Wisconsin product, to a considerable extent, from the conditions they find surrounding our cheese factories. I am certain that the Carnation Milk Company finds the expression "Milk From Contented Cows" of great financial value in advertising its product. Will not well-kept and well-smelling cheese factories and whey tanks be of equal advertising value to the cheese industry of Wisconsin?

The College of Agriculture will be glad to supply during the coming season the methylene blue solution to any factories that desire to use in their milk inspection the method which has been outlined. The college will also be glad to offer all the assistance it can in the use of this test and to supply detailed directions for making the test. It has been presented to the cheese makers of the state with some degree of hesitation, for I have felt, as I have stated in the beginning of this paper, that their duties are at present sufficiently numerous.

I am firmly of the opinion, however, that a small amount of time spent in the inspection of the milk, especially if this can be followed by a differential in price, will be of immense value in the improvement of the Wisconsin product.

#### DISCUSSION

CHAIRMAN: Yesterday afternoon there was a motion to be laid over until 3 o'clock this afternoon. It was regarding the question of whether we would appoint two men on the committee of Mr. Stoltz of the National Cheese Association, they representing this Association to work with Mr. Stoltz on the definition and standards of cheese nationally, one to be selected from the American makers, and one from the foreign types of cheese. That was laid over until today. What is the pleasure of the members on this subject?

MR. BRUHN: I move we elect for the American side of this question—nominate or select—Mr. Windsor. I don't think we have a better man to serve.

MR. ADERHOLD: I second the motion.

Motion put, and carried.

MR. KOLLER: I move we elect Mr. Fred Marty on this committee for the foreign cheese.

Motion duly seconded, put, and carried.

PROFESSOR HASTINGS: May I add just a word? The thing I neglected to say is this: If any of the cheese makers here present desire to try this test during the coming season, the college of agriculture will be very glad to furnish detailed information for using it, and would furnish the solution for making it.

CHAIRMAN: Now we will have the celebrated Swiss yodlers we have read so much about from Monroe.

Several selections were given by the Swiss yodlers, Messrs. Adler, Bausiger, Jenni and Richards, which were enthusiastically applauded.

CHAIRMAN: The next in order is the election of officers. The first officer to elect is a president to succeed myself.

MR. NOYES: Mr. President and Members of the Convention: We know what Mr. Reed has done. I move we suspend the rules and elect him by acclamation.

Motion duly seconded, put, and carried unanimously.

PRESIDENT REED: Members, I thank you.

The next in order is a vice president in the place of Herman Rindt.

MR. DAMROW: I move we suspend the rules and elect H. A. Rindt by acclamation.

Motion duly seconded, put, and carried unanimously.

MR. RINDT: I thank you, gentlemen.

CHAIRMAN: The next in order is a secretary in place of our present secretary, Mr. Sammis.

MR. UBBELOHDE: I move we suspend the rules and elect Professor Sammis by acclamation. We who have worked with him know it is a very hard position to fill, and we don't want to make any mistakes.

Motion duly seconded, put, and carried unanimously.

CHAIRMAN: The next in order is the election of a treasurer in place of the present incumbent, Arthur W. Zelm.

MR. UBBELOHDE: I move Mr. Zelm be elected by acclamation to succeed himself.

Motion duly seconded, put, and carried unanimously.

CHAIRMAN: One more is to be elected, and that is a member of the Board of Directors. They are elected for three years. The retiring member of the board this year is Mr. A. T. Bruhn, and we will have to elect a director in his place.

MR. ADERHOLD: I move we elect Mr. Bruhn for the next term by acclamation.

Motion duly seconded, put, and carried unanimously.

## THE WISCONSIN SYSTEM OF CHEESE GRADING AND BRANDING

By MATH. MICHELS, Wisconsin Department of Markets.

Mr. President, Fellow Cheese Makers, Ladies and Gentlemen: Since the hour is so late, I have got my little talk so condensed it will take only about three minutes to give you in a very few words what led up to the present methods of cheese grades to go into effect next month, February 13th. So much has been said today and yesterday as to the quality of cheese there is no need for me to dwell any further on that. I think it is well understood by everybody that there is something in it and the only way to get quality is to line up a program that quality will be paid for and just as quickly as we get that in motion we expect quality will be recognized, and when it will be recognized we will have all kinds of it, so I am going to read you what I have here and it won't take much of your time.

The grading of cheese and butter, while new and untried in this country, has been practiced in New Zealand and Denmark for more than twenty years and in Canadian provinces for some eight or ten years.

In New Zealand and Denmark the government compulsory grading of cheese and butter has done much toward producing a large percentage of the highest quality cheese and butter and diminishing the amount of the lower grades. It has accomplished the much desired feature of a uniformly high quality product. Danish butter, the past summer, sold in Milwaukee at an advanced price of ten cents per pound over Wisconsin extras. I will even say, further, I saw Danish butter advertised in Milwaukee twelve cents per pound over Wisconsin extras.

Wisconsin extras were advertised at forty-six cents per pound and Danish butter fifty-eight cents per pound.

In some of the Canadian provinces the voluntary grading of cheese and butter was started eight to ten years ago. Up to this time Canada has no compulsory provincial or dominion grading of either cheese or butter. Many provinces have allowed both cooperative and individual concerns to use their government grades on their product coming up to certain standards and under certain rules and regulations.

The result of the Canadian provincial grading, while very effective in some ways, has not brought the results that compulsory grading systems have brought to the dairy industries of New Zealand and Denmark. These rules and regulations over there so far are practically the same as here, except over there they are called "Specials," while here they are called extras. Yet it is interesting to note that in spite of the weaknesses in the Canadian systems the percentage of cheese and butter qualifying for the highest grades has been increased from 15% to 50% in the course of twelve months, while the quality in the lower grades has been decreased by a like amount.

The Dominion of Canada is now completing a compulsory grading system which they hope to make effective by May 1, 1922. This I give from a letter from Mr. Ruddick in which he says they expect to put on their system by that time, May 1st. Wisconsin produces 70% of all the cheese made in the United States or about 300,000,000 pounds annually. Wisconsin produces more than twice the amount of cheese that is produced in all Canada. In other words, Wisconsin produces more cheese than the rest of the United States and Canada combined.

The value of Wisconsin cheese in 1919 was over \$90,000,000. This figure will be diminished for 1921 because of the much lower prices which prevailed. Wisconsin's great cheese production has made our state famous as well as prosperous. Our state dairy departments have worked early and late to keep up our high standards on all Wisconsin cheese, they have spared no efforts to help the cheese maker in every way possible. Had it not been for these departments our quality would have gone much lower than we find it at this time. Instruction and inspection work have been hampered, however, because of a common practice to pay for cheese on a flat basis regardless of quality. These practices have led to much indifference on the part of both the cheese makers and the milk producers.

The cheese buyers have found it impractical to pay strictly according to quality because of the competition in the buying field.

The cheese makers have not put forth their best efforts because quality was not recognized as in years past and much "off" quality cheese of late years has been the result.

The milk producer has become not only indifferent, but has been clamoring for high yields of cheese resulting in much poor quality and a high percentage of low-grade cheese.

The aim of our cheese grades is to help in the marketing of cheese (1) by lining up a program, the ultimate object of which is to secure for the producer a price for his cheese which is commensurate with its

quality; (2) by giving the consumer assurance as to quality, which assurance he has never had in the past, and by so doing greatly increase the consumption of cheese.

The low consumption of cheese in the United States is due mostly to a distrust of the product by the consumer. The common practice of getting away with "off" quality cheese to the retail trade at nearly full good cheese price value should be prevented. To this we may add the lack of sufficient curing or age before the cheese reaches the consumer.

The present consumption of cheese in the United States is only 3.8 pounds per capita, when in all European countries it ranges from 10 to 24 pounds. We contend that the production of a uniformly high grade of cheese will result in a greatly increased price to the producer with practically no advance to the consumer. We explain this apparent impossibility along this line: the present consumption of cheese in the United States can be increased only by an appeal to the appetite and taste of the consumer. Our low consumption is due entirely to the low quality of cheese as it comes to market at present. Without knowing the reason, the average consumer does not like cheese. It moves over the grocer's counter in small volume and often brings complaints. He holds the cheese long, suffering a loss in shrinkage and mould consequently. In order to break even he must ask a wide margin amounting to 50% or even 100% over the factory price. Cheese is a finished product as it comes from the factory and there should be nothing to warrant such a wide spread. We will concede that the average American has as good a taste as the European. The latter eats cheese regularly because our exporters can afford to ship only the better grades. Reasoning along this line we can be assured that the American's consumption will approach or equal that of the European when he gets a cheese that is really fit to eat. When this time comes the grocer will be handling cheese in such a volume that a small percentage of profit will yield him larger net returns than he receives under present conditions. The situation then will be similar to that now prevailing in butter, flour, sugar and other staple articles which the grocer handles on a very close margin.

The common practice of paying for cheese at the factory on more or less of a flat basis has been the cause of much of the poor quality cheese produced the past five years. Quality must be appreciated before we can expect any improvement.

We have many private cheese brands, some of which have been in use for more than twenty years. As far as I know they have not succeeded in increasing the consumption appreciably because the total volume of such cheese has been too small to leave a positive, favorable impression on the public. On the other hand, they have not gotten the best efforts out of the cheese maker because they have been unwilling or unable to reward him for any improvement. It is only by a state or federal system of cheese and butter grading that we can expect real and lasting results.

A state or federal system of cheese or butter grading compares favorably with the registering of dairy cattle. The advanced registry pro-

duction compare with Wisconsin Fancy, Wisconsin No. 1 and Wisconsin No. 2. No dairy breed association in existence could hope to accomplish any real or lasting results were it not for state and federal assistance in this work.

From year to year the average quality of our cheese as well as butter has been lowered until the past year, 1921, has produced a lower quality cheese than was ever produced before. This in spite of the fact that the three-day order by the Department of Markets has tended to improve quality. One prominent cheese dealer at our last cheese grade hearing at Madison made the statement that the three-day order had done more to better conditions than everything else combined had done in the past fifteen years. This dealer contended that this three-day order, to be more effective, should be extended.

We believe that our cheese grading system will give us the much desired high quality cheese, help stabilize prices, and that it will increase consumption by giving the consumer of cheese assurance as to quality which he has never had in the past.

These are facts gained by a survey of existing conditions which have led to the present Wisconsin system of cheese grades, which go into effect February 13, 1922, and will be fully explained by Mr. Osterhuis and Mr. Bruhn will follow by telling us how to make a high-grade cheese.

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CHAIRMAN: Next you will hear Mr. Osterhuis and Mr. Bruhn, of the Division of Markets, in a discussion on grades.

MR. OSTERHUIS: Mr. President and Members of the Wisconsin Cheese Makers' Association: The phase, or rather the phases, of the Wisconsin grading act, which will shortly become effective, which has been assigned to me for some discussion this afternoon, pertains to the benefits that may be derived from initiating a system of marketing, and something regarding the methods that will be used, at least to begin with, in an effort to secure all of these benefits in the largest possible measure. Had such progress been made in initiating the grading of cheese in this state which was anticipated a year ago, perhaps many who are here, not all who are here, would have become so familiar with the grades which would be used anywhere, that no further discussion would be in order at this time, but inasmuch as the grading has not become effective, and inasmuch as perhaps there are those who are still in doubt to an extent as to the ability of a state grading system to accomplish its main purpose, we may devote some time to considering a few points in that connection.

That the systems which have been used in efforts to build up the Wisconsin cheese industry have not been as successful as could be desired has been indicated by nearly every speaker who has taken the stand at this convention, and that we wish to put forth further effort in improving the quality of Wisconsin's dairy product I believe is the purpose and intention of every one of us. Various systems have been tried; another system is being proposed. If we will be as patient in looking for and anticipating results with the new system that has

been worked out and which will shortly be put into operation, and give it as fair a trial to show what can be accomplished, and then if it doesn't accomplish all that is anticipated, perhaps we will be warranted in looking further. We should always at any rate be on the lookout for methods for further improvement in quality.

So much has been said regarding this matter of quality, and the necessity of working for better quality, that I am not going to make any further statements regarding it. Neither am I going to make statements regarding systems, regarding their main purpose, which is the improving of quality in the particular product. You compare two systems, one of which involves grading to a private standard which varies, and which individuals or interests connected with the industry may use as their guide, and which may not be uniform and which a large proportion of the product does not come under for examination, and establish that system through some government agency which must be applied uniformly at all times, I think you will agree that there are possibilities of a uniform system being more likely to accomplish its purpose. I do not need to say that the grading of any product or commodity is no longer a theory, that it is worked out in practice. There are some who fear very much that the changes in the methods which will be required in the operation all through every part of the cheese industry will be so numerous and of such a character as to entirely disarrange their program of procedure. I want to make a general statement here that I think, especially from the cheese maker's standpoint, no changes and no obligations will be imposed which are not being already complied with by all cheese makers. They are the type which will forever push the Wisconsin cheese industry forward. If some minor changes may be required in some particular factories, I believe those changes will be of a character which also will further the development of the cheese industry, and surely we should all take our full part in bringing about the day when this improvement will be more possible.

The main purpose of establishing and operating a grading system of cheese, or any other commodity, is to improve quality. That is the benefit which will come to various individuals or class of individuals as a result of accomplishing that purpose. However, unless we can hope to secure some benefit, it is not likely we are going to become enthusiastic in trying to put across such a program. In these days of highly developed commercialism the benefits, if they are to be recognized as such, must be expressed in terms of dollars and cents, and if they cannot be expressed in those terms they are likely not to be classed as benefits at all. In this particular case, at any rate, and it is true in almost all cases, we are not deceived in accepting our pay in advance for such extra effort as we may put into this work. We have cheese of various grades, we always have had cheese of various grades, and we can work on this as a basis by establishing a standard and using that standard as a foundation. We can advertise to the world, advertising in the broad sense, that Wisconsin is producing a product of varying quality, but that each of the classes into which it is divided



can always be depended upon as coming up to that particular standard. We cannot by word of mouth, or by the printed page, go out to the world and say, "Wisconsin's cheese is up to such and such a standard, and such and such a grade." We must actually grade the product, put it out under a state brand, so that the consumer will get hold of that, and in time get the grade he wants. We must make it possible for him to become acquainted with the standard quality of our product. The establishment of various grades have been provided. Provisions for brands applied to each grade will make possible a knowledge on the part of the consumer that cheese is of varying quality, and that by calling for the various brands he may reasonably feel protected and in time he will come to know that he will be protected in the matter of quality. As we gain more confidence, as the consumer gains more confidence in our product, then we may expect the day to have arrived when the retailer and all those who come in contact with the dairy industry between the producer and the consumer will have more call for the kind of cheese which is more desirable, which we assume to be the highest grades of cheese, and with this increased demand for cheese of the better grades we may reasonably expect to find voluntarily on the part of the consumer more willingness to pay a higher price, and certainly a desire for a greater volume of cheese and the accomplishing of the higher standard quality for our product. Incidentally, we will secure the benefits which we are all entitled to.

As to the methods for putting the grades into effect, perhaps I may be a little bit more specific regarding those things that will apply particularly to the factory. I have said that I do not think the higher class cheese makers throughout the state will find it necessary to change their methods to any appreciable extent. That is true, I believe. In order that each separate batch of cheese may be graded on its own merits it will be necessary that in addition to the numbering which you are already applying, you will put on the vat a letter. If a factory is working more than one vat, as most of you are, of course you will number your vats A, B, C and so on. If only one vat is being used, of course that will not be a necessity. I presume, and I hope with the initiating of the grading system, there will be a greater object right from the very first for the manufacturer to put forth greater effort to get to the consumer, or to the producer, such knowledge as will help him, help them both working together to make a better grade of cheese. If some cheese makers have been getting by without taking a cut in the price of their cheese, or not having their cheese designated any way as being slightly below the standard which they would like to have, we believe that with the branding and the marketing of cheese, when this cheese will go out throughout the world with the brand on it, also the factory number on it, there is going to be an incentive for the cheese maker to do everything in his power to show that all of his cheese is qualified to come under the highest grade brands. And we believe that perhaps there is room for some added effort on the part of the average cheese maker to get in closer contact with his patrons in the matter of developing the quality. We have had some very good suggestions made along that line, and I am sure that many of you are

going home with more determination to put some of these suggestions into actual practice.

I would like to say further regarding the matter of keeping records, which has been discussed this afternoon, that the cheese maker should not fail to keep absolutely a complete record of the quality of cheese which he sells each week. I think it would be to his advantage further to note any difference that there may be in price, relative to the different grades which he has sold, and also a record of the market at that particular time. Outside of that I don't know that there are going to be any great changes in the factories necessitated as a result of the grading system.

From the standpoint of methods, or any change in methods which would be required after the cheese has left the factory, and in its normal course to the consumer, I am sure it has been the purpose of the Department of Markets to ask for no change, or to suggest no change which would unnecessarily interrupt the methods by which cheese is now being handled, and the methods which have been worked out, and which will be used at first in an effort to put this grading program across, I believe it will not interfere seriously in connection with the marketing of cheese. It has been planned, as you know, that the cheese will be graded, for the most part, at any rate, by the same individuals who have been grading your cheese heretofore on their own private grading system. There will be at the various concentration points, the various cheese warehouses throughout the state, someone, very likely the same party who has done the grading before, to be licensed by the state to inspect that cheese according to the standard established by the state, and to decide into which grade the various cheeses must be placed, and a brand applying to those particular grades will be marked at that time. That will take care of a very great bulk of the cheese. There are some cheese makers, factory operators throughout the state who make more or less of a practice of shipping directly out of the state, and in those cases it will be the general practice that these cheese makers themselves secure a license and act as their own grader, marking the grade upon their cheese and sending it out. These licenses, those of you who are not already aware of that fact, may be secured upon application to the Division of Markets.

There is another feature connected with the obtaining of the license, and that is the stamps; each grader, of course, will have three stamps. These must for the sake of uniformity be obtained through some central agency, and the Department of Markets has arranged for these stamps, and the stamps will be secured through the Division of Markets at a low cost. So far as I am able to report on them, the full cost of these stamps will be \$1.50 to \$1.75 for the three stamps. On each one of those stamps a number will appear, which will be the license number of the individual owning that stamp, and no other individual will be permitted, or should be permitted, to use that particular stamp. That is, if you are licensed as a cheese grader it would not be wise for you to permit others indiscriminately to make use of your stamps, because in that way they might cast an undeserved reflection upon the

real owner of the license and the stamp for whom it was originally intended.

In some instances we have found that expressions have been made somewhat to this effect, that it is not a system of grading, that it is likely to prove unsatisfactory, but there may be something about the methods which will be used which will need improvement. A state grading system may not work as effectively as it should at first, and certainly we should all be on the alert at all times to look for things which are not proving satisfactory in connection with the system as it is initiated, and to make suggestive criticism for improvements. I may cite one instance of that, and I am sure some of you have in mind certain other things. If you would come forward it would very likely enable us to improve methods for putting this work across. What I refer to is in regard to the objection which has been raised by some cheese makers about fresh cheese coming into the warehouse in a condition where it is difficult perhaps to determine just what is likely to develop in that cheese, or perhaps it may be a case where there is some indication of gas, and you are not sure if that cheese should be put into the cooler for a short time. In a few days it would show up to be of a quality not to be entitled to the highest grade, and some cheese makers are fearful that the wrong grade would be put upon it. To take that into consideration it has been suggested by a man in one of the dealer's warehouses that such matters might be handled in this way, that cheese which is of doubtful quality might be paraffined and put into the cooler for a short time, or for most any length of time. If a report is made to the department that cheese is not being branded, that is, being held for further consideration, after a time when the owner of the cheese decides to take this cheese out, and have it undergo examination for grading, that the grading then be under the supervision of someone particularly authorized to handle that by the state. All of the details for working this out, I am sure, have not been worked out right up to the present moment, but all of those things are receiving consideration, and effort is being made all of the time to make everything run as smoothly as possible, so that there will be the least inconvenience, so there will be the greatest advantage to everyone, and so we can all feel that we are justified in getting behind a program similar to this. We are not going to like some of the things we will be asked to do, some things which we believe might be done better in some other way, but for the sake of accomplishing some progress we will get behind the movement and work for the improvement of our standard and for the purpose of establishing what we hope will be undertaken.

CHAIRMAN: Are there any questions?

MR. SLATTERLEY: In the matter of grading this cheese, in case I am shipping to an individual in Plymouth or Manitowoc or some place else, and his grading of my cheese don't coincide with my ideas, what appeal have I got? Can I appeal to the Division of Markets, or who is referee?

MR. OSTERHUIS: I am very glad you asked the question. I had intended to make some statements in regard to reinspection service. I left out one entire section, that was in regard to the supervision of the grading system. I don't like the word supervision, I don't like the word policing, I should like to think of it more in terms of state cooperation. In direct answer to your question, suppose you ship to any dealer within the state, and the grade is not satisfactory. If the supervising graders, of which there are four to work with the American types of cheese scattered at various points around the state, are advised of that matter, we must within 24 hours get to that point if it is possible for us to do so, and reinspect that cheese, and the reinspection certificate which will be issued in that case will be final, and if the reinspection is not satisfactory you will have to go further just as you do under the present conditions.

MR. SLATERLEY: But you can always appeal to the state supervision if the local supervision does not satisfy you.

MR. OSTERHUIS: Yes. Whether that appeal will be made directly to the central office or made to the supervisor in your particular section of the state I can't answer now. I think some program should be worked out so that everybody in the territory which Mr. Cargill may have, or some other supervisor may have, will be advised how they can get into immediate touch with him, so that his reinspections can be facilitated.

MR. MICHELS: I want to say one word further. Up to this time the cheese makers haven't had the announcements of these grades, and the reason for this is, we haven't been able to get our printed matter out on time. Practically all the cheese dealers in the state are licensed already. We will get the printed matter out the first of the month. Every factory in the state will get these rules and regulations. We have something like 300 of the mimeographed copies here, and anyone who wants to take some home can get them at the scoring table.

MR. DAMROW: Do I understand Mr. Osterhuis right? Suppose I am instructed by my patrons to sell cheese on the farmers' board or anywhere and it is understood that it is to be No. 1 or fancy cheese sold on the board, and every dealer that goes there to buy cheese understands it that way. Suppose Mr. A. D. Deland should buy my cheese and he says the cheese is not a No. 1 or fancy. Could I say, I want you to put the cheese in the cooler, not to put on the grade until I tell you to grade that cheese?

MR. MICHELS: We have a rule that handles the cheese in this way. If there is any uncertainty in it, it is necessary for the dealer to file with the Department of Markets a statement of the number of boxes and lot number and put it in storage. It can only be graded then by a representative of the department. To get reinspection work, any cheese maker can call for reinspection by the state providing he is not satisfied. If the reinspection is sustained, then the cheese maker will have to pay for this grading, which will be on lot numbers, \$2.00 to \$2.50 in carload lots, which will be \$10.00 for inspection. That is in

case it is sustained that the grade is right. If he is right it doesn't cost him anything.

CHAIRMAN: Do I understand this right, that this grading and stamping is for the sale of cheese, or is it for all cheese under any circumstances.

MR. MICHELS: Of all cheese.

CHAIRMAN: When you are selling it?

MR. MICHELS: This department grading?

CHAIRMAN: Yes. If I am making a cheese, selling it to Mr. Brinkman and he bids it in on the board, he rejects that cheese. Now you have given us a chance to put it in the cooler, why should it be graded until it comes out of the cooler? Where is there any excuse for it until we begin to sell it?

MR. MICHELS: These things have been tried out in New Zealand for 25 years. As I stated before, Mr. Rudnick used to be in New Zealand. They found with matters of that kind it was impossible to make grading effective, they couldn't touch them all.

CHAIRMAN: In that case what will we do with the cheese?

MR. HUBERT: I understood Mr. Osterhuis to say, if there is any dispute as to grade, it would take 24 hours to get a state grader. Suppose Mr. Damrow sent me a lot of cheese, I grade it No. 1, and ship that cheese out. Two, three days later he said I should have graded it fancy. Have I got to hold the cheese 48 hours, 24 on our floor, for the state inspector?

MR. MICHELS: I would like to ask what he does now.

MR. HUBERT: I put it away, but I am getting the difference between a fancy and No. 1. I grade it No. 1. Mr. Damrow says it is a fancy, we are in dispute, what are we going to do?

MR. MICHELS: You can put it in cold storage at once, but it is necessary to file a statement.

MR. HUBERT: Every dealer in Wisconsin doesn't ship out a lot of cheese.

MR. MICHELS: No. 2 can be put right on the market; it doesn't have to be graded at all.

MR. HUBERT: I am not talking about the grading. I am getting where the line is very fine between No. 1 and fancy, where it scores 91 7-8, and he would score it 92. We are drawing this line down fine. Have I got to hold that cheese in storage and wait for the inspector?

MR. MICHELS: We are not going to do any hair splitting on this grading system. We have only full points to go by. We don't propose to do any hair splitting on this grading.

MR. DAMROW: I don't know if Mr. Michels understands me because the majority of the cheese makers throughout the state will not get a license. What I was driving at before was this: Suppose I am shipping my cheese, selling it to Mr. Brinkman. I am not holding a license, but my idea of that cheese is a No. 1 cheese, because 90% of

your cheese will be that. Then if Mr. Brinkman buys this cheese of me, and he rejects it—it is not graded yet, Mr. Michels—then after a certain time when I think the market conditions are right, even if it will be scored then a No. 2, have I a right to go to Mr. Brinkman, or must I go to the Department of Markets first before we can sell that cheese? The cheese is not graded, it is simply held in storage until I see fit to sell my cheese.

MR. MICHELS: I think the clause which was put into our rules and regulations which we got from Mr. Davidson's man in Plymouth to file a statement that the cheese is being held without grading, but if you and your dealer are satisfied to do those things we will O. K. them.

MR. DAMROW: Then I have the right, Mr. Michels, to hold that cheese in storage a year.

MR. SLATTERLY: That was just exactly the point that I wanted to supplement. Mr. Damrow and I want every man here to know it, that the cheese manufacturer has the say about this cheese until he comes to a conclusion to save his buyer, and he notifies the buyer he wants to hold that cheese up. Those are his goods, they belong to him, he wants to hold them, they are his. When he sees fit to put them on the market, then let the Division of Markets or anybody else inspect them, but up to the time they are put on the market for actual sale they are his goods.

MR. RINDT: There is one question I think would be of benefit to most of the cheese makers, most especially those who are not licensed. It was mentioned by Mr. Michels that the cheese cut for the farmers would have to be graded. In which way would these grades be numbered, and in what manner?

MR. MICHELS: I don't see objection to branding all cheese while you are branding cheese. It seems to me anyone's patrons ought to have a right to see what grade of cheese he buys. In southwestern Denmark all cheese goes under their own labels. The off cheese is graded at home, and the very best cheese sent to foreign countries.

CHAIRMAN: That doesn't answer the question. His question is "What procedure should the cheese maker go through?"

MR. MICHELS: Any cheese maker has the chance to take out a license.

CHAIRMAN: But they are not going to do it.

MR. MICHELS: We won't bother with any of those fellows. If the cheese maker has no license and wants to cut up cheese we won't bother. (Applause.)

MR. DAVIS: Mr. Chairman, Mr. Damrow says he will sell on the Board of Trade a certain quantity of cheese to A. D. Deland. Mr. Damrow is not an inspector, he has no license. He makes the shipment of cheese, and the question is raised that on the arrival of those goods Mr. Deland calls them No. 2. Mr. Deland is an inspector. Is he not required according to the law to brand those cheese on arrival according to the quality he finds in the goods?

CHAIRMAN: The way I understand it, he is.

MR. DAVIS: He is receiving those goods, and they should be branded at the quality he finds on them. Mr. Damrow six months later notifies Mr. Deland that he will not accept that price put on those cheese which Mr. Deland put in the cooler for him. Mr. Deland has stamped that cheese and paraffined it. He has put it in the cooler, and six months later Mr. Damrow says, "I want to sell those goods, and I want a re-inspection on them." Then we will have this situation, that they have become No. 1 or fancy. Do we take the old label off and put a new one on?

CHAIRMAN: Not as I understand it.

MEMBER: Have Mr. Michel answer that question.

MR. DAMROW: Now, Mr. Davis says I have sold those cheese. I am not a licensed cheese maker, but that cheese is sold subject to inspection, isn't it?

MR. MICHELS: Yes.

MR. DAMROW: I instruct Mr. Brinkman when I sell those cheese to him, and he had the understanding even when I made the offer, I say, "I offer those cheese for inspection if they grade No. 1 or fancy." Mr. Brinkman is willing to buy those cheese under those conditions. I have the right to sell. Mr. Brinkman finds those cheese are not as I thought they were. He notifies me and those cheese are mine. I want to know, can I put them in the cooler?

MR. MICHELS: Absolutely. No one questions that as far as I can see. They will be handled as they are at the present time.

MR. DAVIS: Mr. Deland receives those goods, and under the laws proposing grading must stamp that cheese.

MR. MICHELS: There is a chance of putting your cheese into the cooler.

MR. DAVIS: Must I grade the cheese I receive? I have not put the stamp on the sides.

MR. SCHWANTES: As I understand we don't have to brand patrons' cheese. I sell a lot of cheese to dairies. I cut it off from the patrons' cheese. Do I have to brand what I cut off from the patrons' cheese?

MR. MICHELS: Why not brand your cheese?

MR. SCHWANTES: Suppose I wouldn't brand, I wouldn't get a license. They can probably revoke the license on the man, yet he is capable of making good cheese.

MR. BRUHN: May I answer that question? Isn't it understood that wherever a farmer receives cheese, or gets it out of the factory, he is getting his own cheese, but the moment you begin to sell to some outsider you are selling the farmer's cheese, and in that case it seems to me if you sell to outsiders the cheese should be branded. As long as you are dealing with your farmers I do not see the necessity of it.

MR. SCHULKE: We have a rule in our factory which prohibits me from selling cheese except to patrons, but the patrons come and get the cheese and re-sell it. What am I going to do with that.

MR. RINDT: I have the same thing in my factory. They have relatives in the northern part of the state. Does their cheese have to be branded? Christmas time they take all my cheese in this case.

CHAIRMAN: The question is here, that I, as a cheese maker, may not be capable of distinguishing between the grades, and may not be as good a judge of cheese so as to enable me to hold a license as Bill Hubert. I am a good cheese maker, and I am afraid to try the license for grading cheese. The cheese does not belong to me, but it is the farmers'.

MR. BRUHN: If we are getting down to hair splitting, if the farmer takes the cheese from the factory and sells it, he would have to get a license.

MR. MICHELS: I don't think there is any necessity of these things. I don't think that is anything against the grade at all.

CHAIRMAN: They are asking questions to find out how things work out.

MR. HUBERT: To put Mr. Damrow's cheese into cold storage and keep it there two months without any stamp on it, when they take it out he wants that cheese paraffined, and I defy any man to put that paraffine on there.

MR. MICHELS: It can be done. You can scrape your paraffine off and put it on very nicely. The numbers are stamped on.

MR. HUBERT: Look at the job we have there. We have to put on your cheese No. 1, or No. 2. We have got to stamp that cheese before it is paraffined.

MR. MICHELS: Some of the cheese stamped in the room are warehouse cheese.

MR. EMERY: I have listened to this discussion with a great deal of interest. I have had troubles of my own which have kept me from the discussion that have taken place at the Capitol on this marketing proposition. When we come to the question of hair splitting, so-called, I know I go into my office and try to administer the laws as given to me in a general way. The first thing, somebody puts up a hair, and a mighty small one, for me to split. We, I think, all will agree that there are great improvements in conditions in Wisconsin which are needed for the progress of cheese industry. For one, I am satisfied that the men who had this matter in charge under the law have been and are continuing to give the problem very serious and very able and careful consideration. I don't think anybody can look into the future and see every little hair-splitting detail that must be taken care of in advance. From what I have heard of the discussion here and before, it is my conviction that these men in charge of this business are here in earnest hopes to create conditions which shall improve the Wisconsin cheese industry substantially. I think in the main we want to give this measure a fair trial, and extend to it our support and our sympathy and as these questions come up I believe these small questions will be given fair consideration and solved, if they are solvable, and we should not surrender a greater benefit to a few of these smaller forces.



MR. DAVIS: I protest against Mr. Emery's remarks that the problem I presented here was a hair-splitting proposition; it is not. We are receiving a quantity of cheese from factories over the state of Wisconsin, and I want to know whether I, as a licensed inspector receiving cheese, shall put the stamp on the side indicating the quality which I determine that cheese is, and paraffine it and put it in the cooler, or leave that cheese without paraffine until the state comes along and inspects it, or shall I paraffine it without grading and put it in the cooler for the man in the factory?

MR. NOYES: I believe we have two papers on this question.

CHAIRMAN: The question regarding this cheese sold?

MR. DAVIS: The question I ask as a licensed inspector under the state. Cheese comes in; shall I grade that cheese, stamp it and paraffine it for my use as I find the quality, or if I find an inferior quality, shall I grade that cheese and stamp it according to the inferior quality?

MR. MICHELS: Paraffine it according to your best judgment, and stamp it, unless you wish to do otherwise, unless you wish to hold it over and file it with the Department of Markets.

MR. DAVIS: Then I must receive the cheese and grade it according to the way I find it with the stamp on the side of the cheese?

MR. MICHELS: Exactly.

MR. DAVIS: And Mr. Damrow will have his cheese shipped to Deland.

MR. MICHELS: If Mr. Damrow is not satisfied with your inspection, he can have it re-inspected.

MR. DAMROW: Re-inspection, but my stamp is on there.

MR. MICHELS: Yes.

MR. DAMROW: That is just what I want to know. The cheese is mine. Mr. Brinkman buys those cheese with the understanding before he grades the cheese, that he notifies me if he don't find them according to my way of thinking.

MR. MICHELS: If Mr. Damrow wants to stamp cheese, he has that chance the same as he has now.

MR. DAMROW: I want to sell my cheese. To my way of thinking without being a licensed grader that cheese is a No. 1 cheese. I sell those cheese to Mr. Brinkman, and I tell Mr. Brinkman if they don't grade No. 1, to put them in the cooler at my expense without putting any grade on whatever. Then I hold those cheese. Suppose it is in the hot summer months, and I pay my patrons the full market price I go to Mr. Brinkman and say, "Let's look at those cheese." He prices those cheese, and he finds those cheese improved, and he says they are a No. 1 cheese and he puts a No. 1 stamp on there.

MR. MICHELS: What do you do under similar conditions now?

MR. DAMROW: I want to know if we have the same rights without putting the brand on?

MR. MICHELS: Exactly.

CHAIRMAN: All there is to do is to tell the cheese buyer not to grade them for you, they are not his cheese, they are yours, and then Mr. Damrow says, "Is it necessary to make a statement to you?"

MR. MICHELS: No.

MR. DAVIS: The whole sale of cheese is private terms.

MR. MICHELS: I think it will work out in this. Mr. Damrow will keep his cheese at home, or put it into cold storage on his own account. That is the way.

CHAIRMAN: Mr. Damrow is going to keep his cheese. If they are branded they can be branded at any time.

MR. MICHELS: We had made arrangements by which to take care of cheese which are misbranded so we must have a way of changing the brand on cheese. That is, misbranded as far as the supervisors are concerned. They must put the brand on as they see them. In that case we have made arrangements to blot them out.

CHAIRMAN: We all know cheese sometimes deteriorates in quality, and sometimes improves in quality by storing it. We were talking about a very close No. 1 this morning. Suppose that cheese didn't have the interior quality and deteriorated by too much storage in the cooler. Well, all right, it is a No. 2 and you can't change it. He wants to keep the grade off of it, and his question is, can he keep the brand off of it.

MR. MICHELS: Yes.

MR. DAMROW: That is the vital point, Mr. Davis, I think every cheese maker should know throughout the state. He has the right if he wants to sell his dealer, and if he instructs his dealer if he finds a No. 1 or a No. 2 to keep that cheese.

MR. DAVIS: Mr. Damrow as a maker has a right to know his own goods, but when he offers for sale and it is sold to a licensed inspector, the state of Wisconsin says that that inspector shall grade those goods.

CHAIRMAN: He is making a conditional sale.

MR. DAMROW: Which I have a right to do.

CHAIRMAN: It has been said here this afternoon he has a right to make that conditional sale.

MR. DAVIS: And then the state of Wisconsin will allow conditional inspection.

CHAIRMAN: Conditional sale.

MR. ED GRUENSTERN: I understand that the cheese maker has a right at any time to dispute the grade that the buyer puts on. For instance, if he sells it when the price is low he will say, "We will store that cheese for a couple of months." Of course, if it doesn't deteriorate in quality it will improve in price.

CHAIRMAN: We always have had that right.

MR. DAMROW: There is one more paper on this question I think will cover these points.

MR. CARSWELL: This whole thing brings on the point that it is not a sale, that is all there is to the whole thing.

CHAIRMAN: After having two papers on the one subject, I suggest it is best to sprinkle Mr. Davis in with the discussion and then let Mr. Bruhn follow up.

MR. DAVIS: Mr. Chairman, if I am sprinkled, I want to sort of direct the way the water flows. Do I understand this is to be a general discussion?

CHAIRMAN: You are only to head this discussion.

MR. DAVIS: (Applause.) Mr. Chairman, Gentlemen and Ladies, and Fellow Dairy Students of 1893: The citizens of the state of Wisconsin through their legislature enacted a law creating the Division of Markets. They enacted a law which gives this market division wonderful power. Men were appointed to fill these positions, and they started out to do something, and as they have been doing it they have been learning. I am under the impression that recently they are getting in rather a more receptive mood than when they started. When this market division was started, they found on their statutes one law relative to moisture. That law is one of the best, if not the best, in the dairy business in the state of Wisconsin, to eliminate competition amongst the cheese makers in the state, making a standard for all of you to stand by. I am mighty pleased to see that recently there has been a closer enforcement of that law, and I still believe there is a great deal of room for betterment.

But we have heard for several years that the appropriations of the state of Wisconsin have not been adequate for the amount of work that should be done, that is, concerning the dairy commission and the dairy work today. According to this law, the Division of Markets must hold meetings and hear evidence on any proposed new measure. They call those meetings at Milwaukee and Madison relative to how long or the proper time that it took to cure curd to become cheese, and after those hearings they decided that curd became cheese in three days from the vat. Recently Denmark has passed a law which says, "Cheese shall not be exported out of Denmark before six weeks." I have protested in all those hearings that much or little of a judge of cheese as I was, my experience did not enable me to feel qualified to grade cheese three days from the hoop. I don't believe that there is any judge of quality in the state of Wisconsin who can go into a different factory not his own where he has handled the milk, but go into another factory and say, that the cheese on that shelf three days from the hoop is perfect goods, that it will not turn acid, that it will not become pin holey, that it will not develop flavor. I just had a cheese returned to me that had a strong flavor of a rotten rat that was not in the goods when it was green, but returned because it was there, and I would defy any inspector to have stated when that cheese was green that flavor was in there. So I believe that the present limit of three days is wrong, and I would most respectfully suggest to the Division of Markets, that they give that careful consideration and arrive if possible at the greater length of time to cure cheese.

That brings you factory men right up to this point, that the make of cheese this coming year in the state of Wisconsin is going to be the greatest ever known. Some of you may have to hold your cheese in your factory, and as a manufacturing proposition you have got to have equipment to take care of some of your goods, and I think it is up to you to make arrangements to have curing rooms to cure your goods. I regret to say that a great many factories in the state of Wisconsin have ignored the law requiring the stamp on the side of the cheese showing the time it was affixed, because we have been into factories where the cheese were shipped out in one and two days, instead of three days, and the stamp was put on with such a small letter that you couldn't read anything.

Now all this detracts from what we have heard. We have heard more about the raw material and the betterment. I saw Professor Sammis show you test tubes and how you could do it; then Professor Hastings came right along showing you how to tell your milk. I find Mr. Rindt here showing you another test, and I believe that the Division of Markets in the state of Wisconsin are rather leading off at a tangent in proposing the grading of this cheese after it is made, and should give more attention to the raw material from the farmer's hands to the factory, to have instructors with limited police power to go to the farmer to make this sediment test, this curd test and where they found the farmer that didn't prevent the fly, to prohibit that farmer from taking his milk to any other factory. (Great applause.)

There are cheese makers in this audience who have come to me personally and told me they had found certain farmers were skimming their milk, they had the proof of it. They took it up and the farmer left his place. Now you have got your investment in your factory, you have to have milk from this farm and you are afraid to say much to this farmer to drive him away because you know your neighboring factoryman may take that milk. A law should be introduced in the legislature of the State of Wisconsin where a farmer that didn't bring clean, wholesome milk to the factory should be prohibited from taking it to any other factory. (Applause.) If the farmer will bring a good raw material, you can put your lactive ferment in there and make a good cheese.

And if I found a maker that couldn't attend to his work, that this inspector would go in there and say to him, "You are making poor cheese. Here is your fault. You correct it." And he comes back in a couple of weeks and that man hasn't made any correction and he comes back a third time and the third time I would take that man's license away and suspend the man for a year. (Applause)

CHAIRMAN: The suggestion was made to me by a maker. He says, issue him another license after this suspension period is over, on it put "Revoked for such a time for such a purpose."

MR. DAVIS: Ladies and Gentlemen, I believe there are a lot of farmers and a lot of cheese makers, the majority of people are good, but I do believe that there are a number that take their milk to the factory and don't care the condition of it so it goes, and I believe

there are a number of cheese makers that don't care the quality of their goods so it goes. But my experience in 1921 is that the quality was better than in 1920, that it kept better in the cooler. A certain gentleman stated to you about the consumption of cheese in the United States, about some 3 to 6. He didn't tell you, however, that the United States are the largest consumers of meat in the world, and I don't believe there will ever be in the United States the per capita consumption of cheese as in the other countries because we have the meats here and the other foods are here and we are the most profligate nation on earth today.

I have heard this discussion between Mr. Damrow, Mr. Deland's people and myself, and I rather think there is a swapping of horses crossing the stream here. You can't ride these two horses. If I am a qualified inspector for the state of Wisconsin and I go on the board of trade and I buy a man's cheese on the board of trade, or if a factory is shipping cheese to me, I am either to inspect those cheese or not inspect them. If any of you cheese makers have cheese you could send those cheese to your dealers to put them in the cooler and hold, keep it for a term. When you are buying cheese on the board, whether I shall inspect those cheese, brand them according to the quality that I, as their inspector, qualified by law, shall put that brand on the cheese and that is the record. Whether the factory man owns that cheese and will not accept my offer for that goods and if the market goes up his No. 2 grade or his No. 3 grade will advance in proportion. And that is his reason for holding the cheese. I thank you.

MR. MARTY: I would like to make one remark regarding putting the responsibility on somebody else. The state of Wisconsin today has a law prohibiting the sale of unclean milk or any milk not fit, in the judgment of any cheese maker, for the manufacture of cheese. Mr. Davis has said that there should be a specific law made, prohibiting him to sell that impure milk. There is a law today prohibiting the sale of that milk as it stands, but you members of this organization today, why not take the matter into your own hands and say, "Let us as one from the north to the south, from the east to the west of the state of Wisconsin, determine that if any patron's milk is rejected from any cheese factory that you will not accept it in your own when it was rejected from your neighboring factory. You have it all in your own hands. There is no reason why anyone here today should accept that man's milk that your neighbor cheese factory has rejected. It is all in your own power.

MR. DAVIS: I would like to ask Mr. Fisher to state his case.

MR. FISHER: At the time I attended the dairy school at Madison we were told by the instructors not to hesitate to turn down poor milk. I went out with that in my mind. But I am sorry to say I was terribly punished for my foolishness. I have refused milk because it was impure, I have refused milk because it was watered, or rather I have had him to be punished. They simply left me and went to another factory. I have been promised by the inspectors to look after that man to see that he brought good milk to the other factory. To

my knowledge nothing has been done. We have laws, we have good laws, but they are not perfect. There is nobody to say that a man that has impure milk cannot go to another factory. On the other hand, we have the moisture law. A short time ago I was prosecuted for making cheese that contained too much moisture. I was sick at the time. I had to leave my factory to the helper. Nevertheless, when complaint was brought against me I had to come across. The enforcement of the law is by far a greater crime than violating it. To punish a man for a crime that he positively couldn't prevent I think is wrong.

CHAIRMAN: Does that come under the question of grading of cheese?

MR. DAVIS: No; under the enforcement of the law.

MR. CARSWELL: Mr. Marty stated here a few minutes ago that we had a law to prosecute men for offering unsanitary milk or cream at a cheese factory or skimming station. That law has been enforced in this state, because I helped to enforce it and prosecute men. If a cheese maker finds he has to send back unsanitary milk and that man delivers that milk to another factory, he is doing wrong if he doesn't notify the dairy and food commissioner.

MR. ADERHOLD: I remember a case where I brought a man into court ten months after he delivered that milk to another factory and it was rejected, and I brought him into court and he paid a fine of \$80.

MR. FISHER: About the enforcement of those laws I want to say that the penalty nine times out of ten falls on the cheese maker making the complaint. The farmer has friends as well as we, and he will turn and leave us and his friends will. We must take the loss and there is no law to protect us.

CHAIRMAN: Mr. Bruhn will come up with his reinforcements.

MR. BRUHN: Ladies and Gentlemen, Fellow Cheese Makers: If you will flatter people you will always get considerably more applause than if you do not.

This is a sort of a debating society, and I would just like to say a few words in that regard. First of all, I want to thank Mr. Davis for the compliment he paid the Department of Markets; inasmuch as I am with him I will certainly thank him very much. I never had a greater compliment at any time, and that was that we are learning. I am glad of it. Anyone that will admit that I am learning is paying me a greater compliment than anyone can do.

When does curd become cheese? was one of your questions. If I remember rightly it was about ten or twelve years ago that same question came out in a certain Chicago firm, who said, "They are having skim milk or part skim milk made into cheese in the state of Wisconsin and shipped down to Chicago as curd." It was when they were prohibited from selling skim milk cheese in this state. If we were to follow Mr. Davis' plan of sending inspectors out and looking after the farmers, preventing them from sending in bad milk, prosecuting them, preventing it from going to some other factory, how many men would it need? I believe we are doing it now. We have more inspectors now by the method we employ now than by any other method we can get.

If I am not mistaken there are some 150 applications in for cheese graders. That means there are 150 inspectors.

Just one more thing in connection with the milk. Here is where the trouble comes in. If a maker sends home a can of milk today because it is poor and that particular farmer objects to it and intends to go to another factory, you can believe me that the milk that comes to the other factory the next day isn't poor. And he has just as good a right to take that milk when the farmer comes the next day when it is in good shape as I have. But in 26 years of cheesemaking or in connection with cheese factories I lost one single patron on account of sending poor milk home. I have lost them for other reasons, but not on that account. If I can do that for 26 years, it is up to you to do it.

I didn't intend to say anything about grading cheese. I intended to say a little bit on the three-day holding of cheese. I believe I was as much responsible as anybody to get it down to three days, wasn't I, Mr. Davis?

MR. DAVIS: I believe you were.

MR. BRUHN: I was, perhaps, responsible as much as anybody to get the limit down to three days. We split on three days, that is, the Department of Markets decided on that.

MR. DAVIS: You didn't split; they decided it.

MR. BRUHN: We will call it that way. When I advocated three days I expected to stick to three days, and I didn't expect to send any cheese two days old or one day old. I expected to be a law-abiding citizen and send them in not less than three days old. Complaints have come into the department that some are not living up to the law. We have crooks in every kind of business. We have a few in the cheese game, but according to my observations, there are not very many of them either amongst the cheese makers or the cheese dealers. That is flattery for you.

During the last three months I visited warehouses in the northwestern section of the state. Just how many cheese I have looked over I can't say. I have found only two cases where there is a direct violation of the three-day holding that came under my observation. One was where a maker had dated his cheese the day before, took them out of press, we will say on the 20th, and he had dated them as packed on the 23rd. I found them in a warehouse on the 22d.

MEMBER: What did you do with them?

MR. BRUHN: I took the matter up with the department and a pretty strong letter was written to the fellow. It is a question should that man have been pulled. I was sure it was the first time he had done it.

MR. DAVIS: That is the first time he was caught.

MR. BRUHN: That is the first time he was caught. I caught him through the statement by the warehouse man. Perhaps the warehouse man was afraid to admit it because he would have been liable, too. He made the statement to me it was the first time he had done it, consequently when I explained those things at the office it was decided to write him a strong letter.

Another case was where the cheese was not stamped, and that case is still under advisement. There have been a few cases where the dates were not as plain as they ought to have been, but there were no indications to prove that the cheese were not dry enough to paraffine. It is a question whether those cases should be prosecuted or not just because, according to the letter of the law, he may be wrong, but so far as doing any benefit to the cheese is concerned it would not have helped anything. The cheese was dry enough and in good shape to paraffine, apparently, and there should have been something done in that case.

Here is something that comes into my mind, and that is this: I have seen plenty of cheese that was in good shape to paraffine when it was two days old. I have seen plenty of cheese that you could hardly call fit to paraffine in ten days. The question is, should we provide a law so stringent so as to make the honest man suffer for what the dishonest man is trying to slip over? If a cheese would come in only two days old, but is nice and dry and its surface absolutely otherwise fit to paraffine, should that man be fined in preference to the man that is shipping in cheese from nine to ten days old, but not as dry. When you come to that description of a cheese that it be sufficiently dry on all surfaces you could say it was in as good shape as the cheese two days old. In all of those cases good judgment should be used.

CHAIRMAN: You forgot to state if they took the cheese out of the press on the 20th, that date, not the 19th, was the date they made them.

MR. BRUHN: I will admit that.

CHAIRMAN: Don't follow the old custom of dating the cheese the day you make them, but date them the day they are removed from the press, and then again the day you pack them.

MR. STETER: On that ruling, I have known factories within a short distance of my factory that never date their cheese at all, or never stamp them at all.

MR. BRUHN: Will you give us the names of those places?

MR. STETER: I can give them to you.

MR. ED DAMROW, Fond du Lac: Two of our members tell us that they are not dating their cheese.

MR. DAVIS: With your permission I would like to ask Mr. Bruhn that old question, when is a pig not a pig? Do you believe, Mr. Bruhn, that curd held in bandage for three days is cheese? Or is it curd, or is it cheese in the process of making? I don't ask that question to try and tangle, but my experience this past year has been varied. Where we have coming in lot after lot of cheese, some of it of a rather whitish color where the coloring matter hadn't set properly, and I couldn't determine whether that was greenness or acidity. I put it in cold storage and along two or three weeks afterwards I found some of them had taken color where I thought it was going to be acidity, and in certain cases where I had them marked "S" as soft with some pinholes they had turned sour. How is it possible for the State of Wisconsin to correctly ask any inspector to grade cheese in a curd condition three



days from the hoop, and that has been the crucial point of my protest on this all the way through? At Madison, at Milwaukee, at the various hearings by the Division of Markets I have claimed that the experience I had isn't sufficient to qualify me to judge curd three days old as to what it is going to be in cheese, and I most earnestly wish to call the attention of the Division of Markets that I believe and I am sincere in the belief that three days old is too soon to mark goods to increase the consumption of that product, and I earnestly call their attention to the Denmark ruling when they state that no cheese can be exported under six weeks, which must have been for some cause.

MR. MICHELS: I was just wondering whether it would not be a wise plan to put the association on record as to the time limit. We put it on the three-day order, which, considering all points of view up to this time, I have done the very best I knew. If it is three days it is sure, if it is four days it is older than it used to be.

MR. DAVIS: I stated in my remark that the cheese in 1921 was a good deal better than in 1920.

MR. VALLESKY: Twenty years ago when I started in we were curing our cheese, which the old buyers here will all recollect. About ten or twelve years ago they began to holler that when centralized storage started we didn't have the right kind of storage. Do you fellows mean that we should go back to the old curing room we had ten or twelve years ago? We do cure them at the factory, but you want to have us hold them longer? I really believe you men can cure those cheese better than we can at the factory.

MR. DAVIS: I was in a factory at Sheboygan Falls when they were making. That was the old time, the old curing, because he couldn't sell and he had no market, and do you people know how much you are going to sell this next year in cheese when they have to quit making up any condensed milk in the state of Wisconsin, and are you people prepared to take care of those goods? It is true that a number of the factories say we in our present methods deliver the cheese to the cheese buyer with a lot of water in it, and we sell a lot of water.

CHAIRMAN: We cut that down last year.

MR. DAVIS: But there is a medium. I do not want to hold cheese in the factories until it gets thready, but I would like to have a cheese kept in the factory until the color sets. You will find that varies from 5, 6, 7 days, but it is very seldom it takes place in three days unless you pre-cure that in the vat by heat.

CHAIRMAN: Mr. McCready said this morning, do the curing in the vat which puts your color where it belongs.

MR. DAVIS: We have been filling orders this fall with goods that were made in grass and on the color and as we got those goods sold and commenced to send this winter's make there is a general howl because it is tasteless. It is a fact that the most of this winter-made cheese is shipped so green because it is curd and there is no flavor. I believe unless we pre-cure you should have a bigger time of making in the factory.

**MR. PLUNKE:** I would like to make a statement here where a cheese maker hasn't got any protection whatever. It happened this summer that Mr. Stewart, an inspector, came to one of my factories and my cheese maker invited him to go around to the patrons and inspect the milking machines. Mr. Stewart was real nice to the farmers, telling them they had to look out, but the next morning one of my biggest patrons went to the neighboring factory. The following day Mr. Stewart comes to Plymouth and comes to see me and during the time I had found out this farmer had quit me. I said to Mr. Stewart, "I looked to see you come around and look after my factory, but I don't like to lose my patrons." "If I had my own way about it I would go right back to your farmer and tell him if he don't bring that milk back to your place I would prosecute him. I will go into Madison in a few days and I will take it up to the dairy and food commissioner and put the case up to him." Well, things went along and Mr. Stewart came, and all the satisfaction I got I have been advised to keep after the farmer so it don't happen again. That is real nice, but where do I come in? My farmer is gone. I have got that investment in that factory. Well, I can't help it. What do I do? I keep the checks back from that farmer; I don't pay him. He came shortly after that and I refused to pay him. I told him, "Mr. Farmer, in the spring of the year I held my cheese meeting. We had farmers that made an agreement during that year that I would make cheese for so and so. And you agreed to that. On the strength of that I hired a cheese maker and a helper, and if all you farmers would quit me I am going to have to discharge them and find out where I am at." About two months later he comes back again and wants to see if he can't make a settlement with me. I said, "Mr. Farmer, I don't want your money. I will have to start hauling for a little while and when I start in again I will stop there." He shut up and if I understand it he never will come back to me and this same competitor is in the room. If we have to meet with such competition it is time to quit the cheese business.

**MR. KOLLER:** Let me explain one thing. If Mr. Kalk is in the room he will bear me out on one statement he made one year. He said, "I cure my cheese in the vat." I think Mr. Reed, who has handled my goods for the last thirteen or fourteen months, will find I always cure my cheese in the vat and I will bet you he has never found a spotted color cheese. Why? Because we have worked it down in the vat. Mr. McCready bore upon this subject this morning. There is no necessity of having spotted cheese. Cure it in the vat.

**MR. CARSWELL:** That is what we want the grading law to make them cure it in the vat.

**CHAIRMAN:** That is the reason we want a longer time before shipping.

**MR. DAVIS:** When the temperature is 80 you will make a better cheese than when it is 60, and when you experience hot weather you will make a cheese for hot weather. You will find in the warm weather that you will make better cheese, and we want you to make better

cheese, and when you have got to hold it four days instead of three, you will have a lot better cheese than when you hold it three.

MR. CASPER: The cheese maker ought to know. The cheese stands a temperature of 60 or 90 after it is cured. You don't benefit that cheese to keep it in the curing room, especially to keep it longer than three days.

MR. DAVIS: When was it cured?

MR. MICHELS: I would like to say one word. I remember back to the time this convention met in the Capitol, when Dr. Babcock came before the audience and told of the curing of cheese. In their experiments they showed conclusively the longer the cheese went into the coolers the higher the score for four or six months or later, and the difference in the score was as much as 2, 3, 4 and 5 points, the cheese that went into the cooler in ten days. Those that went into the cooler at ten or fifteen days would score as high as 3 to 5 points less than those that went in longer. Why not look these facts in the face and study the matter up before bringing up a matter of this kind, at a convention here.

MR. DAVIS: Will you tell me whether that was experimental vat cheese or general run?

MR. MICHELS: General work that Dr. Babcock and Dean Russell made.

CHAIRMAN: Mr. Casper, how long did you hold your cheese, the one you have entered here on exhibition in this convention before it was paraffined and put into storage?

MR. CASPER: There is nothing shipped out less than three days. Between three and five days.

CHAIRMAN: You held it before you ship it?

MR. CASPER: In the curing room it was between 40 and 50.

CHAIRMAN: And it goes into cold storage and stays there at from 40 to 41. Why did you hold it over three days? It brings a 99½ score on it.

MR. CASPER: This cheese was made in November and not in June.

CHAIRMAN: I believe Mr. Davis is right in his convictions. The color doesn't stay on green cheese until it is three days old.

MR. HUBERT: Mr. Michels made a statement in Madison that that three-day order was one of the best orders. I spoke with Mr. Michels over in Madison to at least give us a longer time on the winter-made cheese, to have the winter-made cheese stay longer in your factories and have fire in your factories and I guarantee you will have a better article and it will get a higher score.

CHAIRMAN: You will have to have a modification to your shelves in your factory.

MR. HUBERT: I believe we should have a change, from the first of November to the first of December of at least six days.

MR. MARTY: I would just like to ask what facilities have the American cheese factories in the state of Wisconsin today to hold American cheese six days.

MR. HUBERT: If they can hold that cheese three days in the summer flush they can hold winter cheese five or six.

MR. MARTY: I think it is just as essential one way as the other. In the winter time you can, but in the summer time you have no control whatever, you are at the mercy of the surrounding temperature. In order to hold your cheese five days or ten days, that is the first physical composition of the breaking down of the cheese and that is the first thing in cheese, and the first ten days is the breaking down of the composition. If there is any tendency to ferment, the first ten days will start that fermentation. If the cheese is sent to a cold storage process plant, that fermentation would never get started. Under the low temperature that curd has gradually broken down and curd without the fermentation at a higher temperature. I remember well in my days that when I would come into the old style American cheese cellars where they had two or three weeks American cheese housed up there when you opened up the doors you could hear the cheese rolling around.

MR. KIRKPATRICK: What has that to do with winter cheese making, winter curing? The average factory has got no provision to cure cheese at this time of year, and he doesn't want to hold those winter-made cheese longer than the law will allow. The cheese ought to be cured in the factories in a room with a decent temperature and not come in half frozen by the weather.

MR. MARTY: What do you term a curing period?

MR. KIRKPATRICK: Not less than one week to give that rennet a chance to break down the curd of the cheese.

MR. MARTY: What would you want in the summer time?

MR. KIRKPATRICK: The cheese is entirely different, the milk is entirely different in the summer time. You have got a curing temperature in the summer and you have got no temperature in the winter.

CHAIRMAN: What are you wishing to decide upon? Do you wish to tender an order to the Committee on Resolutions to do something for you concerning the grading of cheese, or to advise them of some better conditions which the cheese makers themselves know? What is your decision in this matter so as to close this matter? What is your pleasure?

MR. KIRKPATRICK: I move we adjourn.

MR. EMERY: Mr. Chairman, I think it is due the dairy and food commissioner's office for me to make a statement. Mr. Stewart's name has been called to attention here, he claims, from the cheese makers' ranks and his understanding of the cause is not the same as the cause cited here. Mr. Stewart has twice been to this farmer's home to determine whether there was any unlawful conditions. There are some misconceptions as to law, some wonderfully strange misconceptions as to law. Do you think the legislature of Wisconsin can come and tell a farmer

that he has got to deliver his milk at any one place? That is preposterous. We have some rights of freedom in this country I hope. I want to say that the dairy and food commissioner's department is mine. I want to say that from January 24, 1902, until the 10th day of February, 1915, I was responsible for that department, but from the 10th day of February, 1915, until the 10th day of last February I was not responsible. I am now responsible for it. I don't claim it is absolute perfection, but I claim we are doing the very best it is possible for us to do under the circumstances. We are leaving no stones unturned, to the best of our ability, to enforce the law fearlessly. Mr. Stewart had instructions to follow up that item and if he delivered unsanitary milk to that factory to bring him into court, but you can't go in and take that farmer and jerk him in. We have got to proceed by due process of law, and the official who doesn't do that himself may become a criminal.

MR. BLAHNIK: My meaning was we ought to have a law to that effect.

MR. HUBERT: It wasn't at our request that Mr. Damrow brought in advertising here. He did it at his own free request. I want to thank him and the convention for the free advertising he gave us.

CHAIRMAN: If you have any ideas in your mind, the sense of the meeting seems to be to cooperate with the dairy and food department and the Division of Markets regarding the grading.

Meeting adjourned.

#### FIRST ANNUAL BANQUET, 6 P. M., THURSDAY, JANUARY 12.

Four hundred and twenty-five members went directly from the Convention Hall to the dining-room in Market Hall of the Auditorium Building, where supper was served and a short program rendered.

Prof. E. H. Farrington, of the dairy school, described some of his experiences with students in former years. He then introduced the Swiss Yodler quartette, of Monroe, who made the hit of the occasion and were loudly applauded. Mr. August Guelzow, of Portage, a former dairy student, spoke briefly, and the program was closed with more music by the quartette.

## THE YIELD AND COMPOSITION OF CHEESE FROM HIGH AND LOW TESTING MILK

By PROFESSOR J. L. SAMMIS, Dairy Department, University of  
Wisconsin, Madison, Wis.

The difference in yields of cheese from high and low-testing milk has interested cheese makers and factory patrons ever since the first cheese factories were started in this country about 75 years ago. When the first cooperative factories adopted the pooling system, it was assumed that 100 pounds of milk from one herd of cows would yield as much cheese as 100 pounds from any other herd.

After the Babcock test was invented, about 32 years ago, it was learned that the yield of cheese varies from milk of different test, and that the yield is more nearly dependent on the weight of fat in milk than on the weight of the milk itself. Payment by the fat test rapidly replaced the pooling system.

The search continued for more exact knowledge respecting the yield of cheese from milk of different tests. Investigators found that the yield of cheese does not increase quite in proportion to the milk test. In other words, the yield from 100 pounds of 6 per cent milk is not twice as great as from 3 per cent milk.

The Canadian chemist, Shuttleworth, in 1894, reported that the yield of cheese in a number of experiments varied according to fat plus two. He supposed at that time that the figure in "fat plus 2" meant an average of 2 per cent casein in different lots of milk, but we can show now that this explanation was erroneous.

The New York chemist, Van Slyke, following another line of study pointed out that the moisture content varies considerably in cheese from high and low testing milk, and he recalculated the observed cheese yield figures to show what the yield would be if the moisture content was uniform, as 37 per cent, in all cheese, as he assumed it should be.

These various studies led to different sets of figures to represent the yield of cheese from milk of high and low test as shown in Table I.

TABLE I. CHEESE YIELD FIGURES CORRESPONDING TO FOUR SYSTEMS OF PAYMENT

Pairon No. ....	1	2	3	4	5
Milk Test Percent. ....	3.0	3.5	4.0	4.5	5.0
Yields Figured to Correspond to:	Pounds		Cheese per C	wt. Milk	
Pooling system .....	10.6	10.6	10.6	10.6	10.6
Straight fat.....	7.95	9.275	10.6	11.925	13.23
New York (Fat plus .6).....	9.30	9.45	10.6	11.74	12.90
Canadian (Fat plus 2).....	8.83	9.72	10.6	11.48	12.37
Food Value of Cheese.....	?	?	?	?	?

### THE COMPOSITION OF CHEESE FROM HIGH AND LOW TESTING MILK

The last line in the table relates to the difference in composition quality, or food value of cheese from high and low testing milk, which

Dr. Babcock emphasized soon after he invented the Babcock test. He pointed out that the cheese from high-testing milk contains less water and more solids, less casein and more fat, than cheese from low-testing milk, but did not state how much difference there was. He argued that the cheese from Jersey or other high-testing milk should be worth more per pound because of its higher fat content, mentioned above, than cheese from Holstein or other low-testing milk. To encourage the use of the richer milk for cheese making, he recommended paying a higher price per pound for the rich milk cheese, and he always advocated that payments be figured by the straight fat method, which is known to pay such a premium. The precise percentage of premium required has never been stated by any investigator hitherto.

Factories and patrons very generally adopted the straight fat method of figuring payments, on account of its simplicity and because of Dr. Babcock's recommendation, but they have generally continued to consider the Holstein and not the Jersey cow as best suited for cheese factories, and the colleges very generally teach that in the selection of cows for improving the herd the high annual butter fat production record should have consideration rather than a high percentage of fat in the milk produced.

Protected from skim milk cheese by the Wisconsin law of 1898, cheese dealers and consumers now pay a uniform price for well-made "whole milk" cheese, that is, for all our good American cheese, and no one has proposed to test cheese in the market and pay according to its fat content.

The question remaining may be stated as follows: How much premium in price per pound for cheese from 4.5% milk (for example) is warranted by its difference in composition, quality, or food value, over cheese from 3.5% milk; and how does this percentage of premium, when determined, compare with the percentage of premium above the yield value now being actually paid to farmers for rich milk by the use of the straight fat method?

#### THREE YEARS EXPERIMENTS ON CHEESE YIELD AT WISCONSIN

The three years experiments carried on at the Wisconsin Experiment Station during 1917, 1918 and 1920 were planned to show (1) the actual yields of cheese from high and low testing milk, and (2) the difference in composition of cheese from high and low testing milk, to throw light on a possible difference in commercial value.

During this period, several commercial cheese factory managers wrote to the Experiment Station expressing their interest in experiments on cheese yield, and offering their services in carrying on such experiments at their factories. It was pointed out to them, however, that the differences to be studied were small, requiring very careful work and that at a commercial factory the work of making large quantities of cheese daily is the principal business, while the extra work and the precautions necessary to make successful experiments on cheese yield would require a great deal of extra labor and effort, which they probably could not afford.

Some of the precautions taken at the experiment station to make these cheese yield experiments a success will be briefly described here. The high-testing milk was obtained from a well-fed herd of Jersey and Guernsey cows and the low-testing milk from a herd of Holsteins. Both herds were kept in the same barns, fed and cared for and milked by the same herdsmen, and all the cows were known to be healthy and in good condition.

The Jersey milk was drawn from the cows, strained immediately, run over a cold water cooler, and placed in cans in a refrigerator overnight. The Holstein milk was handled in exactly the same manner. The pails, cans, and strainers were all thoroughly cleaned and steamed every day. The purpose was to make sure that the two lots of high and low testing milk should be alike as to cleanliness, bacterial infection, bacterial ripeness, etc., and at the same temperature when they reached the cheese vat the next morning, so that the yields of cheese obtained from each would depend only on the difference in milk test, and not on unequal ripeness, cleanliness, etc.

It is clear that if the high and low testing milk had been produced on different farms, handled by different men, they could not have been kept equally clean, cold, and sweet, and the yields of cheese obtained from the two lots of milk thus produced would be affected more or less by the unequal ripeness, cleanliness, and unequal conditions under which the milk was produced, as well as upon the difference in milk tests.

The two lots of high and low testing milk for our experiments were produced at the University cow barn, and when delivered next morning at the cheese vats in the Dairy School, they were always found to be alike in temperature within one or two degrees.

The two lots of milk were carefully weighed into two cheese vats, and were made into cheese at the same time, and by the same methods in all respects. Thus, the yields of cheese obtained from the high and low testing vats differed only because of the difference in milk richness or test, and not because of any difference in the cleanness, ripeness, or condition of the milk, nor because of any difference in the methods of making the cheese.

In all, this work was repeated on 55 days. On each day, the cheese were weighed as soon as taken from the press, to determine the relative yields obtained. The cheese were then immediately analysed for fat, moisture, and casein in the chemical laboratory to determine the differences of composition, which will be described below.

#### THE RESULTS AS TO CHEESE YIELD

These 55 experiments, carried on during the summers of 1917, 1918, and 1920, gave a final average gain in yield of 1.77 pounds of cheese for a difference of 1% in milk fat test.

Turning back to the table above, it is seen that according to the straight fat system, the difference in yield between 3½ and 4½ per cent milk should be 2.65 pounds cheese being the difference between the figures there given, 9.27 and 11.92 pounds. Further it is seen



from the table that the New York yield figures 9.45 and 11.74 pounds differ by 2.29 pounds. The Canadian or fat plus two cheese yield figures, 9.72 and 11.48 differ by 1.76 pounds of cheese for a difference of 1% fat in milk test, and these figures agree almost exactly with the 1.77 final average result of our own three years experiments at Wisconsin.

These experiments will, of course, be published in detail in printed form, but they show clearly, that if it is desired to pay for milk strictly in proportion to cheese yield, the fat plus two method will give such payments. The relative yields actually obtained vary in proportion to fat plus two figures given in the table above.

The bulletin will also show that at all factories where it is desired to pay strictly according to cheese yield, and where the highest patron's milk test during the month is not more than  $\frac{1}{2}$  per cent fat above the lowest patron's test, PAYMENTS FIGURED by the STRAIGHT FAT TEST will be practically correct, and will agree with payments figured by the fat plus two method within 2 cents on the dollar. Thus a great many factories can continue to pay by the straight fat method and yet be paying practically according to cheese yield, so long as their highest patron's test is not more than  $\frac{1}{2}$ % fat above the lowest patron's test for the month.

#### THE COMPOSITION OF CHEESE FROM HIGH AND LOW TESTING MILK

The analyses of the 110 cheese from the 55 cheese making experiments show further that the cheese from high testing milk contains less moisture, less casein and more fat than the cheese from low testing milk. The final average figures show that for an increase of 1% fat in the milk test, the cheese contains 1.1% less casein and 2.74% more fat, a net gain in composition of 1.64% in total solids. As cheese contains about 65% of fat and casein combined, this amounts to an increase of about 2.5% in the solids present or in the richness, or in the food value of the Jersey cheese. In other words, one pound of cheese made from 4.5% milk actually contains about 2.5% more food solids than a pound of cheese similarly made from  $3\frac{1}{2}$ % milk.

From this figure, we might perhaps conclude that a pound of cheese from the richer milk is worth 2.5% more money than a pound of cheese from the poorer milk. Proceeding on this basis, turning to table 1 again, and comparing the fat plus two yield figures with the New York yield figures, it is seen that the New York method of figuring payments (fat plus .6) gives credit for 12.90 pounds of cheese, or .53 pound more cheese than the actual yield, which is 12.37 pounds. This difference .53 pound amounts to about 4.3% of the true yield.

Comparing the straight fat cheese yield figure, 13.25 pounds, with the actual cheese yield figure, 12.37 pounds, the difference is .88 pounds or about 7.1% more cheese than the actual yield.

From these figures, it is seen that if we wish to take into consideration in our cheese factory payments to patrons, the fact that the Jersey cheese contains more solids, and is therefore higher in

quality and value as a food to the extent of 2.5% more solids for an increase of 1% in milk fat test, we may use either (1) the straight fat method which pays a premium of about 7% over the actual yield value, or (2) the New York table of cheese yields (fat plus .6) which pays 4.3% of premium, or (3) propose a new figure instead of fat plus 2 which will allow only 2.5% premium.

There is a continually increasing interest in the food value of different kinds of foods, and we can imagine that the time may come when foods will all be sold according to food value, when people will not pay the same price for a quart of milk, whether it contains 3% or 4% fat, when butter will be sold according to its fat content, bread, not by the loaf, or by the pound, but according to its content of dry matter, and when cheese from Jersey milk containing 2.5% more dry matter may sell for a proportionately higher price in the retail market because of its higher quality and food value.

The question as to which method payment is timely now, and which is to be preferred by cheese makers and cheese factory patrons now or ten years from now must be left to them to decide. Keeping in mind the general principle, enunciated by Dr. Babcock many years ago that cheese from high testing milk contains more solids and is worth more than that from low testing milk, we have by these experiments afforded a measure as to just how great the average difference in cheese composition may be for a difference of 1% in milk fat test.

#### THE MOISTURE CONTENT OF CHEESE

It is clearly shown in the experiments that the moisture content of cheese has a close relation to its casein content. A ratio of 1 to 1.75 for casein and moisture in cheese appears to make a good quality of cheese, and a ratio of 1 to 2 is perhaps the limit for cheese of satisfactory quality, although some further study should be made of this before setting an exact limit, for the permissible ratio of moisture to casein in cheese.

#### THE MEANING OF FAT PLUS TWO

In discussing the fat plus two system of payment, it has been customary to say that this cannot possibly be right, because all milk does not contain exactly 2 per cent of casein. It will be shown in the bulletin that the words fat plus two do not really mean 2 per cent of casein. To explain what they do mean let us recall that the New York method as originally put forth by Van Slyke was called the "Fat plus calculated casein" method. It consisted of adding a set of varying casein figures to the fat test of milk, as a basis for payment, according to Van Slyke.

Thus with fat test he added casein figures and these sums were used in place of the fat percentages in distributing the cheese money to patrons.

Fat .....	3.	3.5	4.	4.5	5.0
Casein .....	2.1	2.3	2.5	2.7	2.9
Sum .....	5.1	5.8	6.5	7.2	7.9

Later it was found at Wisconsin that exactly the same payments to patrons could be calculated more easily by adding the uniform figure .6% to the fat test of each patron's milk. The fat plus .6 method gives the same money payments as Van Slyke's fat plus calculated casein method. Thus we see that there are two ways of getting the same payments, but here the figure .6 does not mean .6 per cent casein. Six-tenths is a mathematical constant.

Turning now to the fat plus two system, it is seen that adding two to the fat test does not imply a uniform content of 2% casein in all milks, any more than the fat plus .6% method implies that all milk contains .6% casein. The fat plus two system was first discovered by Shuttleworth who mistakenly supposed that it meant a uniform 2 per cent of casein in all milks. We now understand that this is not so, but the figure 2, in fat plus 2, is merely a mathematical constant, like the figure .6 in fat plus six-tenths, and neither one of these means a percentage of casein.

The yield of cheese is really proportional to fat plus casein plus moisture. Our experiments have shown that the moisture is proportional to the casein and equals about 1.75 times the casein present in the cheese. Thus cheese equals fat plus 2.75 times the casein. Our experiments have shown that 3.0% milk contains about 2.1% casein and 5% milk contains about 2.66% casein. The yield of cheese is thus calculated as follows:

Fat % .....	Casein % .....	Casein % X 1.75 or moisture .....	Yield lbs .....	Yield Fat plus 2.16 .....
3.0 plus	2.14 plus	3.74 equals	8.88	1.72
3.5	2.27	3.97	9.74	1.72
4.0	2.40	4.20	10.60	1.72
4.5	2.53	4.43	11.46	1.72
5.0	2.66	4.65	12.31	1.72

This shows that fat plus 2.16 is more exactly proportional to the yield of cheese, but of course fat plus 2 is probably close enough for all practical purposes. This explanation also overcomes the common objection to fat plus 2, which was based on the supposition that fat plus 2 meant always 2% casein in milk.

## CO-OPERATIVE BOARDS OF TRADE

By T. A. UBBELOHDE, Glenbeulah.

Mr. Chairman and Gentlemen: I will tell you how the Farmers' Co-operative Cheese Board was started at Plymouth. Some years ago, the cheese makers there got tired of selling their cheese on the old system, and they started a call board and it ran very successfully for quite a number of years. The cheese makers put their cheese on there, and it was bid in. Eventually they split and sold it by the contract system until it got to the point where the cheese factories offered practically no cheese on this board. It turned into the Wisconsin Cheese Exchange.

The cheese was put on there from the factories, and by the dealers. It was practically a board to establish a market price. It was the only way we had. Last spring some of the farmers and factory men in that district got together and started to revive the old original call board or auction sale board as a farmers' co-operative cheese board. They adopted practically the same rules that were adopted by the old call board. The farmers and cheese makers co-operated in offering all of their cheese on this board, and it was sold at auction. All the cheese there is sold before any deal is closed any day, but the nature of the sale is such that the factory men can withdraw that cheese, and not take the bid, or a man can cancel his bid, but it is sold at public auction, and it sells for really what the market is at that time. It is demand that establishes the market.

One particular thing this has brought out is that the best finished cheese will bring the best price. After a few sales the dealer finds that the cheese of a certain factory is always nicely finished and good quality. You notice in a quotation very often there is a difference in price paid for cheese here, and the officers tell me that it is invariably in favor of the cheese that is nicely finished. They say that the finish of this cheese brings more difference than a little difference in quality. All cheese offered on this board is No. 1 cheese. Cheese that is not a No. 1 quality is not offered on this board, it can be sold through the secretary. High quality cheese is auctioned.

The buyers have no voice in the regulating of this board. This is entirely in the hands of the sellers, so that there is no chance for the dealer to get control of this board. If you will look at the quotations through the season, you will notice that the average price was about  $\frac{1}{8}$  of a cent better than it has been on the cheese exchange, so we think it has been a success. They have sold 81,000 boxes of cheese during this summer on that board. I was talking with the president a short time ago, and he said there had not been one complaint made or dissatisfaction among the factory men.

I have the rules and regulations of this board, but they are lengthy and the time is short. The main thing is that cheese sells at public auction, and is paid for within a week. Many of our men cannot wait for their pay, and they get their pay within a week from the

time the cheese is sold. Cheese must be inspected within 48 hours after it is sold, and we allow two working days after it arrives to go there and sell it. Sundays are not included.

## DISCUSSION

MR. ADERHOLD: Can you tell me why the factory men ceased putting their cheese on the old board that started quite a number of years ago?

MR. UBBELOHDE: The reason they gave me was, "Why should we put it on there when we get the same price." That is the reason they always gave me. I was talking to some cheese makers this fall that still sold on the contract system. They told me, "Why should I put it on the board when I get the same price."

MR. ADERHOLD: I think Mr. Damrow stated here last year, according to our annual report, that he got more when he sold off the board than on the board.

MR. DAMROW: We have been having cheese boards, as Mr. Ubbelohde said, for years, after what they called the call board system. I was president of the Sheboygan Board for a good many years. We had as many as 69 factories on the board at Sheboygan. It is always the policy for dealers to get the factories to contract their cheese, as all the cheese makers know. They know just about what they are going to get, and the cheese maker doesn't have to spend his time going to the board. I have always been an advocate of the dairy board. Every factory at this board has three farmers, patrons of that certain factory, as a committee of that factory. The farmers make their rules and by-laws of this board. No cheese dealer, and no cheese maker has a vote unless authorized by his factory. It is natural for cheese makers, if they are allowed, to sell their cheese under contract, not all of them, but some. Then it behooves the farmers to work together. It is their cheese, and to their interest that the cheese shall be sold on the board, and that every cheese maker sell his cheese on the board.

MR. ADERHOLD: There is another question I want to ask Mr. Ubbelohde. I never have understood why the factory men have ceased to put their cheese on the board. That new call board, very few of them have put their cheese on. There is less and less of it being put on. I know Mr. Damrow always has attended the board of trade, and after he ceased selling them on the board, he still sold to the same dealers, and intimates that he got more selling to the same dealers by keeping them off the board, instead of putting them on.

MR. DAMROW: The point I raised, as I said before, is this: That the farmers tell me to sell where I can get the most, which I do.

MR. ADERHOLD: I can't see why the dealers should pay more off the board than on the board.

MR. DAMROW: For the reason that I was situated where I could haul in my cheese with no extra charge on it.

MR. DAMROW: I want to hear from Mr. Michels as to what he thinks of the co-operative board.

MR. MICHELS: I have watched the farmers' board ever since it was organized, I think in May, and when it comes to the price paid on that board, it is just about as Mr. Ubbelohde has outlined, there is about one-half cent difference. There is one distinct difference between the board at Plymouth, and the farmers' board. The farmers' board are not allowed to offer cheese except those who make cheese. The dealers are not allowed to offer any, but on the Plymouth board there are hardly any factories offering cheese. It seems to me that is quite in favor of the new board. I was well acquainted with the boards when we had them all over the state, and up to the time they were put out of existence. As far as I know these boards were put out of existence because of this very fact that the seller, the cheese factories, would contract with the different dealers to that extent that up to certain times there wouldn't be anything there to offer, and that has put one board after another out of existence. In establishing new boards over the state, to my mind something should be done to prevent this. What that is, I am not prepared to say.

MR. BRUHN: I used to sell cheese on the old Muscoda board of trade years ago, as they would have it alternate from Muscoda to Lone Rock. My factory at the time was rather small. It took me a day and two nights to attend the board. I figured out if I didn't attend the board, I could afford to sell my cheese for  $\frac{1}{8}$  of a cent less a pound than if I had attended the board. I was able to get board prices without attending it, so I naturally took board prices, and stayed at home. They came back at me by saying, "If you will telephone the amount of cheese you have on hand to sell to the secretary of the board he will sell it for you." If I was making cheese for a special market, with only perhaps two or three buyers, I had no means of telling the secretary to reject the bid if the dealers that bid on them were not satisfactory to me. Consequently it was out of the question to not attend the board by telephoning to the secretary, and that was the one and only reason I quit the board of trade.

MR. UBBELOHDE: I sold cheese for our factory on the original Plymouth call board for years, but I didn't go there. One dealer took most of our cheese most of the time, but we could telephone them with instructions when to reject, and when not to. If there was a special grade of cheese, we were not supposed to put that on the board. I made soft cheese at that time for a particular trade, but our American cheese was always sold.

MR. KOLLER: I would like to ask Mr. Ubbelohde or rather some of the dealers in the house, how they feel about having new boards scattered all over the state. It seems to me it would inconvenience the buyers a whole lot more, and the consequences would be, they would naturally try to buy the cheese away from the factories before it got to the board. That seemed to be the matter with the small boards scattered throughout the state. I would like to hear from the dealers on that.

MR. NOYES: Mr. President, Ladies and Gentlemen: I wish to say that I bought cheese for 35 years. I attended the spring board, Muscoda board, also went to Richland Center and helped them organize the board, but that didn't stick at all. I believe there could be boards especially in different sections of the country whereby factories could reach this board, and that board could be sustained and those boards divided up. Have your Division of Markets establish those boards, and establish them in such a way that the dealers could reach those boards. I have never seen a time when I wouldn't rather buy cheese on the board, than contract for them. I can buy what I want, while if I contract with 30 or 40 factories, we have to take them whether we want them or not. The boards of trade have been killed in several ways by the dealers contracting, by the sellers, simply because a seller would say, "Don't sell that cheese to Noyes, he inspects pretty close." In that way those factories get in the habit of selling to one buyer. They should sell cheese to any buyer that would pass inspection. When I went to Muscoda, I put my bid on 3,000 boxes of cheese, and some of them would withdraw because they didn't want to sell to me. I wouldn't get what I wanted. The killing of those boards isn't due to dealers alone, nor to makers, but simply to everybody because they didn't put them on and stick. I think every dealer in southwestern Wisconsin would be glad to buy their cheese on the board. I drove one week myself to try to organize a board at Richland Center. I think the cheese in Wisconsin could all be sold on a board.

MR. DAMROW: If I understand Mr. Michels, he said he is in favor of the way the co-operative board is running.

MR. MICHELS: Yes.

MR. MENSCH: If they want to organize a board at Fond du Lac, and they would come to you, you would help them free of charge?

MR. MICHELS: If there is merit to the project, why shouldn't we, that is one of the purposes of the Division.

MR. THILKE: The question comes up quite often: Why does the farmers' call board sell higher than Plymouth? The farmers get the idea that the cheese maker is a little bit snooks with the buyer. It makes it bad for us that we cannot sell on the farmers' call board because they are selling higher. The question comes up: Why do they sell higher than the Plymouth board?

MR. LAACK: The answer to that would be, the cheese that is put on the old board, is cheese from the northern part of the state, and that cheese costs a half a cent to get it down here and probably the other cheese from Sheboygan County is all taken there on wheels, and it is worth more and that is the reason the farmers organized.

CHAIRMAN: The farmers' board for weeks differed quite a good deal more than half a cent, it was sometimes 2 cents. If the freight was half a cent, are you able to explain how the other difference came in there?

CHAIRMAN: The question was whether there was a man here able to explain where these variations came in between the call and the farmers' board.

MR. NORFELT: I think that can be explained very easily. The fact is under the present contract system there is probably 95% of the cheese sold on contract to 50, 75 or 100 dealers, while when we come to sell cheese on the old Plymouth exchange, the dealers have a large quantity of cheese, and are very careful what price they pay on that board to fix a price on practically all their receipts. But when you come to the farmers' board, and it only affects those factories that are on that board, if they want cheese they will buy on that board and pay the price, because it fixes the price for that quantity only. I think the correct system of marketing cheese for the farmers is on call boards scattered throughout the state, if the factory men and farmers will put their cheese on that board, and I believe they will get more money for their cheese. The farmers' board has proven it. If you put the cheese buyer in a position where he has got to compete with his neighbor to buy the cheese, he is going to pay more money for the goods when he wants it. When you have a slow market, the fluctuation would be greater under the present system, than if you had boards scattered throughout the state. It is a broad question, it is a big question, and the lead must come from the farmers and factory men.

MR. KOLLER: I would like to ask where, and on what market the Wisconsin Cheese Federation bases the price it is paying to the farmers?

CHAIRMAN: If I understand rightly, it is not based on any certain market. Mr. Aderhold is here.

MR. ADERHOLD: They base their price on the re-sale price minus handling charges.

MR. NORFELT: We were in the cheese game when we had boards scattered all over the state, and the buyers all went. He was afraid he might miss an opportunity where he could pick up some cheap cheese, and if you organize these boards there is no question but what the buyers will be there, and they will buy cheese there.

CHAIRMAN: There is no question in my mind about that. The same question was put up to us when we started the Marshfield call board. We had three meetings and we had three sales there. All the buyers come there just the same.

MR. MARTY: There is no reason why you can't get your buyers to attend your board, no matter how numerous they are scattered throughout the state. If there is no board, the buyers go to every individual cheese factory.



## MODERN TENDENCIES IN MARKETING

By PROFESSOR THEO. MACKLIN, Madison

It is a great pleasure to have this opportunity of meeting with the cheese makers of Wisconsin. You know we are all interested in the same problem whether we are cheese makers, farmers, middle men, or consumers.

The thing I am here to talk for very briefly is the fact that you have common interests.

We are all interested in the consumer's dollar, because that will pay you respectable cheese makers' salaries, or respectable cheese making profits, and out of that same dollar must come the means of paying the farmers for milk, and enough to pay for at least eight kinds of service. I will enumerate those services.

In the first place there is the service of assembling raw material. That raw material must be graded and standardized. When that product is converted from milk into cheese, then the service of processing is rendered. Then it must be marketed. Then we have storage and transporting, and financing, and distributing. Eight important services in all; out of those eight the cheese maker renders primarily the service of processing or manufacturing the product into a good finished product, and when he pleases, the consumer he will pay the dollar you are looking for.

I am here to briefly emphasize simply two or three points: Namely, that there are weaknesses in the present marketing situation. What are those weaknesses? Cheese makers, and especially those who have been responsible for selling cheese, have generally observed that when too much cheese goes on the market, the price falls. That has been true of every product, that farmers or middle men have had to handle. Why is it? It is simply this, that when the consumer can have products brought to him in more quantity than he can make use of, he bids a lower price. When the consumer has the right quantity of cheese placed before him, he bids a remunerative price, and when too little the price goes sky-rocketing.

I will cite to you Denmark. I will cite the California organizations which have attempted to study and benefit the service, and find out what it was that was undermining the prices for service, and in every case they have come back to the fact that markets were flooded and prices have fluctuated, and the product has sold at prices which represented a lower purchasing power, and when the purchasing price is low the bid for a man's services is also low.

What does that mean? The increase of the cheese maker's income depends upon two important things, upon his ability to make a high quality product, and upon his ability to help organize an industry. They must lead their farmers to organize in such a manner as to stabilize their products and their prices. Furthermore it requires a reduction in the cost of marketing cheese products.

In order merely to call your attention to what organization has done in various countries, especially in California, let me read a few telegrams from California organizations; one of these concerns a business of \$55,000,000. Last year it was \$80,000,000. That is, "California state-wide associations of growers of fruits, nuts, and farm products are of incalculable benefit to them, and to the bankers, merchants, and all lines of business." Why? Have you ever watched when prices were falling what happened to business? What happened during this last strike? It started with automobiles, and people were turned out of employment, and it began to react on the cheese business, and every other business. Why prices are going down. People said to themselves, with this up and down proposition we will wait before we start to do business. When prices are going up, everyone has confidence which enables them to manufacture products and the cheese maker's income depends on the volume of business, and the quality of the product which he makes.

Let me read another telegram. This first was from the San Jose Chamber of Commerce, a private corporation. Here is one from the Los Angeles Co-operative Association for stable products: "Standardize and improve products, turn agriculture from failure to success." Let me say if you cheese makers would learn the scientific principles of marketing as well as you have learned the problems of making better cheese, you could turn a Wisconsin cheese industry which has been going down hill from relative failure to maximum success, and increase the incomes to yourselves as well as others.

Let me read another telegram from the Fresno Chamber of Commerce. "California Raisin Growers' Association has the unqualified support and endorsement of foremost bankers, merchants, and business men. This association considered absolutely necessary to the welfare of the fruit growing section of California."

I want to emphasize then that the big problem which underlies all of this cheese board proposition, which underlies most of these marketing discussions, comes back to the general ups and downs of business, and that those ups and downs are going to destroy every attempt you may make, unless they can be stabilized, and to stabilize that, calls for organization in that it is going to eliminate middle men.

Individually, why do you go to the College of Agriculture for information on cheese? Why go to the short course? It is to learn new ways of doing things. If that is true on the making side, it is equally true on the marketing side. How much study and thought have you paid to the marketing side of these problems? Your answer alone would almost convict you on those problems. So my plea today is this: That every cheese maker owes it to himself and to the industry he is working in, to improve cheese marketing conditions because market fluctuations depress prices, which immediately cut in on your opportunities of earning. Better cheese is only half the game, it also requires good marketing.

If you commence to study marketing, if you will make use of your College of Agriculture, to learn the scientific principles of marketing,

I will predict for the next 50 years of cheese making in Wisconsin more progress than you have had in the past, and a higher standard of living. Part of the success of the cheese maker is producing cheese, and they do that well. Another part of it comes from marketing, and they do that poorly. Wherever they have delved into these problems impartially, wherever they have built organizations that will stabilize prices, they have not only gotten away from these little exchanges, they have built comprehensive organizations that would sell services, and by selling these services they have stabilized agriculture. I am going to predict right now, that no matter what you do, until you tackle that problem and solve it, you have accomplished nothing, and my challenge is to you who want better conditions for yourselves don't forget that you are married to the farmer and the consumer, that your work as business men, as cheese makers, in other words as middle men is tied up with a common interest. Unless you are big enough to study all sides of the question and come to such conclusions as will give you reliable information on marketing you will not succeed, and I want to urge you to make use of your Wisconsin College of Agriculture on the marketing side as you have on the production side.

SEVENTH SESSION, FRIDAY, 1:30 P. M.

### THE RATIO OF CASEIN TO FAT AS A FACTOR INFLUENCING THE QUALITY OF SWISS CHEESE

By K. J. MATHESON and S. A. HALL

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I have been asked to give you a talk on the ratio of casein to fat and its influence upon the quality of Swiss cheese. Last fall, while visiting the Swiss factories in Ohio, I noticed that most factories complained of glass cheese during the months of July and August. In 1920 the trouble with glass cheese seemed especially pronounced in the month of August. At that time some of the Swiss makers were accusing our starters of being responsible for this defect in their cheese. However, as we visited other factories in the vicinity of Sugar Creek, Ohio, where cultures were not employed, we found even the best cheese makers were having considerable glass, and so the conclusion could not be drawn that our cultures were in any way responsible for the trouble. As far as my observations have gone it has always seemed that the greatest difficulty with glass cheese is experienced in the hot dry summer months rather than in other periods of the year. Oftentimes during the months of July and August the curd will remain in the whey for a long period during the cooking process and in many ways behave unusually. While this may be due to some local condition, possibly some deficiency or change in the ash constituents of the milk, it seems more reasonable to believe that glass cheese is brought about by the change in ratio of casein to fat. No one hitherto has pointed out the possibility that changes in the ratio of casein to fat might be responsible for the glass condition in Swiss cheese.

That there is a seasonal variation in the composition of milk during the summer has been shown by Van Slyke, Babcock, Richmond, White, Judkins, and others. This change in the composition of milk during the warmest periods of the year seems to be regular and consistent year after year, and in short appears to be the rule rather than the exception. As Van Slyke and Babcock have shown, this fluctuation appears to be due primarily to the lack of sufficient feed during the periods of drought; and in cases where cattle were fed a grain ration, there appeared to be but little difficulty from fluctuation of the solids in the milk or fluctuations in the yield of cheese. Under ordinary conditions, there is almost always a decrease in the cheese yield during the summer months unless dry pastures are supplemented by a grain ration. Richmond claims, upon the basis of numerous analyses, that the ash and sugar in cow's milk remain fairly constant the year around, whereas during the hot dry summer months there is a marked variation in the protein part of milk. While it is true that both the fat and casein are lowered somewhat, it is also true, as various investigators have shown, that the protein is lowered more in proportion than the fat is. So we may say that the lowered yield of cheese during the warmer periods of the year may be attributed to the lowering of the fat and casein in the milk, and that the casein is lowered more in proportion than the fat. It is unfortunate that there is very little data, aside from Van Slyke's figures, giving the ratio of the casein to fat. In most cases the information bearing on this point relates to the total solids not fat, or to the amount of protein, and not to the ratio between fat and casein. In 1918 White and Judkins published Bulletin 94 of the Storrs Experiment Station on "The Variations in the Fat, Solids Not Fat, and Total Solids in Cow's Milk." In discussing the fat and solids not fat I will quote a paragraph:

"These figures show that there is a seasonal variation in both fat and solids not fat in all breeds. In some instances the lactation stage helps to make this condition more pronounced. It is shown that the decrease is greater with the higher testing breeds, except in case of the Holsteins, where the decrease in per cent of solids not fat is as great as for the Jersey. The decrease in solids not fat for all breeds and for the entire herd is greater than the decrease in fat. The average for the warm months is .31% lower for fat and .56% lower for the solids not fat."

As I understand this work, the figures include all the summer months, whereas in certain months the variations are considerably greater. It seems quite remarkable that these variations should be so noticeable in respect to the relation of casein to fat, when one takes into consideration that the cattle were fed a grain ration during the greater part of the summer, and were fed more carefully than in those sections of the United States where Swiss cheese is manufactured, and where as a rule the cows do not receive a grain ration during the period when they are on poor pastures. The following is a chart taken from the Storrs bulletin mentioned, showing the variation of fat and of total solids not fat as influenced by the temperature and period of the year.

It will be observed that there is a marked drop in the total solids not fat in the months of July and August. I will state that these figures are based upon 7½ years' observations. It seems very probable that the climatic conditions of the Mississippi Valley are such as would tend to increase rather than decrease this difference in balance between the fat and casein.

That a high percentage of fat in milk may be sufficient to cause a glass cheese is, I believe, generally accepted. Just how much fat will cause this weakening is not so clear. Freudenreich and Jensen, working in the fall of the year, did not find glass in cheese when made from milk testing 4% fat. Last spring we made a number of cheeses to determine what per cent of fat would be necessary in order to produce a glass cheese. Our milk tested normally about 4½% fat. When we made cheese with a higher per cent of fat than this we added a small amount of cream. From these results it may be shown that there is always a greater tendency to glass in Swiss cheese when the fat in the milk is increased. In my opinion it is one thing to make Swiss cheese in the spring and fall months and quite a different thing to make it in the hot dry summer months, even though the percentage of fat may be the same in both cases.

That a high percentage of fat in Swiss cheese may cause a glass cheese is indicated by the following experiment:

Two cheese were made daily from milk which was mixed and then divided into two equal portions. The milk in each kettle was then standardized to a certain point by the addition or removal of cream as indicated by the percentages of fat in the following table. In this table the first cheese and every other one thereafter are experimental; the ones between, that is, the second and every other one following that, being check.

TABLE I. EFFECT OF HIGH AND LOW FAT CONTENT IN MILK UPON SWISS CHEES

Date	Cheese Number	Per Cent Fat	Remarks
March 3/22	58	4.00	Considerable glass
March 3/22	58-1	3.30	Slight glass
March 3/23	59	3.80	No glass
March 3/23	59-1	3.60	No glass
March 3/24	60	4.2	Glass tendency
March 3/24	60-1	3.4	No glass
March 3/25	61	4.4	Slight glass
March 3/25	61-1	3.4	No glass
March 3/26	63	4.8	Glass
March 3/26	63-1	3.2	No glass
March 3/30	65	3.8	No glass
March 3/30	65-1	3.4	No glass
March 3/31	66	4.0	Trace of glass
March 3/31	66-1	3.4	Trace of glass
April 4/2	67	4.2	Little glass
April 4/2	67-1	3.4	No glass
April 4/4	68	4.4	Very badly glass
April 4/4	68-1	3.4	No glass
April 4-5	69	4.6	Glass
April 4/5	69-1	3.4	No glass
April 4/6	70	4.8	Glass
April 4/6	70-1	3.4	No glass
April 4/7	71	4.8	Glass
April 4/7	71-1	3.4	No glass
April 4/8	73	4.6	Glass through center
April 4/8	73-1	3.6	No glass

The two cheese to be compared were made after the same process and ripened in the usual manner. Both Eye culture and Bulgaricus culture were employed in the manufacture of all the cheese. The results of a series of cheeses made after the same process are indicated in Table I. Approximately 300 pounds of milk were employed to make each cheese. The cheeses were then ripened for about three months before being cut for examination.

These results seem to indicate that there is little glass until the percentage of fat is over 4%. In some cases there was a trace of glass in the check cheese, but not sufficient to change the grading of the cheese. The cheeses were all cut and the results could be better ascertained than if the cheese were only plugged.

In order to study the effect that a high temperature has upon the ratio of fat to casein and the possible influence of this factor upon the quality of Swiss cheese with respect to glass, determinations of casein and fat were made upon numerous samples of milk used in the manufacture of the cheese. These determinations were made upon milk taken from the Swiss kettles just before it was made into cheese. Records were thus made as to the ratio of casein to fat; and later when the cheese was about to be shipped, the cheese was examined critically for glass by plugging. It was hoped that the milk from two factories where skim milk was added could be compared with three factories that used only whole milk. Unfortunately only one of the three factories which had agreed to use whole milk continued to do so, the other factories skimmed more or less as soon as they learned that we were getting favorable results that way. We were unable to start the work until the thirteenth of July and it was necessary to discontinue it on the twentieth of September, due to the resignation of one of the men who was collecting the data upon which this paper is based.

The results of our work are summarized in Table II. Cheese that were badly glass were considered as No. 2 cheese, while those showing only a little glass were put under a separate heading. Even where only a trace of glass was observed, it was placed under the heading of a "little glass." This accounts for the rather high percentage of glass cheese. Factories I and II were the factories where cultures were used and where an effort was made to standardize the milk more closely than in the other factories, which practiced skimming by hand and tried to approximate the conditions we were using in factories I and II. Factory V was the only factory that did not use skim milk from the beginning to end of the experiment. Here more trouble was experienced with glass cheese than in any other of the factories with which we worked.

## THIRTIETH ANNUAL MEETING

PERCENTAGE OF GLASS CHEESE OCCURRING IN THE MONTHS OF JULY  
AUGUST, AND SEPTEMBER

	July	August	September
<b>Factory I:</b>			
Number of cheeses.....	58	84	46
Per Cent of bad glass.....	8.62	1.19	0
Per Cent of little glass.....	17.24	8.33	6.52
<b>Factory II:</b>			
Number of cheeses.....	39	50	29
Per Cent of bad glass.....	5.12	.00	0
Per Cent of little glass.....	15.38	4	10.3
<b>Factory III:</b>			
Number of cheeses.....	23	55	39
Per Cent of bad glass.....	13.00	3.6	2.5
Per Cent of little glass.....	13.00	14.5	7.7
<b>Factory IV:</b>			
Number of cheeses.....	8	22	13
Per Cent of bad glass.....	0	0	7.6
Per cent of little glass.....	25	27.2	7.6
<b>Factory V:</b>			
Number of cheeses.....	30	42	28
Per cent of bad glass.....	30	4.7	3.57
Per cent of little glass.....	33.3	23.8	32.1

Most of the glass cheese occurred in the month of July, which was the hottest month of those compared. In factory V, where skim milk was used, the glass was especially bad. This was the factory which a year before had raised so much objection to the use of our cultures, as they said it was responsible for their glass cheese. There was a great reduction of bad glass in all the factories during August and September. With the exception of one local glass cheese in August, no trouble was experienced with the culture cheese. The other factories showed 3 to 4 per cent bad glass. Had it been possible to carry on the work as originally planned, that is, not to use skim milk in factories III and IV, it is believed that the results would have been more marked. It is also of interest to note that factory No. 5, which experienced so much trouble with glass cheese in the summer, had but little, if any, at the close of the season. Here, very likely, the percentage of casein had increased as compared with the fat.

Van Slyke in his study of the effect of drought upon milk production found that the ratio of casein to fat varied as follows in the different months.

Pounds of casein for 1 pound of fat during the different months varied as follows:

May	.67	Aug.	.56
June	.65	Sept.	.62
July	.59	Oct.	.64

Assuming the standard ratio of fat to casein to be .67, and assuming also that each kettle of milk contains 2,000 pounds of milk, the following are the pounds of skim milk that it would be necessary to add during the several summer months, in order to have the milk show

the same ratio of fat to casein. This does not take account of fat in the skim milk.

May	0.0	Aug.	328.3
June	59.6	Sept.	149.0
July	238.8	Oct.	89.5

From the figures above it will be seen that it is very desirable to add more or less skim milk in order to make proper corrections for variations in the ratio of casein to fat, which may occur during periods of drought. It is believed that this fluctuation of the solids in milk occurs more or less every year, as indicated by the results of many investigations.

In order to show whether or not the fat variation in the milk has an influence upon the quality of Swiss cheese with respect to glass, Table III is presented.

Fat determinations were not made on the whey samples because it was impracticable for us to make corresponding determinations upon the casein losses in the whey. This would require numerous chemical determinations which we were not in a position to make in the field. From something over 20 determinations we have found that there was an average of .33 greater fat loss in the whey where homemade rennet was employed than in whey from cheese made with the commercial rennet and in which cultures were employed. It was found in our work in Ohio that the fat losses in our culture cheese averaged about .6 per cent, whereas with the cheese made from the homemade rennet there was a fat loss of about .9 per cent in the whey.

The culture and nonculture cheese are accordingly separated into two groups because of differences of fat losses occurring in the whey. The following gives a summary of the results in regard to the occurrence of glass in Swiss cheese with varying ratios of fat to casein:

TABLE III. GLASS CHEESE RESULTING FROM VARYING THE RATIO OF CASEIN TO FAT. HOME MADE RENNET CHEESE

Pounds of casein for 1 pound of fat in milk	.50-.60	.61-.64	.65-.68	.69-.72	.73-.76	.77-.80	.81-.84	Above .84
Number of cheese	18	53	1	51	38	12		
Per cent bad glass	38.8	9.42	8.79	0	2.63	0		
Total glass in per cent	77.7	45.2	25.20	7.8	13.1	8.3		

EXTRACT RENNET AND CULTURE CHEESE

Pounds of casein for 1 pound of fat in milk	.50-.60	.61-.64	.65-.68	.69-.72	.73-.76	.77-.80	.81-.84	Above .84
Number of cheese			3	13	33	58	7	120
Per cent bad glass			0	7.69	9.09	1.72	0	.23
Total glass in per cent			0	.20	30.00	20.60	3.79	3.33

In the homemade rennet cheese, as well as in the culture cheese, it will be observed that there is a decrease in the total glass as the ratio of casein to fat is increased. There is a regular decrease in the percentage of glass in the rennet extract and culture cheese, while with



the homemade rennet cheese there is a considerable reduction to the point where the ratio falls within the group .69 to .72; then the percentage of glass remains comparatively uniform. With the culture cheese the reduction of glass is quite uniform until the .81 to .84 group; thereafter there is but little reduction in total glass.

These figures indicate that even though there is a low casein to fat ratio, it does not follow that the cheese will necessarily be glass; yet it does show, I believe, a strong tendency for this to occur; and it is a factor in Swiss cheese manufacturing that warrants more consideration than it has been given heretofore. There is a certain degree of parallel between this and the occurrence of nissler cheese. A milk having a comparatively large number of organisms in it may fail to develop into a nissler cheese, and yet a milk with a much smaller number of organisms may result in a nissler. Upon the basis of our experience, however, we know that in general the milk containing the higher number of organisms is more likely to yield a second-grade cheese. Undoubtedly there are other factors that cause glass cheese besides this factor of fat variation; it may be caused by such factors as lack of proper turning, faulty manufacturing, over-ripe milk, etc. However, upon the basis of my experience, I am of the opinion that the difficulty occurs most often in the hot, dry summer months and is a result of the change of ratio between fat and casein. High temperatures may be a supplemental cause of glass in Swiss cheese.

That a high ratio of casein to fat with the culture cheese did not act unfavorably upon the quality of the cheese is indicated by the fact that the cheese sold at a price at least 50 per cent higher than the cheese in the surrounding section. The cheese buyer spoke in very complimentary terms of the quality of the cheese, and said the fancy cheeses were the equal of those from Wisconsin. While the use of cultures undoubtedly improved the general quality of the cheese, nevertheless the comments of the cheese buyer lead us to believe that a high ratio of casein to fat did not act unfavorably upon the quality of the cheese, but on the contrary seemed to improve the body and texture. There was no criticism of the cheese collapsing, a condition I think is more likely to occur where no consideration is given to the subject of fat to casein ratio. The culture cheese undergoes a vigorous fermentation and with a high fat cheese there is a much greater tendency to collapse than when the reverse is true. This seems to be indicated both by our laboratory work and by the results in the field.

The method we used in determining the casein was Harts' casein test, as described in Bulletin 56 of the Wisconsin Experiment Station. It is claimed that a more recent method, the Walker test, would give equally good results. The author of this test claims to check very closely with Kjeldahl, as well as with the centrifugal method of determining the casein. For the latter test N/9 sodium hydroxide, and formaldehyde (the 40 per cent commercial article) made neutral to phenolphthalein, are used. To make the best, 10 c. c. of milk are transferred by means of a pipette to a porcelain casserole. A fairly large quantity of phenolphthalein (1 cubic centimeter of a 1 per cent solu-

tion) is next added. The alkali is then run into it with constant stirring with a glass rod until a fairly pink color has developed. So far the test is exactly the same as the ordinary acid test. No account is kept of the alkali used to bring the sample to the neutral point. About 2 c. c. of the neutral formaldehyde solution is next added, with the result that the pink color at once disappears. The reading on the burette is then taken, and the alkali is again added with stirring until the same degree of color develops. The reading of the burette is again taken, the difference between the two readings being the amount of alkali used in the second titration. The casein is calculated by multiplying the amount of alkali used by the factor 1.63. For more detailed information see The Journal of Industrial and Engineering Chemistry, Vol. 6, No. 2, February, 1914.

I believe it would be advisable to use either Harts' casein test or the Walker titration test for the determination of casein in the milk used in the manufacture of Swiss cheese, at least during the summer months. An intelligent use of the tests should enable the Swiss maker to produce a better grade of Swiss cheese the year around, and with less danger of glass during the summer months. Seasonal variations, the period of lactation, and the breed of cows influence the ratio of fat to casein. There may be considerable variation in the ratio of fat for one day as compared with another, and for the above reasons it would be desirable to use the casein test with each kettle of milk every day if possible, or if not at least at intervals of a day or two. I would advise standardizing the milk for making Swiss cheese upon the basis of both fat and casein tests. When using homemade rennet, the milk should have about .72 of a pound of casein for every pound of fat; and with rennet extract and culture, the milk should have about .8 of a pound to 1 pound of casein to every pound of fat, assuming that there is a loss in the whey of .9 per cent of fat in the homemade rennet cheese, and .6 per cent in the extract and culture cheese.

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MR. NOYES: Before we take up the next subject, I wish to make a suggestion here, or make a motion. Mr. Ubbelohde has been a member of this association for 28 years. He has been with us every year, he has worked for us every year during this time. I move he be made a life member.

Motion duly seconded, put, and carried unanimously.

MR. UBBELOHDE: I thank you, gentlemen. I shall be with you as long as I can.

CHAIRMAN: The next number on our program is, "How I get good milk for Swiss cheese," by Adolph Alplanalp, of Juda.

## HOW I GET GOOD MILK FOR SWISS CHEESE

By ADOLPH ALPLANALP, Juda.

I was asked to say a few words about how to get good milk to manufacture Swiss cheese.

The way our Swiss cheese market is now, we all want to try to manufacture the best we know how, and to do so we have got to have good milk, so I want to explain to you how to try to get good milk. The first way, the milk has got to be sanitary and clean, the cheese maker has to explain to the farmer to not only keep the cans clean, but also the pails and anything that comes in contact with the milk. After the milk is cool, there should be no time wasted in taking that milk to the factory. I have some farmers in my factory who have to haul from two to three miles, and it takes from 40 to 50 minutes sometimes to deliver that milk, and if that milk is not cooled off sufficiently it will partly smother in the can; for that reason I tell him to take care of that milk.

Another thing a cheese maker wants to be careful of, not to take in fresh milk, not less than 8 to 10 days after calving. Every milker wants to watch carefully, and keep that out until it is a normal can.

Build up a good cheese factory that way. The farmers have got to live up to the rules, and work with the cheese maker in harmony if they want success. (Applause.)

### APPOINTMENT OF LEGISLATIVE COMMITTEE

CHAIRMAN: One thing we did get past was a resolution lowering the moisture in cheese from 40 to 38, so we did get some results, if we didn't get results on the whey butter branding bill.

I believe the Swiss cheese industry and the brick and limburger industry should be represented. Mr. Sammis and myself, or the president, whoever he may be, are ex-officio members of that committee. I am going to place on the committee Mr. Fred Marty, of Monroe, in conjunction with the foreign cheese and American. He is at home in the foreign cheese quarter. Then I will distribute the other part to two American cheese makers, P. H. Casper, of Bear Creek, for one, and O. R. Schwantes, of Clintonville.

### REPORT OF RESOLUTIONS COMMITTEE

The following resolutions were presented and adopted by vote of the convention:

Resolved, that the association extend thanks to the city of Milwaukee for courtesies extended to our association during this convention.

Resolved, that the association extend their sympathy to Mr. and Mrs. Luther Noyes, of Muscoda, Wisconsin, on account of their recent bereavement in the loss of their son, and that the secretary should so communicate with them.

Resolved, that all American cheese manufactured in Wisconsin shall be stamped "Wisconsin."

Resolved, that this association go on record as being opposed to all adulterations of milk, butter or cheese, and that all laws passed or proposed concerning pure dairy products shall have our hearty support.

Resolved, that the association petition the legislature in order to get a greater appropriation to Dairy and Food Commission so that more inspectors may be put in the field and a closer attention and inspection paid to the delivery of milk at all cheese factories.

As Wisconsin is the greatest dairy state, and that freight rates have advanced over 100 per cent in the last three years, and that further advances are taking place

Be it resolved, that we petition the State Division of Markets to take this matter up with the railway commission and see if lower rates cannot be obtained.

Whereas, it is the feeling of this association that the cheese markets now in existence are inadequate, and that the Wisconsin Cheese Exchange, which bases the price on nearly all of the cheese produced in Wisconsin, does not at all times reflect the true value of cheese; and

Whereas, a new market has recently been organized at Plymouth which is in the control of the farmers, and not the buyers, and on which buyers cannot offer cheese for sale; and

Whereas, we understand, according to a recent report issued by this new board, that a profit has been made for the farmers over the prices paid on the old board;

THEREFORE BE IT RESOLVED, that we, the members of the Wisconsin Cheese Makers' Association, in convention assembled, do recommend that other call boards be organized at advantageous points in Wisconsin, which shall be in control of the farmers and cheese makers.

#### RESOLUTIONS NOT ADOPTED

Other resolutions, offered but voted down, follow:

Resolved, that Long Horn cheese, four (4) to the box, should not weigh over fifty (50) pounds.

Resolved, that classification of convention cheese be changed so as to read, "September first for class two cheese."

THE SECRETARY: The class two cheese is the larger class of American cheese. We don't want to fix this so that all the American cheese will be in one class. Putting the dividing line at October first divides the American cheese fairly equally into two classes. I would suggest if we do move the date back to September first, practically all our cheese would be in one class for purposes of convention and awarding prizes, and that is what we are trying to get away from. From that standpoint I would recommend that the dividing line stay where it is, October first. That gives you October, November, December and half of January to cure in. Because of the distribution of prizes, and for convenience sake I would recommend that date be left where it is. In the second place, I certainly would not leave out a month in the middle

of the year. In the third place, only one case came up for dispute. I am surprised there were no more.

We as an association are always endeavoring to better the standard of Wisconsin-made cheese and are in favor of standardization, but do not feel that the present is opportune for its enforcement.

MR. DAVIS: Mr. Chairman, the word opportune is pretty broad. The committee doubted as to the effectiveness, as to whether the time is opportune, with too small an appropriation for their present work to put additional laws on the statutes which could not be, and would not be, policed and enforced. As near as some of us can gather, this matter of grading is not fully clear in the minds of its creators, and is it opportune to put this law into effect in the immediate or close future?

MR. MICHELS: I might say a word right here. I don't think Mr. Davis makes himself clear at all. I think it might have been better to have put different men at the head before these standards went out, and if there are any better men to be had to put these standards across than we have employed now, you may be sure they will be accepted as soon as we find them. It seems to me there are many things to the grading besides this one question about this time not being opportune. It seems to me you have got to start some time if you are going to get anywhere, and it doesn't seem as though there was a better time than now. If next year cheese grades don't satisfy and don't accomplish anything, then pass another resolution and tell us what to do and what not to do. At the present time these grades are established, and are announced and will go into effect February 13th whether the resolution is passed or not.

Whereas, a great deal of unfair competition exists among cheese makers in claiming to make excessive amounts of cheese per hundred pounds of milk, and

Whereas, it is well settled that a yield of 2.6 pounds of cured cheese can be obtained from each pound of butter fat.

Therefore, Be It Resolved, that the Department of Markets be requested to publish and enforce an order making 2.6 to a pound of fat the standard.

Whereas, the standards of any industry are made by those engaged in that industry, it would therefore seem fitting that those who seek to engage in the cheese business should meet with certain fundamental requirements so that when the time comes that they take their place in the ranks as cheese makers, they will be a credit to the profession, therefore be it,

Resolved, that the dairy school should require a high school education or its equivalent in order to be admitted as students.

Resolved, that American style cheese be held in factories six (6) days for curing from November first (1) to April first (1).

## DISCUSSION

MR. CARSWELL: I want to amend that resolution by saying where they don't show good results that it be extended to six days.

CHAIRMAN: You would allow them to go back to the hoop, and if it doesn't show good results, that it be held six days?

MR. CARSWELL: If they don't show good results at the end of three.

MR. SCHWANTES: I am very much in favor of having that added to that resolution, but I don't see any reason for my holding cheese six days if I can show good results in two days. I have put many cheese on exhibition, but not very many cheese went on exhibition that were not paraffined within 24 hours. If I am compelled to hold my cheese at the factory in the summertime, I am compelled to paraffine, otherwise I can't stop them from molding, and the dealers say they don't want them paraffined.

MR. CARSWELL: I have seen cheese five and six days old, and the dealer told that man he could not paraffine that cheese until it was old enough.

MR. DAMROW: You mean by that resolution I can't ship out the cheese for six days? If I show good results inside of a day, that I can't ship those cheese? In other words, if it doesn't show good results in ten days—

CHAIRMAN: That you will have to keep it twenty.

MR. DAMROW: What is the use of having a three days' limit, because you are going to be cut on them if your cheese don't show results.

MR. MICHELS: Mr. Damrow, I think, has struck the nail on the head. Personally, I don't think there is any more holding in the warehouse after the grades go into effect. The grades will take care of that.

MR. CASPER: If the cheese isn't dried off seven days from the hoop, do you think the cheese will ever dry off?

MR. ZELM: I move this resolution be laid on the table.

Motion duly seconded, put, and carried.

## CHEESE SCORING BY THE MAKERS AT THE CONVENTION

MR. DAVIS: I would like to offer this association one suggestion. The Division of Markets is requiring inspectors to try and develop this into the inspection of goods of cheese or commodity that you handle. I would suggest that a sweepstake prize be opened up on application, so that every maker could come in and try to inspect goods. You get a cheese or a number of cheese, and have the various makers here score it. Try and teach these cheese makers how to score cheese during the convention.

PROFESSOR SAMMIS: We have tried to start that this year, but it seems difficult to give any large number of men an opportunity to score.

MR. DAVIS: Then I would suggest that next year cheese makers send in applications to you to meet at a certain time or a certain hour to try and score cheese under instruction.

CHAIRMAN: I will amend your suggestion or make another one. I would suggest also this cheese be scored by our convention judges, and they put their score away; then the one coming nearest to that receives a prize.

MR. CASPER: I would make a motion we have a four days' convention, and that each cheese maker will donate a cheese if he can afford it to practice scoring on.

Motion seconded.

CHAIRMAN: A motion was made that we hold a four-day convention, and that as many makers as possible donate cheese to be used in a scoring contest during the four days' convention this coming year, and Mr. Casper also suggests in his motion that after the cheese has been tried and plugged by the different makers, we give it to the poor people of the city of Milwaukee.

MR. MARTY: I just want to mention before going on with this amendment to the resolution, that we can't all plug one cheese, there certainly won't be anything left. The question is, will there be sufficient volunteers to go ahead with that, or shall we provide some other means? These voluntary promises may be all right, but to go ahead with anything of that kind we must have assurance. I have sold the cheese for this convention for years and years, and I have got premiums for them and I want to assure you right now we have reached this particular point 1922—sorry to announce it at this particular time, perhaps I should not—owing to the pressure we put on the sale of this convention cheese it has been plugged all to pieces. The cheese is plugged up, packages have been disturbed, and in spite of that we have got full market price, but the local dealers of this city are sick and tired of it, and it took a whole lot of urging for them to come over here and look at it. We are liable to be forced to take a little less for that cheese this year in place of taking a premium, and I realize it may be a dissatisfaction to a great many of the makers, not to the man that has only a 20-pound cheese, or 12-pound cheese or a brick cheese here. It won't make any difference, but a big Swiss cheese figuring from 30c to 40c a pound, nobody knows how much it will mean to that man. It is awfully hard to get a big round Swiss cheese to this convention, and I hope we will be successful enough to get somewhere near the market price because those individual makers have bought those cheese and paid for them out of their own pockets. He is going to lose on that cheese in spite of the little premium he is going to get on it. We heard from one man who is willing to donate a cheese to be plugged up here, that is Mr. Casper, and I think we should take a vote on that one particular point, or make some provision whereby we can get cheese to be scored.

MR. CASPER: I make reference simply to American cheese.

MR. MICHELS: I was just thinking, the Department of Markets bought seven cheese here this year which have been plugged all these days, and all plugged to pieces. It is possible we could do that much for the boys another year and get a lot of cheese here that the depart-

ment would furnish you. We also expect by another year to have Swiss and brick cheese. It probably could be done along the same line. It would be up to somebody to work out a system by which it could be worked through. As far as the department is concerned I promise to do everything I can.

MR. BRUHN: When Mr. Sammis spoke to me about the scoring contest, that is, the boys learning to judge cheese, he suggested we put out five cheese and that every man that wanted to judge the cheese should just write his score down and put it in a ballot box. I suggested then that for the sake of keeping out people from plugging this cheese through curiosity, we charge them 5c for a plug from each cheese, or in case of five cheese 25c, just for the sake of scoring them. Use 25c as an entry fee to get into this game of scoring. This 25c from boys who are inclined to judge—25c from each will pay for the cheese. I figure we can take 100 plugs from a twin or even a daisy cheese. That would keep out anybody who is just plugging them from curiosity. If we don't do anything like that, they will plug the five cheese and throw the score away. If we put a little penalty on it, or entrance fee, only those will score who have an interest in the score.

MR. SCHWANTES: I was greatly in favor of the last speaker here, but I figure that it should be made 50c and let those applications come in before the convention and then the room would not be overcrowded, and they would know how many applications they would have before the convention. If they want 50c worth of experience they will get it.

CHAIRMAN: Professor Sammis and I will have to get up a sort of a ticket or card and mail it to the men. We will have to keep a stub of it. We will have to hire another party out there and he has a ticket that will give him a reserved seat for the contest. Where will we get the money to finance all this?

PROFESSOR SAMMIS: With your suggestions I believe we can work out satisfactory arrangements for next year. As a matter of fact, we have only had three or four men who wanted to score those cheese out there. We have got to get an experienced man who is willing to stand behind the counter. I believe we will be able to do it next year.

CHAIRMAN: If anyone of you feel you want to send in a cheese and save the association from doing so, you won't be barred. Of course, arrangements for conventions are left to the Board of Directors and the officers, but it seems to be a good thing to get the opinion of the men here. All in favor of a four-day convention and have a scoring contest—

MR. CASPER: Instead of making it four days, make it three and one-half.

PROFESSOR SAMMIS: This is what you have got here for the last session. If you put off anything until tomorrow morning, it will be these scores. How many of you people want to wait overnight to get your scores? I would ask Mr. Casper that this be in the form of a recommendation to the officers to do it if they can.

MR. MARTY: I second that amendment.



MR. CASPER: I put it in the form of a recommendation to the officers.

CHAIRMAN: We will put it in a motion to leave it to the officers if possible.

Motion put and carried.

## SWISS CHEESE MAKING

By C. ZUERCHER, Brodhead.

*(Read by President Reed.)*

I am very sorry indeed that it will be impossible for me to appear in person before the members of the Wisconsin Cheese Makers' Association to commend the work of the U. S. Department of Agriculture and the use of the culture at our factory this summer. However, I am pleased to have the opportunity to present our conclusions in connection with the starter work.

Mr. Gere came to our plant at Brodhead about the first of July. At this time we were experiencing serious difficulty with gassy or "bloated cheese" both in the Swiss and Brick cheese. We immediately began using the *Bulgaricus* starter in the Brick cheese and overcame the trouble at once; in fact, we did not sell a pound of Brick below the highest market price the remainder of the season.

Due to the fact that we receive milk at our plant once a day we have in the past found it more or less difficult to produce a high percentage of Fancy and No. 1 Swiss cheese. This year by the use of the cultures we have increased the percentage of Fancy and No. 1 cheese 30% to 35%. We believe, too, that we get a more uniform flavor by the use of the cultures than by the usual process, especially during the fall and winter months. By the use of the eye-forming culture we have experienced no difficulty whatever in getting the cheese open. This culture we find is especially beneficial during the winter months. We believe it is possible to make as open Swiss by the use of the cultures during the winter months as in summer. Therefore, it makes it possible for many of the Swiss factories to operate the year around, instead of a few months during the summer, and by so doing promote a steady production, thus making better market conditions for the farmer and all concerned.

We have had an opportunity to observe the results of the culture work at a local factory, where there was an epidemic of stinker cheese the entire summer. During the month of June this factory to which I refer made 37% stinker cheese, 35% in July, 19% in August and about 10% in September. The remainder of September cheese were what is usually termed unhealthy, blowholes, off-flavored, and irregular eye formation. This factory began using the cultures the 28th of September and has not made a stinker cheese since, but has made a very high percentage of Fancy and No. 1 cheese. Just at this time I am unable to give the exact percentage of No. 2 cheese, as the October cheese are not all open; however, it will be very low.

## FAULTS IN THE FOREIGN CHEESE

MR. MARTY.

In general I want to say that the cheese, while not extremely high grade and perfect in all respects, are considerably improved over past years. We had no such low cheese in particular in the brick class as we had in former conventions. It would indicate to me that the moisture law on the brick cheese has worked wonderful results. However, we have a number of entries here, and those who will get their scores should immediately get busy and make a firmer cheese. I doubt whether they would stand the test. That is on brick cheese. The most of the brick cheese was wonderfully nice stuff for late fall and winter stuff. Limburger is excellent, with the exception of one or two entries. This cheese was made too hastily. It is the cheese that was cut not sufficiently, piled and high cooked and immediately dumped over into the molds. That causes a curdy cheese which will break down very slowly, and when it does break down there is no tin foil paper or box that can hold it. We have a few entries of that on exhibition here expecting to get a premium on it, so when you get your score on that, make up your mind you were a long way from making a perfect limburger cheese. On the other hand, we have limburger cheese that is ideal, and they are among first, second and third on Swiss, and with the exception of one or two entries we have a nice piece of goods here. The only fault I could find on that was this: At the last moment after sizing up the great big prize list of the association he suddenly made up his mind he was going to have a cheese down here at this convention. Why not get your cheese next year in the ideal month of June when the temperature, the grass, the cows and everything is normal, and the flies are not so bad. Pick out your Swiss convention cheese at that time. The trouble with most of the Swiss cheese here is, while they are nice specimens, the development is too hasty, which in the latter period of fermentation process develops mechanical faults, such as an overdevelopment. There are two or three little, small holes in one particular spot in the fermentation process. These holes will unite into one large hole. The great trouble with a lot of our Swiss cheese on hand here is, these little holes didn't get together. If it had had two or three weeks longer to ferment they would have united into one large hole. The majority of that cheese is on that order. Take your time to it. We are going to have just as big a prize list for next year. Pick your cheese in June. The block cheese is all open block. Nice, good, clear all along the line with the exception of one or two entries, which didn't materialize to what they should be. I thank you.

## FAULTS IN AMERICAN CHEESE

MR. WM. HUBERT, Judge.

We found in Class 1 there were 88 entries; 73 of these went into the fancy class, 15 went into the No. 1 and No. 2. There is a big percentage of your June and July cheese and some Mays in there.

In your Class 2, which consists of daisies, there were 112 entries. These consist of daisies and flats; 61 went into fancies and 51 went into No. 1 and No. 2. You will notice the older the cheese the more went into the fancies.

The Class 3, which consist of Young Americas, horns and squares, there were 68 entries, of which 50 went into the fancy class and 18 into No. 1 and No. 2.

In former years we used to bring some cheese in here and show them to you. This year the Division of Markets has shown them to you in the room. There are three different classes of cheese. One of the low-scoring cheese in the No. 2 class there was a mushy cheese. I noticed only five plugs taken out of that cheese. We had cheese in there that had been plugged. The exhibitor had informed us these cheese were plugged in the warehouse after they had them stored by some of the men in the warehouse. I don't think the cheese should be plugged. Someone has brought up the question the exhibitors should have the right to plug the cheese before exhibiting it here. I don't believe it should be done.

We had cheese that scored from I think 75 up to 99½. I believe there are a good many cheese makers here who sent a lot of those low-scoring cheese in here just to get an expression. I don't believe the cheese makers of Wisconsin sent them here figuring they could get them into the fancy class.

## CARE AND HANDLING OF GREEN CHEESE

By H. J. NOYES: Muscoda, Wisconsin.

For the last number of years it has been the practice of cheese makers to make their cheese and put them on the shelves, then let them take care of themselves, or let the cheese dealer do it. This came about through competition among dealers who would take cheese direct from the hoops relieving the maker from all responsibility. The result was poor flavor, rind rot, high moisture, bad business and a bad reputation for Wisconsin cheese. After the war cheese dealers realized that the process of handling and curing cheese was very unsatisfactory and ruinous to the business.

About a year ago this matter was brought up before the Division of Markets. After a number of meetings and many discussions regarding the time that should elapse between the manufacturing and marketing of the cheese, the cheese dealers decided that it should take at least

ten days for the cheese to cure sufficiently to mature a good solid rind before they were ready to be paraffined and put upon the market. However, when they could not get that much time they offered to compromise on eight days, but it was not granted them and the time was fixed at three days from the hoop. All factories were to be numbered and furnished with a rubber stamp to apply the number to each cheese made in said factories. A blank space was left on the stamp on which to place the date with a pencil or anything a maker might have on hand which would make plain figures. I believe these stamps and letters were too small, as some of the makers tried to use common ink, cheese or butter coloring for marking, and you can imagine the result. It was all blurred over so that it could not be read. Then the law tells us that if we take cheese younger than three days old and if we take cheese without the stamp and date upon them we are liable to be fined. How shall we remedy this? Now the cheese makers have to hold their cheese in the factory for three days before they can be delivered to the cheese warehouse or be sold. In many cases during these three days the cheese are never turned, which causes them to become glued to the shelves and all of the moisture retained on the under side of the cheese. This does not give the rind next to the shelf a chance to dry off and form a good solid surface. Not only that, but if there are any checks in the rind the moisture settles in them and softens either edge of the check and after that they will not close up. I believe it is the duty of every maker to turn his cheese every morning, otherwise when they are removed from the shelves, especially in hot weather, the rind sticks and chunks are pulled off or loosened and leave a place for mould to enter. I wonder if we need a law to compel makers to take proper care of their cheese for at least five days before selling them? I believe that in order to correct all of these little mistakes our cheese inspectors should be made cheese instructors as well, and when it seems necessary the instructor should stay a day or so to put the cheese makers on the right track. I would say that we should have an instructor for every county where there are factories enough to keep him busy. Where there are not enough factories in a county give each instructor one and a half counties, or when a county has too many factories divide it in a way that an instructor can do good work. We want supervision and instruction coupled with the law. Then we shall have what is demanded and put the responsibility upon the law where it belongs. We will then accomplish what we desire. The old saying proves true in cheese making as well as other things. "What is everybody's business is nobody's business." If a cheese maker does not take interest enough in his cheese to turn them every day and start them to curing properly and to pay particular attention to the making of a perfect rind which is very essential to a good cheese he ought to quit the business. I believe that poor cheese, in a majority of cases, is due to the carelessness or ignorance of the makers.

## CARE OF WHEY CREAM

By WM. J. FRANK, Manitowoc, R. 4.

Mr. President, Ladies and Gentlemen:—When I first started skimming whey I had trouble, finding the cream soured very fast, even after I had cooled it during the afternoon. This was very unsatisfactory, so I decided to skim a richer cream. Next results were it was fall time and the cold weather made the cream too thick.

My next plans were to dilute the cream with a few gallons of sweet milk, but high cheese prices made this too expensive and I thought why not try cold water from the well.

This brought good results, and I advise skimming a rich cream, say, about 60% fat and add 8 or 10 quarts of pure cold water to a 10-gallon can containing 7 or 7½ gallons of cream immediately after whey is all skimmed. Then do not put cans aside and forget them until the cream truck comes, but always set them into a tank of cold water and stir it several times while cooling, changing the water during the hot weather. Stirring it often prevents it from getting lumpy. If only half a can of cream is received a day do not let this stand till the next day, but cool at once after skimming. Don't pour warm cream into cold cream. Keep cans covered and in a cool place.

This is extra work, but is well worth the trouble, producing a cream that will keep sweet longer, is nice and smooth and has a good flavor.

Now, cheese maker friends, let's make 1922 a record cheese year and do our part to bring in good whey cream to our butter maker friends.

## EFFECTS OF BAD MILK ON AMERICAN CHEESE

By N. E. POSSLEY, at the 1922 Convention.

In discussing the subject of the effects of bad milk on American cheese, I want to take up first the effect of milk with high acidity.

One of the chief difficulties with milk having a high acidity is that it makes the curd work too fast. As the curd works rapidly and acidity grows more than normal it is necessary to get the proper temperature or cook to all the particles of the curd. This necessitates finer cutting of the curd and rapid working by the maker. If the maker should fall down on this and not cut the curd fine enough, a hard coating will form on the outside of the cubes, while the interior remains milky. This milky interior will continue to grow in acidity, as this cheese is very high in moisture, and will cause the cheese while in the process of curing to turn very acid, if not actually sour, even when it did not have too much acid at the start. If the maker works fast, however, and gets the proper cook he will overcome the acid, but is bound to lose in yield.

When the maker discovers that the acid has the better of him, he can still save the day by washing the curds in warm water immediately

after the whey has been drawn. This washing will take most, if not all, of the acid. However, this washing process will still more reduce the yield. It must be borne in mind that such curds, not having the proper cook, will require more salt in order to expel some of the excess moisture. This again means a loss in yield.

My second point in this discussion is the effect of bad milk due to yeasty fermentation. It is not necessary for me to explain to you what yeasty fermentation is. I have had fresh morning milk selected for culture starter turn within an hour, raise and work so fast that only half of it remained in the can. Such milk, no matter how small the amount, will affect the entire vat of milk and cause the maker a lot of trouble. With milk of this kind one should cut finer, by all means get the proper cook, run more acid than usual and add an extra amount, say, one-half of one per cent, of good commercial starter. The extra acid will overcome some of the yeasty fermentation and the bacteria in the starter, which is a pure culture, will overcome some of the yeasty bacteria. These curds must be given more time in maturing. From my experience I have found that to leave the curd in the vat for three or four hours after milling will oftentimes help greatly to turn out a fair marketable cheese. If this germ is not overcome in the process of making, the product will be practically worthless, as this germ will continue to work, with the result that the cheese will swell and become badly off flavor.

My next point in this discussion is the effect of off-flavored milk. Generally such taints follow through the process into the cheese, but oftentimes some of it can be removed by using a good culture 'starter and getting the proper cook. After milling air the curds thoroughly and rinse with water at about 100 degrees Fahrenheit and when salting add a little more salt than usual. By adding the extra salt you may lower the moisture content way below the legal standard, but by improving your product you more than make up for the loss in yield.

This flavor often goes with the cheese even after they are cured and can always be detected. Such cheese may not be a loss to the maker, but the buyer has his complaints on such cheese.

My next point is the effect of gassy or pinholey milk. I do not think there is a cheese maker in the business who takes in gassy milk without knowing it. How can we prevent it? In the first place, gassy milk should be rejected at the intake. In my experience in northern Wisconsin I had a great deal of trouble with gassy milk and if I had rejected all gassy milk I would have had little left. By making the Wisconsin curd test I discovered who were bringing me the worst gassy milk and some were those who thought they were taking the best care of the milk. I showed the patrons the curd test and one particular farmer, with the poorest sample, invited me to come and take care of his evening milk and make another test, which I did. I cooled the milk down to 50 degrees and stirred it thoroughly and in the test the next morning, to my surprise, there was no improvement. I then decided that the trouble was in the feed at that time of the year and that it was up to me to do the best I could. By putting in long days I

made a cheese that was marketable as far as texture and make-up was concerned, but I could not get the desired flavor, and I found no way, in all my experience, to overcome this condition. I have seen cheese that had been in storage for six months, well-cured nice stock, but the flavor was against it and, of course, it did not bring the market price.

In the Neenah neighborhood I had a different experience. There I had milk which was gassy and perhaps as bad as that in Oconto county. By making the curd test I discovered who was bringing the gassy milk and upon investigation I found that it was not the pastures, but was in the care of the milk. I found that the majority of the farmers were using homemade wooden milk stirrers and that the pores of the wood in these were breeding places for the bacteria causing the gassy milk. I was not slow in ordering four dozen metal stirrers and simply handed one to each patron gratis. I also pasteurized the whey, thereby destroying the bacteria so that they would not affect the cans as the whey was being hauled home. Between the metal stirrers and the pasteurizing of the whey my troubles with gas came to an end.

However, before I was able to eliminate the gas I handled the cheese as follows: In the first place, I added a good per cent of pure culture starter, I was very particular to get a good cook, I run an extra amount of acid, I did not mat the curds, but after the proper length of time I milled them and then covered them with water at about 100 degrees and kept this water at this temperature for from two to four hours, depending on the amount of gas. After making sure that all the gas was removed I drained the water off and when salting used an extra amount of salt. The yield was poor, but the quality was so that there was no loss in price, as the cheese did not huff and pulled a good plug.

My last point in this discussion is the effect of barnyard odor in milk on the cheese. As a rule, one has to contend with barnyard odors in the wintertime, as the farmers keep the milk in the barn to keep from freezing, but one may get such milk in the summertime, as I experienced. I rejected one patron's milk three mornings in succession and the third morning I told him that if he would stand the loss on the cheese I would take his milk, but this he would not do. That evening I went to his place and found his milk in the stock tank and near a manure pile. I demanded that he move his milk to the house where he had a pump, had him get some barrels to cool the milk in and warned him that I would not take the milk if he did not follow my instructions. After this the milk was always O. K.

The intake subject is handled by Mr. Rindt and I do not want to intrude on his subject. I feel, however, that the majority of the cheese makers do not spend enough time at their patrons' barns.

## THE CHEESE FACTORY INTAKE

By AD. VALLESKY, Manitowoc.

Mr. President, Fellow Cheese Makers, Ladies and Gentlemen:—Fellow cheese makers, the Dairy and Food Department and the Division of Markets are not a detriment to our industry; but the protection of our industry and we should aim in the coming year to give assistance and live up to all rules and laws laid down by our official departments.

To start the New Year right each maker should put these questions to himself: "Is my appearance neat and clean?" "Is the surrounding of my factory clean and sanitary?" If so he is in a position to demand from the patrons the necessity of delivering clean, pure, wholesome milk, well cooled and kept in a perfect sanitary place until delivered to the factory. The intake is our good morning greeting place, but should be well remembered as a place where the weight lies mainly upon us in receiving and inspecting the milk for quality. The maker should show by occasionally making an acidity test of each patron's milk how much acidity the milk contains and see for himself how this patron's milk can be improved. A sediment test should be made often so that each patron will keep well in mind the fact that his milk must be clean. Whenever a maker notices that a patron's milk seems to contain disagreeable odors a fermentation test, being the quickest method, can first be made, but if trouble arises while in the manufacturing process a curd test should be made and the gassy milk causing the trouble traced directly. There are various other methods available which can be used to convince the patrons of the assistance they can render and to advise them what the dairy laws require. By proving to the patrons that it is their loss whenever negligence is found they will change their methods for the better.

The foregoing methods are absolutely necessary and no maker can afford to argue with his patrons blindfolded. The time will be well spent and the results obtained will speak for themselves. You will have a better factory, less trouble and you will be well rewarded for your efforts.

## HOT WEATHER EXPERIENCES IN CHEESE MAKING

By F. W. KOLLER, Manitowoc, Wisconsin.

Mr. President, and Fellow Cheese Makers:—Not being a public speaker, you will bear with me in reading this paper. I have been requested by some of the members to give some of the experiences we had this past summer throughout our community on hot weather cheese making.

Owing to the fact that we had a very hot and dry summer, which caused throughout our country more or less abnormal conditions in milk, which were already noticed in the month of April, I made investigations among the farmers and found that they were doing all



they could to produce a clean milk for us, but nevertheless we were troubled with gassy and pinholed curds, which no matter how handled and worked out would show up in a few days later on the shelves, and had to be sold at big losses. We tried most everything we could think of, even the hot water bath, which, of course, would kill the gas. But upon talking the matter over one day with the cheese buyer, I happened to ask him what the conditions of such made cheese would be after it was put up for sale to the consumer, which he explained, and I resolved then that I would try the cold water.

Now, then, assuming the milk is taken in at the factory in a normal condition, and after it has been in the vat for five or six hours, or about salting time, the gases commence to show. With the regular amount of acidity,  $\frac{1}{4}$  in, on the hot iron or 22% on the acidimeter or any amount you could almost make a sour, and still in a few days your cheese would be alive with gas and pinholes. We mat it as thin as possible, and milled the curds. As soon as through milling spread the curd over the entire bottom of the vat and ran on cold well water, enough to cover the curd, then we would wash the curds for several minutes and draw off the water and drain for about a half hour, after which we salted at the rate of  $3\frac{1}{2}$  pounds salt. Then hold it at least one hour to drain well, kept the temperature around 85 F. until we put to press. We have found after holding the cheese for several weeks that the gas did not show up again, and it made a better grade of cheese, not a fancy one, but a long way from looking like pumpkins when at the cheese house.

The cause of this peculiar condition I have to date not been able to discover, but I do know that as long as I have made cheese this condition never held on every day and all summer long. I dare say that practically every factory in our community had the same trouble.

The reason that I used cold water instead of the hot was, in the first place, there was not such a heavy fat loss, and further it did not weaken the body so much. It, of course, made a coarser grained cheese, but will do away with this peculiar gas to a great extent, such as was in the past summer. Also by using the hot water it seemed to make a weak and salvy body, and did not take out the abnormal flavor as well as the cold water did.

In conclusion, none got by with the hurry-up methods; it took more time at the vat and lots of experimenting. In my opinion, makers falling down is much by not experimenting a little. I also wish to state that lots of good points can be obtained by the makers visiting the cheese warehouses, and see the different made cheeses, and discuss with the receivers, where many good points are often discussed, then go home and try some of them out.

Convention adjourned.

## STATE PRIZES OFFERED TO WISCONSIN MAKERS OF AMERICAN CHEESE

### CLASS 1. AMERICAN CHEESE, ANY STYLE, MADE BEFORE OCT. 1, 1921

- (1) **First Prizes, for American Cheese in Class 1.**  
 \$10 in gold from Stoelting Bros. Co., Kiel, Wis.  
 One Icy Hot Vacuum Bottle, Quart Size, from the J. B. Ford Co.,  
 Wyandotte, Mich.  
 \$5 cash from the De Laval Separator Co., Chicago, Ill.  
 One nickeled automatic pencil from The General Laboratories,  
 Madison, Wis.  
 (See also Sweepstake Prizes.)
- (2) **Second Prizes, for American Cheese in Class 1.**  
 \$25 Leather Cushioned Rocking Chair from the Pauly & Pauly  
 Cheese Co., Manitowoc.
- (3) **Third Prizes, for American Cheese in Class 1.**  
 \$20 Leather Traveling Bag from the Wisconsin Cheese Makers'  
 Association.
- Special Prizes, for American Cheese in Class 1.**
- (4) \$35 Waltham Gold Watch, 16 size, with 25 year gold filled case,  
 and 17 jeweled adjusted movement, from A. J. Marschall, of  
 the Marshall Dairy Laboratory, Madison, Wis., for the best  
 cheese made with Marschall Rennet Extract, and so stated on  
 the entry blank. The cheese must score at least 95 points. No  
 maker can get more than one watch, and only one watch can  
 go to the same factory. At least ten cheese must be entered  
 in the class.
- (5) \$5 cash from the Sharples Separator Co., Chicago, Ill., for the  
 highest scoring cheese from a factory using a Sharples Whey  
 Separator, and so stated on the entry blank.
- (6) Pair Silver Salt Shakers from the Diamond Crystal Salt Co. St.  
 Clair, Mich., for the highest scoring cheese made with their  
 salt, and so stated on the entry blank.

### CLASS 2. CHEDDARS, FLATS AND DAISIES, MADE ON OR AFTER OCT. 1, 1921.

- (7) **First Prizes in Class 2.**  
 \$10 in gold from Stoelting Bros. Co., Kiel, Wis.  
 One Icy Hot Vacuum Bottle, Quart Size, from the J. B. Ford Co.,  
 Wyandotte, Mich.  
 \$5 from the De Laval Separator Co., Chicago, Ill.  
 One nickeled automatic pencil from The General Laboratories,  
 Madison, Wis.  
 (See also Sweepstake Prizes.)
- (8) **Second Prize in Class 2.**  
 \$25 Leather Cushioned Rocking Chair from the Wisconsin Cheese  
 Makers' Association.
- (9) **Third Prize in Class 2.**  
 \$20 Leather Traveling Bag from the Wisconsin Cheese Makers'  
 Association.
- Special Prizes in Class 2.**
- (10) \$35 Waltham Gold Watch, 16 size, with 25 year gold filled case,  
 and 17 jeweled adjusted movement, from A. J. Marschall of  
 the Marshall Dairy Laboratory, Madison, Wis., for the best  
 cheese made with Marschall Rennet Extract, and so stated on  
 the entry blank. The cheese must score at least 95 points.  
 No maker can get more than one watch, and only one watch can  
 go to the same factory. At least ten cheese must be  
 entered in the class.
- (11) \$5 cash from the Sharples Separator Co., Chicago, Ill., for the  
 highest scoring cheese from a factory using a Sharples Whey  
 Separator, and so stated on the entry blank.
- (12) Pair Silver Salt Shakers from the Diamond Crystal Salt Co. St.  
 Clair, Mich., for the highest scoring cheese made with their  
 salt, and so stated on the entry blank.

**CLASS 3. LONG HORNS, YOUNG AMERICAS AND SQUARES,  
MADE ON OR AFTER OCT. 1, 1921.**

- (13) **First Prizes in Class 3.**  
 \$10 in gold from Stoelting Bros. Co., Kiel, Wis.  
 One Icy Hot Vacuum Bottle, Quart Size, from the J. B. Ford Co., Wyandotte, Mich.  
 \$5 from the De Laval Separator Co., Chicago, Ill.  
 One nicked automatic pencil from The General Laboratories, Madison, Wis.  
 (See also Sweepstake Prizes.)
- (14) **Second Prize in Class 3.**  
 \$25 Leather Cushioned Rocking Chair from the Wisconsin Cheese Makers' Association.
- (15) **Third Prize in Class 3.**  
 \$20 Leather Traveling Bag from the Wisconsin Cheese Makers' Association.
- Special Prizes in Class 3.**
- (16) \$35 Waltham Gold Watch, 16 size, with 25 year gold filled case and 17 jeweled adjusted movement, from A. J. Marschall, of the Marschall Dairy Laboratory, Madison, Wis., for the best cheese made with Marschall Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points. No maker can get more than one watch, and only one watch can go to the same factory. At least ten cheese must be entered in the class.
- (17) \$5 cash from the Sharples Separator Co., Chicago, Ill., for the highest scoring cheese from a factory using a Sharples Whey Separator, and so stated on the entry blank.
- (18) Pair Silver Salt Shakers from the Diamond Crystal Salt Co., St. Clair, Mich., for the highest scoring cheese made with their salt, and so stated on the entry blank.

**SWEEPSTAKE PRIZES IN CLASSES 1, 2 AND 3.**

- (19) **First Sweepstake Prizes, for the one best cheese in Classes 1, 2, 3.**  
 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.  
 \$35 from the A. H. Barber Cheese Co., Chicago, for the highest score on American Cheese, any shape, and \$17.50 additional if the winner is shipping his cheese regularly to A. H. Barber & Co., at Chicago, Plymouth or Dodgeville.  
 \$10 from A. Grossenbach Co., Milwaukee, Wis.  
 One bundle of bandages from L. O. Rehm Bandage Factory, Kiel, Wis.  
 \$5 from the Bank of Sturgeon Bay, Wis.  
 Four Complete Cheese Hoops, any style, from Damrow Bros. Co., Fond du Lac, Wis.  
 The Manitowoc Plating Works will retin six hoops free of charge.
- (20) **Second Sweepstake Prizes in Classes 1, 2 and 3.**  
 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., Chicago, for the second highest score on American Cheese, any shape, and \$12.50 additional if the winner is shipping his cheese regularly to A. H. Barber & Co., at Chicago, Plymouth or Dodgeville.  
 \$3 from the Bank of Sturgeon Bay, Wis.  
 \$3 from Hunter, Walton Co., New York.
- (21) **Third Sweepstake Prizes in Classes 1, 2 and 3.**  
 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.  
 \$15 from the A. H. Barber Cheese Co., Chicago, for the third highest score on American Cheese, any shape, and \$7.50 additional if the winner is shipping his cheese regularly to A. H. Barber & Co., at Chicago, Plymouth or Dodgeville.  
 \$2 from the Bank of Sturgeon Bay, Wis.  
 \$2 from Hunter, Walton Co., New York.

**SPECIAL PRIZES ON AMERICAN CHEESE, ANY STYLE.**

- (22A) \$25 from Chris. Hansen's Laboratory, Little Falls, N. Y., for the highest scoring American cheese at the Convention, providing such cheese was made with Hansen's Rennet Extract, and so stated on the entry blank.
- (22B) One thousand Grade A, Long Horn Bandages from Walter Voeh-ting Co., Sheboygan, for the highest score on American cheese at the Convention.
- (23) Bundle of Bandages for the highest texture score on American Cheese at the Convention, from H. L. Mueller, Sheboygan Bandage Factory, Sheboygan, Wis.
- (24) One Nafis Automatic Acidity Test, complete, from Louis F. Nafis, Inc., Chicago, for the highest texture score on American cheese at the Convention.
- (25) \$5 from the Winnebago Cheese Co., Fond du Lac, Wis., for the best American Cheese from Fond du Lac County, and so stated on the entry blank.
- \$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:
- (26) \$7 for the highest scoring cheese, described above.
- (27) \$5 for the second highest.
- (28) \$3 for the third highest.
- (28A) \$25 from Oakes and Burger, Cattaraugus, N. Y., for the highest scoring American cheese at the Convention, made in Oakes & Burger hoops, and so stated on the entry blank.

**PRIZE OFFERED TO WISCONSIN MAKERS OF SWISS CHEESE, CLASS 4 OR 5.****SPECIAL SWEEPSTAKE PRIZE ON WISCONSIN SWISS CHEESE, CLASSES 4 AND 5.**

- (29) \$35 Gold Waltham Watch, 16 size, with 25 year gold filled case and 17 jeweled adjusted movement, from A. J. Marschall of the Marschall Dairy Laboratory, Madison, Wis., for the best cheese made with Marschall Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points, and at least ten cheese must be entered in the classes. Only one watch can go to the same factory, and no maker can get more than one watch.
- (29A) \$15 from Chris. Hansen's Laboratory, Little Falls, N. Y., for the highest scoring Swiss cheese at the Convention, providing such cheese was made with Hansen's Rennet Extract, and so stated on the entry blank.

**PRIZES OFFERED TO WISCONSIN MAKERS OF DRUM SWISS CHEESE, CLASS 4.**

- (30) **First Prizes for the Highest Scoring Drum Swiss Cheese.**  
 \$5 from the De Laval Separator Co., Chicago, Ill.  
 One Icy Hot Vacuum Bottle, Quart Size, from the J. B. Ford Co., Wyandotte, Mich.  
 One nickeled automatic pencil from The General Laboratories, Madison, Wis.  
 (See also Sweepstake Prizes and Special Prizes.)
- (31) **Second Prize for Drum Swiss Cheese.**  
 \$25 Leather Cushioned Rocking Chair from the Wisconsin Cheese Makers' Association.
- (32) **Third Prize for Drum Swiss Cheese.**  
 \$20 Leather Traveling Bag from the Wisconsin Cheese Makers' Association.

**SPECIAL PRIZES OFFERED FOR DRUM SWISS CHEESE.**

- (33) \$5 cash from the Sharples Separator Co., Chicago, for the highest scoring cheese from a factory using a Sharples Whey Separator, and so stated on the entry blank.
- (34) Pair Silver Salt Shakers from the Diamond Crystal Salt Co., of St. Clair, Mich., for the best cheese made with their salt, and so stated on the entry blank.

**PRIZES OFFERED FOR WISCONSIN BLOCK SWISS CHEESE, CLASS 5.**

- (35) **First Prizes for Wisconsin Block Swiss Cheese.**  
\$25 Leather Cushioned Rocking Chair from the Wisconsin Cheese Makers' Association.  
One nickeled automatic pencil from the General Laboratories, Madison, Wis.
- (36) **Second Prize for Wisconsin Block Swiss Cheese.**  
\$20 Leather Traveling Bag from the Wisconsin Cheese Makers' Association.
- (37) **Third Prizes for Block Swiss Cheese.**  
One Icy Hot Vacuum Bottle, Quart Size, from the J. B. Ford Co., Wyandotte, Mich.  
\$5 from the De Laval Separator Co., Chicago, Ill.
- (38) **Special prizes for Wisconsin Block Swiss Cheese.**  
\$5 cash from the Sharples Separator Co., Chicago, for the highest scoring cheese from a factory using a Sharples Whey Separator, and so stated on the entry blank.
- (39) Pair Silver Salt Shakers from the Diamond Crystal Salt Co., St. Clair, Mich., for the best cheese made with their salt, and so stated on the entry blank.

**PRIZES OFFERED TO WISCONSIN MAKERS OF LIMBURGER CHEESE, CLASS 6.**

- (40) **First Prizes for the highest scoring Limburger Cheese.**  
One Icy Hot Vacuum Bottle, Quart Size, from the J. B. Ford Co., Wyandotte, Mich.  
\$5 from the De Laval Separator Co., Chicago, Ill.  
One nickeled automatic pencil from The General Laboratories, Madison, Wis.
- (41) **Second Prize for Limburger Cheese.**  
\$25 Leather Cushioned Rocking Chair from the Wisconsin Cheese Makers' Association.
- (42) **Third Prize for Limburger Cheese.**  
\$20 Leather Traveling Bag from the Wisconsin Cheese Makers' Association.

**SPECIAL PRIZES FOR WISCONSIN LIMBURGER CHEESE.**

- (43) \$35 Waltham Gold Watch, 16 size, with 25 year gold filled case and 17 jeweled adjusted movement, from A. J. Marschall of the Marschall Dairy Laboratory, Madison, Wis., for the best cheese made with Marschall Rennet Extract and so stated on the entry blank. The cheese must score at least 95 points, and at least ten entries must be made in the class. No maker can get more than one watch and not more than one watch can go to the same factory.
- (43A) \$15 from Chris. Hansen's Laboratory, Little Falls, N. Y., for the highest scoring Limburger cheese at the Convention, providing such cheese was made with Hansen's Rennet Extract, and so stated on the entry blank.
- (44) \$5 cash from the Sharples Separator Co., Chicago, for the highest scoring cheese from a factory using a Sharples Whey Separator, and so stated on the entry blank.
- (45) Pair of Silver Salt Shakers from the Diamond Crystal Salt Co., St. Clair, Mich., for the best cheese made with their salt, and so stated on the entry blank.

## PRIZES OFFERED FOR WISCONSIN BRICK CHEESE, CLASS 7.

- (46) **First Prizes for the Highest Scoring Brick Cheese.**  
One Icy Hot Vacuum Bottle, Quart Size, from the J. B. Ford Co., Wyandotte, Mich.  
\$5 from the De Laval Separator Co., Chicago, Ill.  
One nickeled automatic pencil from The General Laboratories, Madison, Wis.
- (47) **Second Prizes for Brick Cheese.**  
\$25 Leather Cushioned Rocking Chair from the Wisconsin Cheese Makers' Association.  
One gallon B-K from The General Laboratories, Madison, Wis.
- (48) **Third Prize for Brick Cheese.**  
\$20 Leather Traveling Bag from the Wisconsin Cheese Makers' Association.

### SPECIAL PRIZES FOR BRICK CHEESE.

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

- (49) \$35 Waltham Gold Watch, 16 size, with 25 year gold filled case and 17 jeweled adjusted movement, from A. J. Marschall of the Marschall Dairy Laboratory, Madison, Wis., for the best brick cheese made with Marschall Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points, and there must be at least ten entries in the class. No maker can get more than one watch, and not more than one watch can go to the same factory.
- (49A) \$20 from Chris. Hansen's Laboratory, Little Falls, N. Y., for the highest scoring Brick cheese at the Convention, providing such cheese was made with Hansen's Rennet Extract, and so stated on the entry blank.
- (50) Pair of Silver Salt Shakers from the Diamond Crystal Salt Co., St. Clair, Mich., for the best cheese made with their salt, and so stated on the entry blank.
- (51) \$5 cash from the Winnebago Cheese Co., Fond du Lac, for the best Brick cheese made in Dodge County and so stated on the entry blank.
- (52) \$5 cash from the Winnebago Cheese Co., Fond du Lac, for the best Brick cheese made in Fond du Lac county, and so stated on the entry blank.
- (53) \$5 cash from the Winnebago Cheese Co., Fond du Lac, for the best Brick cheese made in Washington County, and so stated on the entry blank.

### SWEEPSTAKE PRIZES FOR THE BEST FOREIGN CHEESE, CLASSES 4, 5, 6 AND 7.

- (54) \$10 from A. Grossenbach Co., Milwaukee, for the highest scoring foreign cheese of any class at the Convention made in Wisconsin.

### STATE PRIZES FOR WISCONSIN CHEESE IN ANY CLASS.

- (55) Large Oil Painting, donated by H. J. Noyes & Son, Muscoda, the State Bank of Muscoda, and the Farmers and Merchants Bank of Muscoda, for the highest scoring cheese sent to the Convention, in any class, by regular shippers of cheese to H. J. Noyes & Son, Muscoda.
- (56) One Vacuum Sediment Tester, value \$10, from the Vacuum Sediment Tester Co., Box 244, Madison, Wis., for the highest scoring cheese at the Convention, any class.
- (56A) \$5 from the Holstein-Fresian Association of Wisconsin, L. L. Oldham, Secretary, Madison, Wis., for the best cheese, any class, at the Convention.

## SPECIAL PRIZES OPEN TO MAKERS OF ANY CLASS CHEESE.

- (57) \$10 cash from the Worcester Salt Co., Detroit, for highest scoring cheese made with Worcester Salt, and so stated on the entry.

Kielsmeier Co., Plymouth, Wis., offers \$45 in cash prizes for the highest scoring cheese sent to the Convention by cheesemakers shipping cream to the Kielsmeier Co., as follows:

- (58) \$7 First Prize for shippers to Kielsmeier Co., at Plymouth.  
 (59) \$5 Second Prize for shippers to Kielsmeier Co., at Plymouth.  
 (60) \$3 Third Prize for shippers to Kielsmeier Co., at Plymouth.  
 (61) \$7 First Prize for shippers to Kielsmeier Co., at Manitowoc.  
 (62) \$5 Second Prize for shippers to Kielsmeier Co., at Manitowoc.  
 (63) \$3 Third Prize for shippers to Kielsmeier Co., at Manitowoc.  
 (64) \$7 First Prize for shippers to Kielsmeier Co., at Wausau.  
 (65) \$5 Second Prize for shippers to Kielsmeier Co., at Wausau.  
 (66) \$3 Third Prize for shippers to Kielsmeier Co., at Wausau.

The Sheboygan Dairy Products Co., Sheboygan, offers \$60 in cash prizes open to all shippers of cream to one of their six branches, and so stated on the entry blank.

- (67) \$5 First Prize for shippers to Sheboygan Dairy Products Co., at Madison, Wis.  
 (68) \$3 Second Prize for shippers to Sheboygan Dairy Products Co., at Madison, Wis.  
 (69) \$2 Third Prize for shippers to Sheboygan Dairy Products Co., at Madison, Wis.  
 (70) \$5 First Prize for Shippers to Sheboygan Dairy Products Co., at Antigo, Wis.  
 (71) \$3 Second Prize for shippers to Sheboygan Dairy Products Co., at Antigo, Wis.  
 (72) \$2 Third Prize for shippers to Sheboygan Dairy Products Co., at Antigo, Wis.  
 (73) \$5 First Prize for shippers to Sheboygan Dairy Products Co., at Fond du Lac, Wis.  
 (74) \$3 Second Prize for shippers to Sheboygan Dairy Products Co., at Fond du Lac, Wis.  
 (75) \$2 Third Prize for shippers to Sheboygan Dairy Products Co., at Fond du Lac, Wis.  
 (76) \$5 First Prize for shippers to Sheboygan Dairy Products Co., at Green Bay, Wis.  
 (77) \$3 Second Prize for shippers to Sheboygan Dairy Products Co., at Green Bay, Wis.  
 (78) \$2 Third Prize for shippers to Sheboygan Dairy Products Co., at Green Bay, Wis.  
 (79) \$5 First Prize for shippers to Sheboygan Dairy Products Co., at Stevens Point, Wis.  
 (80) \$3 Second Prize for shippers to Sheboygan Dairy Products Co., at Stevens Point, Wis.  
 (81) \$2 Third Prize for shippers to Sheboygan Dairy Products Co., at Stevens Point, Wis.  
 (82) \$5 First Prize for shippers to Sheboygan Dairy Products Co., at Sheboygan, Wis.  
 (83) \$3 Second Prize for shippers to Sheboygan Dairy Products Co., at Sheboygan, Wis.  
 (84) \$2 Third Prize for shippers to Sheboygan Dairy Products Co., at Sheboygan, Wis.  
 (85) \$3 First Prize to users of boxes from Rogers Cheese Box Co., Marlon.  
 (86) \$2 Second Prize to users of boxes from Rogers Cheese Box Co., Marlon.  
 (87) \$1 Third Prize to users of boxes from Rogers Cheese Box Co., Marlon.  
 (88) \$3 First Prize to factories checking at State Bank of Plymouth.  
 (89) \$2 Second Prize to factories checking at State Bank of Plymouth.  
 (90) \$3 First Prize to factories checking at Plymouth Exchange Bank.  
 (91) \$2 Second Prize to factories checking at Plymouth Exchange Bank.

- (92) \$7 First Prize to makers shipping cheese to Blanke Cheese Co., Plymouth.
- (93) \$5 Second Prize to makers shipping cheese to Blanke Cheese Co., Plymouth.
- (94) \$3 Third Prize to makers shipping cheese to Blanke Cheese Co., Plymouth.
- \$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:
- (95) \$7 for the highest scoring cheese, described above.
- (96) \$5 for the second highest.
- (97) \$3 for the third highest.
- (98) \$15 First Prize from the Sheboygan Falls Creamery Co., for best cheese "make up" score from factories shipping cream to this firm.
- (99) \$10 Second Prize as above from the Sheboygan Falls Creamery Co.
- (100) \$5 First Prize from the Manitowoc County Cheesemakers Association for the best cheese sent to the Convention by any of their members and so stated on the entry blank.
- (101) \$5 First Prize from the Wernecke-Schmitz Hardware Co., Manitowoc, as above.
- (102) \$5 Second Prize from the State Bank of Manitowoc for the second best.
- (103) Carving Set, First Prize, from H. J. Noyes & Son, Muscoda, for the best cheese sent to the convention by any maker shipping cheese to them.
- (104) Berry Spoon, Second Prize, from H. J. Noyes & Son, Muscoda, for the second best.
- (105) Pickle Fork, Third Prize, from H. J. Noyes & Son, for the third best.

### PRIZES OFFERED FOR CHEESE MADE IN THE LEADING COUNTIES.

Prize for Cheese made in the County Sending the Largest Number of Cheese to the Convention.

- (106) \$10 Prize offered by the Convention President, Chas. E. Reed, Thorpe, Wis., as first prize.
- (107) \$5 cash from the Manitowoc Savings Bank, as second prize.
- (108) \$5 Gillette Safety Razor offered by Secretary J. L. Sammis, Madison, Wis., as third prize.

### COUNTY PRIZES OFFERED BY CHEESE DEALERS AND OTHERS.

For the Highest Scoring Cheese in the County Named.

County	Prize	Amount	Donated by
(113) Brown	First	\$3.00	C. A. Strauble Co., Green Bay.
(113) Brown	First	\$5.00	Holstein Breeders' Assn., J. N. Kavanaugh, Secretary, Green Bay.
(114) Brown	Second	\$2.00	C. A. Strauble Co., Green Bay.
(114) Brown	Second	\$3.00	Holstein Breeders' Assn., J. N. Kavanaugh, Secretary, Green Bay.
(115) Brown	Third	\$1.00	C. A. Strauble Co., Green Bay.
(115) Brown	Third	\$2.00	Holstein Breeders' Assn., J. N. Kavanaugh, Secretary, Green Bay.
(116) Calumet	First	\$3.00	First National Bank, Brillion.
(117) Calumet	Second	\$2.00	First National Bank, Brillion.
(118) Clark	First	\$3.00	Kraft Bros. Cheese Co., Plymouth.
(119) Clark	First	\$3.00	C. E. Blodgett Cheese Co., Marshfield.
(120) Clark	Second	\$2.00	C. E. Blodgett Cheese Co., Marshfield.



## THIRTIETH ANNUAL MEETING

	County	Prize	Amount	Donated by
(121)	Clark	Second	\$2.00	Kraft Bros. Cheese Co., Plymouth.
(122)	Door	First	\$3.00	C. A. Strauble Co., Green Bay.
(123)	Door	Second	\$2.00	C. A. Strauble Co., Green Bay.
(124)	Door	Third	\$1.00	C. A. Strauble Co., Green Bay.
(125)	Dodge	First	\$5.00	Jos. Dusek Co., Chicago.
(126)	Dodge	Second	\$2.50	Jos. Dusek Co., Chicago.
(127)	Dodge	Third	\$1.00	Jos. Dusek Co., Chicago.
(128)	Dunn	First	\$5.00	Jos. Dusek Co., Chicago.
(129)	Dunn	Second	\$2.50	Jos. Dusek Co., Chicago.
(130)	Dunn	Third	\$1.00	Jos. Dusek Co., Chicago.
(131)	Fond du Lac	First	\$5.00	Fond du Lac Co. Holstein Assn., C. H. Brugger, Sec.
(132)	Fond du Lac	Second	\$3.00	Fond du Lac Co. Holstein Assn., C. H. Brugger, Sec.
(133)	Fond du Lac	Third	\$2.00	Fond du Lac Co., Holstein Assn., C. H. Brugger, Sec.
(134)	Grant	First	\$2.50	Kraft Bros. Cheese Co., Plymouth.
(135)	Grant	Second	\$1.50	Kraft Bros. Cheese Co., Plymouth.
(136)	Grant	Third	\$1.00	Kraft Bros. Cheese Co., Plymouth.
(137)	Iowa	First	\$3.00	Kraft Bros. Cheese Co., Plymouth.
(137)	Iowa	First	\$3.00	Holstein Breeders' Assn., H. R. Noble, Secretary, Dodgeville.
	Iowa	First	\$2.00	Plymouth Cheese Co., Plymouth.
(138)	Iowa	Second	\$3.00	Kraft Bros. Cheese Co., Plymouth.
(138)	Iowa	Second	\$2.00	Holstein Breeders' Assn., H. R. Noble, Secretary, Dodgeville.
	Iowa	Second	\$2.00	Plymouth Cheese Co., Plymouth.
(139)	Kewaunee	First	\$3.00	C. A. Strauble Cheese Co., Green Bay.
(140)	Kewaunee	Second	\$2.00	C. A. Strauble Cheese Co., Green Bay.
(141)	Kewaunee	Third	\$1.00	C. A. Strauble Cheese Co., Green Bay.
(142)	Langlade	First	\$3.00	C. A. Strauble Cheese Co., Green Bay.
(143)	Langlade	Second	\$2.00	C. A. Strauble Cheese Co., Green Bay.
(144)	Langlade	Third	\$1.00	C. A. Strauble Cheese Co., Green Bay.
(145)	Manitowoc	First	\$3.00	First National Bank, Brillion.
	Manitowoc	First	\$3.00	Manitowoc Savings Bank.
	Manitowoc	First	\$5.00	Ad. R. Vallesky, Manitowoc.
(146)	Manitowoc	Second	\$2.00	First National Bank, Brillion.
	Manitowoc	Second	\$2.00	Manitowoc Savings Bank.
(147)	Marathon	First	\$3.00	Kraft Bros. Cheese Co., Plymouth.
	Marathon	First	\$3.00	C. E. Blodgett Cheese Co., Marsh- field.
(148)	Marathon	Second	\$2.00	C. E. Blodgett Cheese Co., Marsh- field.
	Marathon	Second	\$2.00	Kraft Bros. Cheese Co., Plymouth.
(149)	Marinette	First	\$3.00	C. A. Strauble Cheese Co., Green Bay.
(150)	Marinette	Second	\$2.00	C. A. Strauble Cheese Co., Green Bay.
(151)	Marinette	Third	\$1.00	C. A. Strauble Cheese Co., Green Bay.
(152)	Outagamie	First	\$3.00	S. D. Cannon, Neenah.
(153)	Outagamie	Second	\$2.00	S. D. Cannon, Neenah.
(154)	Oconto	First	\$3.00	C. A. Strauble Cheese Co., Green Bay.
(155)	Oconto	Second	\$2.00	C. A. Strauble Cheese Co., Green Bay.
(156)	Oconto	Third	\$1.00	C. A. Strauble Cheese Co., Green Bay.
(157)	Pierce	First	\$5.00	Jos. Dusek Co., Chicago.
(158)	Pierce	Second	\$2.50	Jos. Dusek Co., Chicago.
(159)	Pierce	Third	\$1.00	Jos. Dusek Co., Chicago.
(160)	Portage	First	\$3.00	Kraft Bros. Cheese Co., Plymouth.
(161)	Portage	Second	\$2.00	Kraft Bros. Cheese Co., Plymouth.
(162)	Sauk	First	\$2.00	One cheese trier from A. T. Bruhn, Spring Green.
(163)	Shawano	First	\$3.00	C. A. Strauble Cheese Co., Green Bay.
(164)	Shawano	Second	\$2.00	C. A. Strauble Cheese Co., Green Bay.
(165)	Shawano	Third	\$1.00	C. A. Strauble Cheese Co., Green Bay.
(166)	Sheboygan	First	\$5.00	H. J. Bamford Co., Plymouth.
	Sheboygan	First	\$3.00	Plymouth Cheese Co., Plymouth.
(167)	Sheboygan	Second	\$2.00	Plymouth Cheese Co., Plymouth.
(168)	Taylor	First	\$3.00	Kraft Bros. Cheese Co., Plymouth.
(169)	Taylor	Second	\$2.00	Kraft Bros. Cheese Co., Plymouth.

	County	Prize	Amount	Donated by
(170)	Waupaca	First	\$5.00	Clintonville State Bank, Clintonville.
	Waupaca	First	\$5.00	Dairymens State Bank, Clintonville.
	Waupaca	First	\$5.00	First National Bank, Clintonville.
	Waupaca	First	\$3.00	C. A. Strauble Cheese Co., Green Bay.
	Waupaca	First	\$2.00	S. D. Cannon, Neenah.
(171)	Waupaca	Second	\$3.00	Dairymens State Bank, Clintonville.
	Waupaca	Second	\$3.00	First National Bank, Clintonville.
	Waupaca	Second	\$3.00	Clintonville State Bank, Clintonville.
	Waupaca	Second	\$2.00	C. A. Strauble Cheese Co., Green Bay.
	Waupaca	Second	\$2.00	S. D. Cannon, Neenah.
(172)	Waupaca	Third	\$2.00	First National Bank, Clintonville.
	Waupaca	Third	\$2.00	Clintonville State Bank, Clintonville.
	Waupaca	Third	\$2.00	Dairymens State Bank, Clintonville.
	Waupaca	Third	\$1.00	C. A. Strauble Cheese Co., Green Bay.
	Waupaca	Third	\$1.00	S. D. Cannon, Neenah.
(173)	Winnebago	First	\$2.00	S. D. Cannon, Neenah.
(174)	Winnebago	Second	\$3.00	S. D. Cannon, Neenah.
(175)	Wood	First	\$3.00	C. E. Blodgett Cheese Co., Marshfield.
	Wood	First	\$3.00	Kraft Bros. Cheese Co., Plymouth.
(176)	Wood	Second	\$2.00	Kraft Bros. Cheese Co., Plymouth.
	Wood	Second	\$2.00	C. E. Blodgett Cheese Co., Marshfield.
	Waupaca and Outagamie Counties together:			
(177)		First	\$3.00	Citizens State Bank, Bear Creek.
(178)		Second	\$2.00	Citizens State Bank, Bear Creek.
(179)		Third	\$1.00	Citizens State Bank, Bear Creek.

## POST OFFICE PRIZES FOR CHEESE IN ANY CLASS.

	County	Prize	Amount	Donated by
(180)	Kiel P. O.	First	\$5.00	State Bank of Kiel.
(180A)	Kiel P. O.	Second	\$3.00	State Bank of Kiel.
(180B)	Kiel P. O.	Third	\$2.00	State Bank of Kiel.
(180C)	Manitowoc	First	\$5.00	Schuette Bros. Co.
	Manitowoc	First	\$5.00	Manitowoc Lumber Co.
	Manitowoc	First	\$5.00	George Bros. Co.
(181)	Manitowoc	Second	\$3.00	Schuette Bros. Co.
	Manitowoc	Second	\$3.00	Manitowoc Lumber Co.
	Manitowoc	Second	\$3.00	George Bros. Co.
(182)	Manitowoc	Third	\$2.00	Schuette Bros. Co.
	Manitowoc	Third	\$2.00	Manitowoc Lumber Co.
	Manitowoc	Third	\$2.00	George Bros. Co.
(183)	Marion	First	\$5.00	First National Bank, Marion.
(184)	Marion	Second	\$5.00	First National Bank, Marion.
(185)	Marion	Third	\$5.00	First National Bank, Marion.

### Thorp Post Office Prizes:

- (186) \$10 in trade from the Garrison Mercantile Co., for first prize, any style.
- (187) Two 5-gallon starter cans from Hansman and Johnson, for second prize, any style.
- (188) \$5 in trade from The Farmers Store, for third prize, any style of cheese.
- (189) \$5 from the Peoples State Bank of Thorp for the third prize, any style.
- (190) \$5 from the Peoples State Bank of Thorp, for the fourth prize, any style.
- (191) \$10 savings account from the Farmers' Exchange Bank for the best Daisy cheese from Thorp Post Office.
- (192) Two years' subscription to the Thorp Courier by Wm. Wagner, for the second best Daisy from Thorp Post Office.

## COUNTY PRIZES OFFERED BY THE ASSOCIATION.

For the Highest Scoring Cheese from the Counties Named.

	Post Office	Prize	Amount	Donated by
(193)	Barron	First	\$2.50	If five or more entries from county.
(194)	Barron	Second	\$2.50	If ten or more entries from county.
(195)	Buffalo	First	\$2.50	If five or more entries from county.
(196)	Buffalo	Second	\$2.50	If ten or more entries from county.
(197)	Chippewa	First	\$2.50	If five or more entries from county.
(198)	Chippewa	Second	\$2.50	If ten or more entries from county.
(199)	Columbia	First	\$2.10	If five or more entries from county.
(200)	Columbia	Second	\$2.50	If ten or more entries from county.
(201)	Crawford	First	\$2.50	If five or more entries from county.
(202)	Crawford	Second	\$2.50	If ten or more entries from county.
(203)	Dane	First	\$2.50	If five or more entries from county.
(204)	Dane	Second	\$2.50	If ten or more entries from county.
(205)	Green	First	\$2.50	If five or more entries from county.
(206)	Green	Second	\$2.50	If ten or more entries from county.
(207)	Jackson	First	\$2.50	If five or more entries from county.
(208)	Jackson	Second	\$2.50	If ten or more entries from county.
(209)	Jefferson	First	\$2.50	If five or more entries from county.
(210)	Jefferson	Second	\$2.50	If ten or more entries from county.
(211)	Lafayette	First	\$2.50	If five or more entries from county.
(212)	Lafayette	Second	\$2.50	If ten or more entries from county.
(213)	Lincoln	First	\$2.50	If five or more entries from county.
(214)	Lincoln	Second	\$2.50	If ten or more entries from county.
(215)	Ozaukee	First	\$2.50	If five or more entries from county.
(216)	Ozaukee	Second	\$2.50	If ten or more entries from county.
(217)	Polk	First	\$2.50	If five or more entries from county.
(218)	Polk	Second	\$2.50	If ten or more entries from county.
(219)	Richland	First	\$2.50	If five or more entries from county.
(220)	Richland	Second	\$2.50	If ten or more entries from county.
(221)	Rock	First	\$2.50	If five or more entries from county.
(222)	Rock	Second	\$2.50	If ten or more entries from county.
(223)	St. Croix	First	\$2.50	If five or more entries from county.
(224)	St. Croix	Second	\$2.50	If ten or more entries from county.
(225)	Sauk	First	\$2.50	If five or more entries from county.
(226)	Sauk	Second	\$2.50	If ten or more entries from county.
(227)	Shawano	First	\$2.50	If five or more entries from county.
(228)	Shawano	Second	\$2.50	If ten or more entries from county.
(229)	Vernon	First	\$2.50	If five or more entries from county.
(230)	Vernon	Second	\$2.50	If ten or more entries from county.
(231)	Washington	First	\$2.50	If five or more entries from county.
(232)	Washington	Second	\$2.50	If ten or more entries from county.
(233)	Waukesha	First	\$2.50	If five or more entries from county.
(234)	Waukesha	Second	\$2.50	If ten or more entries from county.

In any other counties, for which no prizes are offered above, the Association will award similar first and second prizes of \$2.50 each, providing five or ten exhibits are sent from the county, to the Convention, and so stated on the entry list.

### (235) Prizes for Cheese Scoring, open to Cheesemakers only.

Prizes will be awarded to the cheesemakers whose scores and five cheese at the CHEESE SCORING TABLE agree criticisms best with the official score cards of the Convention judges. Only the names of prize winners will be published. Everybody try. The complete list of prizes will be announced at the Convention, including \$10 cash from Manitowoc Building Supply Co.

Additional Prizes will be announced at the Convention.

### PRIZE WINNERS:

As soon as you receive your prizes, the donors would be glad to hear from you, telling them what prize you won, and thanking them. We appreciate their generosity.

THE MEMBERS.

## 1921 LIST OF EXHIBITORS

## American Cheese, Cheddars, Flats, Daisies.

	Awards	Scores	Check
Wm. J. Frank, Manitowoc.....	172	95.25	\$ 13.74
L. A. Schneider, Two Rivers.....		86.00	1.18
G. H. Scannell, Eden.....		93.25	3.92
P. W. Knudson, Cuba City.....	84	92.75	4.93
H. A. Kalk, Sheboygan Falls.....		96.00	2.87
John F. Kalk, Cleveland.....		96.00	2.87
Reuben Abraham, Oshkosh, R. 2.....		93.25	3.14
M. Christopherson, New Franken.....	68	90.00	2.37
Walter Schuelke, Manawa, R. 2.....		91.50	1.98
Hy Schuelke, Manawa, R. 2.....		91.50	3.20
H. G. Wiskow, Leopold.....	2, 13, 118	98.75	14.39
Fred P. Luther, Logansville.....	$\frac{1}{3}$ of 160	93.00	4.26
Otto Winter, Clintonville.....		94.00	4.23
Leo F. Schlichter, Hixton.....		92.00	3.41
Alb. Gruenstern, Marion.....		96.25	5.37
E. H. Kielsmeier, Columbus, R. 4.....		96.00	5.49
Harvey Vail, Spring Green.....		92.75	4.15
Wm. Lichtenberg, Beaver Dam, R. 4.....		91.00	3.00
Albert R. Jossi, Coleman, R. 2.....	103	96.00	8.27
Jule Boulanger, Casco.....	52, $\frac{1}{3}$ of 91, $\frac{1}{3}$ of 92	95.00	10.08
Wm. F. Scholl, Spring Green.....		90.00	3.03
Edward Peck, Coleman.....		94.00	4.45
S. G. Schweiss, Plain.....	$\frac{1}{3}$ of 160	93.00	4.48
C. M. Engebretson, So. Wayne.....		93.00	3.04
John Levy, Kewaunee, R3.....		94.25	3.77
Jos. F. Yager, Thorpe.....		96.50	5.25
Joe Schnitffranz, Avoca.....		94.25	4.33
Earl Heidenreich, Gratiot.....		89.50	1.40
H. J. Kuschel, Pound, R. 1.....	$\frac{1}{2}$ of 98, $\frac{1}{2}$ of 99	96.00	5.05
Adolph E. Hoffmann, Larsen, R. 15.....		91.50	2.42
Theo. M. Fortney, Unity.....		89.00	1.18
A. T. Zelm, Plymouth.....		93.00	4.04
Albert Susa, Greenwood, R. 5.....		93.00	3.26
J. F. Tesmer, Colby.....		89.00	1.40
Ludwig A. Kuhn, Neillsville.....		93.00	4.26
Wolfgang Wittman, Sauk City.....		89.75	2.84
Albert Patchak, Thorp.....		90.00	3.03
Fred W. Koller, Thorp.....	57	94.00	7.11
R. L. Radke, Eland.....		89.75	2.84
Arthur Johns, Luxemburg.....	$\frac{1}{3}$ of 91, $\frac{1}{3}$ of 92	95.00	6.08
A. R. Radtke, Tigerton.....		93.75	4.34
Herbert W. Kiefer, Boscobel.....		85.50	1.40
John Tischhauser, Tilleda.....		91.75	3.74
L. A. Roesler, Neenah.....	$\frac{1}{2}$ of 122	93.50	5.02
Abe Nelson, Platteville.....	$\frac{1}{2}$ of 82, $\frac{1}{2}$ of 83	94.00	8.67
Andy Huggler, Fennimore.....		92.00	2.41
E. O. Haase, Antigo, R. 2.....	93	94.25	7.21
John Wry, Thorpe.....		89.50	2.62
Peter Anderson, New Richmond.....		94.50	3.87
Otto H. Yordi, Bear Creek.....		95.75	4.38
H. C. Schneider, Kewaunee.....	$\frac{1}{3}$ of 91, $\frac{1}{3}$ of 92	95.00	5.08
D. D. Korth, Antigo.....	95	92.25	4.95
D. D. Korth, Antigo (Compl.).....		93.75	4.18
Gilbert N. Thielke, Breed.....	105	94.25	4.33

Edw. Gruenstern, Marion.....	111	96.87	7.62
Emil H. Peters, Sugar Bush.....	1, 4, 5, 12, 41, 101, 175	99.25	45.60
Leroy Landon, Muscoda.....		93.50	4.46
Albert C. Drone, Muscoda.....	.85	97.62	16.15
Hy Possley, Watertown.....		88.25	2.40
A. C. Werth, Appleton, R. 1.....	3, 102	98.50	8.07
Otto G. Rohde, Spencer.....	56, 97	96.50	10.47
Math Meyer, New Holstein (Comp.).....		98.00	4.62
Emil Boeing, Woodstock.....		95.50	4.62
Math Meyer, New Holstein.....		95.25	5.18
Ernest Druckrey, Pulaski, R. 3.....	113	95.00	4.86
Jos. W. Entringer, Algoma, R. 2.....		97.00	7.68
A. C. F. Witt, Granton.....		96.50	5.25
Herman Kalkofer, Greenwood.....		92.25	2.73
Clark McCutchin, Spring Green.....	$\frac{1}{3}$ of 160	93.00	4.82
P. H. Kasper, Bear Creek.....	46, 119	98.00	16.99
Oscar H. Tappan, Cumberland.....		93.25	6.04
O. Knudson, Cobb.....	.86	96.25	15.69
Geo. Wright, Logansville.....		95.50	7.17
Wm. Wright, Richland Center.....	153	97.00	9.50
H. A. Rindt, Clintonville.....	48	96.00	9.80
Eugene Buergi, Dodgeville.....		95.00	6.76
O. F. Greunke, Granton.....		96.50	6.58
Harvey Holmes, Cobb.....		95.50	6.59
Oscar Olson, Osceola.....		95.50	6.59
Frank Casper, Tioga.....		93.75	3.56
P. H. Mickle, Twin Bluffs.....	44	95.00	10.60
M. E. Meisner, Osceola.....		94.75	6.65
John Fischer, Boaz.....	154	96.25	10.19
J. F. Bachman, Fremont.....	$\frac{1}{2}$ of 122	93.50	6.14
I. K. Wanderoos, Wanderoos.....		93.00	6.57
Wm. S. Walsh, Platteville.....	$\frac{1}{2}$ of 82, $\frac{1}{2}$ of 83	94.00	10.14
John Bymers, Arpin.....	124	93.00	6.04
C. H. Schneider, Heller.....		95.75	5.85
Claud E. Smith, La Farge, R. 2.....		95.00	6.18
Reinhard Jacob, Two Rivers, R. 3.....		90.50	3.23
L. J. Breher, Sheboygan Falls.....		95.00	16.00
A. W. Hahn, Plymouth.....	16C	94.50	6.43
Harvey Rowe, Calamine.....		85.00	11.86
Oscar Rowe, Calamine.....		92.00	11.25
Richard Gotter, Neillsville.....		93.50	2.80
Peter J. Heislén, Theresa.....		90.00	1.81
Hiram Dewey, Watertown.....		94.00	5.77
Chas. Wescott, Reeseville.....		94.50	5.97
Earnest A. Cobb, Sun Prairie.....		93.00	5.15
Walter L. Scheller, Oshkosh, R. 2.....	121	96.00	7.49
P. H. Greiner, Little Chute, R. 9.....		95.50	4.28
Fred Stapel, Clintonville.....		95.50	6.33
J. L. Decker, Stanley.....		96.00	4.05
Wm. Bymers, Junction City.....	110	92.00	5.41
Ernest Gyger, Martintown, Box 8.....		93.25	4.14
Fred Moser, Loraine.....		92.50	2.61

## Long Horns, Squares, Young Americas.

	Awards	Scores	Check
L. J. Breher, Sheboygan.....		94.75	\$ 5.53
Jos. F. Junk, Brillion.....		96.13	11.49
Otto H. Yordi, Bear Creek.....	120	97.13	7.36
A. W. Hahn, Plymouth.....		93.00	4.68
Leonard Lange, Fox Lake.....		84.25	8.52

Ralph W. Leeseburg, Suring.....	104	95.00	6.62
Edward J. Sleger, Denmark, R. 2.....	67	94.00	12.56
Oscar Stock, Manitowoc.....	173	93.75	17.90
Emil W. Ehlert, Stanley.....		93.75	1.06
Harry G. Oestrich, Loyal.....		93.50	5.57
Richard Gotter, Neillsville.....		93.75	2.30
Geo. Sommer, Timothy.....		96.25	11.05
F. W. Nussbaumer, Waldo.....		93.75	2.30
P. H. Kasper, Bear Creek.....	47	96.25	3.53
A. J. Mensch, Glenbeulah.....		94.50	2.32
O. F. Gruenke, Granton...6, 9, 10, 11, 14, 16, 40, 71, 176		99.50	74.71
A. W. Johnson, Granton.....	182	97.37	5.44
Herman W. Behrens, Adell, R. 1.....		92.75	5.07
W. J. Dehn, Blenker.....	55, 77, 123	97.25	13.64
John H. Peters, Plymouth.....		90.00	3.11
A. C. F. Witt, Granton.....		96.25	5.57
Gust Burge, Stevens Point.....	109	97.50	7.59
Emil Tober, Granton.....	63, 72	98.13	13.23
Ed Levsen, Plymouth.....		94.00	5.75
Wm. C. Lindow, Plymouth.....		92.75	1.95
Otto G. Rohde, Spencer, R. 2.....		95.25	5.22
Mrs. Fred Nussbaumer, Waldo.....		93.75	2.64
Otto Weyer, Manitowoc.....	95A, 171	97.00	25.56
C. F. Heckman, Cleveland.....		96.50	5.38
A. F. Zelm, Plymouth.....	16B	95.00	10.86
Math. Meyer, New Holstein.....	42, 181	97.50	10.77
Otto W. Sixel, Cleveland.....	59	95.25	7.94
Herman Kalkofen, Greenwood.....		92.00	1.69
Emil H. Peters, Sugar Bush.....	180	98.00	6.43
Geo. Fisher, Jr., Spencer.....	96	97.00	9.56
J. W. Young, Granton.....		96.25	11.57
Sam E. Goetschel, Cleveland, R. 1.....		94.25	5.11
H. A. Kalk, Sheboygan Falls.....	16A, 64	97.25	14.88
O. W. Fremond, Thorp.....		90.00	3.87
R. H. Greunke, Auburndale.....		92.75	3.83
W. L. Sommer, Cleveland, R. 1.....		94.00	5.27
Erwin O. Wunsch, Cleveland.....	7, 58, 114	98.50	14.60
John F. Kalk, Cleveland.....	115	98.00	5.15
Wm. J. Frank, Manitowoc.....	174	92.75	10.07
A. E. Law, Brillion.....	69, 70	94.50	10.68
L. A. Roesler, Neenah.....		92.00	4.81
Aug. J. Hintz, Stratford.....		93.00	2.72
Alexander Yaun, West Prairie.....		89.50	2.28
Emil Sonnenburg, Cato.....	95B	96.75	9.75
Fred H. Schulz, Kiel.....	169, 170	93.75	15.42
Chas. Mullen, Lone Rock.....	159	93.25	7.26
A. C. Werth, Appleton, R. 1.....	8	98.25	6.27
Alvin F. Jindra, Two Rivers, R. 3.....		95.25	9.54
Ed. Burish, Whitelaw.....		92.00	2.61
A. F. Zelm, Plymouth.....		94.25	5.04
Fred Benishek, Green Bay.....		92.75	8.39
Louis F. Perronne, Plymouth, R. 5.....	60	94.75	6.77
John F. Schlieve, Waupun.....		93.00	3.77
C. H. Schneider, Heller.....		96.00	4.82
Art Giese, Big Suamico.....	53, 66	94.50	9.29
E. H. Kielsmeier, Columbus, R. 4.....		96.25	5.36
Wm. J. Knoll, Marshfield, R. 6.....		89.25	1.14
Ben Stricher, Clintonville.....		96.50	5.45
John Jenni, Deerfield.....		91.75	3.33
Wm. Th. Lindquist, Poskin.....		93.75	3.26
Alb. Gruenstern, Marion.....		96.50	4.99

A. J. Blahnik, Kewaunee, R. 3.....	54	93.75	4.80
Wm. Grimes, Neenah, R. 11.....		92.00	3.88
A. F. Zelm, Plymouth (Comp.).....		93.00	4.60
Henry J. Loehr, Calvary, R. 1.....	15	93.75	10.62
Thomas S. Martin, Navarino, R. 1.....	112	96.50	7.38
F. C. Stapel, Clintonville.....		94.75	5.05
A. F. Petersen, Appleton, R. 5.....		94.00	8.35
Fred Mooser, Loraine.....		91.50	4.15

## Drum Swiss.

		Awards	Scores	Check
Jake Muetzenberg, Burnett.....			90.75	65.17
Joseph Rohner, Juda, R. 1.....			92.50	36.95
Wm. Wenger, Monroe, care of Badger Ch. Co.....			95.50	60.89
Fred Kratzer, Gratiot.....			94.00	57.60
Albert Oertig, Monroe, care of B. Ch. Co.....			95.75	62.77
Jacob Neffenegger, Apple River, Ill.....	183		97.00	60.39
Robt. Emmenegger, Gratiot.....			93.50	43.13
Emil Escher, Monroe.....	20		97.50	39.40
Jacob Gempeler, Sr., Monroe.....			96.50	47.62
Christ Stettler, Monroe, R. 1.....			96.50	48.07
Joe Stadelman, Woodford.....			94.50	64.96
Nick Engelbert, Hollandale.....			90.75	53.02
Urban Kaegi, Woodford.....			94.00	59.05
Christ Ubert, Monroe.....			93.25	59.15
Jacob Aeschliman, Woodford.....	19, 146		98.00	65.47
John Hubacher, Darlington, R. 1.....				
.....	17, 18, 21, 65, 145, 177		98.50	71.63
Valentine Zibung, Monroe, R. 3.....			94.75	53.44
Charles Kruetter, Darlington.....			95.00	49.83

## Block Swiss.

		Awards	Scores	Check
Hans Tschan, Oconomowoc, R. 3.....			92.50	5.97
Henry Wenger, Argyle.....	24, 45		94.50	7.81
Ulrich Furrer, Hollandale.....			94.00	6.60
Jake Muetzenberg, Burnett.....			92.25	5.85
Herman Aebersold, Argyle.....			91.50	5.30
Nick Engelbert, Hollandale.....	23, 25		95.50	7.23
Gott. Spack, Darlington, R. 1.....			93.00	5.68
Gottlieb Warren, Blue Mounds.....	22, 135		96.50	20.15

## Limburger.

		Awards	Scores	Check
August Martini, Monticello.....	27, 140		98.00	8.52
John Minnig, Monticello.....	26, 39, 139, 178		99.00	25.44
Rudy B. Lengacher, Monticello.....	28		96.50	3.17

## Brick.

		Awards	Scores	Check
Wm. H. Graskamp, Doylestown.....			96.00	\$ 4.66
Ernest Schwartz, Rosendale.....			94.00	3.30
John Bremser, Watertown.....			92.00	4.94
Rudolph Speich, Dodgeville.....	$\frac{1}{2}$ each of 87, 88, 89		96.00	10.06
Oscar Sutter, Monroe.....			96.00	6.46
Wm. Schuetze, Monroe.....			96.00	6.66
Wm. Lichtenberg, Beaver Dam.....			95.00	5.08
Albert L. Tietz, Ixonia.....			92.00	3.94
Robt. Emmenegger, Gratiot.....			94.25	3.99

Gottfried Moser, Rosendale.....	51, 37, 137	96.00	13.36
Anton Sutter, Sun Prairie.....	43	95.50	8.47
Ernest W. Jung, Jackson, R. 2.....		93.50	4.31
H. Bilgrien, Iron Ridge.....		95.00	4.28
Fred Indermuehle, Brownsville.....		95.00	5.08
Lloyd Peirick, Beaver Dam.....		95.00	2.88
Oscar Lange, Juneau, R. 4.....		92.00	3.14
Albert Gafner, Juneau, R. 2.....		91.00	2.76
Gottfried Friedli, Woodland.....		87.50	3.60
John J. Peirick, Beaver Dam.....		96.00	3.66
Wm. Lichtenberg, Beaver Dam.....		93.00	3.32
Arthur Raether, Watertown, R. 8.....		93.50	3.51
H. H. Whiting, Lake Mills.....		86.00	.80
Otto Walder, Reeseville.....		93.00	3.32
Fred Pfarrer, Hustisford.....		92.00	3.54
Emil Schneider, Lomira.....		94.75	2.98
Jake Balsiger, Pardeeville.....	31, 34, 34A, 35, 49, 131, 179	98.00	33.72
Ulrich Furrer, Hollandale.....	$\frac{1}{8}$ each of 87, 88, 89	96.00	7.66
E. F. Horn, Beaver Dam.....		95.00	4.08
A. F. Guelzon, Adams.....		91.00	2.36
Wm. C. Nass, Ixonia, R. 1.....		93.25	4.21
D. D. Korth, Antigo.....	94	93.00	5.72
Joe Schmid, Beaver Dam.....	61A, $\frac{1}{2}$ of 62, $\frac{1}{2}$ of 78	96.50	18.70
Hans Tschan, Oconomowoc.....		93.00	2.72
Ernest Wuethrick, Bruce, R. 2.....		94.00	4.10
John Badertscher, Rice Lake.....		93.50	2.91
Otto Munz, Cambria.....		96.50	4.25
Geo. H. Mueller, Mayville, R. 1.....	32, 34B, 36, 61, 76	97.50	42.83
Aug. H. Raether, Watertown, R. 8.....		94.00	5.10
Wm. Lichtenberg, Beaver Dam, R. 4.....		94.00	3.70
Ben R. Williams, Cambria, R. 2.....		93.25	3.21
Adolph Gurtner, Beaver Dam.....		94.25	5.39
Alfred Kunz, Dodgeville.....		95.50	6.47
Emil B. Hosig, Marshfield.....		93.00	4.12
Frank Mock, Markesan.....		94.50	4.49
Jacob Disler, Hartford.....	38, 165	95.50	12.37
Jake Muetzenberg, Burnett.....		93.75	9.20
Andy Bjornberg, Watertown, R. 1.....		96.50	4.45
Carl Blaser, Rio, R. 4.....		95.50	1.87
Robt. Neuenschwander, Hartford.....		93.25	1.21
Henry Egli, Dalton.....		96.00	9.06
Jacob Blaser, Mt. Horeb.....		94.25	5.19
Chas. G. Stommel, Hartford.....		93.50	1.91
Alex Hoerburger, Gratiot.....		96.50	6.85
Carl Indermuehle, Knowles.....	50, 61B, $\frac{1}{2}$ of 62, $\frac{1}{2}$ of 78	96.50	27.50
Arnold Zumbach, Darlington, R. 3.....		95.50	7.07
Andy Bjornberg, Watertown.....		94.00	2.70
Adolph Gurtner, Beaver Dam, R. 4.....		94.00	3.90
Nick Engelbert, Hollandale.....	$\frac{1}{8}$ each of 87, 88, 89	96.00	9.86
Albert Tietz, Ixonia, R. 2.....		93.00	3.12
George Schickert, West Bend.....		93.00	2.92
Ed. Buntrock, Cambria.....		94.00	3.90
Christ Abbuehl, Clear Lake.....		92.00	1.94
Frank Brandt, Monroe.....		94.00	3.90
Max Prag, Randolph.....		90.00	1.18
Otto Badertscher, Rice Lake.....	33, 34C	97.00	6.64
Max Rentsch, Hartford, R. 4.....		94.50	.89
Deitrich Speich, Belmont.....		94.50	6.69
Trangott Wagner, Waupun.....		94.50	2.09
Fred Bachmann, Cross Plains.....		90.50	
		Shortage	.89



## THIRTIETH ANNUAL MEETING

Adolph Wyss, Woodland.....	94.50	1.09
Fred Gurtner, Jackson.....	94.00	5.50
Ed. N. Friedl, Cowlesville, N. Y.....	93.00	2.52
G. Warren, Blue Mounds.....	96.00	6.86
Otto H. Schoenfeld, Beaver Dam.....	93.00	.32
Pasquale Frigo, Wausaukee.....	100	95.00
Pasquale Frigo, Wasaukee.....	$\frac{1}{2}$ of 98, $\frac{1}{2}$ of 99	96.00
Louis Frigo, Iron Mountain, Mich.....	94.00	2.00
		<hr/>
Total amount of checks.....		\$2,759.29



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