Proceedings of the Wisconsin Cheese Makers' Association annual convention January 9, 10, 11, 1924 assembled in the Milwaukee Auditorium, Milwaukee, Wisconsin. 1924

Wisconsin Cheese Makers' Association
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PROCEEDINGS

OF THE

WISCONSIN CHEESE MAKERS' ASSOCIATION

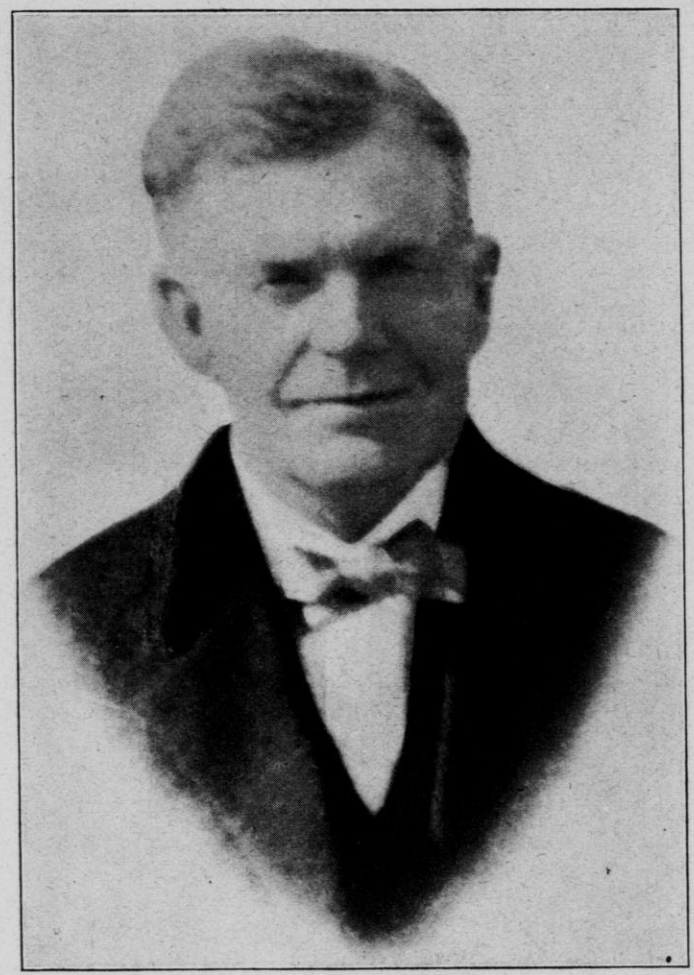
THIRTY-SECOND ANNUAL CONVENTION

January 9, 10, 11, 1924

Assembled in the Milwaukee Auditorium, Milwaukee, Wisconsin

Compiled by
J. L. SAMMIS, Secretary

Madison, Wisconsin
1924



Yours Very Truly
W. C. Thomas

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LETTER OF TRANSMITTAL

Office of the Secretary,
Wisconsin Cheese Makers' Association,
Madison, Wis., 1924.

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

I have the honor to submit report of the thirty-second 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, 1924.

Respectfully submitted,

J. L. SAMMIS,
Secretary.

WISCONSIN CHEESE MAKERS' ASSOCIATION

THIRTY-SECOND ANNUAL MEETING

Auditorium Building, Milwaukee, 1924

Officers and Directors

CHAS. E. REED, President.....Plymouth
H. A. RINDT, Vice President.....Clintonville
J. L. SAMMIS, Secretary.....Madison
A. F. ZELM, Treasurer.....Plymouth
A. T. BRUHN, Director.....Spring Green
J GEMPELER, JR., Director.....Monroe
J. H. PETERS, Director.....Plymouth

Judges of Cheese

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

Superintendent of Cheese Exhibit

J. W. CROSS.....Milwaukee

Life Members

H. J. NOYES, Muscoda
E. L. ADERHOLD, Neenah
P. H. KASPER, Bear Creek
J. D. CANNON, New London
J. W. CROSS, Milwaukee
JACOB KARLEN, JR., Monroe
AL. WINCKLER, Cumberland
J. B. MCCREADY, Fond du Lac
FRED MARTY, Monroe
T. A. UBBELOHDE, Glenbeulah, Wis.
JOHN KIRKPATRICK, Richland Center

1924 Honorary Members

H. A. RINDT, Clintonville
JACOB SCHNEIDER, Hartford
ALEX SCHALLER, Barneveld
A. F. ZELM, Plymouth
P. H. KASPER, Bear Creek
H. J. LOEHR, Calvary
A. W. SCHULTE, Cumberland
R. C. JORGENSON, Denmark
ERNEST MANDEL, Colby
R. W. EGAN, Highland
F. J. BUSS, Antigo
GOTTLIEB WERREN, Blue Mounds
S. D. CANNON, Neenah
ED. F. WINTER, Gillett
O. H. TAPPON, Cumberland
C. E. REED, Plymouth
H. H. BATHKE, Gillette
FRED DETTMERUNG, Thorp
T. A. UBBELOHDE, Glenbeulah
JOE SCHMITFRANZ, Thorp
C. A. BREMMER, Chili

OFFICIAL REPORTER

MISS LIBBY MILLER, First National Bank Bldg., Milwaukee

OFFICIAL ORGAN

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

ARTICLES OF INCORPORATION

OF THE

Wisconsin Cheese Makers' Association

(Adopted February 2, 1899.)

ARTICLE I.

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

ARTICLE II.

This corporation shall be known as the "Wisconsin Cheese Makers' Association," and its principal office and location at Madison, Wisconsin.

ARTICLE III.

The association shall be a corporation without capital stock. Any person who is a practical cheese maker, and such other persons as are directly or indirectly interested in the manufacture and sale of unadulterated cheese may become members of this corporation by paying one dollar annually in advance and signing the roll of membership.

ARTICLE IV.

SECTION 1. The general officers of said association shall consist of a president, vice president, secretary and treasurer, and the board of directors shall consist of three members of the association.

SECTION 2. The term of the officers of the association shall be one year, or until their successors are elected at the next annual meeting following their election, and until such successors qualify. At the first meeting of the members of the association there shall be elected a director for the term of one year, a director for the term of two years, and a director for the term of three years, and thereafter there shall be elected at each annual meeting a director for the term of three years, and each director shall hold his office until his successor is

elected and qualifies. The election of officers and directors shall be by ballot, except in case of a single nominee, when election by acclamation may be substituted. A majority of all the votes cast shall decide an election.

ARTICLE V.

SECTION 1. The principal duties of the president shall be to preside at all meetings of the Board of Directors and of the members of the association during his term of office. He shall appoint special committees and sign all orders drawn on the treasurer. He shall appoint a committee on resolutions and a program committee. He shall also provide for suitable medals at the expense of the association.

SECTION 2. The vice president shall assume the duties of the president in the latter's absence.

SECTION 3. The principal duties of the secretary of this association shall be to keep a complete and accurate record of the proceedings of the Board of Directors and of the association and to attend all meetings, keep a correct account of the finances received, pay all moneys into the hands of the treasurer and receive his receipt therefor, and to countersign all orders for moneys drawn upon the treasurer. He shall keep a record book and suitable blanks for his office. He shall make a full and complete report at each annual meeting of the correct state of the finances and standing of the association. He shall also procure certificates of membership, and every person joining the association shall receive one signed by the president and countersigned by the secretary.

SECTION 4. The principal duties of the treasurer shall be to faithfully care for all moneys entrusted to his keeping, paying out the same only on receipt of an order signed by the president and countersigned by the secretary. He shall file with the secretary of the association all bonds required by the articles of incorporation or the by-laws. He shall make at the annual meeting a detailed statement of the finances of the corporation. He must keep a regular book account, and his books shall be open to inspection at any time by any member of the association.

SECTION 5. The Board of Directors shall be the Executive committee and shall audit the accounts of the secretary and treasurer, and present a report of the same at the annual meeting; Executive committee shall procure a place to hold the meeting and make arrangements for Reception committees, hotel rates, halls, and all necessary preliminary arrangements for each and every meeting.

SECTION 6. The committee on programs shall make all arrangements for the proper working of the conventions, assigning all subjects, arranging for speakers, and make the division of time allowed to the discussion of each topic, to determine upon the time for the election of officers, conducting business meetings, and any other matters that may properly come under this division.

SECTION 7. The committee on resolutions shall draw up such resolutions as the exigencies of the time may require and which shall express the sense of the association.

SECTION 8. The said officers shall perform such additional or different duties as shall from time to time be imposed or required by the members of the corporation in annual meeting, or by the Board of Directors, or as may be prescribed from time to time by the by-laws, and any of the duties and powers of the officers may be performed or exercised by such other officers or officer, or such person or committee as the corporation or Board of Directors may authorize.

ARTICLE VI.

The treasurer of the corporation shall give a bond in the sum of one thousand dollars with two sureties, for the faithful performance of his duties.

ARTICLE VII.

These articles may be altered or amended at any regular session of an annual meeting of the members, provided the proposed alterations or amendments shall have been read before the association at least twenty-four hours previously, and provided also that such alterations or amendments shall receive a two-thirds vote of the members present.

ARTICLE VIII.

The first meeting of this association for the election of officers and directors shall be held on the 3d day of February, 1901, and such corporation shall hold a meeting of its members annually during each calendar year at such time as may be determined by the Board of Directors.

Rules governing cheese exhibits are printed in the Annual Program and Prize List. Resolutions adopted each year are contained in the annual report of that year.

THIRTY-SECOND ANNUAL CONVENTION

OF

WISCONSIN CHEESE MAKERS' ASSOCIATION

HELD AT THE AUDITORIUM, MILWAUKEE, WISCONSIN
January 9, 10 and 11, 1924

Called to order by President Charles E. Reed of Plymouth, at 10:00 A. M.

ADDRESS OF WELCOME

By Mr. Frank Cleveland, of Milwaukee, *Secretary of the Milwaukee Association of Commerce.*

Mr. President: It seems almost unnecessary for Milwaukee to welcome the Cheese Makers to this city. Not that we do not appreciate your annual visits to Milwaukee—quite on the contrary, we feel as though it is just about the same as welcoming a brother to his own home. We are trying more than ever to get away from the idea that Milwaukee and Wisconsin are two separate institutions or localities, or that you must have an invitation and a passport before you can travel from one to the other and be welcomed as you arrive. This is your own metropolis and your city. If you can get any good out of it you are entitled to it without an invitation.

I want to say a word or two about what we have been doing in Milwaukee in the interest of Wisconsin during the past year. We began work a year ago under the new administration on the development of Wisconsin's resources which have not yet received attention, the advertising of Wisconsin, the betterment of conditions as to the marketing of Wisconsin products, the bettering of transportation of Wisconsin and in particular a better relation between the Wisconsin farmers and the Wisconsin manufacturer or business men. We are tired of this talk of farm groups, manufacturers groups, mercantile groups, salesmen's groups, transportation groups, in our congress and in our state legislature.

It is absolutely certain that if the farmer in Wisconsin is not doing well the manufacturer or the business man in Wisconsin cannot do well very long. We are finding that a successful farmer is a pretty clever man, who can be approached in a human way just as the shoe dealer, the banker, the merchant or anybody else. Last July we called a meeting here in Milwaukee under the auspices of the Association of Commerce to arrive at some understanding or better feeling between the business man and the farmer. To the surprise of the critics many farmers responded and the success of that meeting was beyond anything which we had hoped. When the last session was to

take place in the afternoon, some of those farmers organized temporarily, formed a committee, and adopted the best set of resolutions which had ever been set in the state of Wisconsin, pledging themselves to take hold and help this thing all over the state. No business men could have responded more quickly than those farmers.

A few weeks ago the Milwaukee Association of Commerce joined the organization and pledged ten thousand dollars to the Great Lakes and Rail Association, for the development of the Great Lakes and the St. Lawrence River. It means much to those who have money invested in this state.

I have been asked to say a word or two as to my opinion as to business conditions for the coming year. Many so-called statisticians, and I don't claim to be one, are telling you that the latter part of the year 1924 will be exceptionally active. Don't let anybody mislead you. There is nobody hoping for better business conditions in the United States than I am, but it isn't good business to undertake a program which your own common sense and experience tells you is not borne out by facts. The cheese manufacturers, the business men, the farmers of Wisconsin who will succeed in the year 1924, Mr. President, Ladies and Gentlemen, are those who will go back from this convention, to their institutions, resolved to give more time to their business, look it over and analyze it, look over their trade, business and their marketing possibilities, and give both their product and their marketing the best possible attention. One hundred per cent attention to business will give you a fairly prosperous year. Don't look for any boom. There cannot be any boom in business in the United States so long as conditions on the other side of the Atlantic remain as they are today. If our big factories are only able to sell two-thirds or three-fourths of their market output, simply because our European and oriental markets are not getting orders, then they are going to employ less people. If our railroads are unable to develop the building of more lines and the laying of more tracks or to get profits sufficient to carry on their business, they naturally will employ fewer people. If the pay rolls are less—less money is spent for shoes, clothes, and everything that we have to buy and sell. Right here in Milwaukee we are manufacturing, this last year, little more than two-thirds of the total output that we manufactured in 1920 and it will be some years before we can get back to what we were doing in 1914 and 1915. I am not trying to tell you how to settle the affairs in Europe. There is nobody living that seems to know how to do that. So continue your business next year with those things in mind. Go back to your office, your shops, your institutions, determined that you will make a success of your business out of just what you can see in sight and a legitimate business that you can take care of. That is the reasonable success that you can expect this year. Don't expect a boom.

Watch the political situation in this state; it is time that the business man and the farmer stand side by side. Look somewhat after the interest of the people of Wisconsin as a whole. We are groaning

under heavy taxation. The business man and the manufacturer in this state is not complaining and certainly he does not want to avoid paying his proper, just share of the maintenance of the state. But he doesn't want taxation that is an outright penalty on his success. We don't want people in the state penalized merely because they have had the plans and activities that have made them a success. If you are not satisfied with that taxation, go back to your community and see that legislation in Wisconsin is the sort of legislation that you think it should be and not wait until the day after election when you suddenly remember that you forgot to vote. Don't wait until you get your income tax statement. Now, get busy as a citizen of Wisconsin and be a business man of Wisconsin. I thank you.

RESPONSE TO ADDRESS OF WELCOME

By Vice President H. A. Rindt, Clintonville

Mr. President: Milwaukee has welcomed you through Mr. Cleveland and this ought to make us feel at home. We have problems confronting us in the future and the only way we can solve them is by having organizations and associations of this kind, and working united in a body. If some of you have been down in Madison, you have had the experience and know what weight those resolutions have had which we passed here. I have been there several times and every assemblyman I ever approached on these things has always referred back to this association.

In the past years competition wasn't anywhere as keen as we have at the present time, for the simple reason that our southern states, who were consuming most of our cheese, are today going into the cheese business. It means that we have to go them just one better. We have to put something on the market that is better than theirs. The same holds true as to foreign competition. We have congregated here and have been welcomed for thirty-two years and this problem of quality has always been our main discussion, but still it seems that we have never got down to the bottom of it and solved that problem as it should be.

We have today our Department of Markets; we have been grading for two years, etc., and our fancy cheese that we have been putting on the market has never been given a differential in price. We have been forced to license the cheese makers. We have increased our inspectors, but gentlemen, I don't think there is anything that we can do that will automatically force every man to make the best cheese he could, except the reason that if he didn't there would be some other man who would. That will build up our cheese industry better than anything else.

We always have to agree with Mr. Emerson who said:

> *"If you write a better book or preach a better sermon, or build a better mouse-trap than your neighbor, (or make a better cheese than your neighbor), though you build your house in the woods, the world will make a beaten pathway to your door."*

So I hope that we will do just exactly as the City of Milwaukee expects of us when she welcomes us and gives us the use of this room, for her industry suffers when the dairy industry suffers. I thank you.

PRESIDENT'S ANNUAL ADDRESS

By CHAS. E. REED, Plymouth

Ladies and Gentlemen, Fellow Cheese Makers: In preparing the President's Annual Address I am taking steps in a different direction than heretofore followed.

I will bring my conclusions before you as suggestions, for your consideration. Our great state, Wisconsin, we all know is the greatest in the cheese industry. We have talked long and loud upon the matter of quality in all the former years, not paying much attention to that of quantity. Have you thought of what quality will mean in the disposal of this quantity in the future, and the price of same? Should we stand by and let some foreign country step in on us, which is well under way at the present time? Look to the quality of your finished product and neatness of appearance and package, also the sanitary conditions in and about the factory.

Right now a little instance comes to my mind that happened the past year. The Dairy and Food Inspector was making sediment tests at the intake of a certain factory. One certain sample was very bad. This was the question the inspector put to the party offering milk: "Would you like to use this in your home consumption? You can all guess what the answer was.

Have you ever thought of the many automobile tourists from other states that are passing your factory during the summer season? Did you, brother cheese maker, ever stop to roll over in your mind, "what impression does my factory have upon the mind of these strangers?" Is my factory, its surroundings and the disposal of sewage in such a condition that the visitor will say to his friends, "Say, boys, let's get some more of that good cheese that they make up in Wisconsin. I have seen the factories where they make it and from the looks of these places you will have to admit that it cannot help but be good."

You will not stop at a hotel or restaurant that does not have both exterior and interior appearances in condition to fit your eye at the first glance. Apply this same rule to your cheese and cheese factories.

I recall the discussion on the repealing of the whey butter branding law at the state Capitol a few years back. Considerable stress was placed on the idea that the brand, "whey butter," suggested to the consumer the thought of the ill-smelling whey tank. Don't let your whey tank smell.

Our friend, Mr. A. J. Marschall, has in the past year inaugurated a cleanup campaign with wonderful results in getting cheese makers interested in beautifying their places and surroundings. I would like to suggest that this association might do well in launching some such campaign and give prizes for same. I would like to have this matter

brought up for discussion and some action taken on it at this convention. Then later, possibly, we might extend it to the best kept dairies also.

Our worthy secretary has for this convention compiled an interesting and lengthy program, comprised chiefly of cheese makers from all corners of the state. I hereby appeal to you to take part in the discussions. Ask all the questions that can come to your mind, and there will be some one who will be able to give the correct answer. Meet all the supply men at their booths who will fill your wants for the coming year. Attend the banquet.

After the convention, on returning again to your labors, impress on the mind of the neighbor who stayed at home that he has missed something that he can never regain, but he can partially atone for it by doing like yourself, boosting for the 1924 convention, gaining a membership on the Honorary list and attending the convention. I thank you.

REPORT OF THE BOARD OF DIRECTORS

By Mr. A. T. Bruhn

Mr. President: If I should give you a full report it would take all day, so I will give you a very brief one and that is this: In looking over the books we find that everybody who has ever owed the association anything during the last year has paid. There is a voucher for everything that is paid out and there is in the neighborhood of four hundred sixty ($460.00) dollars in the treasury yet. That is too much. We don't aim to make a money scheme out of it. For the last two or three years we have had a good attendance and we have had a good secretary for the last few years and we would run into the hole if we didn't have a little left over to tide us through.

REPORT OF THE TREASURER

By Mr. A. F. Zelm

Mr. Chairman: He has no report to make. It corresponds with Mr. Bruhn's.

REPORT OF THE SECRETARY

By J. L. Sammis, Madison

Here is a list of all the receipts and disbursements. This account will be in your hands, printed in the annual report, so that you can, every one of you, audit it. I am, of course, pleased with the weather and with other things I haven't any control over. But those things I have control over, I am not so pleased with, and I come to you with some dissatisfaction over the growth during the past year. I do not think we have made the growth we should. I want you to help remedy this. Five years ago we had 500 members, now we have

about 1,000 members. There are three thousand cheese makers in the state, and we ought to have two thousand here. They should be here for their own good. The convention is run for the benefit of all the cheese makers in the state and there are two thousand of them who are not getting what they should. You should help get those other cheese makers here. I want to see two thousand cheese makers at this convention next year. I wish you would help us in this thing. Speak for the convention when you are home, and don't forget it.

We have had some good workers here. In about twenty-one towns we have had men who volunteered to solicit prizes. We have their names printed in the program; we are very proud of them. You will see them. They have a blue ribbon badge and it says "1924 Honorary Member." That means they did some good hard work to boost your convention. Now, all of these boosters, and all enthusiastic boosters of this convention, are invited to come to the Republican Hotel tonight to have dinner with us, and this means any man that can qualify and say, "I want to boost for this convention." We want to talk this thing over for an hour or so, and see what we can do for next year. We want you all there and anybody who has some ambition to be an honorary member next year should be present. We want people to volunteer, for there is lots of work to be done. The question is, "Will you do it?" Tomorrow night we are going to have a regular banquet for you all here in this building and some unique entertainment, dancing and other features. There will be speeches by Mr. Pratt and others, and songs by distinguished musicians. We will have lots of fun. Then we will come upstairs and see the movies.

I want to announce also that you can get your noon lunches every day downstairs. The important thing to remember today is for all the boosters to come to the hotel at six o'clock tonight for the boosters' dinner; and for next year everybody plan to have 2,000 cheese makers here.

SECRETARY'S REPORT ON CONVENTION OF 1923 (READ IN JANUARY, 1924)

BY J. L. SAMMIS, MADISON, WIS.

Part 1. State Treasury Account

Receipts

1922			
July	1	Balance forward	$ 33.14
		State Appropriation	600.00
1923			
Jan.	12	Membership fees deposited	692.00
		Total	$1,325.14

Disbursements

1922			
Aug.	28	Supt. Public Property, postage 1921 reports	$ 29.72
Sept.	28	Milwaukee Auditorium, rental	280.00
Nov.	25	State printer, circulars, envelopes	30.33
Dec.	27	State printer, 950 annual reports, 156 pp	387.42
1923			
Jan.	12	Auditorium, booth rentals	491.95
Jan.	30	Supt. Public Property, postage annual reports	36.40
Mar.	30	State printer, envelopes	7.31
July	1	Balance forward	62.01
		Total	$1,325.15

Part 2. Secretary's Donation and Program Fund

Receipts

Balance forward from last report	$ 594.85

Booths

Marschall Dairy Laboratory	50.00
Chris Hansen Laboratory	50.00
Damrow Bros. Co., Booths 1-2	105.00
A. H. Barber Cry. Supply Co., Booth 18	55.00
D. and F. Kusel Co.	50.00
De Laval Separator Co., Booths 20-21	100.00
Oakes and Burger Co.	50.00
Stoelting Bros. Co.	50.00
Valley Sheet Metal Works	50.00
J. B. Ford Co., Wyandotte	50.00
Federal Asbestos Co.	50.00
Creamery Package Mfg. Co.	50.00
Toledo Scale Co.	50.00
Levring & Co., booth and half page	60.00
Cream City Scale Co.	50.00
Eagle Chemical Co.	50.00
Dayton Scale Co.	50.00
Richards Iron Works, half booth	25.00
Summitt Marl Co., half booth	25.00
Rexine Co., Sheboygan	50.00
Master Package Co., Owen	50.00
Cry. and Milk Plant Monthly, half booth	25.00
Pyramid Oil Co., half booth	25.00
Sharples Separator Co.	100.00

Program Pages

Marschall Dairy Laboratory	20.00
Sheboygan Falls Creamery Co.	10.00
A. H. Barber Creamery Supply Co.	20.00
Grunert Cheese Co.	20.00
Olsen Publishing Co.	20.00
Schwaab Stamp and Seal Co.	10.00
L. F. Nafis, Inc.	10.00
Kiel Woodenware Co.	20.00
Northern Wis. Produce Co.	10.00
Vacuum Sediment Test Co.	10.00
Sheboygan Co., News	20.00
Buckeye Chemical Co.	20.00
Sheboygan Bandage Factory	10.00
Vilter Mfg. Co.	20.00
Creamery Package Mfg. Co., cover	22.00
Lewis Mears Co.	10.00
Republican Hotel	20.00
J. G. Cherry Co.	20.00
D. and F. Kusel Co.	20.00
De Lavel Separator Co.	20.00
Winnebago Cheese Co.	10.00
Pyramid Oil Co.	20.00
Woodland Box Co.	10.00
H. B. Stanz Co.	10.00
Hotel Gilpatrick	10.00
First National Bank, Brillion	10.00
Manitowoc Savings Bank	10.00
Peoples State Bank, Thorp	10.00
Dairy Supply Co., Minneapolis	10.00
Brodhead Cheese and Cold Storage Co.	10.00
Oakes and Burger Co., Cattaraugus, N. Y.	20.00
J. S. Hoffman Co., Chicago	20.00
C. E. Blodgett Cheese Co.	10.00
Colonial Salt Co., Chicago	10.00
Kraft Bros. Cheese Co., Plymouth	20.00
A. D. DeLand Cheese Co., Sheboygan	20.00
Plymouth Exchange Bank	10.00
Chas. F. Krucker, Darlington	10.00
Blue Valley Cry. Co., Milwaukee	20.00
Stoelting Bros. Co., Kiel, three pages	60.00
J. Gempeler Co., Monroe, one-fourth page	5.00
Rogers and Johnson, Marion	10.00
General Laboratories, Madison	20.00
Brown Hotel, Milwaukee	10.00
Federal Asbestos Co., Milwaukee	20.00
John Kirkpatrick, Richland Center	10.00
Phenix Cheese Co.	20.00

Sharples Separator Co., cover page	22.00
Jos. Dusek Co., Chicago	20.00
Juneau Boiler Works	20.00
Pauly and Pauly Co., Manitowoc	10.00
Midwest Cry. Co., Plymouth	20.00
Lincoln Box Co., Merrill	20.00
Fairbanks, Morse Co., Chicago	10.00
D. Picking & Co., Bucyrus, Ohio	10.00
Brillion Iron Works	10.00
New York Produce Review	10.00
Valley Sheet Metal Works, Neenah	10.00
A. H. Barber Cheese Co., Chicago	20.00
Konz Box and Lumber Co., Appleton	10.00
Champion Milk Cooler Co., Cortland, N. Y.	10.00
Puerner Creamery Co., Marshfield	10.00
J. B. Ford Co., Wyandotte, Mich	20.00
C. A. Straubel Co., Green Bay	20.00
Cheesemakers Mnfg. Co., Riplinger	20.00
Eagle Chemical Co., Milwaukee	20.00
R. Gerber & Co., Chicago	10.00
Chris Hansen's Laboratory, Little Falls, N. Y.	20.00
Blum Bros. Box Co., Marshfield	10.00
Torsion Balance Co., New York	20.00
Wisconsin Dairy Supply Co., Whitewater, cover	22.00
Walter Voechting Co., Sheboygan	20.00
Damrow Bros. Co., Fond du Lac	40.00
Johnston Tin Foil & Metal Co., St. Louis	10.00
L. O. Rehm, Kiel	10.00
M. Uhlmann & Co., Chicago	20.00
Stanley Woodenware Co.	10.00
Hotel Martin, Milwaukee	10.00
Hertzberg Bros., Sheboygan Falls	10.00
Conley Foil Co., New York	20.00
Baker Ice Machine Co.	10.00
Quincy Market & Cold Storage, Boston	10.00
Lehmaier & Schwartz, New York	20.00
Plymouth Refrigerator Co.	10.00
Wisconsin Pure Culture Co., Madison	10.00
Morton Salt Co., Milwaukee, half booth	25.00
Manitowoc Plating Works, half booth	25.00
Republic Chemical Co., half booth	25.00
Sheboygan Falls Creamery Co., prizes	50.00
S. D. Cannon, Neenah, prizes	15.00
De Laval Separator Co., prizes	40.00
Winnebago Cheese Co., prizes	20.00
First National Bank, Brillion, prizes	8.00
Oakes & Burger Co., New York, prize	25.00
C. E. Blodgett Cheese Co., Marshfield	15.00
Kraft Bros. Cheese Co., Plymouth, prizes	60.00
Bank of Sturgeon Bay, prizes	10.00
Plymouth Exchange Bank, prizes	5.00
State Bank of Manitowoc, prizes	5.00
Stoelting Bros. Co., Kiel, prizes	30.00
Dairymens State Bank, Clintonville, prizes	10.00
Rogers and Johnson, Marion, prizes	6.00
Jos. Dusek Co., Chicago, prizes	25.50
Pauly & Pauly Co., Manitowoc, prize	25.00
Midwest Creamery Co., Plymouth, prizes	20.00
Schuette Bros., Manitowoc	10.00
Denmark State Bank, prizes	15.00
D. Picking & Co., Bucyrus, Ohio, prize	5.00
A. H. Barber Cheese Co., Chicago, prizes	80.00
C. A. Straubel & Co., Green Bay	48.00
A. Grossenbach Co., Milwaukee, prizes	15.00
Morton Salt Co., Milwaukee, prizes	10.00
Brodhead Cheese and Cold Storage Co., prize	5.00
Manitowoc Co., Cheese Makers Assn., prize	10.00
Conley Foil Co., New York, prizes	10.00
Holstein Friesian Assn. of America	5.00
Fond du Lac Co., Holstein Assn., prize	10.00
Wis. Cheese Producers Federation, prizes	15.00
State Bank of Plymouth, prizes	10.00
Jac. Marty & Co., Barneveld, prizes	10.00
Barneveld State Bank, prize	2.00
Gier Hardware Co., Mt. Horeb, prize	1.00
Farmers Exchange, Blue Mounds, prize	3.00
Walter Evans, Mt. Horeb, prize	5.00
J. S. Hoffman Co., Mt. Horeb, prize	10.00
T. E. Mackesey, Blue Mounds, prizes	5.00
Mt. Horeb Bank, prize	5.00
Mt. Horeb Hardware Co., prize	5.00
Mt. Horeb Produce Co., prize	5.00
State Bank of Mt. Horeb, prize	5.00

J. L. Sammis, for prize 10	5.00
Chas. E. Reed, for prize 99	10.00
A. F. Zelm, for 260 banquet tickets	195.00
Cheese Sales, Math Michels	6.67
Cheese Sales, Wm. Winder	5.44
Cheese Sales, J. W. Cross	47.65
Kiel Woodenware Co., list	5.00
Cheese Sales, Phenix Cheese Co.	2,455.95
Otto W. Sixel, membership	1.00
Jos. F. Junk, membership	1.00
Julius Wessel, membership	1.00
D. W. Bender, membership	1.00
Curtis L. Walker, Oneida, refund	8.74
Peter Stephanie, St. Cloud, membership	1.00
Donation from friend	22.00
De Laval Separator Co., film projector	25.00
Total	$6,725.80

Disbursements From Donation Fund

Postage stamps	$ 20.25
Addressing envelopes, annual reports	5.50
W. C. Thomas, printing	75.51
Addressing envelopes, programs	10.00
Telephone messages	2.25
Schwaab Stamp and Seal Co.	.42
Business Cartoon Service, cuts	3.00
W. C. Thomas, printing	41.60
Schwaab Stamp and Seal Co.	.31
Postage on convention programs	94.50
Mailing programs	9.25
Express and drayage	7.00
Typist and proof reading	3.00
Prize chair and express	24.92
Postage	26.00
Express on programs	8.40
Olsen Pub. Co., programs	547.66
Secretary, expense and postage	10.00
Green County Herald, ads	25.50
John E. Krines, for banquet	181.50
Olsen Pub. Co., ad	20.00
Harry Hysen, band expense	26.40
Milwaukee Cheese Co., boxes and cartage	6.50
W. F. Hubert, judge and expense	64.06
J. D. Cannon, judge and expense	60.89
H. M. Knipfel, expense	21.71
Schwaab Stamp and Seal Co., badges	139.90
L. F. Kuhli, photo	3.00
Eight prize hand bags	152.00
Fred Marty, judge and expense	35.31
Alex Schaller, judge and expense	29.75
C. E. Reed, president and expense	149.14
J. W. Cross, superintendent and expense	73.44
Express on prizes	5.77
C. A. Strauble Co., refunded prizes	6.00
Jos. Dusek Co., refunded prizes	17.00
Walter Evans, Blue Mounds, prize	5.00
Mt. Horeb Bank, refunded prize	5.00
Hazel Dubiel, clerk	31.25
Republican Hotel, bill	110.82
Office machine rent and supplies	16.30
Office help and expense	60.00
Gilpatrick Hotel, bill	13.50
Transfer and express	2.00
Prize chairs	159.44
Prof. E. G. Hastings, expense	7.16
Oscar Hanson, doorkeeper and expense	21.16
Express on cheese and signs	3.02
Express on hand bags to winners	5.77
Express on chairs to winners	5.59
Photo of cheese exhibit	4.00
P. M. Franzen, signs and cards	9.18
Secretary, convention expense	114.54
Martin Kubitz, Edgar, refund	1.00
Fred Schneiter, refund	1.00
John Brown, Milwaukee, etc.	20.00
A. H. Hein, refund	1.00
Theo. Mech, Bonduel, refund	1.00
Paid exhibitors by checks and stubs	3,013.57
Chas. F. Pratt, Plymouth, expense	44.11
A. F. Zelm, Plymouth, treasurer and expense	82.73

John Lemkuil, Plymouth, refund	1.00
H. C. Rindt, Clintonville, expense	36.45
A. T. Bruhn, expense	17.51
H. J. Loehr, Calvary, prize	5.00
Otto Sixel, Cleveland, refund	1.00
J. F. Junk, Brillion, refund	1.00
H. L. Noyes, Muscoda, expense	17.93
Alfred Gertsch, Horicon, refund	1.00
Miss Libby Miller, reporter	105.00
A. L. Wagner, refund	1.00
Postage on diplomas, etc.	25.00
J. L. Sammis, secretary	400.00
Mailing tubes for diplomas	3.52
W. C. Thomas, ad	10.00
Postage on returned programs	.57
John Durtschi, Barneveld, refund	1.00
W. C. Thomas, diplomas printed	37.58
Telegrams and telephone	9.00
Typewriting	2.00
Balance fund	$ 401.66
Total	$6,725.80

GOVERNMENT REPORTS ON CHEESE INDUSTRY

By Mr. J. B. McCready, Fond du Lac.

Mr. President: I don't know if I talk for Uncle Sam or for myself. the only alibi I have for being here is I have something I want to advertise and I am one institution who is allowed to advertise in the main hall without a booth because what we advertise we are giving away and are not asking any money for it.

The U. S. government issues a daily cheese market report and a weekly issue; a monthly cold storage report and a monthly export report. The average cheese maker is interested in the cheese reviews and the weekly report. These reports are yours for the asking if you want them. You have the privilege of looking these reports over and give me your name on a card afterwards.

APPOINTMENT OF COMMITTEES

President Reed: The committee on legislation is composed of two members and the president and secretary who are ex-officio members. The committee on legislation will be Fred Marty of Monroe and Henry Zarling of Clintonville.

On the committee on resolutions, I am going to appoint H. J. Noyes, Henry J. Loehr and Fred Ubbelohde.

A PERMANENT MILK SUPPLY FOR THE FACTORY

By A. J. Cramer, U. S. Dept. of Agriculture.

In 1906 the first cow testing association in Wisconsin was organized by the Wisconsin Dairymen's Association. In 1909 there were 10, while today there are 155 active cow testing associations. If we had 15 additional testers today our number would be 170 associations operating. There are 4,200 herds under test containing over 70,000 cows. This is nearly three times the number of cows tested in the year of 1916. The 4,200 farmers now in cow testing associations paid out over $200,000

of their own money in order that this work may be done. This is at the rate of $33 to every dollar appropriated by the State of Wisconsin for the supervision of the work. If we total the appropriation or the amount contributed by the Wisconsin Dairymen's Association, the College of Agriculture and the U. S. Department of Agriculture, the farmers are paying $17 for each dollar contributed to the supervision and extension of this work.

Since 1906 when the first cow testing association was started 975 associations have been organized with a membership of 28,900 farms, and yearly records of production were kept on 461,000 cows.

Testing Increases Average Production

When the first cow testing association was organized in Wisconsin by the Wisconsin Dairymen's Association the average production of milk per cow in this state was 3,697 pounds, containing 150 pounds of fat. The most recent estimate of the State Department of Agriculture indicates that the cows in Wisconsin now average nearly 5,000 pounds of milk, containing 190 pounds of fat. A large measure of this increased production can be attributed to the Wisconsin Dairymen's Association and the cow testing associations that were nursed along during the days of their infancy. The average cow in our associations produces 7,000 pounds of milk containing 270 pounds of butter fat. Our average association cow produces 2,000 pounds more milk and 80 pounds more fat than the average Wisconsin cow. When this additional milk is figured at $2.00 per 100 or the fat at 50 cents per pound, our average cow testing association cow produces $40.00 worth more milk per year than our average Wisconsin cow.

Room for Development

When only 3.5 per cent of all of the dairy cows in Wisconsin are in cow testing associations, we have reason to believe that more should be done to improve the conditions on over 96 per cent of our dairy farms. Our Wisconsin cheese makers should understand the purpose of a cow testing association and how the associations aid the cheese factory business. It is a fact that most cheese factories need or could use more milk.

Most farmers would like to produce more milk but do not have room for more cows on the farm. If more milk could be obtained from the same number of cows the profits would be greater for the farmers and the cheese factory as well.

The cow testing association teaches the farmer to keep only good cows. They are taught to pick out the poorest cows, which produce the lowest test with the least amount of milk and sell them to the butcher, replace them with better cows which may be the heifers of the best cows in the herd.

The cow tester frequently makes it a business to teach the farmers how to feed their cows more economically in order to produce milk at a lower feed cost and yet have the cows well fed in every respect. The cow tester who is hired by 26 farmers spends a day at each farm once a

month. He becomes well acquainted with the farmer and is in a position to advise him on correct dairy practices. Unsanitary methods of milking the cows and improper caring for the milk when drawn can be corrected by the cow tester with friendly advice to the farmer.

The farmer becomes more interested in the quantity as well as the quality of milk and learns to avoid watering and skimming. He is taught the importance of being paid for cheese factory milk according to the test.

Balanced Rations Mean Profits

The cow tester believes in developing prosperity in the farmer's business. His help on proper feeding has meant many dollars to the farmer. In one instance the cow tester found the farmer feeding a poorly balanced grain ration to 38 cows. A month later the tester's suggested grain ration was being fed and the herd of 36 cows the following month produced 4,850 pounds more milk valued at $2.00 per hundred, which made an increase of $98.00 on his factory check. The change in the grain ration brought an added expense of $19.00 for additional feed. When this amount was deducted, the member had $79.00 more prifit over feed cost. I might cite several other instances but time will not permit.

Better Bulls Replace Poor Ones

The tester advocates the use of better bulls in order to raise the standard of the future herd. R. J. Rowley, a member in the Middleton cow testing association, has tried to purchase a better bull each time the bull was replaced. A two-year-old daughter from one of the five-year-old cows in his herd has produced 1,019 pounds more milk and 65 pounds more fat during the association year than her dam on practically the same feed cost. After deducting $98.00 for feed costs the heifer returned $179.00 above feed costs. This was $40.00 more profit than was realized by her dam. The sire used four years ago was a good one.

The tester promotes tuberculosis testing and has been successful in getting many of his members signed up on the area test plan. The cow testing association brings together groups of farmers from all over the state for occasional meetings to discuss dairy farm conditions and better plans for more cooperation and prosperity in the future.

Every cheese maker who would like to have his farmers bring more milk—who would like to have some help in getting his patrons to practice more sanitary conditions on the farm and see his patrons better satisfied and make more money out of the cows, should do all in his power to help promote a cow testing association in his community.

He will find that the cow testing association, like the cheese factory, is one of the important means for building up agriculture and dairy farm prosperity in the neighborhood.

An Iowa county cheese maker claims that there was a spirit of rivalry developed between patrons in his factory after the association was started. The patrons who were cow testing association members

constantly watched the weigh sheet to learn how much milk their neighbors delivered. More milk has been delivered as a result of this rivalry. This year there are two less patrons delivering at this factory and thirty-five less cows than last year. There is also an increase of 1,000 pounds more milk delivered daily to the factory, in spite of the decrease in patronage. Better feeding helped.

This cheese maker remarked that the patrons who belong to the local cow testing association this year are feeding better balanced rations, and have replaced their inferior cows by better producers. These changes have resulted in an increase in milk yield. Step into the average cow testing association member's barn at milking time and you will find clean cows, clean milk pails, and sanitary milking machines and their barns are generally white-washed.

A cow testing association member recently said that he was convinced that association work has inspired interest in the dairy herd among non-members. There are several farmers who are not members or who never have been members of an association in the locality of the Barneveld cheese factory who fed grain on pasture for the first time last summer. These same farmers get advice from their neighbors on better feeding. The good results of cow testing association work spreads rapidly in a community, although all of the farmers do not belong to the association.

Our observation has been that where cheese makers openly oppose cow testing work it was found that the association tester's tests did not always check up with factory tests and that the butter fat tests were not read correctly. These differences have been corrected through a cooperative spirit developed between the tester and the cheese maker. A cheese maker once told me that he won the cow tester's confidence by inviting him to come into the factory to run check tests with him on the same samples of milk. He soon became acquainted with the tester and they grew to be friends. In most cases the farmer is to blame and the cow tester can help remedy the trouble. One tester reported that he helped correct conditions on the farms where he found members skimming the milk, the housewives using the rich milk for the household, the calves being fed high-testing milk, also milking the strippers dry on the day the tester was there and abrupt changes being made in the grain ration the day the testing was done.

Cow testing has grown tremendously in Wisconsin during the past ten years and has spread to many other states. On July 1, 1923, we had three times as many cow testing associations in Wisconsin as in Minnesota, our strongest competitor, which has 55. Since Wisconsin has always been a leader in dairy developments it is hoped that every cheese maker will become a booster for more cow testing associations.

There are several cheese factories signed up as members in our cow testing associations where the tester tests the factory samples twice each month. There is a better spirit of cooperation between the member and cheese maker where this is done.

Let us plan to join the local cow testing association, encourage your patrons to test their cows and then watch for the increase in the factory milk supply. I thank you.

REPORTS FROM COUNTY ASSOCIATIONS

By Mr. E. A. Damrow, of Fond du Lac County

WHAT IT COSTS TO MAKE A POUND OF CHEESE IN YOUR OWN FACTORY

One of the things that I have been trying to work on is some basis of figuring the cost of making cheese, especially American cheese. We find that the hardest competition a good cheese maker has is when he gets a cheese maker aside of him that does not know the cost of making cheese. A few years ago the Division of Markets issued circulars on the approximate cost of making cheese as they had gathered it throughout the state. Their figures at that time were a little bit higher than what my figures were, and, as I had some formulated costs, our association of Fond du Lac county adopted it as a fair basis. There are, of course, differences in the size of the factory and in the condition of each factory. At some factories the fuel item is a very small item, in other localities it is very expensive.

This summary is based on a cheese factory running a million pounds of milk a season, approximately one hundred thousand pounds of cheese, about the average run in the state of Wisconsin.

The rennet is taken at the price of $2.65 a gallon, the color at $2.10, salt at $5.00 a barrel, cleaning compound at $20.00, which is very low; acid at $1.25 a gallon, brushes and brooms $12.00, glassware and breakage $16.00, repairs $65.00 and fuel $600.00, making a total of $870.25. It don't make any difference what style cheese you make, these supplies are always the same. Under the fixed expenses we have taxes at $45.00, insurance $35.00, depreciation on the building of $5,000.00, the average state allowance is 2½ per cent, making $125.00; depreciation on equipment worth $3,000.00 at 12½ per cent, or $375.00; interest on $8,000.00 investment, at 5 per cent, $400.00, makes a total of $980.00. Figure your cost on making longhorns in supplies, $1,121.15. The general expense of making is .87, or almost 1 cent.

The differential supplies on daisies are 1.2 of a cent, making the total supplies that actually go into daisies a trifle over 2 cents a pound; the cost of fixed expenses, 1 cent a pound, totalling 3 cents a pound. A cheese maker is figured at $100.00 a month, and you can't get much of a cheese maker at that price. This makes a total of 4¼ cents for making cheese per pound, not figuring in the whey cream. Most of the factories are separating today. As far as I could learn from the cheese maker, they get one-half of the whey cream which would amount to about ½ cent to the pound of cheese.

Last week at a farmer factory they were charging 2½ cents for making cheese, and 75 cents a hundred for labor. I believe that is about the lowest paid factory around Fond du Lac. I think that it will not be able to get a good cheese maker to make cheese at 75 cents a hundred. The most are paying 1 cent a pound and in that particular factory I think they had four or five cheese makers last year. If they kept a man at 1 cent a pound that factory would have been way ahead last year. I think you realize what it means to have a half

dozen cheese makers in one factory a year. I figured their cost is a trifle over 2½ cents a pound. They just come out about even, but they did not figure any fixed expenses, such as taxes, insurance, depreciation and the interest on the money invested. Our county organization has been working on the cost of making cheese, and we have tried to have every factory belonging to our organization figure the cost in their own factory. It is very little trouble to do that.

The fixed expenses at ½ cent a pound and your labor at 1 cent a pound would make single daisies cost 3.6 cents a pound, or if you take off this whey cream money which is always figured in with your wages, it practically costs you a trifle over 3 cents a pound to make a single daisy. Many factories are not figuring the depreciation and their fixed expenses. What I am trying to avoid is this unfair competition, where a man who does not figure what it costs to make cheese will make it for 2½ cents, while the other fellow who knows the cost makes cheese for 3 cents.

We have factories that have made cheese for 2 cents a pound, and run about fourteen thousand pounds of milk. When the price of supplies was higher than they are today, they paid the cheese maker 1 cent a pound for making cheese and in one season they paid off a debt of $2,000.00. Is there anybody here that can do that? I asked, "What are you handing me? Where are you stealing it from?" This was a farmer factory. They beat themselves in weight, about seven or eight thousand dollars. I said, "You take a dollar out of one pocket and put it in the other and pat yourself on the back." This is not the competiton that we have among individually owned factories; these conditions exist in cooperative factories. This is corrupt practice, as we call it. Formulate in your own factory the actual cost figures. You have patrons in your community that can push the pencil just as fast as you can. Throw your books open to them. Show them the actual figures of what you have paid out and what you received during your season and nine times out of ten they are willing to pay a fair price for making cheese, but often they don't know what is a fair or right price. I think the Division of Markets is ready and willing to help. We are paying for it in our taxes and the trouble is we don't make use enough of it. There is nothing further to say on this subject.

DISCUSSION

MEMBER: What is the cost of pasteurized whey?

MR. DAMROW: I don't know much about it. The pasteurizing whey is a fuel item and that varies in different localities.

Resolution on German Relief Fund

MR. BRUHN: I was told incidentally that the city of Milwaukee has raised $150,000.00 for the German Relief and they are going to send it to headquarters in Philadelphia to purchase foodstuffs, which they are short on in Germany.

It occurred to someone here that it would be a wise idea if we would suggest or in fact insist that they buy Wisconsin dairy products with Wisconsin money and send Wisconsin products instead of money.

MR. MUENCH: I make a motion that we accept Mr. Bruhn's resolution. Seconded and carried.

PRESIDENT REED: Now we will have to leave it to Mr. Bruhn to notify the committee in charge of this work.

REPORT OF CENTRAL WISCONSIN ASSOCIATION

By MISS L. C. BRUHN, Auburndale, Wisconsin

Mr. President: Your worthy secretary, Prof. Sammis, asked me to make a report in behalf of the members of the Central Wisconsin Cheese Makers, Butter Makers, Dairymen Advancement Association.

There is a big duty and task before us. Our methods and equipment should be the best known. Our product should be produced and manufactured to command the utmost on the market.

The Badger State produces about seventy-five per cent of the nation's cheese and can produce far more when it is correctly merchandised, with a handy package for the consumer. Added consumption would bring higher prices, greater compensation to dairy farmer, with encouragement for better cows, better feed and methods to deliver better raw material.

The Wisconsin Cheese Makers' Association and many other dairy organizations are offering wonderful opportunities and constantly striving to foster the cooperative spirit. Officials everywhere are putting forth great efforts and sacrifices for better programs, planning educational features to interest, and making every possible effort to rouse and awaken the back numbers. Commercial firms are extending wonderful help in offering prizes at the different scoring contests.

The ancient ideals of human brotherhood, of service, of the golden rule, with peace on earth, good will to men, are idle dreams unless they can be translated into practical action. There is constant need of organization and get-together spirit. Hard common sense suggests that you attend a school in your chosen profession somewhere in the state at least once a year.

There is no excuse or reason that every seat in this Auditorium should not be taken at these meetings.

A resolution was drawn up at our recent meeting in Stevens Point asking the cooperation and support of the individual, and help from the Division of Markets, to recognize the merits of the maker who has the good of the public at heart, who from day to day is doing his utmost to manufacture the finer article, giving time and energy, working from three to five hours longer than his neighbor and receiving no more compensation than those getting through at noon. It is a mystery how those fellows get a job, but they are cheap and some factories are looking where they can hire for the least money. Nevertheless, no one ever amounted to anything who has not been characterized by his thoroughness, his painstaking habit of doing everything he touches to a finish. The slap dash who does everything any old way cannot succeed and will be a failure sooner or later.

Commissioner Emery and many of the older men in the cheese business have given warning in their heart-to-heart talks at the different

conventions. Mr. Casper in his written articles and conversation tells that it took him thirty-eight years doing his level best to reach his present high position in the ranks as a cheese maker. These are wonderful examples for the younger generation to follow. No one can neglect or despise the small things and hope to make a success of the greater things. While you are seeking a job do not pick out the best factory, but make a good one of a poor one, and this will be a valuable letter of recommendation for you.

Another great problem of importance is the closer relationship between producer and manufacturer. The time is ripe for a big quality appeal, and the farmer is commencing to realize the need of improvement. Too many cheese makers do not realize the necessity to become interested in the social life of his community. The dairy farmer is the basis of the industry and the better we build up this foundation the more progress we shall be making towards the security of the butter and cheese trade.

The 1923 records of the Central Wisconsin Cheese Makers Association show a growth of about 52 members, and we rejoice over the facts that the educational program is becoming attractive and useful to its members, organizing ten years ago with a mere handful and now having a membership roll of 528. We still recall the success and the splendid spirit and noble good fellowship at the 1922 convention held in the little city of Neillsville.

At Stevens Point we enjoyed an excellent attendance, and we boast of one of the finest programs that has ever been offered to any dairy organization. We owe part of this to the staff from the State Normal School of Stevens Point, to Commissioner Emery and ex-Secretary of State Merlin Hull, and many other excellent speakers.

At a recent officers' meeting a big program was drawn up to be offered this year. Further efforts will be made to advertise dairy products. The organization expects to have large exhibits of dairy products at the Marshfield, Wausau, and Neillsville fairs. Preparations are being made to provide better exhibition rooms for this purpose. A get-together social picnic is being planned to be held somewhere in the city of Marshfield in the latter part of May including a dairy week festival.

We are also very proud of the large exhibit of cheese and butter with 175 entries and about 5,500 pounds of dairy products on exhibit. Everything possible was done to arrange the display artistically to show our appreciation of the efforts of the exhibitors and the value of dairy products.

The many donations made by the Central Wisconsin Cheese Makers of their finest product and the Neillsville condensary sending their fine milk, made it possible to serve plenty of wafers, cheese and milk to further advertise the nutritious, wholesome home product. Wausau is selected for the 1924 convention city.

In closing, I beg of you members of the Wisconsin Cheese Makers Association to determine as individuals and as an organization to give greater service to humanity. Allow me to suggest a motto for all of

us, "Smile and Push." Remember that the cheery man or woman has better health than the gloom spreader. Let smiles out through the heart and friends will come and customers will remain loyal. All of us are building lives. It is more necessary to build a life than it is to make a living. God has called you for your task. However mean the task, and however distasteful the doing of it, if one can see it as something useful to serve and enrich the world, he can learn to love it and take pride in it. Nothing has done more for the advancement of the cheese and butter industry than the men in it who have peculiar love for this work and a peculiar pride in doing it well.

It pays to be honest with yourself and your firm and play the game on the square. Plan your work and work your plan. Thinking is a big factor to the goal of success. I wish you well, and the biggest and best convention ever. With greetings of good will, cheer and cooperation in behalf of the members of the Central Wisconsin Association, I assure you that we will do our share to build a larger and better industry.

REPORT FROM KAESER-VERBAND

By Louis Alder, President, Monroe, Wisconsin

Mr. Chairman: We call this organization the Kaeser-Verband, because most of our members are of Swiss origin, and because we have to draw on Switzerland for new recruits, as the American-born Swiss very seldom follows Swiss cheese making.

This organization was mainly formed for the purpose of finding out ways and means to wipe out the stinker cheese calamity, as I personally found stinker Swiss cheese in factories over 15 fifteen years ago. The originators of the Kaeser–Verband were: Jacob Lehnherr, Adolph Huebscher and myself, all from Monroe. At a meeting of cheese makers on the 22d day of December, 1921, the following officers were elected: President, Louis Alder; vice president, Fred Kuenzie; secretary and treasurer, Dr. A. Huebscher; trustees, Christ Koenig, Emil Buholzer, Fred Meier, G. Ruefenacht. It was also agreed at that meeting that the Kaeser-Verband should work in connection with the Southern Wisconsin Cheese Makers & Dairymen's Association, but through unfortunate misunderstandings these two organizations drifted apart later on.

The Kaeser-Verband found a valuable man in Dr. Adolph Huebscher, veterinarian, about a half a year over from Switzerland. Dr. Huebscher also held a diploma of Dairy and Food Inspector from Switzerland and proved himself very efficient as a milk expert and bacteriologist. His summer's report reads as follows: From the Dairy Laboratory of the Swiss Cheese Maker's Association at Monroe, Oct. 1, 1923. During the last six months were investigated: Milk, 45 samples; rennet, 48 samples; starter and sauer, 93 samples; fresh calf stomachs, 2 samples; water, 1 sample; cheese, 6 samples; total, 195 samples. Seventy inspections were made in different cheese factories and 85 pure cultures delivered to the cheese makers.

Two cheese maker instruction courses were given, one in Monroe

from Jan. 8th to Jan. 13th with 27 cheese makers attending, and one in Mt. Horeb from Jan. 29th to Feb. 3d, with 15 cheese makers attending. In Monroe, Dr. Huebscher was ably assisted by Cheese Maker Christ Koening of Browntown, also by Gottlieb Marty.

Tabulating forms were set up and issued to members of the Kaeser–Verband free of charge, to record observations in cheese making, also a booklet, entitled "Ursachen & Bekaempfung der Stinker Kaese," or, in English, "Causes of and Ways to Fight the Stinker Cheese," written by Dr. Huebscher.

What success we have had in our fight against stinker Swiss cheese, I can best explain to you in reading my statistics on stinker Swiss cheese as a cheese buyer, for R. Gerber & Co., Chicago, during the seasons of 1920, 1921, 1922 and 1923:

Season 1920

Stinker @ 5-8c	11,309 pounds
Stinkspots and damaged @ 8-10c	10,389 pounds
Total	21,698 pounds

Season 1921

Stinker @ 2, 3, 5, 7 and 8c	46,943 pounds
Stinkspots and damaged @ 8-10c	52,743 pounds
Total	99,686 pounds

Season 1922

Stinkers, plain	(none)
Stinkspots and damaged @ 8-10c	2,669 pounds

Season 1923

Stinkspots and damaged @ 8-12c	1,193 pounds

This does not include any cheese sent by the factories on commission to Chicago or other cities, or cheese that was dumped by factories. Crediting the 10 heaviest buyers with buying as much stinker and damaged cheese as I did in 1921, we would have about the round sum of 1,000,000 pounds. This amount figured at 20 cents (putting the average price on stinker and damaged cheese at 10 cents, and taking an average price of 30 cents for 1922 and 1923) it would show a clear saving to the farmers of $200,000.00 for the seasons of 1922 and 1923, not figuring in the value of returned confidence in cheese men's circles, in cheese maker's wages, figured at 14 per cent, it means a saving of about $28,000.00 per season, not figuring in worry and extra hard work.

Founded on personal observations I would give due credit to Cheese Maker Christ Koenig of Browntown, the promoter of the whey starter, and to Dr. Huebscher for his bacteriological work, as director of instruction courses and inventor of a pure culture starter, which has been widely used and has given great satisfaction, when properly applied. The cheese makers responded nobly in furnishing the organization with the financial support, as also did the local cheese dealers

and other business men of Monroe. The Green County Board voted an appropriation of $250.00 towards this work. It is only fair to state that I personally was greatly encouraged in my work by my employers, R. Gerber & Co., of Chicago.

The Kaeser–Verband has now a membership of 135 paying members. And now you can judge for yourselves, whether the founding of the Kaeser–Verband has been beneficiary to the Swiss cheese industry of Wisconsin or not. Yet, sad to state, I have not heard one word of appreciation from any farmer in regard to this work.

NORTHERN WISCONSIN CHEESE MAKERS' ASSOCIATION

By Mr. Oscar Tappon of Cumberland

Mr. President: So far we have only a small organization of about 26 members. We have not accomplished much to speak of so far, but we have some suggestions to make. Our idea is to get every county in the state to organize as we did or organized into districts as St. Croix is organized. Then we would suggest that one member from each county or each district would be a director of the State Association. We also favor a uniform scale of wages as, for instance, a minimum of $100.00 a month, or 1 cent a pound. We tried to get a copy of the by-laws of the State Association, but were unable to do so. We planned on going on record with a resolution to amend the by-laws in such a way that only an active cheese maker could hold an office in the State Association. That is, only an active cheese maker to hold an office in the association with the exception of a secretary and the secretary to devote his entire time to the industry as the butter makers are organized along this line, and I don't see why the cheese makers couldn't do the same. We should have some by-laws. I think that we can do that as well as the butter makers if we all work together. That is all I have to say. I thank you.

ST. CROIX COUNTY

By Mr. Fred Ubbelohde

Mr. President: St. Croix county organization was organized in 1923 and we have an enrollment of 12 members at this time. We call it a strictly cheese makers' organization, accepting men holding licenses and actively engaged in the making of cheese. After a man has worked a year he can join our organization. Our dues are only $1.00 a year, but we figure in time we are going to work along the same line as the butter makers. We will raise our dues high enough so that we can engage a secretary who can look after the interests of our organization. At the same time we plan that some time in the future we will organize an auxiliary for helpers and have what we call honorary members; cheese dealers, cheese buyers and the supply men. We only have 20 members at the present time. The northern part of Wisconsin are working hard to organize.

DISCUSSION

MR. BRUHN: There is one statement that I am rather surprised at and that is that the people from that section of the state could not find a constitution and by-laws of this association. They always used to print the constitution and by-laws, a list of the members, and a few other things every year, but since the printing is taken over by the state, which was done in order to get the $600.00 appropriation, they cut those things out and the reports the last few years have not contained any of these things. We could not get the printing done anywhere else as long as we have received that appropriation from the state. Those who are fortunate enough to have been members since 1912 have a copy of them.

MR. MCCREADY: Anyone who wants a copy of the constitution and by-laws may have them, as I will be glad to give it to them. It might be a good idea to have it printed in pamphlet form or book form.

MR. UBBELOHDE: The Northern Wisconsin Association had a meeting in December and they sent word to me as secretary of the St. Croix Association. We were absolutely unable to do anything as we had no copy of the constitution or by-laws. We had a meeting called for the 24th of December and invited the boys from Polk county. I now have a copy of the by-laws with me if anybody wants to see them.

MR. DAMROW: I move that the officers and board of directors be instructed to have our present constitution and by-laws printed in our next annual program with other suggestions and further amendments to come before this convention next year.

MR. MCCREADY: Seconded with a suggestion that you have a committee appointed to help with the work. Every organization has a committee on constitution and by-laws and their idea is to suggest changes. Carried.

SOUTHERN WISCONSIN CHEESE MAKERS AND DAIRYMEN'S ASSOCIATION

By FRED MARTY, Monroe

Mr. Chairman: In 1900 the Southern Wisconsin Cheese Makers' Association was formed in Green County at Monroe, for the betterment of the trade of cheese making. Later, someone asked what use it was to talk of clean milk, clean milking, the care of clean milk, etc., on the farm without having the party in the convention hall that milks the cow. So, in later years the name was changed to the Southern Wisconsin Cheese Makers' and Dairymen's Association. It had good results, in many respects, although it has been, at different times, difficult to please and satisfy the audience. The farmer wants to hear about the growing of alfalfa, the cheese maker wants to know more about cheese making, so I have had the program arranged so that each side had a little. The farmer would have to listen to what the cheese maker had to say and vice versa.

The organization has grown. At one time the membership was 550. While I am president of the organization I can't recall, but it is between 400 and 500 today.

Speaking of the results of the organization, the first was the teaching how to make the Swiss cheese, the same as brick, American and

butter in the University of Wisconsin. In later years there was inaugurated a short course in Swiss cheese making through the cooperation of the University of Wisconsin, the United States Department of Agriculture, and our association.

February 4 to 16 will be the fourth annual course open to anybody that figures on taking special training in the art of Swiss cheese making; so next month come to the Dairy School at Madison. About a year ago, through the organization, we were successful in getting the recognition of the United States Department of Agriculture to properly organize the domestic Swiss cheese section of the United States. Today we have Mr. C. M. Gere, of the United States Department of Agriculture, as superintendent of the field work done by the Southern Wisconsin Cheese Makers' and Dairymen's Association. He, himself, has demonstrated locally in Green County to the satisfaction of some of the most severe critics.

The Southern Wisconsin Cheese Makers' and Dairymen's Association will hold its 24th annual convention at Monroe, Green County, next week Friday, and I extend to you, one and all, a cordial invitation to attend our convention.

NATIONAL CHEESE ASSOCIATION

By Secretary J. L. Sammis

Mr. President: Everybody is interested primarily in his own business, but when he gets his business running well he begins to look around at his neighbors and take an interest in them, in his town and county. He becomes a better citizen when he pays attention to something besides his own private business. It is much the same way among the cheese makers. Each one is primarily interested in his own factory, but after a while when he has won a few prizes he begins to look around at other cheese makers and compares his work with theirs. In the course of time the cheese makers all over the state begin to feel related to each other. Thirty years ago there were enough interested cheese makers through the state to organize the Wisconsin Cheese Makers' Association.

After a while Wisconsin people began to look around at other states and we remember that there have been other cheese states even before we got started. There are cheese makers associations in New York, Ohio, and elsewhere. The next natural step in this development is for all of us to take an interest in cheese as a national industry. The Federal Government interests itself in those things which relate to all the states in the nation, and the National Cheese Association is formed to unite cheese makers and everybody interested in the cheese business, in Wisconsin, New York, Ohio, Pennsylvania, Carolina and any other state.

There are a number of things that can be done in a National way. For example, we want to have a cheese exhibit at our biggest dairy show in the United States. If the New York people put it on, the Wisconsin people say, "Why aren't we represented there at the Na-

tional Dairy Show; why did we let New York put on the exhibition alone?" We all want to get a good big exhibition of cheese there for the public to see, and we all want to share in putting it on. Such a national exhibit will mean more to the public and will not advertise Ohio or New York alone. The National Cheese Association undertakes, as part of its work, to put on cheese at the next dairy show. It has also been planning recently to make use of a man in the city of Washington to watch things that come up before Congress which affect the cheese industry, and through the National Cheese Association to make recommendations with respect to any proposed changes, such as changes in tariff laws or anything of that sort which may affect us all equally. In this way, all of the cheese states being represented, we can have one national body speak for the whole group. As it was formerly, when something comes up in Washington the New York people send in their attorneys, and the Wisconsin people tell what they think about it, and each state thinks a little different.

It would be better if all the cheese states would get together and say, "This thing is what we have agreed upon." The national organization tries to render such things possible. It was organized three or four years ago and has put cheese exhibits on at the different dairy shows. Mr. Neureuter, of Buffalo, is vice president of the organization and is here with us today. It seems to be our turn in Wisconsin, since we make two-thirds of the cheese, to carry two-thirds of the burden of the National Cheese Association. When it was first organized I was not there. They made me president at that time, but since then I have been acting as secretary. They had over 300 members last year, paid up. The National Cheese Association holds a joint session with us tomorrow night after the banquet in this room.

I hope that this association will undertake to do its reasonable share in the work of the National Cheese Association. I am going to send a resolution to the Resolutions Committee and I hope you will pass it, asking that the directors of the association contribute $100.00 to the National Cheese Association, providing they have it to contribute.

The National Cheese Association is something that every individual can belong to. If you are interested in cheese as a national industry, take hold and do your share in boosting the National Cheese Association.

EMPLOYMENT BUREAU

I would like to call your attention to the table at the other side of the room marked, "Employment Bureau." Mr. Rindt has charge of that table and if you don't see him there, write your name on the card, anyhow, if you are looking for a job, or want to hire a cheese maker.

I would like also to urge you to buy your tickets for the banquet either this afternoon or the first thing in the morning, because they have set 400 places for the whole convention, and they would like to know how many are coming.

A UNIFORM PRICE FOR CHEESE MAKING

DISCUSSION LED BY A. T. BRUHN AND H. J. NOYES

MR. BRUHN: In getting at a uniform price of making, I really understand it to be a uniform price for the labor, and that is what I am trying to give.

In my estimation no system of paying cheese makers for their services, which will fit all cases can be formulated. By that I mean that a price or salary which would be fair or adequate for one maker would perhaps be more than another maker is worth and less than what you could afford to pay still another.

For instance, we will say that it is worth in round numbers one cent per pound for the making of the cheese. But if the maker is careless with the machinery and apparatus, is a poor fireman, not saying anything about his getting a low yield or having little tact in the handling of his patrons, he may be a very high priced man at that figure. On the other hand, if the man takes good care of the factory and machinery, keeps things in repair, is economical in using fuel and has a knowledge of human nature and makes use of it in dealing with his patrons, he would be cheap at one cent per pound. It can, therefore, readily be seen that no hard and fast rule can be laid down that would adequately cover all cases.

I have often heard the remark made that the price of making has been hammered down to a point where the good men cannot afford to stay in the profession and likewise that if the price of making was higher it would attract a better class of men. I will not set myself up as a judge of the past nor as a prophet of the future, but would like to call your attention to some of the other professions.

In the October 13th issue of the Country Gentleman, A. B. McDoland writes that plasterers in St. Louis received last summer $16.00 for an eight-hour day, $14.00 being the union scale of wages and $2.00 a day bonus for going to work at all. Bricklayers $12.00, plus $2.00 bonus a day, hod carriers $10.00 per day, etc. If higher wages would induce a better class of men to take up a profession and stick to it afterwards then these trades should get the very best men of the country; perhaps they do in other sections, but judging from the men in these trades with whom I have come in contact 25 or 30 years ago and now, the difference is not much for the better.

In the December 15th issue the Literary Digest gives a somewhat detailed account of the weekly wages of preachers and workers in various trades, a few of which I will cite here:

The average weekly wages of all preachers were $27.00, shoemakers, $25.04; steel workers, $37.31; hod carriers, $30.14; bricklayers, $55.92.

If cheese makers were to receive compensation to compare favorably with these, and I see no reason why we should not, then we should get at least $35.00 a week, or $140.00 a month. If we were to live under the same condition that these people do I would consider these wages low, for as one man recently said to me, "The house I used to rent for $25.00 per month I now pay $65.00 for." On the other hand, cheese

makers usually get house rent free and a good share of the time a garden thrown in for good measure—neither do we spend time and money on street cars in going to and from work, and other incidentals.

During the past five years the price of cheese has averaged about 20 cents per pound. A factory making about 200,000 pounds of cheese annually would receive a total of about $40.000.00. In my estimation the maker should receive for his labor five per cent of this, or $2,000.00 per year.

I, therefore, suggest that the resolution committee draw up a resolution to the effect that it is the sense of this association in convention assembled that its members shall receive as compensation for labor 5 per cent of the total receipts for cheese. Now, I will admit I didn't take time to work that up carefully, but the average price of cheese for five years is above 20 cents.

There may be a little objection to that. If I could get a bonus for fancy cheese I would be mighty glad to share some of that money with the maker. After the resolution committee changes that a little bit so as to make it 5 per cent for all cheese going No. 1 and 1 per cent for all cheese going fancy, I think perhaps it would be better.

I would like to call attention to who pays the bill. I can assure you that I would like to get $16.00 a day as well as any bricklayer, but I don't think any farmer would stand for that. You have got to consider who you are working for when you are drawing your salary. If the cheese is high in price the farmers are willing to pay you a fair price for the making. I figure that on a 5 per cent basis we would draw about $25.00 a week and bonus was perhaps figured at $10.00 per week, and now we are getting proportionately about the same. I thank you.

MR. NOYES: Ladies and Brother Cheese Makers: I think we should base our price on first class men at all times. We have rules for giving cheese makers a license to make cheese based on 24 months' experience, or 12 in former times. I don't care how much experience he has had, if he can demonstrate that he can make good cheese he is entitled to a license. A certain man has made cheese in three factories this summer. The inspectors saw the cheese this man made and that man has a permit to make cheese in Wisconsin, but it ought to be taken away from him. The inspector ought to have the power to take his license away from him. We handled some cheese from those factories in which he made cheese. We got pin holes and high moisture cheese, etc. I wouldn't give him a dollar to make cheese for us. He isn't fit to make anything. Let's weed out those makers and when we know of such a man make the report and stand up for first class stuff. I don't think you will get any bad results by it. You will save the reputation of Wisconsin cheese.

Another point that Mr. Bruhn did not touch upon which might be essential is the amount of cheese that is made in a factory. If a factory makes eighty thousand pounds or fifty-five thousand pounds, 5 per cent wouldn't be enough. Some make less than eighty thousand pounds a season, and that cheese maker should have more. I

think our cheese makers are underpaid, they have poor places to live in and those places should be fixed up for them. A cheese maker should have a good, decent place to live.

I think that for an ordinary factory that runs the year around and has half as much room as Mr. Bruhn figures on, five per cent might be a fair estimate, but we have to take all these things into consideration. I am in favor of having first class cheese makers paid first class prices. In that way we will get better cheese makers and better pay.

Cheese makers are somewhat to blame for getting low salaries, because they ought to show their patrons that it is necessary to have certain things to make better cheese. There are several cheese makers in Wisconsin that have made for 35 years that have never had any trouble along this line. We have a large percentage of cheese makers who do not tell their patrons what they ought to have and why they should have it. The patrons are satisfied and they are willing to give him what is right. Our prices should be based on some method by which, if a cheese maker is good, he should receive a first class price.

DISCUSSION

MR. LOEHR: Where the cheese maker made cheese at three different factories, how was that cheese when he got through? Would he improve on it later on?

MR. NOYES: He looked dirty and worked in a dirty factory. If I was an inspector I would have discharged him that very hour if I would see a man dressed as he was. I do not believe in giving a man a license as a cheese maker to make cheese if he has only learned it in eight or nine months and if he cannot prove that he should have a license. He should learn it and be able to do it well and be neat in the factory before he is entitled to a license. (Applause.)

MR. DAVIS: I would like to ask Mr. Bruhn if he was figuring on the basis of 5 per cent of the total amount of the product manufactured. Naturally, the man that would have the largest amount of milk would get the greater wages.

Are there not too many small factories in the state of Wisconsin too close together? If the state of Wisconsin, through their Dairy Commission, would limit the location of the factories in a district, prevent two factories running in one town where only one is necessary and enable one factory to have a larger volume of milk so that they could not only pay better money to the cheese maker, but also equip their factory better to take care of that supply more properly, it brings us right back to the old question that was discussed a number of times—whether the cheese factories in the state of Wisconsin are not public utilities and the makers should receive protection on their investment.

MR. BRUHN: I am mighty glad that Mr. Davis brought up that subject of the small factories being too close together. A few years ago a resolution was passed here—that we influence the legislature to pass a law that we get a 40 per cent moisture law and a law to limit factories. We got the 40 per cent moisture law, but they laid down on the other. In regard to the 5 per cent, I thought that thing over from several angles and I figured out that a man that is able to handle a factory of five million pounds of milk a year should receive more

money per month, after they have paid their helpers, than the man that is only handling seventy-five thousand pounds of cheese. He carries more responsibility and for that reason I put it on a percentage basis. A man that is only handling seventy-five thousand pounds of cheese a year should not have anywhere near the monthly wages as the man that takes the responsibility of making five hundred thousand pounds a year and that is why I put it on a percentage basis. A man should receive more for making long horns, and squares, and after I got the market prices paid for the different sizes of cheese, I came to the conclusion that this will just about make up for the extra work put on the small cheese. There is one thing you can't forget, you have got to have the farmer with you and just as soon as you begin to tax them above what they think is a fair salary, you are going to fall down.

MR. CARSWELL: I would like to ask Mr. Davis a question in regard to doing away with small factories and competition, and have it made as public utilities. What are the public utilities for? Would you like to have that apply also to cheese warehouses?

MR. DAVIS: Why, yes, my contention, gentlemen, is that the overhead cost of a man's capacity is his ability to perform a certain task at a certain time. A cheese maker loses money when he isn't employed up to his capacity for work. A man who is capable of handling five thousand pounds of milk is losing his time when he is only handling two thousand pounds, naturally making the cost of that product higher than it would be if he was using five thousand pounds of milk. I believe (and I speak as a dealer) that when a man that has got a volume of product for sale he can command a market price over a man that has little or nothing for sale, and I say to you I believe sincerely that the small factories in the state of Wisconsin have raised the cost of manufacturing of the article. The laws of Wisconsin should be changed so that when a factory is serving its community and serving it well, the man who owns that factory should be protected in his investment and no other factory allowed there to take half of his milk, without it first being found if there is a necessity for that factory. If the law could be so changed, then no one can say, we will build a factory across the road unless you do so and so. He could then appeal to the commission and appraise that property and sell it to the farmer and he is protected.

MR. ADERHOLD: I know there has been a very strong desire for a number of years by cheese makers to have that thing put across to safeguard them in the value of their property, but I think there are some things they didn't figure on. If they haven't got the good will of their patrons, even under that condition, their property would not be safeguarded. If the patron has it in for the cheese maker because of the law that compels the patron to trade his milk at a certain place, they would say, "You go to thunder and I will buy a separator and ship my cream." You can't protect the value of that cheese factory property unless you have the good will of the patrons.

MR. DAVIS: I think I touched on that phase of the matter when I said that I would have it under the supervision of the Dairy Commission of Wisconsin if there was a difference between the patron and the maker. If the patrons wanted to purchase that factory they could do so at a certain appraised value. You have got the equipment and you spent your whole life building that building. We own the milk, we will take it over to someone else with no curing room, to some cheap maker. We want them all equipped to manufacture good cheese, and I would protect the man in his life investment and not take it away from him, except by a hearing from proper officers.

MR. ADERHOLD: I have something to offer, and a resolution to follow, touching upon the price of making cheese and I want five or ten minutes of your time if I can have it. I believe I am the only man that has attended every convention of this association, beginning in 1893, and if you younger fellows have attended as many of these conventions as I have, it will pay to see things in a clearer light than you can today. I want to give you a little for your benefit, as I see it, touching upon the cheese maker and his wages.

The editor of this paper (holding up paper), my friend, Mr. Thomas, just before he died, asked me to prepare an article for this convention number, and the subject of the article is the Price Differential as between a Fancy and No. 1 Class of American cheese, and the Price Differential to the Cheese Maker of one-fourth cent a pound in addition to his regular income for each pound of fancy cheese he makes. That is the subject of this article and I will read it to you.

Some twenty years ago the average quality of Wisconsin cheese was the highest ever attained. The outstanding factor in building up that standard of quality was the practice of dealers of paying a price differential according to quality.

That practice brought competency in cheese making; that standard of quality made Wisconsin cheese famous; that price differential was the best thing that ever happened to the cheese industry. It was indeed an important factor in making ours the foremost dairy state.

About that time the big interests began to buy big quantities of cheese direct from factories. With them it was a quantity and not a quality proposition. The situation changed and gradually cheese makers began to exploit the opportunities created by the change. They began to shirk on time and labor; they boxed the cheese with wet surfaces and shipped up to the hoop; they were more reckless about the finish and they loaded the cheese with moisture.

Dealers remonstrated against the high moisture stuff but accepted it; they objected to cheese with wet surfaces but accepted it; they didn't want the cheese so young, but took it and paid the price.

By a price differential they could have stopped the manufacture of high-moisture stuff but they didn't; they could have stopped the boxing of cheese with moist surfaces and shipping up to the hoop, but they didn't.

The quality went on the toboggan. The incline of the slide, at first slight, increased as time passed until the quality was going rapidly to ruin.

Dealers used to function as quality builders. Since the big interests got into the cheese game they have not even functioned in maintaining quality.

For that reason it became necessary to resort to other expedients to safeguard the industry and the state became active in that behalf. The surplus water has been squeezed out of cheese by laws and inspection. Boxing and shipping of cheese with wet surfaces and up to the hoop has been generally discontinued because of activities of the Department of Markets. Because of laws and inspection, the toboggan has tilted upward during the past few years and the improvement in quality has been great, indeed.

However, laws alone will not put the quality where it should be. Laws are restraining measures. They punish for wrong-doing but do not bring reward for competent, faithful service. Only the price differential will do that and until that is established competency in cheese making will not be the asset it deserves to be. Every dealer and grader admits there should be a price differential between Fancy and Wisconsin No. 1 grades, and the rank and file of makers desire it.

It is my personal opinion that the best thing that could happen to the cheese industry is the establishment of such price differential and that the maker be paid one-fourth cent per pound for all fancy cheese

made, in addition to his regular income. The improvement in quality under such a practice would, in a short time increase the demand for cheese. All grades would bring higher prices because of it and both producer and maker would be more prosperous.

One of the chief purposes of the state grading order was to bring about such price differential. With the grading in effect, the dealers have a rather poor excuse for not getting back on a quality basis. All that is needed is to base the board price on the highest grade instead of on the second highest. Their refusal to make that reasonable shift shows that we must not expect improvements because of their efforts. Dealers are merely middlemen and why should they be interested in building up the industry for the producer or maker. Just because they did it years ago, are we not now expecting too much of them?

At our cheese makers' conventions certain few dealers have repeatedly used considerable time in recommending and discussing the need of a big force of instructors to be sent out by the state. However, well meaning those dealers may have been, the result of those discussions could but tend to leave the situation as it was. Hundreds of makers are ready and able to turn out fancy goods when the price differential is paid. With a little serious thinking any maker must conclude that such instruction, if it ever comes, will not and should not come before the price differential obtains.

It is taking makers a long time to get their eyes open. The problem can be worked out successfully by the producer and maker, assisted by state agencies. The cheese maker is intimately connected with the production and his prosperity is affected by that of the producer. Because of his constant contact with both producer and dealer he is in a position where he can exert a powerful influence for improvement in cheese marketing. So far he has been asleep and has scarcely shown his hand. It is high time for him to wake up and line up in a drive for the price differential. Now, I have a resolution here that I have shown to a number of the leading cheese makers and they are anxious to have it acted upon and adopted at this time and here it is:

Resolutions on Price Differential

WHEREAS, The failure of cheese dealers to pay a price differential between Fancy and No. 1 Class of American Cheese constitutes a great evil to the cheese industry and works a deep wrong to all competent cheese makers, therefore,

Resolved, That the members of this association, collectively and individually, do their best in bringing about such price differential.

Resolved, That it is the sense of this convention that in building up the quality of our American cheese it will be practical, fair and necessary to reward competency in cheese making by payment to the maker, in addition to his regular income for cheese making, one-fourth cent per pound for all cheese produced by him of Fancy grade.

MR. RINDT: I feel that as the competition is getting keener, etc., unless we ourselves as makers fight for our rights we will not get our rights, but when I have to take three-fourths hour a day longer than my competitors, and try to put on cheese, as far as the moisture is concerned, that contains around 37 or 38, it is hard work on my part to take care of it properly. If we don't demand something on that work we have lost good men on that account.

MR. BRUHN: I move that the resolution be adopted. Seconded and carried.

Committee on Price Differential

MR. ADERHOLD: Under the present situation we have, as Mr. Noyes

indicated, here and there in cheese factories some mighty poor sticks. It would be much more appropriate if they were working in a gravel pit where they couldn't do any damage. We have hundreds of competent cheese makers. Your competent makers are dragged down to the level of that poor stick, and it is time for us to get busy right today and why not have a drive to get it remedied. But there has been nothing done in this respect. You have done nothing and it is time for you to do something and I am going to suggest the appointment of a committee to take this drive in hand and I am going to make a motion that this committee shall consist of H. A. Rindt, A. T. Bruhn, Fred Ubbelohde, and A. F. Zelm. Seconded and carried.

MR. GRUENSTERN: I would like to ask the cheese dealers if they can answer why there is no differential between the Fancy and the No. 1 at the factory, for there is a difference in the sale of this cheese at any other time?

MR. DAVIS: The Winnebago Cheese Company, after the law was passed, printed on their circulars that they would pay one-fourth cent on all Fancy and No. 1.

MR. NOYES: I am very glad that the cheese makers are interested in first-class cheese. I don't think that a cheese maker can tell me when a cheese, only three days old, leaves his factory if it is No. 1 or No. 2. Now, if you cheese makers want to make a fancy cheese I guarantee the buyers will pay for it. I want to say that I have the best of feeling towards you cheese makers. A very small percentage of your cheese really stays in the factory long enough to make it a good cheese. We are manufacturing cheese ourselves and we have graded cheese three days old, No. 1 cheese and Fancy, put it in the cooler but even at fourteen days old, cheese which was No. 1 in four cases did not show up as No. 1. If you want the cheese dealers to do their part, meet us half way. I would suggest that this committee go into the cheese business next summer.

MR. DAVIS: I would like to amend some of the remarks Mr. Noyes has made. In receiving cheese all last summer in the warehouse, my attention in cases of uncertainty was called to various lots of goods. I feel myself a competent grader, but I have repeatedly come across a lot of cheese that I couldn't tell whether it would turn acidy or improve. Now how can we, as cheese dealers and graders, say to you that your cheese is fancy when you put it into the warehouse so green that we don't know the quality? If the holding law of the state of Wisconsin was changed from three to seven or ten days, so that when the goods came in we would know the quality, we would be prepared to say, "This cheese is worth more money."

MR. UBBELOHDE: In this new organization that we formed December 23 in St. Croix County, the scoring contest is going to be run just a little different than an ordinary scoring contest is run. We understand at the state cheese makers' convention scoring contest the boys will compete and put in their best efforts for that day. You can't blame them, but we have offered to put up $100.00 for the man who can put out the largest percentage of fancy cheese. They asked us for suggestions as to how the factory can put out the largest percentage of fancy cheese. The suggestion was made that no man can put in a cheese that was aged or that he put particular pains on. They are going to score each month, and probably three or four days before the contest is to be put on all members are to be notified to have cheese there to be scored.

MR. REED: How long before they score?

MR. UBBELOHDE: Our youngest cheese should be four or five days old before we notify them.

MR. DAVIS: That is a mighty good move.

HOW TO GET GOOD MILK FROM MILKING MACHINES

PRESIDENT REED: I have a letter from Mr. Fred Feutz of Rubicon, Wisconsin, which I will read.

Rubicon, Wis., Nov. 8, 1923.

Mr. J. L. Sammis Secretary,
Madison, Wisconsin.

My dear Mr. Sammis: In response to your inquiry about the use of milking machines, I wish to state that seven of my patrons are using milking machines and of the different makes. I have experienced no trouble that can be ascribed to the fault of the milking machines, because my patrons are doing their utmost to keep all parts clean and the surroundings in as sanitary condition as possible. The usual troubles are encountered caused by the change of feed, pastures, etc., but I cannot trace any to the fault of the machines.

I will try my best to be in attendance at the meeting and will also send cheese in the due course of time. With best wishes,

Yours truly,

FRED FEUTZ.

PRESIDENT REED: Here is another letter from Mr. John Blickenstorfer, of Gratiot, Wisconsin, which I will read:

Mr. J. L. Sammis, Secretary,
Madison, Wisconsin.

Dear Sir: I received your letter today and I am going to tell you all about this milking machine business.

I think the milking machines are all right if they have been kept clean. I think the cheese makers feel more safe if the farmers bring the milking machine to the factory every day and have the cheese maker steam them out. For this I made a regular steam table for which I used a board about 5 feet long and 14 inches wide. In this board I drilled four holes about 14 inches apart and for each hole I made extra steam connections. One of my farmers which has a milking machine brought me a hose nozzle which I fixed up so it can be screwed right on top of those holes on the steam table.

This table is not only made for this purpose, I am using this more for steaming out my rennet jars, and dippers, and pails, and also for cooking the whey which I use for preparing the whey for my lab.

But the farmers could keep these milking machines just as clean at home if they only wanted to. Every farmer that has a milking machine has got to have some kind of motor and every motor is equipped with one exhaust pipe and by extending and enlarging the size of the pipe, and let this pipe go through a wash boiler or wash tub or anything which will hold a couple of pails of water, the farmer will find out by the time he gets done with his milking he'll have some nice clean boiling hot water. He should have another tub filled up with clean cold water. All there is left for the farmer to do is to rinse those tubings and all other milking machine connections in cold water first and after this leave it in hot water for a few minutes. After this is all done, keep it in a clean, dry place and this is absolutely necessary, especially for Swiss cheese factories. Sooner or later farmers will find out that they will have to do so.

I know of cheese factories that had quite a few of No. 2 cheese where there were no milking machines. Suppose there was a milking machine, they would blame the milking machines. But where there are no milking machines there is poor milk, anyhow. Years ago it was the silo business, now they lay the fault to the milking machines. There is only one thing that I wish I could do before I speak too much about this milking machine business. If I could make a few cheese only from milk from which the cows have been milked with milking machines and find out for myself whether or not that milk is fit to make a real nice No. 1 cheese out of it.

This summer I only had two farmers which used milking machines, so I don't dare to say very much about this milking machine business.

I would like to send you fellows one of my nicest fancy cheese that I have in the cellar if you are willing to pay forty ($.40) cents a pound for it. This is just to show up what Bulgaricus mother starter will do in a Swiss cheese.

Yours respectfully,

JOHN BLICKENSTORFER.

MEMBER: Where a machine is not washed you will quite often find the case, that the salesman in selling this machine conveys the impression to the farmer that it does not need to be washed more than once or twice a month and the result is a dirty machine and poor milk.

PRESIDENT REED: I can state that on our home farm, in the last nine years, there was never a cow milked by hand, always by milking machine, and it was always clean and there was never any of those rubber tubes replaced, but after a thorough cleansing, cleaning and steaming, they were hung in the sunlight and there never was any trouble with that milking that we heard of, and other farmers in that community were using those machines also.

MR. MOORE: As far as I am concerned, the milk on Mr. Reed's farm was used for two or three years and I always found the milk in good condition. I always found the milk in fine condition.

MR. LINDOW: I have about six using milking machines and some have used them for years with good results. I have never had any trouble with the milk from the milking machine. They should use the milking machines continuously and I have never had any trouble with the milking machines.

MR. SCHMITFRANZ: I have had some milk that was not considered good. The farmer did not clean the tubes and after I showed him where his trouble was, from that day on I had good results. I think I have eight or nine milking machines. I believe that I am getting better milk from them than I am from my other patrons.

MR. SCHNEIDER: In order to clean those milking machines, did I understand that they should run through cold water first, then hot water in order to keep them clean? Is that sufficient?

PRESIDENT REED: Use steam, dry steam.

MR. SCHNEIDER: Boiling water will do the same work as the steam.

PRESIDENT REED: It was first rinsed in cold water direct from the well. The machine was washed out with that, then we used clear, boiling water for sterilizing it. Then it was hung up in the sunshine and there never was any washing powder or soap used to stick in the tubes.

MR. LINDOW: To some extent the trouble in the milking machines

are that fellows do not use the reamers or clean out the pipes. I think it is a good way to flush that, so that you can drain the pipes out thoroughly.

MR. SCHMITFRANZ: I find that the salesmen, when they are selling these machines, are advising the cleaning of the air lines every so often, something I didn't know when I started out with the milking machine, and I find now that it is doing a lot of good.

PRESIDENT REED: According to the discussions we have had here, we can't condemn the milking machine. So don't blame it onto the machine unless it is in a dirty condition.

PROPER CARE OF MILK FOR CHEESE MAKING

By WM. C. LINDOW, Plymouth, Wisconsin.

The subject is, "Taking Care of Milk," which I presume you all know how to do, maybe better than myself. I am going to give you my experience and opinion. I may be wrong. Just like an old well-to-do farmer having an argument with his son about using too much oil. It happened something like this: The son, one evening after having his work done, took the lantern and went out. The father called out to him, "Where are you going?" The son answered, "I am going to see my girl." "Well," the father replied, "you don't need a lantern for that." The son answered, "Yes, I do." The father replied, "I never used a lantern for that." The son then said, "Well, father, look at what you got."

In taking care of milk there is more than one party involved. Directly it is up to the farmer to take care of the milk, but indirectly it is up to the cheese maker, creamery men, and dealers, because most trouble lies in trying to pass the buck to somebody else. The creamery men and dealers blame the cheese maker for poor milk and cheese, and the makers blame the farmers. Of course, it is up to the farmer to take care of the milk, but it is our duty to help educate the farmer in taking care of his milk. I say this much, that if we want to help educate the farmer in taking better care of his milk we will have to practice what we preach.

One bad practice is that of accepting milk that other makers have rejected. It has happened quite often that where a cheese maker rejected milk from some of his patrons that the farmer would turn around and haul his milk to a neighboring factory. Now, I tell you that if we want better quality of milk, "Do unto thy neighbor as you would want thy neighbor to do unto you."

I think one of the best practices to draw the patron's attention to bring better milk is to keep your factory and surroundings nice and clean. How can a maker expect good results in educating his patrons if he himself keeps his factory and utensils in a dirty and insanitary condition? How are some makers, like the one I spoke of last summer, going to help educate the farmers? This maker was complaining about the poor milk he was receiving at his factory. Well, I happened to see the cheese that he made and I said to him, "If the farmers won't take any better care of their milk than you do

in the make-up of your cheese you couldn't make cheese at all." The same thing is true about quite a few makers in taking care of their cream. If the farmers wouldn't take better care of their milk than quite a few makers do of their cream the cheese makers couldn't make cheese at all. I saw one can of cream shipped in from a certain factory. It contained more flies than I had in my whole factory. Another factory shipped cream that looked more like soap suds with a little oil on top than like cream. How are makers like these going to help educate the farmers. Right here is where I blame the creamery men and the dealers or anybody that handles their finished product, for letting the cheese maker get away with it. Some of these factories run a very good yield, but a poor quality of cheese and poor make-up, and get away with it. They even get the patrons away from factories that turn out a good quality of cheese, yet do not receive any more for their cheese. Therefore, I believe in grading the cheese and paying for quality, which, I believe, would greatly result in a better quality of milk. I heard lately that they are grading the cream at some of the creameries in the western part of the state with good results, for they claimed that after starting the grading of cream they received but very little low-grade cream.

I am going to tell you how I want my patrons to take care of their milk; many of you makers here have handled more milk than I have, and know more about it than I do, so I would like to have some discussion about it, for I think we will get more benefit from discussion. What I want my patrons to do first when they start for milking is to rinse their cans and covers with clean, cold water. This I found was one of the hardest things to get the patrons used to. I make a sediment test, quite often with good results. When I find their milk somewhat dirty and ask them if they strained their milk carefully, they would say "Yes." When I asked them if they had rinsed their cans and covers before milking, they would say, "No." What is the use of straining the milk into a dirty or dusty can. Often the dirt is in the covers. This is especially true in the fall of the year. Covers are frequently placed in such a way that flies can get into them. Later when the covers are put on the cans, flies and all, patrons wonder how the flies got into the milk.

There is another thing which sometimes has had effect on the milk. Of course the cans should stand in the sun in the day time, and are sometimes even standing in the sun at time of milking, but I want my patrons to cool them before milking and then I want them to use a strainer that covers the entire can. When they use more than one can I want them to put the covers on the cans after the cans are rinsed and keep them on tight until they put on the strainer. When they have the cans full and the strainer removed, I want them to put on the cover and cool the milk immediately. Here is where we had an argument. Some of the makers wanted the milk cooled and then covered. They claimed that the animal heat should come out first, but to my opinion and experience I don't think that the animal heat of a healthy cow will injure the quality of milk, and I don't think

that the milk from an unhealthy cow can be improved by leaving the cover off until after cooling. On the other hand, what is the use of straining the milk if you want to leave it stand open until cooled and let the wind blow in dirt and filth.

We have used this method for quite a few years with good results. Some claim that if you got milk with off-flavor that by leaving the milk open you can get some of the flavor out, but I think there is just as much chance of getting some more in than out. By leaving the milk open you will soon find a thin scum on the cream, which I think is more injurious to the milk and test than if you will put the cover on before cooling. The cooling is the main thing in taking good care of the milk. You can't get it too cool in the summer. In the winter there is a lot of milk that gets too cold. You get a lot of milk in the winter that is or was frozen and is thawed out again before you get it at the factory. Often in the winter when there is a milk day the farmers set the milk outside and leave it stand out over night, and by the next morning often the weather has become considerably colder and the results are that the milk is badly frozen.

I believe if we could get all the farmers to build a milk house it would be of a great advantage in producing a better quality of milk, in summer as well as in winter.

Many of the farmers that have waterworks in their barn are cooling their milk in the barn or close to the barn outside and using the water out of the storage tank in the barn, which I claim is not cold enough to cool the milk properly. Milk should be cooled with water direct from the well and taken away from the barn if possible. There is quite a little milk that doesn't get out of the barn at all in winter until it goes to the factory and therefore, I say, milk should be cooled in water right after milking in the winter just as well as in the summer. I don't think that I am far out of the way by saying that 80 per cent of the milk in the winter isn't cooled in water at all. It should be, as it cools quicker and better if it is cooled in water and then put in a place with a normal temperature where it won't freeze.

Milk needs as much care in winter as in summer, as frozen milk is just as bad as a gassy milk, if not worse. Therefore, I say, that it is up to us to help educate the farmers in producing a better quality of milk.

I think there are quite a few members here that know more about milk than I do, so if there is any time I would like to hear from them. I thank you.

DISCUSSION

MR. ADERHOLD: Do you require time to stir it while it is cooling?

MR. LINDLOW: No, we shake the cans while it is cooling.

MR. REED: Should the can be higher than the tank?

MR. LINDOW: The can should be higher than the tank.

MEMBER: Your animal heat is a benefit to that milk?

MR. LINDOW: No, not from a healthy cow.

MEMBER: You think you should cool the milk with the cover on?

MR. LINDOW: Yes, we have had better results for seven years.

MEMBER: That is new to me as it is contrary from all what I have read on the subject. They advocate cooling with the lid off.

MR. LINDOW: I found it only injures the milk.

MR. KASPER: I have operated a factory for a few years, too. I find the best and easiest way to educate the farmer is to handle them, it seems, as you do your pies.

If your chef cooks a meal and you don't like it, you don't eat it. Years ago I read a story about a preacher that was no better educated than I am myself. He studied a sermon and he gave it every Sunday. He read it over and over from the pulpit. Finally one of the head officers of the church got tired of it and he said to his wife, "The preacher never changes his sermon and I am going to tell him about it." So he told him: "You have been preaching the same sermon for the last three or four months, what are you doing it for, it don't take any affect anyway." The preacher said, "Why, you are the only one that notices that it don't take any affect," and the officer said, "Oh, yes, they have all noticed it." The preacher said, "John, what did I preach on last Sunday?" and he answered, "What day is today?" and he said, "It is Wednesday," and John said, "I can't remember back that long."

Now you preach to the farmer every morning along that line, when he brings a can of poor milk, and he feels bad enough about it. Just let him take it home. Don't tell him how to take care of it, but he will bring you a better can the next day if you don't accept this one.

MR. UBBELOHDE: In regard to covering up the can, or letting the animal heat escape before it is cooled, we have made a good many tests that way, but our cooling tank sets down so that the can is about one inch above the water. We never uncover the can. We haven't in years. We just turn it. If you set a can of milk where there is only a little water around it, it will not cool properly. If you have a can of milk at 95° or 97° and set it in water at 42°, 250 pounds of milk will soon warm that water. The milk cools better if you keep it covered. When your can is filling, set it in there beforehand. It will then cool a great deal quicker.

MR. KASPER: All the milk needs is cooling. If the milk comes clean from the cow, put the cover on the can and cool it down. The cooler the better. Keep your milking utensils clean and your hands clean when you milk and you will have no trouble with the milk.

MR. ADERHOLD: I was at a meeting last July in hot weather and they wanted me to talk on the care of milk. I had to make curd tests and temperature tests with the evening milk that came to the factory, and those temperatures ran all the way from 60° to 80° at the intake where all the farmers could see it. And of course, they saw the curd test at its best and that made a wonderful impression at the factory. I think certain cheese makers are wrong when they don't give the patrons the chance to compare their milk with other milks. The cheese maker is comparing one with the other, and he ought to give the patrons a chance to make those comparisons. When the patron does not see the other fellow's milk, you may tell him that the milk contains more dirt than it ought to, and he thinks it is just as clean as the average, and he is honest about it, but if you would let him see his test and the other fellow's, he will see it in black and white, and that is what you want him to remember. This applies to the

curd tests as well as the temperature tests. They often think that theirs is cooled as much as anybody else's, but if they saw the record there they would be able to learn quicker. No milk is perfect, except by comparison. If you get the farmer to learn by making those comparisons he won't get so peeved about it.

MR. LINDOW: I have to make a sediment test very frequently and I show the patrons on a glass how their milk compares with their neighbors. The second time I made a test it turned out better. Another thing, I give them the temperature of their morning milk and their evening milk, and I put it down on the record and they can see how theirs compares with the neighbors. I reject a can of milk now and then, and they bring it back strained and never say a word about it.

MR. ADERHOLD: I wish every patron could be pursuaded to use a thermometer and get their milk down to 60°. They ought to know where 60° is. There has been a good deal said about getting rid of the animal heat. I think if you will cool your milk thoroughly and cover it, then it will be pretty hard to find any animal heat in it.

MR. LINDOW: I find that there is very little difference in cooling with the cover on or the cover off. I have tried it out last summer and I believe in closing the milk right after the milking.

MR. BRUHN: I think it was about twenty years ago that we had a speaker here from Canada that spoke on cooling milk with the cover on the can. They had tried it out there and found that they even got a little increase in yield where they closed the milk immediately with the cover on the can. In my factory I advocate cooling the milk and covering it immediately. Put it in enough water to cool it down. The fact that Mr. Lindow hasn't had gas for nine years is sufficient to show that his methods are good.

MR. KASPER: The average farmer likes to bring good milk and I have had patrons that have been hauling milk for the last 30 years, and I haven't had to tell them how to bring the milk. They have a certain system that they follow out in the winter time as they do in the summer time.

MR. UBBELOHDE: The main trouble that I have ever had in a cheese factory happened with experiments made before this closing of the cans went into effect. It started in Canada. The theory there was to cool the milk without setting in water at all. A cheese maker that had made cheese in the factory before I bought it was quite taken up with it. He advocated making a rack two feet from the ground and stir that milk and not put it in water at all in the summer time. He had talked that to the farmers and told them that was the proper way of cooling the milk. We couldn't make a decent cheese. I had more trouble to pursuade the farmer that milk must be cooled. Let the farmer select his own method as long as the milk is good.

MR. SCHNEIDER: I find it did more damage to the cans by stirring the milk than if they left the cover on tight.

MR. UBBELOHDE: I venture to say that our farmers think there is a larger percentage of fancy cheese turned out in our factory than in any other place in Wisconsin. We cool our milk in ten gallon cans. Of course, some say that a ten gallon can is too small. I believe it is plenty large enough, for the simple reason that the volume is not so large and it can cool better.

MR. LINDOW: I condemn all the 150 pound cans. It is hard enough to cool the 125 pound cans, and I guaranteed every pound of cheese for 18 years. We have had good results with the closed cans. You bring the milk the way I want it and I will guarantee my cheese.

MR. WINDER: I am interested in this discussion, but I want to warn you against what I believe one danger—that we are emphasizing the cooling system to the exclusion of other things of real importance, and I believe in the cooling of the milk. The first thing to consider is that the milk in the beginning is good—that the cows are healthy, not diseased, that the cows are clean, and that the milk is put into utensils that are thoroughly clean. It is a matter of sterilization. With the fermentation tests we are making throughout the year, we find in many instances some of the cold milk coming into the factory is full of bacteria. It develops into poor cheese. If you can have absolute clean, cooled milk that is the whole thing for success. It is a well-known fact that we can make curd tests from milk that has laid cold and that will turn out a very nice curd. Let us remember one thing, that above all things we must have sterilized and clean utensils and milk from healthy cows.

MR. GRUENSTERN: I believe, like Mr. Kasper says, you should determine at the intake what the milk is. Last summer I had some difficulty with fast-cooking curd. I found it was rather difficult—it is pretty hard to tell after the milk is cooled if it contains any bacteria.

MEMBER: Farmers are not all equipped to cool the milk, but I don't think there is a farmer poor enough that can't get a pipe or other things to get the best system for cooling milk that can be found.

MR. LOCKE: I have had a lot of arguments about cleaning cans. Now in the first place you want a decent strainer to start with. I do not care for the small strainers that they hang on their cans. I recommend a strainer that will cover up that can entirely, with a 6-inch hole with a cloth and a ring to fit on, and this cloth is easily cleaned. A large cloth is hard to clean. About stirring milk, I find nothing was said about utensils for stirring milk—that is one thing that should be clean.

MEMBER: Milk should be sanitary and free from sediment, and milk should be cooled. We have different methods. Mr. Winder advocated the shaking of the can. In the end it is immaterial if we agitate that milk by shaking the can or otherwise. The purpose is to cool the milk, and to keep the bacteria from developing. The United States Department of Agriculture has conducted the experiment on the cooling of milk in a closed container. They found that immediate cooling was essential, and the milk that was cooled in a closed container, whether in a can or bottle, came out all right with low bacteria and good flavor. The fact that a can is closed does not mean that the milk will not be all right if cooled immediately. The specific experiments show that the cooling is more important.

MR. LINDOW: The milk ought to be cooled in winter as well as in summer. There is lots of milk that is milked and put right in the can and stays right in the barn. If you build a milk house, would it be all right to build it in the barn or outside of the barn?

PRESIDENT REED: It is immaterial where you build it as long as you have free air and you have the right temperature.

MR. UBBELOHDE: Our milk house is a frame house on the east side of the barn. The building is 12 by 14. It is sheeted with building paper and siding on the outside, and the roof is two thicknesses of lumber with paper in between. Last winter when it was 20 below zero, our milk did not freeze there. It stood in a tank of water—just a small tank, and the milk didn't freeze in that tank.

GRADING MILK AT THE CHEESE FACTORY

By Mr. T. A. Ubbelohde, of Glenbeulah

To grade milk, one of the first things is for the cheese maker to be familiar with the best grade of milk and grade up to that.

When we go to the bakers here in this city they tell us that their bread that they turn out from that grade of flour is just the same day after day. They use the same grade of flour. The wheat is graded and the bread is graded. It must be the same all the time. That is what builds up the big business.

We gather milk from so many farms, there is more chance for defect in milk than there is in grain. Ninety-five per cent of the milk from a healthy cow is all right when it leaves the cow. Take care from there on and you will have grade 1 or fancy milk. We are a little careless. I speak as a farmer and I know something about that. The best of us sometimes slip up and we hurry up a bit. This milk may be all right, and it may not. That is why it ought to be graded. If that milk is not good enough for a fancy cheese, put it in No. 2 vat. I don't see why the milk shouldn't be graded if the cheese is graded. We have a number of creameries in Wisconsin that are grading cream for butter. They don't grade the butter, they don't have to. They sell it for what it is worth.

The cheese makers must have their cheese graded and branded. It is more vital to them to grade the milk than the cheese. No cheese maker can turn out a strictly fancy cheese from a poor milk. He may make a nice article, but it will not make a fancy cheese. It can't be done. Milk once tainted won't turn out a good article. Sometimes the milk that is best taken care of has fooled the best of us, and the cheese may contain pin holes, etc., but we can't tell until we make a test of it. If the farmer would know that the milk is going to be graded and put into two or three classes, No. 1 milk on one sheet and No. 2 on another, and at the end of the month he gets paid for the No. 2 milk, according to the price of No. 2 cheese, I believe that there would be improvement of milk. This can be carried out quicker by letting the farmer see what difference there is between the two classes of milk and let his neighbor see that this man has brought No. 1 milk and the other one No. 2, and you get at the solution quicker than in any other way. At the end of the month, on the statement cards, the statement is made of so many pounds of cheese made and sold at so much a pound, so many pounds of fancy cheese at so much a pound, so much No. 1 milk was received and so much No. 2 milk was received, and so much cheese made. A No. 1 milk will turn out more cheese for the butter fat than a No. 2 milk.

I believe that the greatest trouble that the cheese dealers find with the cheese is with the weak body, and cheese of an acidy nature. There are two causes for that. One is that the milk is not ripe, and the other is we use too much starter. If the milk was graded, the cheese makers naturally could guarantee a fancy or a No. 1 cheese out of the fancy No. 1 milk as the case might be. He ought to stay at

the factory long enough, put in time enough and use such methods as many of us are doing to accomplish that. If the dealers got this class of cheese, they would pay a better price. The great trouble is making the price on the fancy or No. 1 cheese, it is almost impossible to tell whether it is fancy or No. 1 cheese when they sell it. If the cheese is held long enough in the vat, I think this can be overcome. There is absolutely nothing else manufactured where the manufacturer will take all the material that comes along and endeavor to turn out the best and the highest grade of product. Nobody undertakes that. Why should we try to do that in making cheese. Now why not grade the milk and let the farmer bring the milk and make the cheese according to the milk that you get. Put the responsibility back onto the farmer. Tell him you are making a No. 1 cheese out of No. 1 milk, and No. 2 cheese out of No. 2 milk. You can tell them the milk is as good as it should be, but let them know that you are making the cheese according to the quality of milk that you get.

DISCUSSION

MEMBER: If the milk was graded, no doubt, a better cheese could be made out of No. 1 milk. How can we do that in the summer time when we have both vats full of milk? What percentage of poor milk would I have and what would I do with it?

MR. UBBELOHDE: Some years ago I had a vat that held twelve to fifteen hundred pounds that held No. 2 milk. I think the lower the price of No. 2 is, the quicker you will get No. 1 milk.

MEMBER: Why not send that milk home then and make him use it for what he can at home and not accept that milk at all.

MR. UBBELOHDE: We are doing that now. I believe there is milk that you can't accept. Mr. Winder would get after you if you would, but there is milk that will make a cheese, but will not make a fancy cheese and if we will draw the line there and grade it as No. 2, and the farmer sees it on the bulletin sheet, the farmers will be more careful in the future. Put it in the other vat, class it as No. 2, and sell it as No. 2, and I believe the results would be better.

MR. REED: Unsanitary milk must not be sold at all under the law. Wouldn't the No. 2 be in that class?

MR. UBBELOHDE: No, there is a long distance in what is allowed to go in the factory between unsanitary and No. 2 milk.

MR. KASPER: Supposing you have No. 1 and No. 2, and you put No. 2 starter in there, that would be all right.

MR. UBBELOHDE: A cheese maker that uses No. 2 starter shouldn't make any cheese at all.

MEMBER: I would like to ask if he would class that milk No. 2 and the neighboring cheese factory would class it as No. 1, what recourse would you have?

MR. UBBELOHDE: None at all.

MEMBER: Would you sooner lose the milk?

MR. UBBELOHDE: I suppose so. I believe that this matter should be talked over with the farmers in the annual meeting, that some milk

must be rejected if it is not fit to make cheese of. Most milk that comes in we accept. The matter must be talked over with the farmers and they must agree to this. They will see it the right way. Unless the farmers are in harmony with us, we will not be able to do this. Get all the yield that is possible from No. 1 milk. If the poor milk is received it takes more milk to make a decent cheese out of it. I believe most of the farmers will agree to that if it is brought to them so they will see it.

MR. KASPER: Ninety-nine per cent of the milk is first class, that is brought to the cheese maker. I only had one patron that I had to watch. I sent back the milk once or twice and he brought good milk after that. The trouble is now-a-days the farmer will get up at 4 o'clock in the morning. The average cheese maker will lock up his factory at noon and the farmer wonders where is the cheese maker. That is what hurts the good cheese maker—it spoils the farmer.

PREVENTION OF GAS IN AMERICAN CHEESE

By A. W. SCHULTE, Cumberland, Wisconsin

The proper place to begin the control of gas is in the cheese factory receiving room. While taking in my milk, I make it a point to remind the patron, whenever his milk shows the least sign of gas, what I think is the proper way of caring for their milk. I have had very little trouble with gas in the last few years, due to the fact that my patrons take pride in bringing good milk. Some even go so far as not to bring milk that does not seem right to them. Most of them, when they do bring it, tell me about it before I have time to find it out for myself. Here, also, I make it a point to show them that I appreciate their honesty. But no matter how careful one is, he is bound to get a shot of gas once in a while. I doubt if any two cheese makers have exactly the same idea as to the best way of working out gas.

When I am expecting gas in a vat of milk, I hurry the process as much as possible. I set the vat riper, I use more rennet, I cut finer and generally cook faster and a little higher and try to run a little more whey acid, whenever I have trouble in getting the proper acidity, which is about 20 on the acidimeter. Twenty-two or twenty-three is a little high, but it seems a well cooked curd can stand it without the cheese showing high acid on the shelf. Whenever the whey acid is slow in developing, I do not hold it too long as that gets the curd too dry. Then when I push the curd back I have it deeper than otherwise, and I draw all the whey. Sometimes I leave it a short time before I open a ditch through the center. All the time I am keeping close watch with the acidimeter. I always cut the curd in about 8-inch strips. Then when I turn for the first time, if the acid is coming satisfactorily, I leave a few inches space between the strips, otherwise I turn them close together. I mat a little more than for a normal curd. When it has spread out so that I can, I turn the outside thick edges under. I usually pile deeper for gas, sometimes as many as 12 or 14 pieces in a pile. I generally aim to get the curd all into two piles, but I seldom leave it very long when I pile that deep. I do not

hurry the work any after milling. I give it plenty of time, keep it well shook up, being careful to keep out all bunches. When the holes are well flattened, I wash with water of about 102 degrees, then just as soon as my curd feels nice and smooth I salt it. I have had good results and no trouble with bloated cheese.

WHY I PREFER TO MAKE OLD STYLE CHEESE

By Mr. Emil Peters, of Sugar Bush, Wisconsin

What I want to talk on is like a story of two safe agents, one from Chicago, and the other from St. Louis. When they started to sell safes the first agent was from St. Louis and he said, "I have a safe that has been thoroughly tried out and we have built a fire around this safe for 24 hours; we put a cat in it first, and then we burned this for 24 hours with coal tar and kerosene and after the safe was cooled off took the cat out and it was still alive." The Chicago agent said, "I have one better than that. Our safe has got that one beat a little bit. We had a fire around our safe for 48 hours with a cat in it and started a fire with coal tar and kerosene, poured around it, and after it was cooled off the cat came out frozen to death."

I am not an old cheese maker, with only nine years' experience, so I could not talk on how cheese was made twenty years ago. I will tell you how I make cheese to be better than Colby and cold water washed cheese, not that these cheese are not good to eat or make. I think this cheese is a better keeping cheese than the other make is, because it takes a little bit longer time to make. The other style is just as good to eat, but my cheese will score higher and keep for two years or longer. I had a cheese at Milwaukee for the 1923 convention that was two and a half years old. I would like to see Colby or cold water washed to come up to that. I think we need a cheese that will keep a year or better. I know by experience that cheese made by giving time to cure in the vat is the best cheese. The Colby cheese is made in a hurry, for most makers get this cheese made by dinner time and a good old style cheese takes longer. When I make a good old style cheese it takes me from 6 o'clock A. M. till 6 o'clock P. M. This cheese will almost stand to be sold anywhere in the United States for climate and demand by the consumer. When I make my cheese I take in my milk and set it at 20-22 per cent acidity, I put in enough rennet to curdle for 20 or 25 minutes and then I cut the curd in the Spring of the year with a very fine wire curd-knife, 3/16 inch cubes. Then it is stirred for about 15 or 20 minutes before turning on the steam; then the steam is turned on slow for a while until the temperature is up to 100-102°F.; then it is well stirred all the time till it is firm enough to draw the whey. When the whey is off the cheese or curd is left to mat together; then it is cut in pieces about six inches wide; then it is turned over every five or ten minutes; then I pile two deep and four deep till the curd has a smooth texture; then I grind. It is well worked by forking; then I give it a good rinse with

warm water about 115-120°; then I fork it over for two or three hours before salting; I salt with two and a half to three pounds of salt to one thousand pounds of cheese; after salting I work it well over again for an hour or more until it is smooth and no salt to be noticed any more; then it is ready for the hoop and to be pressed. Press the cheese an hour or more before the cheese is pressed for the last time. After I take it out of the press the next day, I keep this cheese only about three days; then I ship it to the cold storage and keep it there till I want to use it.

If there is any discussion that any other make of cheese is better than this method, I would like to hear from them.

DISCUSSION

MR. UBBELOHDE: While you are drawing your whey do you keep your curd stirred up?

MR. SCHULTE: No, not unless it is very soft. I put a lot of faith in a curd-knife.

MR. UBBELOHDE: Do you use the agitators?

MR. SCHULTE: Yes, sir. I keep it thoroughly stirred. I put in the agitator and start it slowly and then we turn on the steam. We keep that up 35 to 40 minutes.

MR. RINDT: Mr. Kasper has the gold medal from the National Dairy Show, maybe he can tell us something about that.

MR. KASPER: I make it the same as I have made it for 35 years.

MR. ADERHOLD: Tell us about your curd-knife.

MR. SCHULTE: The curd-knife that I have reference to is about 3/16 inch, that is with the wires up and down, and the other knife is, I think, about 3/8 inch, and in case you have a fast working cheese you may cut it twice. I would like to ask Mr. Kasper if he makes a matted cheese.

MR. KASPER: We have a wired curd-knife one-fourth inch from center to center, and we use that knife 365 days of the year.

MR. ADERHOLD: What temperature do you like your curd at?

MR. SCHULTE: We always cook to 102° and up as high as 106°.

MR. UBBELOHDE: How much acid do you expect to have in your whey just before you expect to cook it the first time?

MR. SCHULTE: Not more than 1/8 inch. I believe in giving the curd lots of time and not giving it so much acidity in the whey. After the whey is all drawn off, I don't know, I never tried the hot iron so much.

MR. UBBELOHDE: At the time the whey is off, just before I cut it the first time it will hold .19 per cent of acid.

MR. SCHULTE: When I draw this whey off I always draw it about .16 per cent. It takes about two hours. When your vat is full I would suggest that it takes about 20 minutes to draw the whey.

MR. UBBELOHDE: I believe that one of the greatest mistakes that the cheese makers make, it takes too long to take the whey off. They will

figure on drawing their whey when it shows about .16 per cent. It may take from 20 to 25 minutes to take that whey off. In order to get my acid to .19,—in order to get it dry, I have to start it at not more than .14½ per cent.

MR. SCHULTE: That might be some time of the year when this curd works faster.

MR. UBBELOHDE: The young makers have been told to draw their whey at .16 or .17, when .14 or .15 will be better.

MEMBER: How quick do you cook the curd up?

MR. SCHULTE: We always figure it takes around 25 minutes.

MEMBER: Would you figure about an hour to one and one-fourth hours to get your right cook?

MR. SCHULTE: I think just about—we will let it run a little first before we turn on any steam.

MEMBER: Do you always use the same amount of rennet?

MR. SCHULTE: No, I do not all the year around. I use all the way from three to four ounces of rennet, in the summer time not so much, and in the winter I use more. I think the cheese cures faster with more rennet—it has better action. I use in the summer about one per cent of starter and I have used as much as two per cent in the fall of the year or in the winter. I always get my starter so it is just creamy, not that it is wheyed off.

MR. UBBELOHDE: How high do you cook your curd, Mr. Kasper?

MR. KASPER: 100 to 102°.

MR. UBBELOHDE: I have had this question asked me lots of times from the makers. Does it hurt to leave it lay a little bit longer before you salt? I always tell them, "No." I don't believe you can run too much acid after you get it milled.

MR. SCHULTE: If you mat a curd too long before milling it is not as good as holding it after milling. After milling I find it does the best work in texture.

COMPARISON OF OLD AND NEW METHODS OF CHEESE MAKING

By WILLIAM WINDER, *Second Assistant Dairy and Food Commissioner*, Madison Wisconsin

One of the objects of the Wisconsin Cheese Makers' Association, as stated in its constitution, is "The education of its members for better work in the art of cheese making, the care and management of factories, and the weeding out of the incompetency in the business of cheese making."

The science of cheese making has been of comparatively recent development, and, it can safely be said, that much scientific research work remains to be done.

The future welfare and development of the cheese industry depends upon and will progress in exact ratio with the development of the science and practice of cheese making. By this is not meant alone the

progress that the individual scientific research worker may make, but the extent to which those engaged in the various phases of the cheese making industry will become interested and willing to follow the best methods and the scientific findings of those few eminent individuals who have developed the science and what should be the practice of cheese making. Two questions arise. In the practices that are being followed today in making cheese in many factories—are we keeping pace with the progress of those who have made a scientific study of cheese making? Are we making the best of our opportunities? Many of the older makers in this audience no doubt can recall the time when the milk was set without the aid of a rennet test. Rennet extract had not been thought of. Rennet was prepared daily from the dry rennet by the maker and frequently lacked quality and uniformity of strength. Many will remember the old-fashioned wooden upright press with the stave hoops without bottoms, fitted with heavy screws for each cheese. Pressure was obtained by turning the screws down by hand as tightly as possible, then the maximum pressure was applied through the use of a heavy iron bar four or five feet in length used for turning the screw. Presses of this type required frequent tightening and one of the last duties of some of the factory help before retiring for the night was to "tighten the cheese." This was frequently done late at night and without the aid of a light and fortunate was the man who did not at some time experience the thrill and possible injury, due to his strength being exerted upon a misplaced bar.

The cheese maker of that day did not have the aid of the rennet test and acidimeter to determine the proper condition of a vat of milk for setting. The only guides he had were the sense of taste and smell and attention to changing temperatures of the weather. Remarkable skill was attained by many old-time makers in determining the condition of the milk and later the whey and curd by the process of smell and taste and the "feel" or texture of the curd. They had a pride in their work that prompted them to do their best at all times. Hampered as they were with crude equipment and the lack of modern tests, yet they acquired a skill that was remarkable and the quality and uniformity of the cheese made by many of the old-time makers would not suffer in comparison with that of the very best makers of today.

Forty years ago, even twenty-five years ago, very little milk was cooled. The character and necessity of sterilization of milk utensils were not well understood, nevertheless, with all these handicaps makers did make cheese of uniform and excellent quality and the attainment of this was their constant ideal for which they spared no efforts. They willingly worked the hours necessary to make the best quality of cheese out of material at hand, and they acquired skill by studious and careful attention to every detail of their work from the days of apprenticeship. Yield was not the first consideration then, quality was uppermost in the minds of the successful makers.

Since those days of forty or fifty years ago much progress has been made in the science of cheese making. Science has taught us

many things that hitherto were unthought of and science has proven the facts in many other things little known or misunderstood in the past. Science and invention have given us better cheese factory equipment, improved vats, continuous pressure presses and modern hoops, curd mills that quickly and smoothly cut the curd into uniform pieces, improved curd knives, rennet extracts of wonderful purity and uniformity of strength, salt that is pure and always ready for instant use (doing away with the necessity of pounding up the lumps and picking out stony impurities), rennet tests, by the use of which the condition of the milk for setting can rapidly and accurately be determined, the acidimeter for quickly determining the amount of lactic acid in the milk or whey, the curd test, fermentation test, methylene blue test, for determining the quality and to a certain extent the bacterial content of milk, the Babcock test for determining the fat content of milk, all these have been contributions for lightening the burdens and promoting the skill of the cheese makers. But have the cheese makers made such use of these aids that there has been a corresponding improvement in the art of cheese making? And have the ideals of the cheese makers kept pace with these scientific improvements?

In quantity of cheese Wisconsin produces more than all other states in the Union. The best American or Cheddar cheese produced is made in Wisconsin, a record we are justly proud of. Yet notwithstanding the position we have attained as leaders in the cheese producing industry of the world, we are faced with certain conditions that do lead many most interested in the welfare of our cheese industry to fear that our progress is not being properly directed. That we are not making the best of our opportunities and profiting thereby, there is plenty of evidence. A small percentage of our cheese is the best that can be made today anywhere. Always, the distributors of our cheese are asking for better quality. The great trouble is that too much cheese does not bear the characteristics necessary to be classed as strictly fancy. In mentioning fancy no particular established grade is in mind. With the diversified market and the variable tastes of the consuming public, such as we have in this country, it is a difficult matter to establish a grade and adhere to it that would give the people of all parts of the country the kind of cheese that would appeal to their tastes. There are those that demand a close, firm-bodied cheese of rather sharp, nippy flavor. There are others that like a softer texture and milder flavor. And there are still others that fancy the open, sweet, mild flavor. Of all of the varied textures and flavors that consumers fancy there are two characteristics that must be present if the cheese is to be entirely satisfactory. Down through the varying degrees of flavor there must run that distinct, clean, buttery cheese flavor with a texture and body to suit the varying demands. The texture must be smooth. Rough, sandy, coarse texture is not desirable and is at all times unpleasant and unpalatable to the consumer.

Cheese makers there are today whose art has kept pace with the

science of cheese making, as is evidenced by the quality of much of the cheese on exhibit at this convention. If the cheese on exhibit here were truly representative of the quality of all cheese produced in the state, we might well claim that our progress in our cheese making art approximates our progress in our science. That too many cheese makers have not kept pace with the science of cheese making and are not making the best of their opportunities is quite evident. Science has demonstrated that clean, sanitary milk is essential to make the very best cheese. Are all cheese makers demanding the quality of milk essential to make the best cheese? Are they making use of the various tests developed by science to aid in ferreting out the faulty milk and thus improving their art? Are they at all times employing the best means at their command to make the best product possible out of the milk received? Are they at all times giving the necessary time and labor to secure the best possible flavor and texture from the milk they receive? Are they making the best use of modern tests, modern labor-saving equipment and convenience (the things the early-day cheese maker did not have) to enable them to give more time to the educational side of their profession to the end that a better and more uniform product can be produced? A few are. Many are not.

The poor quality and lack of uniformity of the cheese coming into the warehouses of the state at almost any time of the year afford ample proof of this statement. Visits to cheese factories further confirm this inescapable conclusion. Further, to prove that cheese makers in their art are not keeping pace with the science in cheese making concrete examples are cited. At a factory where a young man was acting as cheese maker a vat containing the curd from about 6,000 pounds of milk was observed. Part of the whey had been removed and the curd, from lack of stirring, was in a soggy, matted condition with every evidence of excess acidity even for a well-firmed curd. The acid content was determined by a boy, a helper, by the use of an acidimeter and the whey was said to contain 23 per cent. Upon making a test by the use of the hot iron I found the curd to draw a string of over one-half inch and this with a raw, lumpy, matted curd. The maker, when asked if it was the general practice to allow such a curd to take acid to the point where it would string over one-half inch, said that he did not know because he "never could pull acid on the hot iron." Undeniably, this maker's art had not kept pace with science.

The cheese from another factory was of a very offensive flavor, commonly known as "fruity." It was suggested by the dealer that an inspector call at this factory and see if he could help the maker to locate the cause of the bad flavor. The maker was approached by the inspector for the purpose of assisting him in overcoming this trouble, whereupon the cheese maker became very indignant and asked the inspector who had sent him. When informed it was the dealer who bought cheese, the maker said that if the dealer didn't want his cheese all he had to do was to say so as there were plenty of other

dealers that would take them. This maker further said he knew that his cheese had bad flavors and he knew which patron's milk was making it, but that he was not going to lose any patron's milk by rejecting it or making any trouble about it, and so long as the milk would go through the strainer he would take it. Another example of the cheese maker's art lagging far behind in the race with science.

Like carelessness exists in innumerable factories. Milk improperly cared for and often in rusty and dirty cans is regularly and habitually accepted by the makers. Frequently, vats are set without the aid of a rennet test or acidimeter to determine the proper condition, in fact the whole process is all too frequently indolently carried on by mere guess work, hurriedly to its conclusion. Many makers frankly and truly admit that they make no attempt to make the best cheese they know how. They are lacking in suitable ideals. In defense of this low standard, this "get-by-with-it" attitude, they plead that they would not be paid for the better quality hence why waste effort in making it. Another excuse for carelessness and indifference is that the cheese all goes to the "grinders" anyway. The examples cited are but typical of the many that go to prove that pride in doing a thing in the best possible manner, that is, pride in the cheese maker's art and in turning out the best possible product, is woefully lacking.

Again I am forced to the conclusion that those men engaged in the cheese industry in Wisconsin in the early days maintained their art in a higher degree in the race with science than do those of today engaged in that industry. One of the greatest needs of today is a greater pride in the work at hand, and greater heed lest the cheese makers' art becomes one of the lost arts, and a greater realization that the foundation and backbone of any industry is dependent upon the quality of the product produced.

I quote the following pertinent remarks from a recent address by Commissioner Emery:

"We boast that Wisconsin is the premier cheese producing state. None can truthfully gainsay this proposition. We boastfully say, 'Is not this the great cheese industry which Wisconsin has built?" So, too, King Nebuchadnezzar boastfully said, 'Is not this the great Babylon which I have built?' Yet how long was it after that boastful, arrogant utterance that Babylon the Great, one of the world's wonders, a center of the world's commerce and of the arts and sciences, its life marked by luxury and magnificance, had fallen and became a city or ruins?

"Let Wisconsin's cheese industry beware lest self-complacency, lack of vision and of ideals, wheedle it to a similar fate."

SPECIAL ORDER OF BUSINESS FOR 3 P. M., THURSDAY ELECTION OF OFFICERS

PRESIDENT REED: I will appoint as tellers and ballot collectors the four gentlemen in front of me: Messrs. Arnold Schmidt, Walter Schmidt, Hurb Bassnener, and Oscar Damrow.

The first in order is the election of president to succeed myself. I have been elected nine times and never declared myself a candidate.

I will now make my own nomination, if you want to elect me for the tenth time or not.

MEMBER: I nominate Mr. H. A. Rindt, of Clintonville, as president.

MEMBER: I move that the nominations be closed. Carried.

The tellers announced the result of the ballot. The number of votes cast are 210. Necessary to choice, 106. Mr. Rindt received 123, Mr. Reed 84, Mr. Kasper 1, and Mr. Fred Marty 2.

Mr. Rindt was declared president of the association.

MR. RINDT: Gentlemen: I want to thank you for the honor. Your time is limited so I won't say much. I want to assure you that the best that is in me you shall have. I wanted to make these remarks this forenoon, but did not get a chance. Many times while I am in the country, as occasion presents itself, I hear remarks that should not be made a practice. We have heard some statements that I did not like to hear and it was not for the good of our industry. As a whole we all benefit if Wisconsin gets the awards from the National Show, it is a credit to the state of Wisconsin and to all of us. So I would like to have the members boost and cheer, instead of knocking and talking bad things to their fellowmen, in the same line of work, because it means something to us all. I thank you.

MR. REED: Next in order of business is the election of vice president to succeed Mr. Rindt, who has been elected president. Messrs. Herbert Kalk, Fred Laabs and A. T. Bruhn were nominated for vice president.

MR. DAMROW: I move the nominations be closed. Carried.

The result of the ballot for vice president was as follows: Total ballots cast are 189. Necessary to a choice, 95. Mr. H. A. Kalk received 107, Mr. A. T. Bruhn 63, Mr. Marty 8, Mr. Kasper 1, Mr. Laabs 1, and scattering 5.

Mr. Kalk is therefore elected vice president.

MR. KALK: I thank you for the honor and I will try to do the best I can.

PRESIDENT REED: The next on the program is election of secretary to succeed Mr. Sammis.

MR. UBBELOHDE: If no objection is raised I make a motion that we suspend the general rule and that with the unanimous consent of the members of this association we elect Mr. Sammis as secretary to succeed himself. Carried.

PRESIDENT REED: Next in order of business is to elect a treasurer to succeed Mr. Zelm.

MR. UBBELOHDE: I move the same as before. If, therefore, no objection is raised Mr. Zelm is unainmously declared treasurer to succeed himself. Carried.

PRESIDENT REED: We have on the Board of Directors one to elect in the place of Jacob Gempeler. Someone must represent the foreign types of cheese as well as the other types. Mr. J. Gempeler was elected to succeed Ray Young last year.

MEMBER: I nominate Mr. Jacob Gempeler, Jr.

MR. BRUHN: As there is but one nomination, I move that the nomination be closed.

MR. REED: It has been moved and seconded that Mr. Jacob Gempeler, Jr., be unanimously elected as one of the Board of Directors for three years. Carried.

MR. ADERHOLD: I think one or two ought to be elected as life members. I want to nominate for life membership Mr. Hubert, who has done so much work in judging cheese here, and Mr. Math. Michels, who has done a great deal. He has been president of the Butter Makers, and Cheese Makers, and a member of the Dairy Commission; and also Mr. C. E. Reed as a life member. Seconded.

MR. REED: A motion has been made and seconded that Mr. Hubert. Mr. Michels, and Mr. Reed be elected as life members of the association. Are there any remarks?

MR. KASPER: Mr. Oscar Damrow, of Sheboygan Falls, should be a life member. Carried.

MR. REED: When I was elected president of this association I wasn't a member and I didn't attend any meetings of this association and did not even know that I was president until I read it in the paper. I have served nine conventions and now you have elected me a life member. I will try to serve you as well as I can, the same as I served you before.

What shall we do with the resolutions?

MEMBER: Make a motion to act on them separately. Carried.

RESOLUTIONS ADOPTED

1. *Resolved*, That the Wisconsin Cheese Makers' Association extend thanks to the City of Milwaukee for the courtesies extended to our association during this convention.

2. WHEREAS, One of our old, faithful and most active members was W. C. Thomas, of Sheboygan Falls, Wisconsin, editor of the Sheboygan County News and the Dairy Market Reporter, who died on December 2, 1923; therefore be it

Resolved, That we, the Wisconsin Cheese Makers' Association, here assembled in convention, hereby express our sincere regret at the loss of this esteemed co-worker, and express our heartfelt sympathy to his wife. Be it further resolved that a copy of this resolution be sent to the family.

3. WHEREAS, One of our members, William Waterstreet, died about October 20, 1923; therefore be it

Resolved, That this association here assembled in convention extend our sympathy to his family.

4. *Resolved*, That this association recommend to the board of directors that the sum of One Hundred Dollars be appropriated as a contribution to the National Cheese Association for the year 1924.

5. *Resolved*, That this association recommend to the board of directors a change in dates of the convention, providing halls can be procured, possibly early in December.

6. *Resolved*, That our honorable secretary, J. L. Sammis, be made a life member of the association in recognition of faithful service rendered this association.

7. WHEREAS, It is an unquestionable fact that there are thousands of tubercular cattle in the State of Wisconsin; and

WHEREAS, The general public and the cheese makers who are in actual contact with tubercular milk are in danger of infection and disease, and

WHEREAS, The pasteurization of by-products is too expensive and not enough money being appropriated for said purpose by the state legislature; therefore be it

Resolved, That the cheese makers of Wisconsin, in annual convention assembled in the City of Milwaukee, respectfully hereby request the state legislature to appropriate enough money to test all dairy cattle for tuberculosis; and be it further

Resolved, That copies of this resolution be sent to all members of the state legislature.

8. WHEREAS, Oleomargarine contains nutrition of negligible value—no vitamines being present; and

WHEREAS, Oleomargarine has a tendency to injure the dairy industry of our state; and

WHEREAS, It has taken years of consistent and meritorious effort and large sums of money to build up the dairy industry; now, therefore, be it

Resolved, By the cheese makers of Wisconsin, in annual convention assembled in the City of Milwaukee, that the sale of oleomargarine in the State of Wisconsin be prohibited; and be it further

Resolved, That copies of this resolution be sent to all members of the state legislature.

9. WHEREAS, Dairying is the largest industry in the State of Wisconsin; and

WHEREAS, The State Fair Board has eliminated the cheese and butter from the premium list; therefore be it

Resolved, That we appreciate the good advertising said board has put on at the last fairs of the dairy produce; and be it further

Resolved, That we most respectfully ask the State Fair Board to again place cheese and butter in their premium list; and be it further

Resolved, That the rules governing the exhibit of butter and cheese shall be the same, if possible, as is now governing the exhibit of the above product by the State Butter Makers' Association and State Cheese Makers' Association at their state conventions; and be it further

Resolved, That a copy of the above resolution be sent to the State Fair Board.

10. WHEREAS, The failure of cheese dealers to pay a price differential between Fancy and Wisconsin No. 1 grades of American cheese constitutes a great evil to the cheese industry and works a deep wrong to all competent cheese makers; therefore be it

Resolved, That the members of this association, collectively and individually, do their best in bringing about such price differential.

Resolved, That it is the sense of this convention that in building up

the quality of our American cheese it will be practical, fair and necessary to reward competency in cheese making by payment to the maker, in addition to his regular income for cheese making, one-fourth cent per pound for all cheese produced by him of fancy grade.

RESOLUTIONS TABLED AND NOT ADOPTED

WHEREAS, It is impossible to, at all times make good cheese containing thirty-eight (38%) per cent moisture, and

WHEREAS, Cheese containing less than thirty-eight (38%) per cent moisture is unpalatable and lacking in nutrition, and

WHEREAS, Cheese containing a slightly higher percentage of moisture is both palatable and nutritious; now, therefore be it

Resolved, That the cheese makers of Wisconsin, in annual convention assembled in the City of Milwaukee, respectfully hereby request the state legislature to increase the percentage of moisture in cheese, so that cheese may have a moisture content of from thirty-eight (38%) per cent to forty (40%) per cent; and be it further

Resolved, That copies of this resolution be sent to all members of the state legislature.

Dated, Milwaukee, Wisconsin, January 10, 1924.

A similar resolution reading 39 per cent to 40 per cent was also tabled after full discussion.

DISCUSSION

MR. KASPER: I don't think there is any reason for increasing the moisture content.

MR. GRUNERT: I would like to know the reason why you wish to increase the moisture from 38 to 40. You know there is more cheese made in summer time than in the winter. We can not consume it all here. Is 40 per cent cheese better than 38 per cent? There is not as much cheese consumed today as there was two years ago per capita and you still want to lower that by putting in two per cent more water. You want to make a cheese that will keep. I have been running a factory for over thirty years; our cheese was always 38 per cent, if not less. Why not keep it 38 per cent? Two per cent water is not going to do you any good. We made fifteen million less pounds of cheese last year than we did the year before. You should give this very serious consideration before you act upon it. (Applause.)

MR. WINDER: I would suggest that you give thorough consideration to this resolution before it is adopted. A law was passed in 1916 to make a moisture standard of 40 per cent. Later our work showed that in a great many factories there had never been any attention given to what the moisture content of a cheese should be. Some did not know what the moisture should be. In the course of two or three years' time the average moisture content of Wisconsin cheese was higher, prior to the time that we had a moisture content law. In the years 1919 and 1920 I visited every warehouse in the State of Wisconsin. It was the unanimous opinion of the cheese dealers of this state that 40 per cent of moisture was too high. I took an active part in having the moisture lowered to 38 per cent. I was firmly convinced that 40 per cent was doing an injury to the State of Wisconsin, from what I saw in the cheese warehouses and by the statements of the cheese dealers in this state. I saw cheese in the warehouses that they would

not even care to handle. They wanted to dispose of it at whatever price they could. Some cheese showed to contain less than 40 per cent of moisture, yet contained too much moisture to be handled safely by distributors of the cheese. A large quantity of cheese is carried over from summer months. They have so much trouble with rind rotting and cheese going off-flavored, and all kinds of defects that might be attributed directly to the too high percentage of moisture in the cheese. This convention went on record to make it 38 per cent. For this reason I am interested in more ways than one. As a matter of law enforcement, 40 per cent is not playing safe. There was practically no difference in the number of men that were overstepping the limit. The quality of cheese is concerned—if you are familiar with the cheese made in your state, you must admit that some of the very best cheese we have is well within the standard moisture of 38 per cent.

MR. KASPER: In the year 1906 and 1907, when the scoring contest was going on in Madison, we made a cheese from 35½ to 36 per cent. In 1918 some of the cheese sent over here contained too much moisture.

MR. MICHELS: The moisture test was lower than 38 per cent years ago, which is the law upon the statute books today. If anybody is opposed to this law he does not understand it. It is better to retain the law at 38 per cent. The cheese was all tested for the moisture as it came in to the University for a matter of three years. At that time the records showed up to 38 per cent, the score of the cheese was practically the same. From 35 up to 38 per cent there was very little difference in the average score of the cheese received at that time, but just as soon as you went above that the score fell three points; that meant a loss in quality of the amount on the average. When we know there is such a big difference, when you add only 1 per cent of moisture, it is ridiculous to think of adopting anything else. We should not try to go back to a 40 per cent moisture law unless someone can show us that we can give you a better cheese in that way. Many cheese makers are working for moisture. The time for their work is so short that the large amounts of cheese that are drawn off with the whey is four or five times the extra moisture that could be incorporated in such cheese. Speed always has a tendency to leave a lot of cheese in the whey.

MR. MARTY: We can never regulate the moisture content of the average commercial product in the State of Wisconsin by law so long as dealers are stepping out and buying it as it is made. I think the only thing we should work for is to put a premium upon quality and that will regulate the moisture itself. (Applause.)

MR. WINDER: The result of our tests, process cheese as well as other cheese, does at times go slightly over the present standard.

MEMBER: I move that the resolution be tabled. Seconded and carried.

Four Days Dairy School for Experienced Makers

MR. SAMMIS: For several years past, at the close of the three months' course at Madison, we had a four-day course for experienced cheese makers at the Dairy School. This affords an opportunity for a man to study one or two topics. It enables a factory man to review a little and learn a few things perhaps that will bring him up to date. We brought over from Madison a carload of young stock, some of the dairy boys who are now taking the winter dairy course,

and who are looking for positions. I now want to call your attention again to this four days' course for experienced cheese makers to be held at the Dairy School at Madison, January 29th, 30th, 31st, and February 1st. Special topics will be taken during the week. The boys think we are going to have our friend, Mr. Kasper, over there, and maybe if you can come over there you will learn how to make prize winning cheese. On Friday of that week, during this course, we are going to have Mr. John Cannon there with different kinds of cheese, and that day he is going to explain and teach scoring and judging and I think that will interest all experienced makers. It don't cost anything to attend that course. Just get a place to stay and we will try to get all we can into you. (Applause.)

PROGRESS, OBJECT AND PURPOSE OF WISCONSIN CHEESE GRADING LAW

By MATH. MICHELS, *Wisconsin Department of Markets*

The object and purpose of the Wisconsin cheese grading law which has been in effect since July 1, 1922, on foreign cheese and since February of the same year on American cheese, was, first, to improve the quality of all cheese, and, second, thereby to increase the consumption.

In the past, especially during the world war period, most of the cheese was bought and sold on a flat basis regardless of quality or curing, which is still more or less the practice. This practice has led to much indifference all along the line, from the milk producers to the consumers of cheese. Milk producers have become careless in the handling and delivery of milk to the cheese factories. The cheese makers have become indifferent and unwilling to put forth their best efforts because all grades have been paid for on the same price basis. The consumer has become more or less indifferent as to whether or not his table or lunch-box contained cheese, because much of the cheese has been of questionable quality and often unfit to eat.

The question of quality is by no means a new one. It has been the same question for the last seventy years, or as long as cheese has been made in this country. I find that, in the earlier Wisconsin Dairymen's Association reports, the question of quality in both cheese and butter was discussed in about the same fashion as it is today.

I find that in 1878 the per capita consumption of cheese in the United States was eight pounds, the highest point ever reached in this country. Cheese consumption has dwindled since until 1920, when we find the per capita consumption of cheese was given as 3.8 pounds. The consumption, however, is again on the increase as the latest estimate by our Federal Government is given as 4.2 pounds per capita.

To increase the per capita consumption of cheese we must first guarantee the consumer a uniform quality of well-cured cheese, and second, to keep it before the people all of the time and offer it through the retailer at a more reasonable price than is being done at the

present time. The present wide spread in the price from wholesale dealer to the consumer is out of all reason and must be narrowed before the maximum amount of cheese is consumed. Because of the high food and vitamine value cheese will be more eagerly sought in the future than it has in the past, provided, however, that the retail price is kept within reason. I predict that by 1930 the consumption of cheese will be more than five pounds per person because a better made and better cured cheese is offered to the consumer than ever before. In addition, the food and vitamine value are just beginning to be appreciated. There is just one thing wrong at this time and that is the unreasonably high price asked by the retailer on the small packed and so-called "New York" cheese. The wholesaler seems to think, by allowing the retailer to ask these high prices, that he will be more willing to push cheese. This is all wrong and if the present price of 45 cents and 50 cents per pound to the consumer is maintained consumption will again drop instead of continuing to increase.

In the earlier days of cheese making in Wisconsin, the cheese was held at the factories until fall and winter when it was divided according to the amount of milk delivered by the patrons instead of the money as is now the practice. This practice soon produced men who made it a point to look for prospective cheese consumers or buyers early in the season, buy the cheese from their neighbors at an agreed price according to quality. As more buyers came into the field and competition became more keen, the cheese has not only brought better prices but faults have been overlooked and are still being overlooked by a system of paying for cheese on a flat price basis. This system has driven many good cheese makers out of business and I am glad the day has arrived when the good cheese maker is being recognized for putting forth his best efforts and I hope that before another twelve months pass a substantial price difference between No. 1 and Fancy cheese will be made. This difference in the price because of the extra work and a loss in yield should be about one and a half cents per pound, one-half cent going to the cheese maker and one cent to the farmer. If we ever get to this point I am sure 75 per cent of our make of cheese will be Fancy, with the balance as No. 1, with practically no No. 2 cheese being made.

We are receiving at the present time from cheese makers, farmers, bankers and business men, as well as from small delegations of such men coming to our offices, requests for help to organize them so that all cheese may be bought and sold on a graded basis only.

I feel that the cheese maker is the only real factor in the way of bringing about a differential in the price between Fancy and No. 1, many cheese makers would rather continue on the old flat basis than to take the extra pains necessary to produce Wisconsin Fancy cheese. The cheese maker has been willing to accede to the wishes of the dealer in thinking that with his cooperation he is helping himself by a saving of time and a better yield. This is a delusion, as the saving of time, without question, means a lower grade of cheese and a better yield of high-quality cheese can only be obtained by setting the

milk early enough for slow "cooking" at a temperature of not over 100 degrees. Speed and high temperature are the cause of much loss of cheese in the whey.

The cheese dealers of this state are opposing the buying of cheese by grade for fear that they may lose some of the cheese factories now shipping cheese to them. Nevertheless, now is the time to get out of this old rut which is very shallow, due to the agitation over, and discussion of, the Wisconsin cheese grading law.

Up to the time when we got ready to call all those into court who refused to use the Fancy stamp, no matter how good or how high the score, very few Fancy stamps were worn enough to make them appear as second-hand stamps. I am glad to say, however, that at this time all of the cheese, American and foreign, are stamped properly and without much fault-finding.

Unless we are willing to properly grade all cheese we have no right to ask the state nor individuals to spend their efforts and money to produce a better article than necessary to receive prevailing prices for the time being, for there is no question that the flat prices paid by the cheese dealers have hampered all instructional as well as inspection forces in their work. Why make the cheese makers hold and care for the cheese at the factories a longer time when no one is willing to reward them for doing so? Swiss cheese has of late been shipped at only two weeks of age and the three-day holding order in American cheese has been violated by both the dealers and cheese makers.

What we are all interested in is a greater consumption of Wisconsin cheese. The only avenue open to accomplish this is to not only make a uniformly high-quality cheese (Wisconsin Fancy), but to cure it sufficiently in cold storage to satisfy the taste of the consumers. This statement is borne out by the so-called grinders who in a short time have gained a tremendous sale for their cheese, which would have been impossible had it not been for a uniform blend or curing on all of their product when marketed.

It may be of interest to you to give you the tabulated results to a questionnaire sent out some time ago to all cheese makers of the state. While answers to these questions are still coming in daily, I will give you the result of the first 267 received.

Questionnaire

1. Do you believe that cheese of Fancy quality gives more general satisfaction and is worth more money to the consumer than cheese of No. 1 quality? Ans. Yes. 231; no, 29.

2. Do you believe that the demand for cheese would be increased and that cheese prices would be higher if a greater percentage of all cheese made were of Fancy quality? Ans. Yes, 226; no, 30.

3. Do you believe that it is advisable for Wisconsin, as the greatest cheese-producing state, to attempt to produce a greater percentage of Fancy quality? Ans. Yes, 237; no, 13.

4. Do you at present receive a higher price for Fancy than for No. 1 cheese? Ans. Yes, 7; no, 245 (estimated 1/35 or 65 in state).

5. Under such conditions do you make any special effort to produce a high percentage of Fancy cheese? Ans. Yes, 67; no, 160.

6. Do you believe that a uniform price differential between Fancy and No. 1 cheese should be established? Ans. Yes, 238; no, 12.

7. What price differential per pound would you suggest? Ans. Average one and three-quarters cents.

8. With such a price differential established, do you believe farmers would deliver a higher grade percentage of milk better suited for manufacture into Fancy cheese? Ans. Yes, 202; no, 35.

9. With such a price differential established, what percentage of your total output during a normal year do you estimate would be a Fancy quality? Ans. Average, 76 per cent. (Range 30 to 100.)

We all feel proud of Wisconsin as the first dairy state in the union and particularly so as a state producing about 70 per cent of this nation's cheese or, speaking in round numbers, about 350,000,000 pounds, valued at $85,000,000. A difference of one cent per pound may mean only about $1,000 for an individual factory, yet all of Wisconsin's make, it would represent three and one-half million dollars annually. This is a vast sum of money and surely we ought to do everything in our power to maintain the very highest standard and excellence of our cheese.

While I am pleading for better cooperation all along the line and in particular from our cheese makers, yet I feel that the past year in particular shows up remarkably well for the men concerned in the manufacture and handling of Wisconsin's cheese. There is, however, the greatest need for all of us to join and use our best efforts in producing a uniformly high quality of cheese and to see that it is well cured and put before the consumer in the best possible condition. Just as soon as we lag behind in the quality of our production of cheese we invite competition from New Zealand, Switzerland and our western states.

New Zealand the past year has been crowding Canada in the English markets and we had New Zealand cheese shipped into this state last year. It was my good fortune to go through three cars of New Zealand cheese at Plymouth and I want to assure you that the quality was of the best. This cheese was all in the shape of 80-pound Cheddars, made from pasteurized milk, and was shipped into this state in the face of high freight rates and a duty of five cents per pound. Imported Swiss cheese commands a high price in this country because the homemade cheese lacks in curing, being rushed into the markets before it is fit to offer to the consumers.

Let us all unite our efforts and do what we can to prove to the consumer that Wisconsin's cheese is a little better than can be had anywhere else in this wide world. We have the men and the facilities. Why wait?

Badger cows produce 10,000,000,000 pounds of milk annually. This is enough to fill 384,000 express cars, making a train 3,800 miles long. This train would reach from San Francisco to New York and back to the Missouri River. If the annual production of 350,000,000 pounds

of Badger cheese were put together it would form a block 800 feet square by 100 feet high, or more than three times the size of our beautiful $7,000,000 state capitol.

In conclusion I want to say that we welcome suggestions and well-meaning criticism at any time and hope to hear often from the cheese makers in particular. It is the cheese maker who should demand that the cheese be properly graded and insist that proper price differentials will be made.

DISCUSSION

MR. GRUNERT: I must contradict some of Mr. Michels' statements about the grading system of Wisconsin. As long as Wisconsin is in the hands of 500 inspectors and graders we can never be a real success. I have always held that the Bureau of Markets is not the place to make a law. They should rather exercise the police duty to see whether there is too much moisture content or not. The grading is absolutely unreliable. I will give you the history of one week's receipts. I received one box of cheese from Sheboygan County that was stamped Fancy and they were not Fancy at all. If this was continued you cannot realize how much that would hurt the name of the Wisconsin cheese. You cannot have a Bureau of Markets and appoint 500 inspectors where there are 2,800 factories. That is the wrong way to go about it. It is a detriment to the trade. You ought to leave this stamping business to the dealers, who ought to form an association. We receive 30 or 40 cars of butter and we grade that and do not seem to have any trouble about it. Your stamping on some cheese would not go anywhere in some cases and it would certainly not go as No. 1. That is why our cheese consumption is decreasing. But that is what the cheese dealers are up against. The cheese consumption should increase. The assertion that Mr. Michels made, I think he believes all that himself, but the price has something to do with it. The cheese retails from 40 to 45 cents per pound. Why does that retailer do this—is it because the process cheese makes the price? The same price is received for the process cheese as for the bulk cheese. The cheese importations in the last two years has increased 20,000,000 pounds and they don't give you water in your cheese. I would suggest that you should not switch your factories. Don't let your American cheese makers make brick cheese in the summer time or the brick cheese makers make American cheese—don't make any changes in these factories, but have them stick to just one grade. The state claims they have no power to regulate the grinders cheese. I am not opposed to those who want to eat grinders cheese, but I do not care for it.

PRESIDENT REED: There is a motion before the house to let Mr. Grunert continue his speech, but he must stick to the subject of the grading system. Motion carried.

MR. GRUENERT: They made roquefort cheese out of cow's milk in France, but you have done nothing in regard to process cheese so far. If the Bureau of Markets has the power to rule on the grade why haven't they the right to rule on all kinds of cheese? Is this justice to all of you? I want to call your attention to the dangers that you are coming to. Your increased consumption, in spite of the grading law, was 22 million pounds, but you did not make up one-third of what you lost. We have imported 69,000,000 pounds of imported cheese—this is 40,000,000 pounds more this year than it was two years ago. That is a serious question to consider. Why don't the Europeans eat

your American cheese? This is a matter to think about and talk about. I thank you.

MR. MICHELS: I would say that anybody can look these figures up and see if Mr. Grunert is right or if I am right. You can get them from any dairy publication.

MEMBER: This gentleman spoke about 500 graders in the state, I think the most of the cheese is graded by the cheese dealers at the present time. I think in fact 90 per cent of it.

PRESIDENT REED: I should judge about 98 per cent or 99 per cent is graded by the dealers and not by the makers themselves.

MR. GRUNERT: I welcome things of this kind. If we dealers in Chicago would pay you fancy prices for your No. 1 cheese, 90 per cent of your cheese would come in Fancy, if it was Fancy or not. This is the foundation of all the trouble. If you establish a source where your cheese is shipped to and locate it, and inspect it, then, and not until then, can you demand a price for your Fancy cheese. Iowa accepts the grading of a cheese and so does New York. Is it graded by a man who is not interested in the dealer or in the cheese maker? Then you will get fancy price for your cheese, and not until then.

MR. HUBERT: I claim that a good many cheese that are branded are misbranded. I took particular notice during the scoring of the cheese in the room back there of Class 3 cheese. I believe there were eleven Class 3 cheese marked Fancy, six of those the judges threw out, they were barely No. 1. The further we got into the Class 2 cheese, the higher the scores were, but there were a number of cheese marked Fancy back there that scored 87 and 88. Now, somebody is using that stamp or leaving the kids at home use it, but the stamp is not being used in the proper place. Another statement has been made that Mr. Davis and myself were responsible, more or less, for the Fancy class, that the score was put to 92. Now I want to say for myself I held that we shouldn't have a "Fancy" cheese in Wisconsin that didn't score 95 or better. I was not responsible for the 92 score on Fancy. The State of Wisconsin should have 95 or better, that is the trouble back there, they are stamped "Fancy" at 92 score. (Applause.)

MR. HUBERT: Mr. Michels stated that the Canadian price went down where the United States price went up. I believe it was his intention to show that the American cheese had increased in quality. I believe Mr. Michels was wrong when he made that statement, that the American cheese price has gone up, because we had better conditions in this country to market our cheese than the Canadians had across the line. That, I believe, is one of the reasons that the Canadian cheese has gone down while the American cheese has gone up in the last three years.

MR. MICHELS: I would say that the trouble that Mr. Grunert and Mr. Hubert try to point out to you in the grading of cheese is, that a lot of Fancy stamps are put on a poor quality of cheese. I think they stretch it very far because there is so little cheese graded by the cheese maker that it would amount to nothing if it were the case. The real trouble is that the whole thing has been befogged in the open market by not using the Wisconsin Fancy at all, and those that use it are put in a handicap because of the one who does not send a Fancy.

HOW I MAKE COLBY CHEESE

By Ernst Mandel, Colby, Wisconsin

Mr. President: First of all I insist on getting clean, sweet milk. I do this by keeping close watch that the milk is in good condition, and I also look after the patron's milk cans so that they keep them clean.

When I have about one-eighth of the milk in the vat I add my starter, about five pounds to every 1,000 pounds of milk. It depends on the time of the season. In winter we turn on the steam at once. When I have the vat of milk in I try and have it at the right temperature, 88°. I add one-half ounce of color to every 1,000 pounds of milk. I then set the milk with three and a half ounces of rennet to every 1,000 pounds of milk, so it will take about three hours from setting to dipping. The time from setting to cutting is 35 minutes. I cut 3/8 inch cubes. Then I put on the agitator and stir from 10 to 15 minutes. At the same time cut the curd off the side and bottom of the vat. Turn on the steam gradually, so I have it cooked up from 100 to 104° in 35 minutes, so as to have a firm cook on the curd at time of drawing the whey.

When the whey is drawn down quite well to the front end of the vat, we pour on about one pail of cold water to every 1,000 pounds of milk. We then work it through so as to have it granular. Then we pour on the same amount of water and work it through again. We then ditch it so the whey can drain out, and keep on so as to get it dry enough for salting, which takes about 30 minutes. I use 2½ pounds of salt for every 100 pounds of cheese. Then work in the salt well, drain again 10 to 15 minutes. The curd is then ready to pile in the hoop.

DISCUSSION

Member: How ripe is your milk at setting?

Mr. Mandel: It will run down from three to three and a half.

Member: Do you know how much acid it has?

Mr. Mandel: I aim to have it so it just shows on the hot iron. Drawing whey is from .14 to .15 per cent acid.

Member: How long do you leave this cold water on it?

Mr. Mandel: Not very long—just pour it on. We work it twice and do not leave it on any length of time.

Mr. Gerlach: How cold do you cool down your curd?

Mr. Mandel: We do not intend to cool it down too much. We stir it 15 minutes before we turn on any steam. Setting time is three hours. After you stir 15 minutes turn on the steam after that. A lot of moisture is expelled by the time you start your steam.

Mr. Laabs: I am not a Colby cheese maker myself, although I have had considerable experience with Colby cheese making. In the first place my experience in Colby cheese making leads back to 1887, when my father started a factory three miles from where I am living now.

The different ways that I have known how Colby cheese is made is since the year 1887. All that I did at that time was just pump in the water. My father heated up his milk to about 82°, then took our home-made rennet extract, and in about 45 minutes I cut it. Then he cut it into cubes with knives about three-fourths inch and he cooked the curd up to about 98° and held it from the time of setting to the drawing of whey for about four hours. Then he drew the whey, stirred that curd and kept it very firm until he thought it was just right. Then I had to go out to the pump and pump water until the curd was down to about 72° I pumped the water under the vat at that time until the curd was about 72°, and then when the curd was 72° for some time, we salted it. Then we hooped the curd and pressed it. Later on, as time went by, the process changed somewhat and was hurried along. Now, the making of the Colby cheese was first introduced by Mr. J. S. Simon, Mr. Mandel and a few others, and when they made a success of this the dealers came there for it. Until about five or six years ago everybody in our sect on turned into making what they called the Colby cheese. They hurried the farmers to get in their milk, and heated it up to any temperature, put their rennet in—five ounces to 1,000 pounds—then they cut it pretty fine, drew out the whey, put in a little salt, mixed it up and put it in the hoops—then in about two hours it was all done.

Up until that time I had always branded my cheese, "Colby" cheese for 18 years. Later I came to the conclusion that I would change the name from Colby cheese and had a stamp made and put on the cheese—"Pinetree Cheese." I didn't even stamp all my cheese that way. By selecting your cheese and giving the trade the best you got, and putting a brand on there, no matter what you call it, if you have a uniform article you will not have to try to sell it. They will come to you and get it. Now, I find that in a good many instances where you sell Colby cheese most people have the wrong idea about it. They think the Colby cheese should be open. A good Colby cheese ought to be of smooth body, pretty close, with a good texture so that it will not break. A cheese of about 38 per cent in the summer time is all a good Colby cheese will stand. I think during the months of September and October, and probably November, it would stand a little higher moisture content, but not during the summer months, unless you can sell it right out quick and have it used at once.

MR. RINDT: And you have tried to mat that style of cheese—the Pinetree style—and you have rinsed it through? What would be the results if you had matted that curd after it was rinsed with water in the summer when the weather is hot and you had your milk to 102 or 104?

MR. LAABS: We thought at that time if that was cooled down to a certain stage, it would help the lactic acid to cool down. It stays at a high temperature. I had a cheese maker who made a different process entirely. Before all the whey was out of the curd he added enough cold water to cool the curd to 90° and then he drew all the whey, and in that way it never matted.

MEMBER: While the flavor sometimes is not just right, yet if it is made right the gas does not show up. We have run that factory since 1898 and I have no trouble with our patrons. They listen to anything we tell them and never have any trouble with them. We made matted cheese this summer and made it soft, on the same order that the Colby style was made. We had only two days that was real hot. I called it a No. 2 cheese, but we didn't have any huffed cheese.

MEMBER: What is the acidity of whey when you draw it?

MR. LAABS: Between .14 and .15 per cent.

MR. BRUHN: How long do you hold it?

MEMBER: About an hour.

MR. BRUCH: Is there any noticeable increase of acid at that time? How much salt do you use?

MEMBER: About 2½ pounds.

MEMBER: Do you get more for your Colby cheese than we do for the American cheese?

MR. LAABS: I do not know what you are getting for the American cheese.

MEMBER: What is the difference between a good American cheese and the Colby type?

MR. LAABS: None, they are both American.

THE USE OF HOT WATER AFTER MILLING

By ALBERT GRUENSTERN of Marion

Ladies and Gentlemen: No doubt a good many of you, probably all of you, have used hot water some time or other and know what it means to use hot water after milling. A good many use it only when they have a hot water system, but I found it more effective to use it in the summer than in the winter time when there is no gas. The average American cheese factory is not very warm and very few have a cover for their vat, consequently their curd cools too cold for good pressing; that is one reason why I use hot water. Uusally you have poorer flavors in the winter time than in the summer, because the milk is two days old and kept around the barns, which produce a bad flavor; but by using hot water it tends to take out some of this bad flavor germ if you get it hot enough. This partly pasteurizes the germ in your vat. I make cheese just about on the average of what the ordinary cheese maker does, like Kasper. But after the curd has taken on about three-fourths or one inch of acid; you do not require as much hot water if you do not have as much acid. If you have more acid leave it in the hot water longer. Put on about ten gallons of hot water to every one hundred pounds of curd. The water is 180 or 190 and that will warm up your curd to 140 or in that neighborhood and you leave it on just long enough so that it gets soft—just enough so it begins to stick. I draw off the water and add salt, leave it until it is cooled off considerably and then salt it as usual and hoop it about thirty or thirty-five minutes after salting, and I find that the cheese closes up much nicer that way and you have a better cheese.

The amount you need of hot water depends upon how hot you have it. There is no loss of yield. If you have a separator, the little that is lost in the vat you will recover in the whey where you use the hot water. The cheese that is pressed up cold has a lot of mechanical defects.

DISCUSSION

MR. UBBELOHDE: You use this hot water system in the winter time?

MR. GRUENSTERN: Yes.

MR. UBBELOHDE: Have you ever used it in the summer time?

MR. GRUENSTERN: Yes, sir.

MR. UBBELOHDE: How does it work in the summer time?

MR. GRUENSTERN: As a rule the flavors are better, you have no reason to go about this process because you have no bad flavors to wash out. You can make just as good a cheese with the hot water in the summer time, but in the winter time when you haven't as good milk; even in the summer time you probably will have better luck with it by using hot water.

I am using the hot water now in the winter time. We mill a little sooner in the winter time, but I mill my curd and stir it two or three times until the whey starts running because if more white whey runs we leave it lay a little longer. Now, at the present time we are running eight thousand pounds a day—two of us work pretty fast. While we are pulling it out of the channel I have one of these heating nozzles and heat my water as hot as you can get it. I take four pails of that and put it in at each end, by that time he has my side stirred once and his side stirred once. Start it that way two or three times. Some of the boys then wonder why I pull my curd out of the channel. It is well stirred, it has no chance to mat. When I first wash it with hot water I spread it well over the vat.

MR. SCHNEIDER: Is it possible to pasteurize in the center of the curd by putting the hot water on it?

MR. GRUENSTERN: It is hard to tell how hot the center of that curd would get. I imagine if the water is 200 degrees there will not be much difference, and in twenty minutes it is going to be as hot inside as outside. There might be a slight difference. It will be sufficient enough to pasteurize the offensive bacteria.

MR. SCHNEIDER: Is it possible to destroy them?

MR. GRUENSTERN: You have to leave it there twenty minutes. It is recognized that at twenty minutes it is 145 degrees, which is sufficient to destroy most any bacteria. We are safe at 170. The state only recommends twenty minutes at 145 for the by-product such as whey.

MR. ADERHOLD: If you remove that water, what is the temperature of the curd?

MR. GRUENSTERN: It varies at times, I find it somewhere around 135 It don't hoop until it is down to practically 90. It cools quicker in the winter time.

MR. LOEHR: I would like to ask Mr. Kasper if twenty or thirty minutes' hot water on the curd is not too long to keep it in such hot water?

MR. KASPER: I never tried that. We generally have our curd laying in the vat one and one-half or two hours. It don't make any difference if you take water at 130 or 135. I think it would injure the curd. I just rinse it in the hot water.

MR. GRUENSTERN: Have you ever tried to use hot water when you have had gas?

MR. LOEHR: I tried it once seven years ago.

MR. GRUENSTERN: Why d'd you use it? It improved your curd when you have this kind of a milk or curd, didn't it?

MR. LOEHR: You also destroy the lactic acid when you use your hot water. You would have too sweet a cheese.

MEMBER: Doesn't your curd get stringy at this temperature?

MR. GRUENSTERN: Yes, it gets tough-like, rubbery-like, that is, when you pull a plug of that cheese after it is out of the press. After a while it breaks down and becomes very smooth in texture. I had a cheese here last year in the scoring contest that I made just that way. That was a winter make. I have a cheese here in Class 3. It is too green to be scored. It was only three weeks old. I sent one down in fair shape but it was so green, so I don't know what it will score. I had one last year that scored 96 so it can't be injurious to the curd.

MR. UBBELOHDE: There was a Cheddar out here that was scored. It came from Marinette County. He said it was the hot water process. It was a very green cheese, but it was a very nice cheese, as nice as I ever saw.

MR. GERLACH: Would it be an advantage to cool that curd down again?

MR. GRUENSTERN: It is only the first water that washes off any fat. After that you don't notice much loss in fat, your press is cleaner in that process than any other way. There isn't much chance for any loss of fat if you use the hot water, that is during the pressing process. It will cool down sufficient itself if you leave it in the vat and stir it often enough. In the average American cheese factory it is around 65 temperature.

MR. WESTPHAL: At what acidity do you grind your curd?

MR. GRUENSTERN: If you have a slow working curd it requires a little more—I leave it until it shows about .6 on the acidimeter and if it works a little faster I grind on about .5.

MR. WESTPHAL: Then from about that time until you hoop, how long will it take?

MR. GRUENSTERN: I usually work it a while, so that you get it smooth before you put on the water. If you put the water on right away there will be a larger amount of fat loss. If you work it about one-half hour or forty-five minutes you have less fat loss.

MR. WESTPHAL: Then going through this process from that time until salting, how long does that take?

MR. GRUENSTERN: A half hour or better.

MR. WESTPHAL: You do not salt it until it is cooled?

MR. GRUENSTERN: I put on a little salt at first so it won't stick together too much. As soon as I have it drained I work it again until it is cooled down. I salt, probably, three or four times. In that way I get the salt worked in even and you have a very nice curd and hoop it around 90.

MEMBER: I was wondering if holding it at 135 you would be pasteurizing it?

MR. GRUENSTERN: Yes, sir.

MEMBER: If it is pasteurized I do not see how it holds the flavor, also.

MR. GRUENSTERN: Well, it does.

MR. WESTPHAL: I would like to have Mr. Gruenstern explain it more, why it should hold the Cheddar flavor. Pasteurized cheese should be different than ordinary cheese.

MR. RINDT: While this is under discussion, I have had considerable experience in that particular hot water process and there are a few things when you talk about 145 degrees, keeping that curd in that temperature, remember that your curd is nowhere near that temperature and by adding that water you are raising the temperature of the curd and not the water. Unless you do that quick and dash it down again, you are going to ruin your texture. I find that this is a big advantage as far as uniformity is concerned. There are days when your milk varies. You have more acid than you should have and by using this hot water at 140 and dashing it, you are rinsing a certain amount of that acid away. You are getting a better cook—you are really getting a second cook and you are improving it. Now in the salting also, I do it just as Mr. Gruenstern does—you have to use a little more than otherwise. It dissolves quicker and runs off quicker with the hot water. There is no fat in the press as you have drained everything off of your curd. We have done it for ten years already. The cheese I had on exhibit here last year that scored 98½ was a hot water cheese. If you let the hot water on for twenty or thirty minutes you might injure the curd. Five gallons hot water for every 100 pounds of curd.

MEMBER: How is that cheese in about five or six weeks?

MR. GRUENSTERN: It is very good. Last year that was made in September—that was almost four months old.

MR. WESTPHAL: He said ten gallons of hot water to every 100 pounds of curd?

MR. GRUENSTERN: No, I said five gallons. I use two pails to every 100 pounds of curd. There is a danger of getting it too hot. If it gets too stringy, you should not get it too hot. Just enough so that it gets soft and rubbery-like.

MR. KASPER: Last fall, some time in September, we carried on some experiments to see if there was any difference. We couldn't heat our water any hotter than 135. We generally have our water 130 degrees. We took one 105 and another 130, and you couldn't tell the difference between that cheese. They were practically alike. We used the same amount of water for both.

MR. GRUENSTERN: If you have your water warm enough to wash off the loose fat and this white whey that accumulates after milling, it does not mat. If you just want to wash it off it is necessary to carry on this kind of process that Mr. Kasper uses, but if you want to heat up your curd you have to have the water hotter, of course. There is just one thing that I wanted to say as to why I use the hot water process, it hastens the manufacture of cheese. I can make just as good a cheese without the use of this boiled water as I can with it, but it requires about two or three hours more time. The average cheese maker doesn't get his milk in until 9:00 or 10:00 o'clock, and he, of course, wants to get out of the factory as soon as possible. I believe you can hasten the process from one to two hours by using this hot water.

MR. RINDT: I have experimented with flavors. I put 6-7 makes in

a cooler. Every month I took one out. The flavor will not develop as fast as it will on a good vat-made cheese, but it will stay sweet for a much longer time, and after a year you will get a flavor, not that exact original nutty flavor, but still that may be a better flavor.

CHEESE EXHIBIT CRITICISM

By Mr. W. F. Hubert, Sheboygan

Ladies and Gentlemen: This year we left the criticism off the program, and I thought I was going to get out of saying anything. You will have to say something about the cheese in the other room. I am going to begin with cheese from Class 1.

There are 64 entries, out of those 64 entries the judges put 54 in the Fancy Class and 10 in Grade 1. I think that is remarkable. The first 10 or 12 we pulled we could hardly tell the difference in. When we got to scoring off those cheese we had 16 cheese that we put on the table in Class 1 that we judged very close. I think it shows that the cheese makers that sent in Class 1 cheese used good judgment in sending them here. In Class 2 we didn't find as good a cheese. We found a good many more off-flavored cheese. Some of those were stamped on the side of the cheese, "Washed Curd," A good many of those had been stamped Fancy by either the maker or the dealer.

There were 82 out of Class 2 that were fancy and 34 Grade 1.

In Class 3, which is your November and December cheese, we found we had 89; 59 Fancy; 28 Grade 1; 2 Grade 2 cheese.

Class 2 was as nice a lot of cheese as I have ever seen. The average score of our cheese this year is:

95.09 for Class 1.
93.76 for Class 2.
92.06 for Class 3.
92.68 for Colby type.

We found a good many cheese in there that were branded Fancy on the side which the judges placed, according to their score, in Grade 1. In Class 3 there were 11 cheese that were stamped "Fancy." Out of those we left 5 in the Fancy grade and 6 in Grade 1. One thing I would like to tell you and that is that you will notice there are some longhorns there. They are very irregular in size, they are not uniform. They are from 10 to 14 inches in height. I wish something could be done. Last year we tried, through the Division of Markets of Wisconsin, to establish a uniform standard size of cheese form. The daisies and flats are very uniform, but the longhorns are not.

DISCUSSION

Member: Isn't it true that a lot of the cheese would be in the Fancy class if it wouldn't be for the appearance of the cheese?

Mr. Hubert: No; quality is what counts. We mark them down on appearance—we didn't mark the cheese down on appearance unless it was way off on appearance and then we cut them. We went for texture and flavor mainly. We didn't cut anybody on account of size

of hoop. We didn't hit them very hard on the appearance of the cheese, while some of them should have been scored down.

MR. LOEHR: I have a plan of making longhorns which is a good one. I use a regular dairy scale. You can get every longhorn very even after you have them hooped if you make them weigh about 12½ or 13 pounds on the scale and you will never have them off. That is the only way you can get even longhorns. You cannot guess at them.

MR. HUBERT: We can put over a cheese with a good appearance much easier than with a poor.

THE USE OF CULTURES IN SWISS CHEESE

A letter from Mr. Casper Jaggi, Albany, Wisconsin:

Mr. J. L. Sammis,
Madison, Wisconsin.

Dear Sir: I received both of your letters. Many thanks for them. I think that I would like to go to the convention and speak about "The Use of Cultures in Swiss Cheese Making," as you have asked me to do. I think that I will send a cheese to the convention, too, but I am very sorry to say that I cannot go there myself because, since I clarify the milk I can now make good Swiss cheese once a day all winter, which I could not do before.

If I were making Brick cheese like I always did in winter before I knew anything about clarifying, then I think that I could go. Clarifying certainly is a great thing and so are the cultures. The milk I get here is very bad at times, and the cheese maker that was here before said that it was impossible to make Swiss cheese out of it.

I had trouble the first year I was here, too, but since I am using the cultures everything is going just fine and since I clarify the milk the cheese is coming still nicer and better. I am certainly very thankful for what you and Mr. Gere have done for me. I wish that you would send me the Bulgaricus Starter in winter, too. I can gladly say that the Bulgaricus, the eye culture and clarifying the milk are three great things in Swiss cheese making. At least they are to be credited for the good luck I have.

I appreciate Mr. Gere's interest and yours in this matter very much.

Very truly yours,

CASPER JAGGI.

NECESSARY IMPROVEMENTS IN OUR SWISS CHEESE FACTORY METHODS

By MR. C. M. GERE, *U. S. Department of Agriculture*

The manufacture of Swiss cheese is unlike the process or the method of manufacturing any other cheese, since in other cheese we have a standardized process or practically so. In other words, we have control of the various factors which enter into the process so that the finished product can be controlled, if the factors can be controlled. In Swiss cheese, in the past it has been altogether a different problem. We have had to have the best type of milk, even then there were certain factors that could not be controlled. Before entering into necessary improvements in the manufacture of Swiss cheese, we should perhaps outline briefly what the qualifications of a good Swiss cheese of Fancy or No. 1 are. The quality standard on our domestic Swiss

cheese is of course the imported Swiss cheese and that is the quality standard that we have to measure up to, and a cheese to measure up to these qualifications must have, of course, not too many eyes, smooth texture, and sweetish flavor, white in color, and plenty of salt. To meet the qualifications of this flavor has been the aspiration of our cheese makers.

Our first scientific work was in 1900 by Freudenreich & Jensen in Switzerland, and later was followed by a book outlining the methods as used in Switzerland, and published by Peter and Held. These methods were, of course, introduced into our Swiss cheese districts by cheese makers who had formerly worked in Switzerland. The application of these methods as used in Switzerland have never met with the same degree of success as they did in the mother country, due probably to the climatic conditions and the larger quantities of milk handled.

Along about 1910 the United States Department of Agriculture saw the possibility in the developments of the standardized method in the manufacture of Swiss cheese and the Bulgaricus organism was isolated in the form of a pure culture. This was found to contribute largely to the uniformity of flavor in the cheese. This organism develops acid at a higher temperature than our lactic that we use in our American cheese making. It is probably the only way of suppressing the abnormal condition in Swiss cheese. We have no acid and we cannot ripen the milk to any degree that will assist us to get through the process of suppressing acidy fermentation. It is necessary to use this acid organism to suppress it and use an organism which will grow in this high temperature in cooking Swiss cheese. The Bulgaricus organisms are especially adapted for this purpose. This organism has always been grown unconsciously by the cheese makers in the preparation of their sour in the home-made rennet. The later developments we have that by controlling all these factors and ofttimes in our rennet we have casein fermentations in the rennet.

By inoculating Bulgaricus we can suppress the abnormal fermentation that appears in the manufacturing of process. Following the Bulgaricus was the isolation of the eye-forming organism. This is characteristic of the Swiss cheese. During the winter months the usual practice is to discontinue the manufacturing of Swiss cheese. A lot of factories have trouble during the summer months with this. It has been a great thing in standardizing flavor in cheese and assisting in getting the cheese open in such high temperatures in the curing process later. There are a few things in the eye-forming culture. You should have curing rooms that are cool enough to stop its action. Unless the cheese can be cured below 60 it is hard to control the fermentation that goes on working in the cheese. We found that to be true in some cases.

If this organism is used in a very good milk we do not get so much of this over-working, but in using milk that is heavily contaminated it works more vigorously and more difficult to stop its action. There are certain factors that enter into the right controlling of the tem-

perature that must be observed in the eye-forming culture. It is a wonderful factor in protecting a uniform cheese and uniform flavors. In the factors following the development of eye-forming culture is the work of our cheese makers at Madison. We inaugurated a course about three years ago, I believe, and during this time over one hundred cheese makers attended this course and have learned the methods of handling the cultures and more recent developments of handling their sour and home-made rennet and every case where the cheese makers have gone out into factories they have improved the cheese and the milk supply and more profit to the producer.

Along with these other developments we found that some methods of controlling the temperature of handling or curing our Bulgaricus and even home-made rennet was desirable. The usual practice in the old days, where they took chances on the climatic conditions, where they placed their home-made rennet in a warm place and took chances on the results—we now have an incubator of two temperatures, one a higher for the Bulgaricus and a lower temperature for the home-made rennet. This makes an absolute control of this factor and is very important. Then by applying the methods of the preparation of Bulgaricus in the home-made rennet or the Bulgaricus in the milk standardizes that part of the process. We have found trouble in getting a line on the milk that was giving us trouble in this connection, we have developed the method of Methylene Blue.

One of the later developments is the working against the glass problem. With an excessive amount of fat in proportion of the solids or casein, as we might say, a standard has been worked out that if we got the proper ratio of the fat to the casein we can hold the glass in check in every instance. The older way was to use water before setting and after, and washing the fat out. By making a casein test and a fat test we can tell exactly what fat and casein content to reach to assure you a good product, as far as glass is concerned.

Along with these problems it was found necessary to find some test for grading milk whereby the amount and type of contamination could be determined on fresh milk such as received at cheese factories on twice-a-day delivery. The Methylene Blue reduction test, in conjunction with the fermentation test, was found most suitable for this purpose. By working out a standard of time for the reduction of the Methylene Blue, together with the condition of the fermentation test, the source of poor milk could be readily located.

Together with other problems was the long existing difficulty with Glaesler cheese, which is brought about by the excessive amount of fat in proportion to the casein in the milk for Swiss cheese making. By the old process of manufacture, this was combatted by the use of water added before and after heating, thereby washing the fat out in proportion to the amount of water added. In conducting a series of experiments it was found at certain periods of the year that it was necessary to reduce the fat to a certain ratio to the casein to avoid making Glaesler cheese. This was, of course, the aim in the old method of using water after heating the milk. After the proper ratio of the

fat to the casein had been established, the Walker Titration method for testing casein, together with the Babcock test, made a very simple and effective method of determining how much to standardize the milk to avoid Glaesler cheese.

With reference to the standard of high quality Swiss cheese, we note that the outstanding feature of a high-grade Swiss is the eye formation. It is generally known that a cheese which has a good eye formation usually has a good flavor and texture. The control of the eye formation has no doubt been one of the greatest problems in the manufacture of domestic Swiss cheese. While a cheese with a good eye formation usually has all the other qualities, we also have two other classes which may have equally as good texture and flavor as the cheese of the high standard, but due to an excessive eye formation falls into the Class I and Class II. As a matter of fact the average factories operating under the old system do not average over 25 per cent of Fancy, or cheese of the highest type. Even by the use of the culture or the best methods that could be devised heretofore the eye formation could not be controlled.

Clarification has been found to greatly improve this condition. It also improves the texture of the cheese, and makes it possible to produce a high percentage of fancy cheese from milk delivered once a day, something which has never been accomplished with any great degree of success in this country. Since the use of the Bulgaricus, the eye-forming cultures have in the past been presented at this convention, we will not discuss their merits in detail except to bear in mind that one or both of these cultures have been prominent factors in establishing the success of improved methods in Swiss cheese making.

The latest development and, no doubt, the most essential step towards standardizing the method of making Swiss cheese is clarification, or centrifuging the milk, to control the eye formation. The causes of this great difference in eye formation and texture in cheese from clarified and unclarified milk have not been fully determined from a scientific standpoint, however, in actual factory practice it has proven a great success. Among the first factory experiments in connection with the clarification for Swiss cheese were conducted at the government plant, Grove City, Pa., from milk delivered once a day. Cheese was made from centrifuged milk and milk which was not centrifuged. The results were as follows: 77.6 per cent of the cheese from milk which was centrifuged graded Fancy, 7.1 per cent No. I, 15.3 per cent No. II. The cheese made from milk which was not centrifuged graded 30.3 per cent Fancy, 52.3 per cent No. I, 17.4 per cent No. II.

In our cheese work here in southern Wisconsin we have five factories which have taken up clarification. One of these plants had the milk delivered twice daily and at the other four the milk was delivered once a day. Four of these factories have averaged 81.9 per cent Fancy cheese since they began to clarify and 92.1 per cent Fancy and No. I.

Four of these plants began clarification at the most critical time

of the season for the manufacture of good cheese, July and August. As further evidence of the success of clarification these factories received a straight price for each month's cheese of 34 cents to 39½ cents, against 29 cents to 36 cents of the average factory.

While clarification has, no doubt, proven to be a great accomplishment in standardizing the process of Swiss cheese making, there are certain factors which enter into it and must be regarded to insure success. First, milk must be sweet and of good quality if delivered once a day. If milk is delivered twice a day it should be cooled, either at the farm or at the factory before centrifuging, otherwise trouble with foam will be experienced. In warm, fresh milk this foam works down slowly and causes too much delay in the cheese making process. If an attempt is made to coagulate this milk without first removing it, or breaking this foam, an uneven coagulation of the milk will result when the rennet is added. From milk delivered once a day this trouble does not occur, even in heating aged milk to 90-95°F. before centrifuging and very little trouble is experienced with foam. In the case of milk delivered warm twice a day a temperature of 85-88°F., or even a little lower, seems to give good results and little or no trouble with foam. Centrifuging at a high speed seems to result in a more marked influence on the eye formation.

In summarizing the developments in the manufacture of Swiss cheese, we have before us an outline of the necessary improvements.

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

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

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

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

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

DISCUSSION

MR. ZIEBUNG: How did you handle the situation with regard to foaming and temperature?

MR. GERE: We had to cool the milk down to 85-88°F. to break your foam down.

MEMBER: At what temperature do you operate your clarifier?

MR. GERE: We have worked with a temperature of 90-95°F. with cool milk that has been aged and 85-88°F. with milk delivered twice a day.

MR. UBBELOHDE: Is the result as good now with making Swiss cheese once a day as it was formerly making it twice a day?

MR. GERE: Yes, we find that it is more successful. It is a great advantage to the cheese maker.

MR. JAGGI: Before I clarified I could hardly make a nice No. 1 cheese. It was always pin holey. There was a lot of slime and stuff in the milk. I did my best and couldn't do any better. Well, I put my starter in before clarifying, then I put my clarifier in and it takes out the dirt. I find the poor stuff is out and I find a nice cheese with good flavor—no pin holes.

MR. GERE: Now are there any further questions about clarification? If not, we will go on with the stinker discussion here. Mr. Lenherr, will you open the discussion on that?

MR. LENHERR: In that regard we couldn't say just exactly where it comes from, yet at the same time we find out that it is the milk, that is, what we call the bitter milk, by having a mixture of that, it is a case that some of that milk will not be cooking as much as it will with the rest of it, and that leaves a certain moisty, soft cheese. That white stuff could not be pressed out. That will leave those spots that are called stinky.

MR. GERE: By the use of the good strong sour—by a good Bulgaricus culture—we are able to suppress the stinker and have stopped it. I believe in Madison they have made a statement that they experimented and found that the cultures of the stinker organism added to the cheese and worked the cheese toward production of the stinkers, and in every case where they used the Bulgaricus organism they were able to suppress the stinker trouble. They inoculated the milk, enough for two kettles of cheese, with a heavy inoculation of stinker organism and added Bulgaricus to one kettle and nothing to the other, and that would get a stinker cheese in the kettle where they didn't use the organism. We were able to clean it up with the use of the Bulgaricus.

MEMBER: The season when you get stinker cheese is during July and August and I think that is because of older milk which is given only once a day.

MR. GERE: That is something we didn't know in connection with the clarifier. It assists in making a better showing of clarified cheese, which is always firmer and cleaner.

MR. MARTY: I have noticed a good deal by going around from factory to factory. It was during the stinky epidemic—it was during the drouth of the year and perhaps cows, to a large extent that come in, in the latter period of their lactation. They have gone into a second flush during the spring of the year. Now, for good cheese making, the original intention was that all cows should become freshened in the spring of the year and as the period of the lactation went out, the cheese maker changed his method some to the latter period of the year.

In my opinion there is no secret about the stinker at all, if you only look at your milk, if you make individual tests of your milk. It is no more or less than milk that has improperly precipitated from the casein. It is milk where the rennet action didn't work upon a certain portion of your milk and it left a milky fluid go into your curd, and

never was properly cooked out. You have noticed the wild floaters. I have had cheese makers stop stirring in the kettles during the process. The bulk of the trouble was in the bottom of the kettle. They were floating curd between the top and bottom of the kettle that it took longer to settle than others.

MR. WUETRICH: I overcame that last August and July with a home-made sour and a good rennet; it was overcome right away.

MR. GERE: Glassy cheese is a cheese that breaks like glass during the curing process. Seams come through the interior of the cheese and this throws it into No. 2 class. We would like to hear how you overcome this glass.

MR. ZIEBUNG: This summer in June I had some glass in there until I started to separate the milk from 500 or 600 pounds in the kettle. You reduce your fat to about one of fat to .78 of casein. I had considerable trouble in June, but after I began standardizing to that ratio of fat to casein I didn't have any trouble with glassy cheese.

MR. GERE: Did you ever add water before setting?

MR. OPPENHEIMER: Yes, sir. I think the proper way is to separate your milk to get some of that fat off.

MR. GERE: It has been the usual practice for years and years to add water before setting, or use water to wash out the fat after setting, or skimming it is a matter of proper ratio. The cheese makers have worked it out in a practical way. In our work we have established a standard ratio of casein to fat. By making a test once a week you have absolute control of this glassy proposition.

Standardized Milk for Swiss Cheese

MR. GERE: Will Mr. Lenherr give us some ideas on standardized milk for Swiss cheese? How should it be done?

MR. LENHERR: Well, I think by organizing a joint committee we should go before the legislature and tell them what we want.

MR. GERE: As Mr. Lenherr suggests, I should say it would be a very fine movement to appoint a committee to go before the legislature and get an adjustment there.

MR. MARTY: I believe that we are properly within our rights to ask for a hearing before the joint committee of the legislature with the ultimate possibility of getting some rules for the standardization of milk for Swiss cheese. A number of years ago I was informed that practically every bit of imported Swiss cheese that lands in our country is partly skimmed. We got a law through and it is on our statute books, to permit any fat content in Swiss cheese as low as 43 per cent. Why not have it more definitely stated as lawful to properly standardize your milk for the manufacture of Swiss cheese when found so necessary. A committee should be appointed here before the wind-up of this session to formulate and place this matter before the legislature in that way. I am satisfied that our State Dairy and Food Department will aid you along that line to standardize the milk for the manufacture of Swiss cheese.

MR. WINDER: It is well understood that the fat shall not be less than 43 per cent. The definition of cheese requires that cheese be made from whole milk. This limits the fat to at least 3 per cent, but it is also a direct violation of the law if you take from the milk any part of the fat it contains. Complaints are coming in recently that certain makers are doing this thing and other makers of other cheese are

asking for protection under the law. It is held at the present time that to remove any fat from the milk is a direct violation of the law.

MR. GERE: We have tested quite a good deal of Swiss cheese where we have done standardizing. In some instances it was necessary to skim as low as 2.8 per cent in the beginning of the manufacturing process, and I think we had from 46½ per cent to 47 per cent fat in the cheese. I think the best way to handle that is as Mr. Marty suggests, to appoint a committee.

Milk Delivered Once a Day for Swiss Cheese

DISCUSSION

MR. GERE: I am wondering, Mr. Jaggi, if you could tell us about Swiss cheese made from milk delivered once a day. You have had some experience in that connection.

MR. JAGGI: I find I can make a lot better cheese from milk delivered once a day than the other way. I cool it down myself and I get a nice cheese. Now that I clarify it, it is better since the farmers deliver the milk once a day.

MR. GERE: We have three or four factories who have made cheese and clarify on once-a-day basis. The first work was done at Brodhead and that averaged around 70 per cent and 90 per cent Fancy with once-a-day milk. We have factories at Monroe that have always made cheese from milk delivered once a day. They have had better luck with the cultures.

MR. ZIEBUNG: Well, I took the milk once a day and clarified all the milk, and took so much fat away. I have no trouble at all. I make cheese only once a day.

MR. GERE: How much Bulgaricus did you put on your stomachs?

MR. ZIEBUNG: Around two teaspoonfuls to each stomach. I used the home-made rennet. In the month of August, I have, I think, about 90 per cent Fancy No. 1 cheese.

MR. WEUTRICH: Tell us about how you made your home-made rennet.

MR. ZIEBUNG: The way I fixed my rennet, I set it 24 hours and I kept the temperature up to about 80 or 85°F. I put in one teaspoonful of Bulgaricus and let it set in the incubator for 24 hours and then I took it out and let it set for about six hours, to let it cool off, and I did the same way with the sour. Leave it in the incubator for 24 hours at 102°F. to 106°F. I had pretty good sour.

THE SWISS CHEESE SCHOOL AT MADISON

MR. GERE: The past three years we have put on a two weeks' course in the University of Wisconsin in cooperation with the Southern Wisconsin Cheese Association. Those courses have been especially for the Swiss cheese makers. Two weeks is a limited time to cover the manufacture or process of Swiss cheese. It would not be possible to take a new man in and teach him Swiss cheese making, but we have found that a man who has had experience, we can teach him the cultures, the sour, the rennet and what the meaning of a good sour and home-made rennet should be. What the acidity should be and the strength of the sour and the rennet and how to use it. All the tests that will apply in a cheese maker's work. The Babcock test, lactometer in conjunction with the fermentation test, its application and the method of

handling his cheese, measuring the strength of his solid grind. A touch of bacteriology, so he knows what we mean when we talk of milk, so that he can explain to the farmers to bring sanitary milk to the cheese factory. This course will start the 4th of February and if there are any members here in the Swiss cheese district, or Swiss cheese makers who are desirous of taking the course, they should get in touch with the Secretary of the Southern Wisconsin Cheese Makers Association, at Monroe, Mr. Henry Elmer.

MR. MARTY: The main object of this course is to teach experienced cheese makers. I want to assure you that I hope that we will be successful enough to retain Mr. Gere's aid as an expert along that line in the future and I hope that he will always have time to give two weeks every year to help us, because I think his work is a revolution in the Swiss cheese industry. The school is for the general good of the Swiss cheese industry. It was originally held at Monroe, but we didn't have the facilities for testing, laboratory work, and bacteriology work. We were handicapped to such an extent that we found it more advisable to take the class to Madison where everything is available for the students.

Every man that took that course under Mr. Gere has gone back well pleased with it. After Mr. Ziebung had taken his first two weeks' course, he took first prize at Milwaukee on Swiss cheese. He went the following week to Monroe, Green County, and took first prize there. He attributes his success absolutely to this two weeks' course. You will find it worth while to spend your time at the school.

HOW TO MAKE WASHED CURD CHEESE

MR. KUEHL: To begin with, I add starter and stir it in thoroughly. I turn on steam gradually after I have all the milk in. About 86 is about the right temperature. I make a rennet test and I set it. The rennet test should be about 2, 2¼ or sometimes 3, on the Marshall test. I add about 3 ounces of rennet to 1,000 pounds of milk, to curdle in 20 to 25 minutes. Then I cut my curd into ⅜ inch cubes, sometimes smaller, but not any larger, and I stir this about 10 minutes with my hands. Then I use the rake and I keep stirring it until it is time to draw the whey. I generally draw the whey an hour or 50 minutes, at which time I have ⅛ inch of acid. Then I draw it off at once. If I have to stir the curd I do it, if not, I bind it on the side. Then I cut it in strips of 4 inches. Then I turn it over. I do this about four times. Then I double it and after I have it doubled I generally keep the two pieces right together and then keep turning it the same as I did before and try to keep the pieces as square as possible. I mat this for about perhaps 1½ hours, sometimes not that long, depending on how the curd works, at which time it should have 1½ inches of acid when it is ready to grind. I pour the cold water over it, I cool it down to about 86, but I don't leave the water on very long. Then I gutter and let the water drain off for about 15 minutes until it is pretty dry, then I add the salt at the rate of 2½ pounds salt to 1,000 pounds of milk. I let this lay for about 10 or 15 minutes and then I put it in the hoops.

MR. GRUENSTERN: Isn't there a great danger there of having too much water in the curd?

MR. KUEHL: I never had that trouble. I get it off as quickly as possible. Just as soon as the curd is milled I start to work it over right away.

MEMBER: What temperature is the water when you wash it?

MR. KUEHL: Right out of the well—cold water.

MR. UBBELOHDE: In regards to incorporating more moisture by washing the curd with cold water, there is danger, we will admit that. There shouldn't be any more moisture in the curd if everything is all right. As a rule we work this just a little bit fast. The idea is to get your milk just right, cooked right, and get your acid to work fast enough and get the curd firm enough and have it thoroughly dry. When your whey is all off there is no danger then. I think a lot of the boys are misled with this washed-curd system. I don't call it washing it, I call it rinsing it with cold water.

MR. KUEHL: It makes a very nice cheese though. It is ready for the trade in about three weeks.

MR. UBBELOHDE: I never used the warm water process until after I used the cold water process. My experience has been that by rinsing the curd with the cold water your cheese cures faster, and I presume washing your curd with the warm water makes it slower in the curing. With the cold water process it cures faster.

MR. RINDT: Then it is understood from your experience that the cold water process cures up sooner than the warm water process.

MR. UBBELOHDE: I don't know, I haven't used the warm water long enough.

MEMBER: Is there danger of causing an open cheese with the cold water?

MR. BEN WEBER: I find I can do that with brick cheese; I can get the same by rinsing with cold water.

MR. UBBELOHDE: This curd must be just right. Work it the way you ordinarily do and put cold water on that and you will add from 1 to 4 per cent more moisture. If we salted when it was at the right stage without washing it with cold water it would have at least 1 or 2 per cent less moisture than if it was washed with cold water.

MR. ADERHOLD: I have seen considerable cheese made by this process and I watched one of the New York men show our factory men how to go about it. He was sent here for that purpose, and he cooled the curd down to 70 and that was done in about six minutes, but there was about 600 pounds of curd in the vat and there were over 20 big pails of water used in those six minutes. Now that curd, after milling, had been stirred a few times and then it was piled about seven inches deep clear across the vat and the whole thing saturated with water quickly. It was worked through and the water drawn out, and immediately that process was repeated. That was done three times inside of six minutes. Two men each had a big pail and a fork. Now you can assume in that case the curd was being soaked six minutes. It probably would take up some water. In other instances there was less help where the water wasn't as handy, where it took three times as long to cool it down.

In Syracuse they cautioned me that it was very necessary that the curd be very firm in using this process for a cheese that is to be kept a considerable length of time. This so-called cold water curd cheese that is made in Wisconsin, the flavor will not quite hold out. It will be inclined to be somewhat flat and bitter as compared with the cheese that is not so washed.

MR. SAMMIS: I think it would be interesting to ask the members, who make this type of cheese, what temperature they said it was right to have the curd after using water.

MR. KUEHL: At about 68.

MR. UBBELOHDE: I raise my temperature to about 80 in the cold weather. During the summer months between 70 and 75, then I use more salt. These New York men advised you at first to use 2¼ pounds of salt, then they raised it to 2½, but I use 3 pounds, unknown to the New York instructor, with better results.

MR. RINDT: By using more salt you expel some water and get a better texture.

MEMBER: While we are discussing washing curds, while we could discuss the warm water wash, I use warm water. The reason I do that is that I have a condensory in connection with my factory. We could get a little more cream out of our whey by washing with warm water. I believe the time is ripe when we must stop all standardization of milk, or let the cheese maker standardize.

MR. ADERHOLD: They are somewhat in the same position that the Swiss cheese makers are.

MR. RINDT: Is there any law regarding that? They have their product standardized so that it must not contain less than a certain percentage of fat.

MR. UBBELOHDE: The advantages of making washed curd cheese was pretty well covered by the gentleman who spoke before I did. I don't know that there is any great advantage in making this washed curd cheese. The only real advantage that I can see in making this washed cold water cheese is that you get a cheese that will cure out faster in the hot weather. Only certain markets call for that. Unless there is a law for that, I wouldn't advise it because your risks are too much.

MR. SAMMIS: I would like to ask Mr. Ubbelohde if the cooling of curd prevents gas.

MR. UBBELOHDE: I have had no experience in that respect. I had only two days of gas this summer, it being my first experience in using cold water. I kept that cheese longer than I would ordinarily and it was pretty tough.

MR. SAMMIS: With the washing with cold water the main effect is to keep back 1 or 2 per cent of water in the cheese.

MR. UBBELOHDE: Unless they have a good place to get rid of it, I wouldn't try it.

MR. SAMMIS: That is, you would like to have it sold before you make it?

MR. UBBELOHDE: Yes.

MEMBER: It checked the gas for the time being but after it got where it began to warm up again we found out that gas forms as fast as ever.

MR. RINDT: When they get warm again they grow so much faster.

MR. UBBELOHDE: In order to make a good washed curd cheese you have to put in a good hour to two hours longer than any ordinary condition of cheese.

PRIVATE OR COOPERATIVE FACTORIES—WHICH?

By Mr. F. H. Carpenter of Stetsonville

Ladies and Gentlemen: I have always said cooperative ownership is best. Why should I go and invest my money in a factory and maybe tomorrow you all go against me? For example, about six miles from me stands a factory, which used to receive ten thousand or twelve thousand pounds of milk a day. Now it stands with doors shut and it has no patrons.

Right on my corner stand two factories with the lot between us. One is privately owned and the other cooperatively. Why? Because the farmers were discouraged with private-owned factories and they wanted to run their own business.

DISCUSSION

Mr. Lindlow: I can buy a factory and run it cheaper than a cooperative factory.

Member: What rent do you pay?

Member: They thought the cheese maker would take more interest in it, having his own money in it, but some of them will take as much interest with the farmer's money as their own, with some agan it is just the opposite.

Mr. Sammis: I would like to ask why he should invest his money in a factory? Why not let the farmers own their factory?

Mr. Carpenter: That is what I think. Let the farmer own his own factory, and invest his own money in it.

Mr. Ubbelohde: The farmer is running the business—the cheese maker has no money tied up in there. They pay them wages enough so they can afford to take an interest in the factory.

Mr. Rindt: One thing must be taken into consideration, there is many a district in the State of Wisconsin where the farmers have taken hold of it several times. They have failed for some reason or other. Maybe because they were not united, but in this particular case I have noticed there seems to be no other way unless somebody else whom they have faith in will take hold individually and buy it and run it.

Mr. Gruenstern: I believe it doesn't make any difference who owns the factory as long as there is harmony. I believe any good cheese maker can purchase any factory in any loaction and make it go in most instances. The farmers, on an average, are used to changing every year or so, but we should get them accustomed to have a cheese maker for a long time, and then they are not so apt to complain, but up in our section there are more cheese factories owned privately than cooperatively.

Mr. Rindt: Mr. Gruenstern thought it would make practically no difference as long as the management was right. That holds true in many instances. There is one little difference there. Some factories have had good men, but some little thing has come up between the patrons and himself and they build a factory across the road.

Mr. Gruenstern: I had some experience with a privately-owned cheese factory and a cooperative factory. I ran a cooperative factory

for nine years and I found that I was sick and tired of it and so I quit and made a home of my own. I had a good bunch of farmers and they had a lot of money. After an inspector came around they wanted me to go out. They made me throw out the separator. Somebody came over there and condemned it. I lost seven hundred dollars—they didn't fix anything. They thought, "if you don't want to run it, somebody else will run it." So I quit and bought my own factory and I am satisfied with it. I believe if a cheese maker runs a factory he can run one just as clean as a cooperative. Although we have some very good cooperative factories that have been built lately, they built them good because they had to. Some burned down, so they had to rebuild. Where these two factories are running on one lot, it is too bad that two factories are that close together and both trying to make a go of it. I hope the time comes when the factories in the state will be built under the supervision of the state department, and they will not allow factories three or four rods from one another.

MR. RINDT: We found such condition several years ago, trying to get them under the Railroad Rate Commission. If we could get them there we would have one big thing to contend with, that is, whether other business would come under the same rule. We introduced it to the Equity and we found it is a very hard problem. It seems we should have protection, but just how that thing can be done I don't know.

WHAT CAUSES CHEESE TO SPLIT?

DISCUSSION

MR. RINDT: We have noticed, and no doubt all makers have, that there are times of the year when cheese will open, and it splits crossways. It might be very close the first week, it might be very close the first three or four months, but it will open lengthwise. What causes cheese to split? Let us have a discussion if anybody knows what the cause of it is.

MR. ADERHOLD: In a certain factory in Dodge County, for a year or two they had considerable trouble in cheese splitting. This was brick cheese. They had our scientific men working on it from Madison, who are bacteriologists, and this cheese seemingly was very good to begin with and the milk seemed good. The factory was clean, whey was pasteurized, but after the cheese was a few weeks old it would split in the center and the flavor would go wrong. Some of it was shipped out to the trade and this same thing would take place if it was shipped out and it seemed they were unable to find the cause. It must have been some bacterial cause. Now with American cheese we have what I used to call blisters with the daisies, twins and cheddars. Sometimes over night a large blister will raise in the surface. I have seen it split across the top within a half inch from the surface. That might be caused by the same thing that caused those brick cheese to split. I have never heard much of any explanation about this.

MR. RINDT: It seems to be a hard problem. I have heard if the cheese had more acid it might not do so, just exactly what the cause of that is I don't know.

MEMBER: I have heard already that there is some yeast fermentation that takes place in that cheese. I have seen cheese that is closed and solid and possibly after two weeks on the storage floor they have opened up possibly an inch or so. After cutting open they found some yeast. It seems to be something different from a gas or a pin hole. I don't know whether it is pasteurized. Perhaps cans are being washed with the same rag that the housewife used to wash her bread pan. This may have caused it.

MEMBER: I believe I could give you an explanation on split cheese. To begin with, I am running a farm factory and am a cheese maker myself, but I am not making the cheese, but I am just managing the factory. A year ago this last summer we had quite a lot of trouble with split brick cheese, that split inside and outside. Well, I didn't know exactly what to do; I knew there was some cause for it and I knew it wasn't the cheese maker's fault, 99 out of 100 are not to blame for any of those causes. It is in the cows. If the cows give good milk, if it goes in the natural way to the factory, you are going to make good cheese. So I went to Mr. Stewart and had him examine this thing. He worked a whole day and made tests. In the evening we had a demonstration on the farm, and after that time he went to a farmer to which we directed him to go. We knew where the bad stuff came from because we found how he washed the pails and cans and looked after the milking machine on this place. I watched the milking and noticed that he took that milk and mixed it all thoroughly and left part of it on the farm where it belonged and brought the rest to me. I have a well that has always ice cold water. I took care of that can of milk. Next morning I stirred that milk along with my milk and that man's milk, and tested it. That man's milk had a peculiar sour taste to it. Mr. Stewart told us to make a cheese curd test of the two different milks and we did, and there was no difference. The curd test showed them all right, so we got busy, and went and took a sample from each cow. He had about twenty-two cows and there were more than half of those cows that showed up bad. Two bottles didn't curdle. Quite a number of those cows had a regular bottle of cheese, so we got those cows thrown out of the factory and we got good cheese. In hundreds of cases the farmer brings that kind of milk. It is simply a contagious disease.

MR. KASPER: I don't know why cheese splits up so much. I tell you what I think. Years ago we used to have some of our Canadian friends here to tell us how to make cheese. If the milk is just right, and the acid is just right, and it is made just right, it won't split. They would stay closed. There is another thing, I think, that causes this. I got an old press there yet. I tell the men to tighten up and press the first thing. You spoil the cheese if you don't tighten the press. I took some cheese out of the press and I am going to try it out. If a cheese that is pressed and cooled down to a certain degree, and it is knitting right after a certain amount of pressure is applied, it is set and if you are crowding it there, it is re-knitting it again.

The Americas are small, but I applied as much pressure to them as I did to cheddar. The cheese I over pressed and tried after a month or two, I found it a flaky substance and I put it close to a furnace and it seems that after considerable time it was on a flake-like order and fell apart. It was due to overpressure. That is what I blame it to.

MR. ADERHOLD: Years ago, before we had the continuous presses in many factories, the first thing that was done in the morning was to tighten up the press and keep it tight for several hours, and it didn't cause the cheese to split.

MR. CANNON: I would like to say a word about hot and cold water cheese, and then do not go home and make it, unless you get somebody like Mr. Ubbelohde to help you. If you intend to make a cold water cheese, try to get somebody that understands that game. I don't understand why the cheese dealers don't send an instructor if they want that cheese. I looked over the Idaho cheese. If Idaho continues to make that class of cheese Wisconsin is going to suffer, so I wouldn't advise you to change, but stick to the real thing; you will come out better in the end.

HOW TO PREVENT OPEN QUALITY BRICK CHEESE

DISCUSSION

MEMBER: I made a great deal of brick cheese in my life and I believe I just covered the territory of open brick cheese. I find the trouble in your curds. If you get in trouble today, get your curd tested tomorrow.

MR. CANNON: That doesn't always follow.

MR. RINDT: I have found where a curd test hasn't told me anything. I have made other fermentation tests, but in that particular case it was for the purpose to find pin holes and bad milk, and I didn't get it. I didn't think the curd test was intended for that.

MR. UBBELOHDE: I had two days of gas. I never had gas with cold water and didn't know what I was up against. I had it on Sunday for the first time. Monday morning I took in every speck of milk in my factory myself. I worked hard that day and still had gas. I had a new starter. I called up the cheese maker to send me out a new starter. I received eighty thousand pounds of milk that day. I put that pail of starter in and I didn't have any more gas.

HOW THE PRIZE CHEESE AT SYRACUSE WAS MADE

By MR. P. H. KASPER

The prize cheese that I made scored 99, 98.5 and 97.5. The cheese that scored 99 was made in June. We put that in storage to sell the next year. For this cheese we set the milk at 86 and we used about 1 per cent starter. We used four ounces of rennet to one thousand pounds of milk. It took about fifteen minutes. We used a knife on which the wires are one-fourth inch apart from center to center so that it cuts it up about one-fourth inch. After it was cut crossways we loosened the curd from the side of the vat, then we turned on the steam. It took fifteen to twenty minutes to warm the vat to 104° and it was kept in the whey about 104. Then we stirred it with the rake until the curd was firm. In two hours from the time the vat was warmed the curd was stirred to one side of the vat. When the whey was all off this curd was matted and cut in strips about six inches wide, and it was turned over every five or ten minutes. We kept on piling it that way for about one and one-half hours, until it was ready for the mill. About 11:30 we put it on the curd mill and let it run through the mill and we kept stirring it and the curd was kept in the vat until about 2:30. The curd was very dry and there was no white whey there whatever when it was milled.

Now, this cheese was rinsed with water about 105°, probably 100°, and salted 2½ pounds to the thousand. The first that scored 99 was kept in the curing room since June. We kept three or four days' cheese back and we have one box in Plymouth in storage yet. I selected my exhibition cheese. I put two or three away of every cheese that I find that looks pretty good. I put them away to exhibit. Another thing, don't leave your cheese in the cold storage if you want to exhibit it, because that cheese should be home ten or twelve days, no matter

how hot it is. If there is anything bitter about it, it will show up. My cheese is getting better acquainted and I am getting better acquainted.

DISCUSSION

MR. MENDEL: . What kind of starter do you use?

MR. KASPER: I use a Hansen starter. I would rather lose a hundred dollars than that starter. I wrote to the Hansen people to get some lactic. The starter must be just so. If your starter is over ripe it will show it.

MEMBER: Just how often do you make your starter, every day?

MR. KASPER: I don't go according to directions. I never knew anything about a starter until Mr. Aderhold showed me. He came over to my place one day, we were still stirring our curd. He said don't you use a starter, and I said no. Mr. Aderhold then asked me if I had any lactic ferment here and I said yes. "Now I will tell you how to start it," Aderhold said. I took that little jar of lactic foam and put it in a bowl of pasteurized milk and set it on Sunday. He didn't come, so I set that bowl in cold water until we pasteurized a can of milk. We carried that starter along for over a year.

MR. UBBELOHDE: Speaking of cutting your curd, don't you find it better to cut your curd on the soft side?

MR. KASPER: Yes, I used to let it get too firm. We cut it soft. Our separator tells just exactly what we are doing with our curd.

MR. RINDT: Any more questions?

MEMBER: How long do you keep your prize cheese before you paraffin it?

MR. KASPER: Eight or ten days or longer. This cheese stood in the curing room since September.

THE ANNUAL CONVENTION BANQUET

The Convention banquet, Thursday night in the Auditorium dining room, was a big success. The tables were filled, and the entertainment by singers, dancers, story-tellers, and the orchestra, together with a few community songs by the diners, filled the hour from 6:00 to 7:30, after which the audience went upstairs to the Convention hall and saw the movies on Cheese Making in Switzerland and in Argentina. The banquet has now become an attractive feature of each annual convention, for both the members and their lady friends.

THE HONORARY MEMBERS' DINNER

A jolly crowd of Honorary Members and officers sat around the big table Wednesday night from six to eight o'clock, at the Republican Hotel. Stunts, stories, cigars and features too numerous to mention filled the time after dinner. Fred Marty's card tricks took first prize. Plans for a bigger Convention next year were discussed. The vote for another dinner next year was unanimous.

STATE PRIZES OFFERED TO WISCONSIN MAKERS OF AMERICAN CHEESE

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

CLASS 1. AMERICAN CHEESE, ANY STYLE, MADE BEFORE SEPTEMBER 1, 1923

(1) **First Prizes, for American Cheese in Class 1.**

$10 in gold from Stoelting Bros. Co., Kiel, Wis.
$5 cash from De Laval Separator Co., Chicago, Ill.
One box Metal Polish from the Buckeye Chemical Co., Akron, Ohio. (See also Sweepstake Prizes.)

(2) **Second Prize, for American Cheese in Class 1.**

$25 Leather Cushioned Rocking Chair from the Wis. Cheese Makers' Association.

(3) **Third Prize, for American Cheese in Class 1.**

$20 Leather Traveling Bag, from the Wisconsin Cheese Makers' Association.

(4) **Fourth Prize, for American Cheese in Class 1.**

Icy-Hot 1-Pint Vacuum Bottle, from The J. B. Ford Co., Wyandotte, Mich.

(5) **Special Prizes for American Cheese in Class 1.**

$40 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. $10 additional if the cheese takes first prize in this class. 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 this class.

(6) $50 cash from Chr. Hansen's Laboratory, Inc., Milwaukee, Wis., for highest scoring cheese in this class made with Hansen's Rennet Extract and so stated on the entry blank.

(7) $5 cash from the Morton Salt Co., Milwaukee, for the best cheese in this class made with "Morton's Flake" cheese salt and so stated on the entry blank.

(8) The New York Produce Review, 173 Chambers St., New York City, offers one subscription to the lowest scoring cheese in this class.

CLASS 2. AMERICAN CHEESE, ANY STYLE, MADE DURING SEPTEMBER OR OCTOBER, 1923

(9) **First Prize in Class 2.**

$10 in gold from Stoelting Bros. Co., Kiel, Wis.
$5 cash from the De Laval Separator Co., Chicago, Ill.
One Box Buckeye Metal Polish from the Buckeye Chemical Co., Akron, Ohio.

(10) **Second Prize in Class 2.**

$25 Leather Cushioned Rocking Chair, from the Wisconsin Cheese Makers' Association.

(11) **Third Prize in Class 2.**

$20 Leather Traveling Bag, from the Wisconsin Cheese Makers' Association.

(12) **Fourth Prize in Class 2.**

Icy-Hot 1-Pint Vacuum Bottle, from The J. B. Ford Co., Wyandotte, Mich.

Special Prize in Class 2.

(13) $40 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's Rennet Extract, and so stated on the entry blank. $10 cash additional if the cheese takes first prize in this class. 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 this class.

(14) $50 cash from Chr. Hansen's Laboratory, Inc., Milwaukee, Wis., for the highest scoring cheese in this class made with Hansen's Rennet Extract and so stated on the entry blank.

The Wisconsin Dairy Laboratory, Green Bay, Wis., offers three $35.00 gold watches, yellow gold case, 17 jeweled, Elgin movement, for the best cheese in class two, made with our rennet extract, and so stated on the entry blank. No one maker or factory can receive more than one of our watches.

(15) For the best daisy, as above.

(16) For the best twin, as above.

(17) For the best longhorn, as above.

(18) The New York Produce Review, 173 Chambers St., New York City, offers one subscription for the lowest scoring cheese in this class.

CLASS 3. AMERICAN CHEESE, ANY STYLE, MADE ON OR AFTER NOVEMBER 1, 1923

(19) **First Prize in Class 3.**

$10 in gold from Stoelting Bros. Co., Kiel, Wis.

$5 from the De Laval Separator Co., Chicago, Ill.

The Pyramid Oil Co., Minneapolis, offers for first prize in Class 3, a Parker Duofold self-filling fountain pen, gold ball point, guaranteed 25 years, complete with gold band and clip.

One box Buckeye Metal Polish, from the Buckeye Chemical Co., Akron, Ohio. (See also Sweepstake Prizes.)

(20) **Second Prize in Class 3.**

$25 Leather Cushioned Rocking Chair, from the Wisconsin Cheese Makers' Association.

The Pyramid Oil Co., Minneapolis, offers as second prize in Class 3 a gold-plated, genuine Gillette new type safety razor, with gold traveling case.

(21) **Third Prize in Class 4.**

$20 Leather Traveling Bag, from the Wisconsin Cheese Makers' Association.

(22) **Fourth Prize in Class 4.**

Icy-Hot 1-Pint Vacuum Bottle, from The J. B. Ford Co., Wyandotte, Mich.

Special Prizes in Class 3.

(23) $40 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's Rennet Extract, and so stated on the entry blank. $10 cash additional if the cheese takes first prize in this class. 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 this class.

(24) $50 cash from Chr. Hansen's Laboratory, Inc., Milwaukee, Wis., for the highest scoring cheese in this class made with Hansen's Rennet Extract and so stated on the entry blank.

The New York Produce Review, 173 Chambers St., New York City, offers one annual subscription for the lowest scoring cheese in this class.

CLASS 4. AMERICAN CHEESE MADE BY THE COLBY PROCESS AND SO STATED ON THE ENTRY BLANK

(25) **First Prize in Class 4.**

$15 cash from A. Grossenbach Co., Milwaukee, Wis.

$5 from the De Laval Separator Co., Chicago, Ill.

One box Buckeye Metal Polish, from the Buckeye Chemical Co., Akron, Ohio. (See also Sweepstake Prizes.)

(26) **Second Prize in Class 4.**

$25 Leather Cushioned Rocking Chair from the Association.

(27) **Third Prize in Class 4.**

$20 Leather Traveling Bag from the Association, if there are 10 or more in this class.

(28) **Fourth Prize in Class 4.**

Icy-Hot 1-Pint Vacuum Bottle, from The J. B. Ford Co., Wyandotte, Mich.

Special Prizes in Class 4.

(29) 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. $10 cash additional if the cheese takes first prize in this class. 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.

(30) $50 cash from Chr. Hansen's Laboratory, Inc., Milwaukee, Wis., for the highest scoring cheese in this class made with Hansen's Rennet Extract and so stated on the entry blank.

(31) $5 First Clark Co. Colby cheese. Security State Bank, Colby.

(32) $5 First Marathon Co. Colby cheese. Security State Bank, Colby.

(33) The New York Produce Review, 173 Chambers St., New York City, offers one annual subscription for the lowest scoring cheese in this class.

SWEEPSTAKE PRIZES IN CLASSES 1, 2, 3 AND 4

(34) **First Sweepstake Prizes, for the one best cheese in Classes 1, 2, 3 and 4.**

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 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.

$5 from the State Bank of Manitowoc for the best cheese in classes 1 to 4.

One bundle of Bandages from, L. O. Rehm Bandage Factory, Kiel, Wis.

Four complete Cheese Hoops, any regular style, from Damrow Bros. Co., Fond du Lac, Wis.

(35) **Second Sweepstake Prizes in Classes 1, 2, 3 and 4.**

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 second 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.

(36) **Third Sweepstake Prizes in Classes 1, 2, 3 and 4.**

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.

$10 from the A. H. Barber Cheese Co., Chicago, for the third highest score on American Cheese, any shape, and $5 additional if the winner is shipping his cheese regularly to A. H. Barber & Co., at Chicago, Plymouth or Dodgeville.

SPECIAL PRIZES ON AMERICAN CHEESE, ANY STYLE, CLASS 1, 2, 3 OR 4

$60 cash from Kraft Bros. Cheese Co., Plymouth, Wis., for the best American Cheese, any class, made in the county named, and so stated on the entry blank as follows:

(37) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Clark County.

(38) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Clark County.
(39) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Eau Claire County.
(40) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Eau Claire County.
(41) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Iowa County.
(42) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Iowa County.
(43) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Langlade County.
(44) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Langlade County.
(45) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Lincoln County.
(46) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Lincoln County.
(47) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Marathon County.
(48) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Marathon County.
(49) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Outagamie County.
(50) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Outagamie County.
(51) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Shawano County.
(52) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Shawano County.
(53) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Waupaca County.
(54) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Waupaca County.
(55) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Portage County.
(56) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Portage County.
(57) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Taylor County.
(58) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Taylor County.
(59) $3 First Prize from Kraft Bros. Cheese Co., for American Cheese from Wood County.
(60) $2 Second Prize from Kraft Bros. Cheese Co., for American Cheese from Wood County.

PRIZES OFFERED TO WISCONSIN MAKERS OF SWISS CHEESE

Special Sweepstake Prizes on Wisconsin Swiss Cheese, Classes 5 and 6.

(61) Bundle of Bandages for the highest texture score on American Cheese at the Convention, from H. L. Mueller, Sheboygan Bandage Factory, Sheboygan, Wis.

Walter Voechting & Co., Sheboygan, R. 2, offer:

(62) One bundle Twin Bandages for the highest scoring Flat.
(63) One bundle Daisy Bandages for the highest scoring Daisy.
(64) One bundle L. H. Bandages for the highest scoring L. H.
(65) $5 from the Winnebago Cheese Co., Fond du Lac, for the best American Cheese from Fond du Lac County, and so stated on the entry blank.
(66) $25 from Oakes and Burger, Cattaraugus, N. Y.. for the highest scoring American Cheese at the Convention from any state, made in the Oakes and Burger hoops, and so stated on the entry blank.
(68) $40 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's Rennet Extract, and so stated on the entry blank. $10 cash additional if the cheese takes first prize in this class. 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 this class.
(69) $50 cash from Chr. Hansen's Laboratory, Inc., Milwaukee, Wis., for the highest scoring Swiss Cheese made with Hansen's Rennet Extract and so stated on the entry blank.

D. Picking & Co., Bucyrus. Ohio, offers:

(70) $5 cash for the best Swiss Cheese made in a kettle manufactured by this firm, and so stated on the entry blank.

PRIZES OFFERED TO WISCONSIN MAKERS OF DRUM SWISS CHEESE, CLASS 5

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

(71) **First Prizes for the Highest scoring Drum Swiss Cheese.**

$5 from the De Laval Separator Co., Chicago, Ill.
One box Buckeye Copper Polish, from the Buckeye Chemical Co., Akron, Ohio.

(72) **Second Prize for Drum Swiss Cheese.**

$25 Leather Cushioned Rocking Chair, from the Wisconsin Cheese Makers' Association.

(73) **Third Prize for Drum Swiss Cheese.**

$20 Leather Traveling Bag, from the Wisconsin Cheese Makers' Association.

(74) **Fourth Prize in Class 5.**

Icy-Hot 1-Pint Vacuum Bottle, from The J. B. Ford Co., Wyandotte, Mich.

(75) The New York Produce Review, 173 Chambers St., New York City, offers one annual subscription for the lowest scoring cheese in this class.

PRIZES OFFERED FOR WISCONSIN BLOCK SWISS CHEESE, CLASS 6

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

(76) **First Prizes for Wisconsin Block Swiss Cheese.**

$25 Leather Cushioned Rocking Chair, from the Wisconsin Cheese Makers' Association, providing there are ten or more exhibits in this class.

(77) **Second Prize for Wisconsin Block Swiss Cheese.**

$20 Leather Traveling Bag, from the Wisconsin Cheese Makers' Association.

(78) **Third Prizes for Block Swiss Cheese.**

$5 from the De Laval Separator Co., Chicago, Ill.

(79) **Fourth Prize in Class 6.**
Icy-Hot 1-Pint Vacuum Bottle, from the J. B. Ford Co., Wyandotte, Mich.

Special Prize on Block Swiss Cheese.

(80) $10 from the J. S. Hoffman Co., Mt. Horeb, for the best block cheese from makers shipping cheese to this office.

(81) 10 Block Cheese boxes are offered by Doyon and Rayne Lumber Co., Barneveld, for the best block cheese from Iowa County.

(82) 10 Block Cheese boxes, offered by the Mt. Horeb Lumber Co., for the best Dane Co. block cheese, from makers trading with us.

(83) $5 First Block from Iowa and Dane Cos., Jacob Marty Co., Barneveld, Wis.

(84) $5 First Block from Town of Brigham, Iowa Co., and so stated in writing on the entry blank. Barneveld State Bank.

(85) $1 Second Block from Iowa Co., Leslie Starry, Cream Buyer.

(86) Hammer, for First Block from Iowa Co., Daniel Davies & Son, Barneveld, Wis.

(87) The New York Produce Review, 173 Chambers St., New York City, offers one annual subscription for the lowest scoring cheese in this class.

PRIZES OFFERED TO WISCONSIN MAKERS OF LIMBURGER CHEESE, CLASS 7

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

(88) **First Prizes for the Highest Scoring Limburger Cheese.**

$5 from the De Laval Separator Co., Chicago, Ill.
One box Buckeye Copper Polish, from Buckeye Chemical Co., Akron, Ohio.

(89) Second Prize for Limburger Cheese.

$25 Leather Cushioned Rocking Chair, from the Wisconsin Cheese Makers' Association, if there are ten or more entries.

(90) Third Prize for Limburger Cheese.

$20 Leather Traveling Bag, from the Wisconsin Cheese Makers' Association.

(91) Fourth Prize in Class 7.

Icy-Hot 1-Pint Vacuum Bottle, from the J. B. Ford Co., Wyandotte, Mich.

Special Prizes for Wisconsin Limburger Cheese.

(92) $40 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's Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points, and at least ten enteries must be made in the class. $10 cash additional, if the cheese takes first prize in the class. No maker can get more than one watch and not more than one watch can go to the same factory.

(93) $50 cash from Chr. Hansen's Laboratory, Inc., Milwaukee, Wis., for the highest scoring cheese in this class made with Hansen's Extract and so stated on the entry blank.

(94) $5 from the Conley Foil Co., 511 E. 25th St., New York, N. Y., for the best Limburger Cheese wrapped in tin foil.

(95) The New York Produce Review, 173 Chambers St., New York City, offers one annual subscription for the lowest scoring cheese in this class.

PRIZES OFFERED FOR WISCONSIN BRICK CHEESE, CLASS 8

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

(96) First Prizes for the Highest Scoring Brick Cheese.

$5 from the De Laval Separator Co., Chicago, Ill.
One box Buckeye Copper Polish, from the Buckeye Chemical Co., Akron, Ohio.

(97) Second Prize for Brick Cheese.

$25 Leather Cushioned Rocking Chair, from the Wisconsin Cheese Makers' Association.

(98) Third Prize for Brick Cheese.

$20 Leather Traveling Bag, from the Wisconsin Cheese Makers' Association.

Special Prizes for Brick Cheese.

(99) $40 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's Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points and there must be at least 10 entries in the class. $10 additional if the cheese takes first prize in this class. No maker can get more than one watch, and not more than one watch can go to the same factory.

(100) $50 cash from Chr. Hansen's Laboratory, Inc., Milwaukee, Wis., for the highest scoring cheese in this class made with Hansen's Rennet Extract and so stated on the entry blank.

(101) $5 cash from the Morton Salt Co., Milwaukee, Wis., for the best cheese in this class made with "Morton's Flake" Cheese Salt, and so stated on the entry blank.

(102) $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.

(103) $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.

$15 cash from Kraft Bros. Cheese Co., Plymouth, Wis., for the best brick cheese made in the county mentioned, and so stated on the entry blank, as follows:

(104) $3 First Prize from Kraft Bros. Cheese Co. for brick cheese from Barron County.
(105) $2 Second Prize from Kraft Bros. Cheese Co. for brick cheese from Barron County.
(106) $3 First Prize from Kraft Bros. Cheese Co. for brick cheese from Columbia County.
(107) $2 Second Prize from Kraft Bros. Cheese Co. for brick cheese from Columbia County.
(108) $3 First Prize from Kraft Bros. Cheese Co. for brick cheese from Dodge County.
(109) $2 Second Prize from Kraft Bros. Cheese Co. for brick cheese from Dodge County.
(112) 10 Brick cheese boxes offered by Eggum and Johnson Co., Mt. Horeb, for the best brick cheese from Dane County makers trading with us.
(113) 25 box Cigars, from David Harris, Barneveld, for the best Brick from Iowa County.
(114) $3 First Brick from Iowa and Dane County, Jac. Marty & Co., Barneveld.
(115) $2 Second Brick from Iowa and Dane County, Jac. Marty & Co., Barneveld.
(116) Gallon of B-K from Jones & Starry, Barneveld, for the second brick in Iowa County.
(117) The New York Produce Review, 173 Chambers St., New York City offers one annual subscription for the lowest scoring cheese in this class.

SPECIAL PRIZES OPEN TO MAKERS OF ANY CLASS CHEESE

Fill out entry blank fully to compete for these special prizes.

(118) $10 First. Offered by the Worcester Salt Co., Detroit for the highest scoring cheese made with Worcester Salt and so stated on the entry blank.
(118A) $5 From the Holstein-Friesian Association of Wisconsin, L. L. Oldham, Secretary, Madison, Wis., for the best cheese, any class, at the Convention.
(119) $10 First. From the Federal Asbestos Co., Milwaukee, for the best cheese from a factory having a storage room insulated with sheet cork, and so stated on the entry blank.

Mid West Creamery Co., Plymouth, Wis., offers $20 in cash prizes for the highest scoring cheese sent to the Convention by cheese makers shipping cream to the Mid West Creamery Co., as follows:

(120) $7 First Prize for shippers to Mid West Creamery Co., at Plymouth.
(121) $3 Second Prize for shippers to Mid West Creamery Co., at Plymouth.
(122) $7 First Prize for shippers to Mid West Creamery Co., at Manitowoc.
(123) $3 Second Prize for shippers to Mid West Creamery Co., at Manitowoc.
(124) $3 First Prize to users of boxes from Rogers and Johnson, Marion.
(125) $2 Second Prize to users of boxes from Rogers and Johnson, Marion.
(126) $1 Third Prize to users of boxes from Rogers and Johnson, Marion.
(127) $3 First Prize to factories checking at Plymouth Exchange Bank.
(128) $2 Second Prize to factories checking at Plymouth Exchange Bank.
(129) $5 First Prize from the Sheboygan Falls Creamery Co. for the best cheese "make up" score from factories shipping cream to this firm. Only one prize to any maker.
(130) $5 Second Prize as above from the Sheboygan Falls Creamery Co.
(131) $5 Third Prize as above from the Sheboygan Falls Creamery Co.
(132) $5 Fourth Prize as above from the Sheboygan Falls Creamery Co.
(133) $5 Fifth Prize as above from the Sheboygan Falls Creamery Co.
(134) $5 Sixth Prize as above from the Sheboygan Falls Creamery Co.
(135) $5 Seventh Prize as above from the Sheboygan Falls Creamery Co.
(136) $5 Eighth Prize as above from the Sheboygan Falls Creamery Co.
(137) $5 Ninth Prize as above from the Sheboygan Falls Creamery Co.
(138) $5 Tenth Prize as above from the Sheboygan Falls Creamery Co
(139) $5 First Prize from the Manitowoc County Cheesemakers' Association for the best cheese sent by any of their members and so stated on the entry blank.
(140) $3 Second Prize, as above, from the Manitowoc Co. Cheesemakers' Association.
(141) $2 Third Prize, as above, from the Manitowoc Co. Cheesemakers' Association for the best cheese sent to the Convention by any of their members and so stated on the entry blank.

(142) $5 Savings Account from the State Bank of Howards Grove to their patrons.
(143) $3 First. To patrons of the Embarass State Bank.
(144) $2 Second. To patrons of the Embarass State Bank.
(145) $10 First. For makers using vats from Wm. Rindt Hardware Co., Embarass.
(146) $5 First. From State Bank of St. Cloud, for makers checking with them.
(147) $3 Second. From State Bank of St. Cloud, for makers checking with them.
(148) $2 Third. From State Bank of St. Cloud, for makers checking with them.
(149) $5 First. Farmers State Bank of Calvary, for their patrons.
(150) $3 Second. Farmers State Bank Calvary, for their patrons.
(151) $2 Third. Farmers State Bank of Calvary, for their patrons.
(152) $5 First. From the Algoma Produce Co., to their shippers at Kewaunee.
(153) $3 Second. From the Algoma Produce Co., to their shippers at Kewaunee.
(154) $2 Third. From the Algoma Produce Co., to their shippers at Kewaunee.
(155) $5 First. From the Algoma Produce Co., to their shippers at Algoma.
(156) $3 Second. From the Algoma Produce Co., to their shippers at Algoma.
(157) $2 Third. From the Algoma Produce Co., to their shippers at Algoma.
(158) $5 from Alex Schaller, Barneveld, for the best Block Brick or Round Swiss from Iowa Co., or Dane Co.
(159) $2.50 in Victor Records from J. W. Pryor, druggist, Barneveld, for the best cheese, any class, town of Brigham, Iowa Co., written on entry blank.
(160) Ford Inner Tube, from E. G. Kendrick and Son, Barneveld, for best cheese, any class, in Dane or Iowa County.
(161) 50-lb. Bag Pillsbury Best, from D. Baumgartner, Jr., grocer, Barneveld, for the best cheese, any class, in Iowa Co.
(162) 5-lb. can Seal Brand coffee, from Roach and Kjorlie, Barneveld, for the best American cheese, town of Brigham, Iowa Co., written on entry blank.
(163) $5 First, any class, from Clintonvile State Bank to their patrons.
$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:
(164) $7 for the highest scoring cheese.
(165) $5 for the second highest.
(166) $3 for the third highest.

PRIZES OFFERED FOR CHEESE MADE IN THE LEADING COUNTIES

(See also State Prizes, Premiums and Diplomas.)

Prizes for Cheese Made in the Counties Sending the Largest Number of Cheese to the Convention.

(201) $10 Prize offered by the Convention President, Chas. E. Reed, Thorp, Wis., as first prize in the leading county.
(202) One Nafis Automatic Acidity Test, complete, from Louis F. Nafis, Inc., Chicago, as first prize in the leading county.
(303) $5 cash from the General Laboratories, Madison, Wis., as first prize in the second leading county.
(204) $5 Gillette Safety Razor, offered by Secretary J. L. Sammis, Madison, Wis., as first prize in the third leading county.
(205) Finest make E. J. B. trier from the A. H. Barber-Goodhue Co., Chicago, for the best cheese from the fourth leading county.

COUNTY PRIZES OFFERED BY CHEESE DEALERS AND OTHERS

For the Highest Scoring Cheese in the County Named

	County	Prize Amount		Donated by
(206)	Brown	First	$3.00	C. A. Strauble Co., Green Bay.
(207)	Brown	First	$3.00	Pauly & Pauly Co., Manitowoc.
(208)	Brown	Second	$2.00	C. A. Strauble Co., Green Bay.
(209)	Brown	Second	$2.00	Pauly & Pauly Co., Manitowoc.
(210)	Brown	Third	$1.00	C. A. Strauble Co., Green Bay.
(211)	Calumet	First	$3.00	First National Bank, Brillion.
(212)	Calumet	First	$3.00	Pauly & Pauly Co., Manitowoc.
(213)	Calumet	Second	$2.00	Pauly & Pauly Co., Manitowoc.
(214)	Calumet	Second	$2.00	First National Bank, Brillion.
(215)	Clark	First	$3.00	C. E. Blodgett Cheese Co., Marshfield.
(216)	Clark	Second	$2.00	C. E. Blodgett Cheese Co., Marshfield.
(217)	Door	First	$3.00	C. A. Strauble Co., Green Bay.
(218)	Door	First	$3.00	Pauly & Pauly Co., Manitowoc.
(219)	Door	Second	$2.00	Pauly & Pauly Co., Manitowoc.
(220)	Door	Second	$2.00	C. A. Strauble Co., Green Bay.
(221)	Door	Third	$1.00	C. A. Strauble Co., Green Bay.
(222)	Dodge	First	$5.00	Jos. Dusek Co., Chicago. Classes 1-2-3 only.
(223)	Dodge	Second	$2.50	Jos. Dusek Co., Chicago. Classes 1-2-3 only.
(224)	Dodge	Third	$1.00	Jos. Dusek Co., Chicago. Classes 1-2-3 only.
(225)	Dunn	First	$5.00	Jos. Dusek Co., Chicago. Classes 1-2-3 only.
(226)	Dunn	Second	$2.50	Jos. Dusek Co., Chicago. Classes 1-2-3 only.
(227)	Dunn	Third	$1.00	Jos. Dusek Co., Chicago. Classes 1-2-3 only.
(228)	Green	First	$5.00	Brodhead Cheese & Cold Storage Co., Brodhead.
(229)	Kewaunee	First	$5.00	Glandt-Kuffan-Priebe Co., Kewaunee.
(229A)	Kewaunee	Second	$3.00	Glandt-Kuffan-Priebe Co., Kewaunee.
(230)	Kewaunee	Third	$2.00	Glandt-Kuffan-Priebe Co., Kewaunee.
(231)	Kewaunee	First	$3.00	C. A. Strauble Co., Green Bay.
(232)	Kewaunee	Second	$2.00	C. A. Strauble Co., Green Bay.
(233)	Kewaunee	Third	$1.00	C. A. Strauble Co., Green Bay.
(234)	Langlade	First	$5.00	First National Bank, Antigo.
(235)	Langlade	Second	$3.00	First National Bank, Antigo.
(236)	Langlade	Third	$2.00	First National Bank, Antigo.
(237)	Langlade	First	$3.00	C. A. Strauble Co., Green Bay.
(238)	Langlade	Second	$2.00	C. A. Strauble Co., Green Bay.
(239)	Langlade	Third	$1.00	C. A. Strauble Co., Green Bay.
(240)	Langlade	First	$3.00	in trade, Antigo Hardware Co.
(241)	Langlade	Second	$2.00	in trade, Antigo Hardware Co.
(242)	Langlade	First		Wilson dress shirt, J. J. Lemperur.
(243)	Langlade	First		Special Curd Fork, J. H. Howe Cry. Co.
(244)	Manitowoc	First	$3.00	First National Bank, Brillion.
(245)	Manitowoc	First	$3.00	Pauly & Pauly Co., Manitowoc.
(246)	Manitowoc	Second	$2.00	Pauly & Pauly Co., Manitowoc.
(247)	Marathon	First	$3.00	C. E. Blodgett Cheese Co., Marshfield.
(248)	Marathon	First	$3.00	Pauly & Pauly Co., Manitowoc.
(249)	Marathon	Second	$2.00	Pauly & Pauly Co., Manitowoc.
(250)	Marathon	Second	$2.00	C. F. Blodgett Cheese Co., Marshfield.
(251)	Marinette	First	$3.00	C. A. Strauble Co., Green Bay.
(252)	Marinette	First	$3.00	Pauly & Pauly Co., Manitowoc.
(253)	Marinette	Second	$2.00	Pauly & Pauly Co., Manitowoc.
(254)	Marinette	Second	$2.00	C. A. Strauble Co., Green Bay.
(255)	Marinette	Third	$1.00	C. A. Strauble Co., Green Bay.
(256)	Outagamie	First	$3.00	S. D. Cannon, Neenah.
(257)	Outagamie	First	$3.00	Pauly & Pauly Co., Manitowoc.
(258)	Outagamie	Second	$2.00	Pauly & Pauly Co., Manitowoc.
(259)	Outagamie	Second	$2.00	S. D. Cannon, Neenah.
(260)	Oconto	First	$3.00	C. A. Strauble Co., Green Bay.
(261)	Oconto	First	$3.00	Great Northern Pail Co., Gillett.
(262)	Oconto	First	$3.00	Pauly & Pauly Co., Manitowoc.
(263)	Oconto	Second	$2.00	Great Northern Pail Co., Gillett.
(264)	Oconto	Second	$2.00	Pauly & Pauly Co., Manitowoc.

	County	Prize	Amount	Donated by
(265)	Oconto	Second	$2.00	C. A. Strauble Co., Green Bay.
(266)	Oconto	Third	$1.00	Great Northern Pail Co., Gillett.
(266A)	Oconto	Third	$1.00	C. A. Strauble Co., Green Bay.
(267)	Pierce	First	$5.00	Jos. Dusek Co., Chicago. Classes 1-2-3 only.
(268)	Pierce	Second	$2.50	Jos. Dusek Co., Chicago. Classes 1-2-3 only.
(268A)	Pierce	Third	$1.00	Jos. Dusek Co., Chicago. Classes 1-2-3 only.
(269)	Shawano	First	$3.00	C. A. Strauble Co., Green Bay.
(270)	Shawano	First	$3.00	Pauly & Pauly Co., Green Bay.
(271)	Shawano	Second	$2.00	Pauly & Pauly Co., Green Bay.
(272)	Shawano	Second	$2.00	C. A. Strauble Co., Green Bay.
(273)	Shawano	Third	$1.00	C. A. Strauble Co., Green Bay.
(274)	Waupaca	First	$3.00	C. A. Strauble Co., Green Bay.
(275)	Waupaca	First	$2.00	S. D. Cannon, Neenah.
(276)	Waupaca	Second	$2.00	C. A. Strauble Co., Green Bay.
(277)	Waupaca	Second	$2.00	S. D. Cannon, Neenah.
(278)	Waupaca	Third	$1.00	C. A. Strauble Co., Green Bay.
(279)	Winnebago	First	$3.00	S. D. Cannon, Neenah.
(280)	Winnebago	Second	$2.00	S. D. Cannon, Neenah.
(281)	Wood	First	$3.00	C. E. Blodgett Cheese Co., Marshfield.
(282)	Wood	Second	$2.00	C. E. Blodgett Cheese Co., Marshfield.

Waupaca, Shawano and Outagamie Counties.

(283) $5 First. From A. A. Washburn, Clintonville Gazette and Tri-County Dairyman.
(284) $3 Second. From A. A. Washburn, Clintonville Gazette and Tri-County Dairyman.
(285) $2 Third. From A. A. Washburn, Clintonville Gazette and Tri-County Dairyman.
(286) Kewaunee $5 First in Class 1. Dairymen's State Bank, Kewaunee.
(287) Kewaunee $3 Second in Class 1. Dairymen's State Bank, Kewaunee.
(288) Kewaunee $5 First in Class 2. Dairymen's State Bank, Kewaunee.
(289) Kewaunee $3 Second in Class 2. Dairymen's State Bank, Kewaunee.
(290) Kewaunee $5 First in Class 3. Dairymen's State Bank, Kewaunee.
(291) Kewaunee $3 Second in Class 3. Dairymen's State Bank, Kewaunee.

POST OFFICE PRIZES FOR CHEESE IN ANY CLASS

Bear Creek or Clintonville Post Office Prizes.

(301) First Brick. Box Preservation Tablets. R. Milbauer, Druggist.
(302) First American. 2 Gallons Sulphuric Acid. R. Milbauer, Druggist.
(303) Second American. 1 Gallon Sulphuric Acid. R. Milbauer, Druggist.
(304) Third American. 1 Gallon Sulphuric Acid. R. Milbauer, Druggist.
(305) Fourth American. 1 Gallon Sulphuric Acid. R. Milbauer, Druggist.
(306) Blue Mounds. Second on Block. Sack of Mother Hubbard Flour from Farmers Exchange, Blue Mounds.
(307) Blue Mounds. First on Brick. 1 year subscription from Times Printing Co.
(308) Blue Mounds. First Brick or Block. $2 Pocket Knife from E. Bey, for our trade.
(309) Clintonville, First, American, $5, First National Bank of Clintonville.
(310) Clintonville, First, Brick (or L. H.), $5, First National Bank of Clintonville.
(311) Clintonville, Second, Long Horn Boyce Motometer, Clintonville Motor Car Co.
(312) Clintonville, First, $5, Dairymen's State Bank of Clintonville.
(313) Clintonville, First, 2 years subscription to the Clintonville Tribune.
(314) Clintonville, Second, $3, Dairymen's State Bank of Clintonville.
(315) Clintonville, Second, 1 year subscription to the Clintonville Tribune.
(316) Clintonville, Third, $3, American Cheese Exchange, Clintonville.
(317) Clintonville, Third, $2, Dairymen's State Bank of Clintonville.
(318) Clintonville, Third, $1 cash, from the Clintonville Tribune.
(319) Clintonville, Third, Big Box Preservation Tablets, from Harold Olk.
(320) Clintonville, Fourth, $2, Dairymen's State Bank of Clintonville.
(321) Clintonville, Fourth, $2, American Cheese Exchange, Clintonville.

(322) Clintonville, Fourth, Buck horn two-blade knife, M. B. Lendved Hardware Co.
(323) Clintonville, Fifth, $2, Dairymen's State Bank of Clintonville.
(324) Clintonville, Fifth, Ever Ready Razor, M. B. Lendved Hardware Co.
(325) Clintonville, Fifth, $3 shirt, from Malik Bros. Department Store.
(326) Clintonville, Sixth, $2, Dairymen's State Bank of Clintonville.
(327) Clintonville, Seventh, $2, Dairymen's State Bank of Clintonville.
(328) Clintonville, Eighth, $2, Dairymen's State Bank of Clintonville.
(329) Cumberland, First on Twins, $5, Cumberland State Bank.
(330) Cumberland, First on Twins, $5, Island City State Bank.
(331) Cumberland, Second on Twins, $5, S. W. Hines Mercantile Co.
(332) Cumberland, Third on Twins, $5, Johnson and Eckle Co.
(333) Cumberland, Fourth on Twins, $5, The Company Store.
(334) Cumberland, First on Y. A., $5, Cumberland State Bank.
(335) Cumberland, Second on Y. A., 500 letter heads from the Cumberland Advocate.
(336) Colby P. O., First, Colby cheese from Clark Co., $5, from Colby State Bank.
(337) Colby P. O., Second, Colby cheese from Clark Co., $5, from Kraus and Kersten.
(338) Colby P. O., Third, cheese from Clark Co., Auto Strop Razor, from Colby Hardware Co.
(339) Colby P. O., First, Colby cheese from Marathon Co., $5, from Colby State Bank.
(340) Colby P. O., Second, Colby cheese from Marathon Co., $5, from Kraus and Kersten.
(341) Colby P. O., Third, Colby cheese from Marathon Co., Flash Light, from Zillman Bros.
(342) Gillett, First, $3. Given by the Bank of Gillett.
(343) Gillett, Second, $2. Given by the Bank of Gillett.
(344) Gillett, Third, $1. Given by the Bank of Gillett.
(345) Gillett, First, $3. From Citizens State Bank of Gillett.
(346) Second, $2. From Citizens State Bank of Gillett.
(347) Third, $1. From Citizens State Bank of Gillett.

$45 in 9 Highland Post Office Prizes Donated by 9 Firms.

(348) Highland, First, $9
(349) Highland, Second, $8
(350) Highland, Third, $7
(351) Highland, Fourth, $6
(352) Highland, Fifth, $5
(353) Highland, Sixth, $4
(354) Highland, Seventh, $3
(355) Highland, Eighth, $2
(356) Highland, Ninth, $1

Amount	Donated by
$15.00,	R. M. Egan, Cheese Broker.
5.00,	Highland State Bank.
5.00,	Kreul Hardware Co.
5.00,	Pierck and Cody, Genl. Mdse.
5.00,	H. Lewis, General Merchandise.
5.00,	P. N. Henning, Cream Buyer.
3.00,	Thos. S. Aide, Ford Garage.
2.00,	Geo. McGuire, Barber.

$46 in 9 Post Office Prizes Donated by 16 Hartford Firms Listed Below.

(357) Rubicon or Hartford P. O., First, $10.
(357A) Rubicon or Hartford P. O., Second, $8.
(358) Rubicon or Hartford P. O., Third, $7.
(358A) Rubicon or Hartford P. O., Fourth, $6.
(359) Rubicon or Hartford P. O., Fifth, $5.
(359A) Rubicon or Hartford P. O., Sixth, $4.
(360) Rubicon or Hartford P. O., Seventh, $3.
(360A) Rubicon or Hartford P. O., Eighth, $2.
(361) Rubicon or Hartford P. O., Ninth, $1.

Heppe Cash Store
Leach & Christenson
Hartford Coop. Co.
F. C. Wienefeld
Geo. J. Luttropp
Schauer Bros.
Dr. J. G. Hoffman
F. L. LeCount
Walderbach & Kelly
A. C. Hagen
Geo. R. Schaller
I. L. Bonniwell
Esser & Schmidt
Chas. H. Lohr
H. F. Lohr
Otto Wollner & Co.

(362) Marion, First, $5, First National Bank, Marion.
(363) Marion, First, Quart Thermos Bottle, L. M. De Vaud Co., Marion.
(363A) Marion, First, Goodyear Heavy Tourist Tube, Hoffman Bros., Marion.

(364) Marion, First, $1 credit, Spengler and Martin, Marion.
(365) Marion, Second, $5, First National Bank, Marion.
(366) Marion, Second, Quart Thermos Bottle, L. M. De Vaud Co., Marion.
(367) Marion, Second, $1 credit, Spengler and Martin, Marion.
(368) Marion, Third, $3, First National Bank, Marion.
(372) Marion, Fourth, $2, The Marion Advertiser, Marion.
(373) Marion, Fifth, $1, The Marion Advertiser, Marion.
(370) Marion, Third, $1 credit, Spengler and Martin, Marion.
(371) Marion, Fourth, $2, First National Bank, Marion.
(374) Marion, First on Long Horns, $3, Farmers and Merchants Bank, Marion.
(375) Marion, Second on Long Horns, $2, Farmers and Merchants Bank, Marion.
(376) Neenah, First, $5, First National Bank, Neenah.
(377) Neenah, Second, $5, National Manufacturers Bank, Neenah.
(378) Neenah, Third, Carpet Sweeper, E. E. Jandry Co., Neenah.
(379) Neenah, Fourth, Rosewood Trier, Wm. Krueger Co., Neenah.
(380) Plymouth, First, $5, State Bank of Plymouth.
(381) Plymouth, First, $5, Plymouth Exchange Bank.
(382) Plymouth, First, Gallon of B-K, from Erwin Schwenzen.
(383) Plymouth, Second, $3, Plymouth Exchange Bank.
(384) Plymouth, Second, $3, State Bank of Plymouth.
(385) Plymouth, Second, 1 case of Detro, from Erwin Schwenzen.
(386) Plymouth, Third, $2, State Bank of Plymouth.
(387) Plymouth, Third, $2, Plymouth Exchange Bank.
(388) Plymouth, Third, Oiled Apron, from Erwin Schwenzen.
(389) Shawano, First Daisy, $5, Wisconsin National Bank, Shawano.
(390) Shawano, First Long Horn, $5, Wisconsin National Bank, Shawano.
(391) Shawano, $5. Wisconsin National Bank, Shawano.
For the best cheese from any maker having a child under five years old and so stated on the entry blank, in writing.
(392) Shawano, Second, Large Flash Light, Farmers Hardware Co., Shawano.
(393) Shawano, Third, Guaranteed Jack Knife, Farmers Hardware Co., Shawano.
(394) Thorp, First, $5, Peoples State Bank of Thorp.
(395) Thorp, Second, $3, Peoples State Bank of Thorp.
(396) Thorp, Third, $2, Peoples State Bank of Thorp.
(397) Thorp, Fourth, $2.25, Flannel Shirt, from the Farmers Store.

COUNTY PRIZES OFFERED BY THE ASSOCIATION

For the Highest Scoring Cheese from the Counties Named, Winning no other Prizes:

	County	Prize	Amount	Conditions
(401)	Barron	First	$2.50	If five or more entries from county.
(402)	Barron	Second	$2.50	If ten or more entries from county.
(403)	Buffalo	First	$2.50	If five or more entries from county
(404)	Buffalo	Second	$2.50	If ten or more entries from county.
(405)	Chippewa	First	$2.50	If five or more entries from county.
(406)	Chippewa	Second	$2.50	If ten or more entries from county.
(407)	Columbia	First	$2.50	If five or more entries from county.
(408)	Columbia	Second	$2.50	If ten or more entries from county.
(409)	Crawford	First	$2.50	If five or more entries from county.
(410)	Crawford	Second	$2.50	If ten or more entries from county.
(411)	Grant	Second	$2.50	If ten or more entries from county.
(412)	Grant	First	$2.50	If five or more entries from county.
(413)	Green	Second	$2.50	If ten or more entries from county.
(414)	Jackson	First	$2.50	If five or more entries from county.
(415)	Jackson	Second	$2.50	If ten or more entries from county.
(416)	Jefferson	First	$2.50	If five or more entries from county.
(417)	Jefferson	Second	$2.50	If ten or more entries from county.
(418)	Lafayette	First	$2.50	If five or more entries from county.
(419)	Lafayette	Second	$2.50	If ten or more entries from county.
(420)	Lincoln	First	$2.50	If five or more entries from county.
(421)	Lincoln	Second	$2.50	If ten or more entries from county.
(422)	Portage	First	$2.50	If five or more entries from county.
(423)	Portage	Second	$2.50	If ten or more entries from county.
(424)	Ozaukee	First	$2.50	If five or more entries from county.
(424A)	Ozaukee	Second	$2.50	If ten or more entries from county.
(425)	Polk	First	$2.50	If five or more entries from county.
(426)	Polk	Second	$2.50	If ten or more entries from county.
(427)	Richland	First	$2.50	If five or more entries from county.
(428)	Richland	Second	$2.50	If ten or more entries from county.
(428A)	Rock	First	$2.50	If five or more entries from county.
(429)	Rock	Second	$2.50	If ten or more entries from county.
(430)	St. Croix	First	$2.50	If five or more entries from county.
(431)	St. Croix	Second	$2.50	If ten or more entries from county.
(432)	Sauk	First	$2.50	If five or more entries from county.
(433)	Sauk	Second	$2.50	If ten or more entries from county.

Similar prizes will be awarded in any other counties not listed if there are ten or more entries from this county.

Additional Prizes, Too Late to Classify.

(434) $5 First from Dow Cheese Co., Fond du Lac, to their shippers.
(435) $3 Second from Dow Cheese Co., Fond du Lac, to their shippers.
(436) $2 Third from Dow Cheese Co., Fond du Lac, to their shippers.
(437) $5 First from Citizens State Bank, Bear Creek, for cheese from Outagamie or Waupaca County.
(438) $3 Third from Citizens State Bank, Bear Creek, for cheese from Outagamie or Waupaca County.
(439) $2 Third from Citizens State Bank, Bear Creek, for cheese from Outagamie or Waupaca County.
(440) $5 First from Wolf Valley Dairy Co., to their cream shippers.
(441) $3 Second from Wolf Valley Dairy Co., to their cream shippers.
(442) $2 Third from Wolf Valley Dairy Co., to their cream shippers.

Prizes for Brown, Kewaunee and Manitowoc Counties.

(443) $3 from R. C. Jorgensen, Denmark, for the one best cheese from three counties.
(444) $2 from R. C. Jorgensen, Denmark, for the best cheese from Brown County.
(445) $2 from R. C. Jorgensen, Denmark, for the best cheese from Kewaunee County.
(446) $2 from R. C. Jorgensen, Denmark, for the best cheese from Manitowoc County.
(447-452) $6 from R. C. Jorgensen, Denmark, for the six next best from the three counties.
(453) $5 from the Denmark State Bank, for the best cheese from the three counties.
(454) $2 from the Denmark State Bank, for the best cheese from the second county.
(455) $2 from the Denmark State Bank, for the best cheese from the third county.
(456-458) $3 from the Denmark State Bank; $1 for the second in each county.
(459-461) $3 from the Denmark State Bank; $1 for the third in each county.
(462) Rice Lake P. O., $7 First, donated by three Rice Lake banks, Barron County Bank.
(463) Rice Lake P. O., $5 Second, donated by three Rice Lake banks. Citizens State Bank.
(464) Rice Lake P. O., $3 Third, donated by three Rice Lake banks. First National Bank.
(465) $7 First from Fond du Lac County Dairy Assn., for the best from the county.
(466) $5 Second from Fond du Lac County Dairy Assn., for the second best from the county.
(467) $3 Third from Fond du Lac County Dairy Assn., for the third best from the county.

$30 Five P. O. Prizes for Glenbeulah, provided there are five or more entries.

(468) $3 First, Glenbeulah P. O., from the State Bank of Glenbeulah.
(469) $5 First Glenbeulah P. O. from W. D. Scott & Co., of Glenbeulah.
(470) $2 Second Glenbeulah P. O. from the State Bank of Glenbeulah.
(471) $5 Second Glenbeulah P. O. from Wm. Mueller Hardware Co., Glenbeulah.
(472) $5 Third Glenbeulah P. O. from Herman Froelich, Glenbeulah.
(473) $5 Fourth Glenbeulah P. O. from Frank Chapman. Glenbeulah.
(474) $5 Fifth Glenbeulah P. O. from Burmeich Bros., Glenbeulah.
(475) $5 First from Suring State Bank, for their patrons.

POST OFFICE PRIZES FROM THORP, WISCONSIN

(475A) First. $5 to checkers at the Farmers Exchange Bank.
(476) Second. $3 to checkers at the Farmers Exchange Bank.
(477) Third. $2 to checkers at the Farmers Exchange Bank.
(478) First. $5 in trade from the Garrison Mercantile Co.
(479) Second. $3 in trade from the Farmers Hardware Co.
(480) Third. $2.50 in trade from Red Arrow Garage.
(481) Fourth. $1.50 in trade from Browick Meat Market.
(482) Fifth. $1.50 in trade from Klanda Shoe Store.
(483) Sixth. $1 in trade from John LaTasse, barber.

Post Office Prizes in Class 1.

(484) First. $3 cash from Hausman and Johnson Furniture Co.
(485) Second. $2 cash from Tureene Electric Shop.
(486) Third. $1.75 in trade from John Bauerfiend, tailor.
(487) Fourth. $1.50 in trade from Geo. F. Becker.

Post Office Prizes in Class 2.

(488) First. $5 in trade to traders with Thorp Mercantile Co.
(489) Second. $3 in trade from Thorp Hardware Co.
(490) Third. A 30x3½ inner tube from Thorp Auto Sales Co.
(491) Fourth. Five gallons oil from West Brook Tank Line Co.
(492) Fifth. Subscription to the Thorp Courier.

Post Office Prizes in Class 3.

(493) First. Fire and Theft Policy on Ford car, from L. P. Walsdorf.
(494) Second. $3 Eversharp pencil from Wolf Drug Store.
(495) Third. $3 in trade from Snyder and Snyder.
(496) Fourth. $2.50 in trade from John Schultz.
(497) Fifth. Five gallons auto oil from Hansen and Zabrowski.
(498) Sixth. One year's subscription to Thorp Courier.

POST OFFICE PRIZES FROM CHILI, WISCONSIN

(499) $5 cash from the Chili State Bank.
(500) $5 trade from H. Degner Hardware Co.
(501) $4 trade from Rush Bros. Garage.
(502) $4 trade from LaBell and Michels.
(503) $3.25 trade from Chili Co-Op. Products Co.
(504) $3 trade from Direct Supply Co.
(505) $2.50 trade from Alfred Anding Garage.
(506) $2 trade from A. Hogenson, Postmaster.
(507) $2 trade from R. J. Breseman, restaurant.
(508) $1 trade from Geo. Selk, barber.
(509) $1 trade from Hotel Chili, Geo. Kucher.

EXHIBITORS, PRIZES, SCORES AND CHECKS, 1923

Class No. 1. American Cheese Made Before October 1, 1922.

Name and address	Prizes	Score	Check
H. J. Kuschel, Seymour	2, 23, 45, 43, 138	98.75	$ 21.81
Jos. N. Berres, Stratford		95.00	4.46
A. F. Zelm, Plymouth	1/3 of 98B, 1/3 of 48C	95.25	7.28
Fred Dettmering, Merrill		94.25	4.92
Ed. Sleger, Stangelville	1/2 of 5A, 128A, 129	97.50	13.59
Adolf Duescher, Lena		91.25	3.84
Ed. A. Volz, Cecil	150	96.50	8.00
Edw. F. Winter, Gillett	144	96.25	7.91
Alfred E. Giese, Beaver		94.50	3.01
Frank J. Sleger, Stangelville		91.50	3.20
August Brandt, Kewaunee		95.75	5.46
James Mattek, Jr., Deerbrook	31, 133	96.00	9.55
Edwin H. Schroeder, Wayside		91.50	4.73
Louis H. Sabrowsky, Merrill		91.00	4.02
Louis A. Schneider, Two Rivers		91.50	2.93
L. J. Buckholz, Manawa		96.75	4.82
Walter Popp, Marinette (Comp)		91.00	4.30
Walter Reisner, Bonduel		90.50	3.84
Geo. Sommers, Wausau		91.62	3.24
Edwin W. Fleming, Avoca	1/2 of 29	95.00	6.72
F. E. Gotter, Humbird		97.12	5.22
Roy S. Pingel, Chilton	116	96.75	8.09
A. F. Zelm, Plymouth (Comp.)		91.62	8.21
J. F. Bachman, Fremont		91.00	5.14
O. Olson, Martintown		93.25	6.48
Earl Stettler, Muscoda		91.50	6.38
Fred Detmering, Merrill (Comp.)		94.50	6.95
Adam Klonowski, Wisconsin Rapids		89.50	3.30
Paul E. Ott, Wausau		95.25	4.02
A. L. Richardson, Dodgeville	28, 187, 219	96.37	11.45
Emil Sonnenberg, Cato		90.50	6.28

Name and address	Prizes	Score	Check
O. P. Safford, Oconto		90.75	8.23
M. Lyons, Pulaski	149	98.00	9.27
Lorenz Krueger, Alma Center		94.75	4.63
L. J. Breher, Sheboygan		96.75	6.09
Fred Carpenter, Stetsonville	38	95.25	7.55
Edw. F. Horn, Beaver Dam		93.75	5.01
Arthur Johns, Luxembourg		93.75	4.74
D. D. Korth, Antigo		91.50	3.67
M. I. Helmbrecht, Antigo	30, 132	96.87	11.13
Reinhard Jacob, Sheboygan		94.25	5.98
Frank J. Koenig, Stangelville	131	97.00	13.60
Henry J. Loehr, Calvary	1/3 of 47, 1/3 of 127A, B, C, 88	96.75	8.81
Oscar Stock, Manitowoc			
	1/5 of 101, 1/2 of 167, 1/3 of 97, 1/3 of 98	96.25	9.63
Ferdinand H. Schultz, Kiel	92	95.75	11.52
Joe F. Herold, Maribel		95.25	10.64
A. F. Zelm, Plymouth (Comp.)		95.75	5.30
M. A. Klemm, Manitowoc (Comp.)		95.75	5.03
E. O. Klemm, Manitowoc		94.50	5.01
Walter Popp, Marinette	140	94.75	6.10
A. L. Wagner, Chilton	115	96.87	8.13
Joseph Henseler, Marshfield		96.00	5.55
Jos. Sevick, Oconto		94.25	3.92
H. W. Behrens, Plymouth		91.00	3.81
Leo Schlichter, Fairchild	26	94.50	4.98
Albert Gruenstern, Marion		95.50	5.64
Edw. Gruenstern, Marion	151	96.00	6.82
D. D. Korth, Antigo (Comp.)		89.50	5.03
Louis Rudersdorf, Platteville		91.00	2.75
Louis Bremmer, Chili		91.25	3.84
Louis K. Korth, Antigo		94.00	4.83
A. J. Blahnik, Kewaunee		93.25	4.56
Gottfried Moser, Beaver Dam		93.00	3.74
H. A. Kalk, Sheboygan Falls		96.75	6.09
H. A. Rindt, Clintonville		95.75	7.64
C. A. Bremmer, Chili		91.25	1.46
Chas. Schafer, Plymouth	1/3 of 98B, 48C	95.25	7.87
Otto Weyer, Manitowoc	100, 135B, 166, 83D	96.75	20.41
Arthur H. Woldt, Reedsville	110, 111	95.50	11.96
Erwin O. Wunsch, Cleveland		96.25	5.70
Carl R. Peters, Shawano		94.50	2.63
Milton Haupt, Manitowoc	1/5 of 101, 1/2 of 167	96.25	7.97
Ernest A. Tracy, Plymouth	83H	95.25	9.61
W. E. Breseman, Granton	24, 117	97.87	13.28
F. H. Schroeder, Abrams	143	97.00	16.13
Henry D. Schmidt, Sheboygan Falls	98A	97.00	14.06
John Lemkuil, Plymouth	84	93.50	6.71
Edward Peck, Coleman		94.25	5.19
John Humbel, Gratiot		95.00	4.46
Curtis L. Walker, Osceola		90.00	7.10
C. H. Bremer, Chili (Comp.)		89.50	2.38
Chas. Wey, Soldiers Grove		91.00	3.28
Louis Rach, Granton	25, 118	97.50	10.09
Herman Kalkofen, Greenwood		91.00	4.02
Albert Drone, Muscoda		94.75	4.37
Richard C. Walther, Platteville	185	94.50	7.78
O. W. Freimund, Thorp	186	97.12	8.40
John Greenheck, Lone Rock	1/3 of 204	96.00	7.08
B. W. Radel, Muscoda	1/3 of 204	96.00	17.74
A. C. F. Witt, Marshfield	40, 160	97.50	12.89

Name and address	Prizes	Score	Check
Grover H. Schuler, Elkhart Lake	91	96.00	8.43
Rich. Gotter, Spencer		96.13	2.47
Leo Lepley, Viroqua		91.50	4.46
E. H. Peters, Sugar Bush		96.25	5.64
A. H. Hein, Clintonville	1/2 of 5A, 164, 48A	97.50	16.86
Joseph F. Junk, Brillion	1/5 of 101	96.25	5.91
H. G. Wiskow, Clintonville	3, 156, 157, 162, 83G	98.50	13.72
P. H. Kasper, Bear Creek	152, 153, 83A, 83E, 1, 4, 21, 44, 48, 80, 81, 82	99.25	91.69
A. Helse, Birnamwood		95.50	4.37
Emiel Boeing, Gillingham	1/3 of 204	96.00	8.73
Vic. Miller, Richland Center		95.00	9.70
Otto W. Sixel, Cleveland	1/5 of 101, 1/3 of 97, 1/3 of 98	96.25	8.36
Geo. Fisher, Jr., Spencer	34, 136	97.63	11.40
Eugene Buergi, Dodgeville			
C. H. Schneider, Merrill	196	97.00	19.28
John Tischhausen, Tilleda		95.00	4.46
Louis J. Miesen, Platteville		91.00	2.75
Robt. F. Ott, Wausau		96.25	4.91
Buford Wood, LaFarge		89.25	5.21
John Fischer, Boaz (Comp.)		95.00	3.97
Class No. 2. Cheddars, Flats, Daisies, Made After October 1, 1922.			
August Brandt, Kewaunee		95.00	$ 5.17
Wm. Plausky, Peshtigo	145	94.75	6.86
Leslie Shanahan, Merrill		94.25	4.40
T. J. Gjermundson, Shepley		94.00	5.30
Louis H. Sabrowsky, Merrill (Comp.)		91.00	5.03
Ed. A. Volz, Cecil		94.75	5.60
Herbert Kanitz, Merrill		96.00	5.10
Edward Peck, Coleman		94.00	5.56
James Mattek, Jr., Deerbrook		94.25	5.40
Arnold H. Kohler, Black Creek		87.00	2.65
Earl Gerlach, Coleman		87.50	1.90
Herman Schmidt, Wallace, Mich		91.00	4.63
Earl B. Whiting, Gillett		91.00	4.10
Ernest Wenger, Clayton		94.25	4.66
John Greiner, Appleton		95.75	5.00
Ferdinand H. Schultz, Kiel	93	95.00	5.96
Edwin H. Schroeder, Wayside	114	93.50	6.89
Guy J. Strong, Wallace, Mich		96.75	5.40
Emil Sonnenberg, Cato	1/5 of 101, 1/3 of 87, 1/3 of 98	96.25	8.86
John A. Papiennick, Thorp		94.50	5.23
Joseph Henseler, Marshfield		95.75	7.53
A. W. Hahn, Plymouth	1/3 of 48C, 1/3 of 98B	95.25	7.80
Henry J. Loehr, Calvary	8, 85	98.25	17.26
Arnold Krenz, Hamburg		94.00	4.30
H. J. Kuschel, Seymour	139	98.00	11.81
C. H. Schneider, Merrill	7, 9, 32, 195	98.50	15.25
Chas. Boyer, Plain		96.00	4.83
Joe Schmittfranz, Thorp	169	95.00	4.17
Earl B. Whiting, Gillett (Comp.)		91.00	4.77
John Levy, Kewaunee		95.25	4.80
Wm. E. Mather, Pike, N. Y.		87.00	7.59
Jos. Siebold, Clintonville		95.25	6.06
H. W. Behrens, Plymouth	98C	95.00	7.43
Carroll Clarson, Boscobel	184	95.00	7.93
Rich. Gotter, Spencer		96.00	5.83
L. J. Breher, Sheboygan Falls		96.50	6.03
Martin Kubitz, Edgar	35, 137	97.00	9.23
Arthur Johns, Luxembourg	128B, 130	97.13	10.28

Name and address	Prizes	Score	Check
H. H. Solie, Trevor		90.00	2.17
Milton Haupt, Manitowoc		95.00	5.96
E. H. Braun, Manitowoc		91.25	3.20
Liuis K. Korth, Antigo	134	95.75	6.73
C. A. Bremmer, Chili		94.25	5.40
Otto Duebner, Manitowoc		93.50	4.36
H. A. Rindt, Clintonville	163, 87	96.75	14.13
Otto Weyer, Manitowoc		94.00	5.30
Oscar H. Neuser, Winneconne		91.50	3.56
Louis Rudersdorf, Platteville		91.50	3.77
D. J. Fitzgerald, Eden		91.25	2.93
A. J. Reiss, Cascade		91.25	4.20
Fred Indermuehle, Brownsville		94.00	5.30
Albert Gruenstern, Marion		95.75	5.73
Bert McKinney, Mineral Point		86.00	4.35
Chas. Bleser, Manitowoc		95.00	4.70
Fred Ott, Marion		95.75	5.73
Christ Bhend, Pardeeville		95.00	5.70
A. C. F. Witt, Marshfield	41, 161	96.25	9.93
Ed. Walther, Platteville		93.25	5.26
C. A. Kraak, Richland Center		93.25	8.18
Albert Drone, Muscoda		94.00	6.83
E. R. Wiskow, Adel	94	95.00	10.49
Herman Kalkofen, Greenwood		94.75	5.86
O. F. Gruenke, Granton		96.00	6.10
Andrew Peterson, Muscoda		91.50	4.56
L. J. Blahnik, Kewaunee		91.25	3.93
Herman Adams, Excelsior		94.25	4.66
W. E. Breseman, Granton		94.50	5.23
A. H. Hein, Clintonville		91.50	4.03
Abe. Nelson, Stitzen		91.50	4.56
D. D. Korth, Antigo		91.50	4.30
H. G. Wiskow, Clintonville		95.75	6.00
E. H. Peters, Sugar Bush		96.00	5.57
P. H. Kasper, Bear Creek	83B, 83F, 6, 10, 22, 42, 154, 155	99.00	46.00
R. B. Hickok, Boscobel		94.75	4.86
A. D. Stout, Richland		95.00	8.88
J. E. Neefe, LaFarge		93.75	7.11
John Tischhauser, Tilleda		95.50	20.21
Louis J. Miesen, Platteville		91.50	4.30
Geo. H. Scannell, Campbellsport		90.00	3.17
Chas. E. Helm, Morrisonville		94.75	9.31
J. G. Aune, New Richmond		91.50	6.95
Elmer Everson, Avoca		91.25	6.85
Chas. Mullen, Spring Green	1/2 of 29	95.00	5.46

Class No. 3. Long Horns, Young Americas and Squares, Made After October 1, 1922.

Reinhard Jacob, Sheboygan		94.25	$ 11,51
Carl Riesen, Windsor		91.25	3.22
Oswald Rietz, Calvary		91.00	4.91
Oscar Stock, Manitowoc	83C, 95, 96, 13, 14, 99, 135, 135A, 165	97.50	52.47
Arnold H. Koehler, Black Creek		91.00	3.91
Adolf E. Duescher, Lena		91.25	5.01
Aug. Brandt, Kewaunee		96.75	13.90
Reinhard Loehr, Fond du Lac		91.25	5.28
Henry J. Loehr, Calvary	1/3 of 47, 1/3 of 127A, B, C, 90	96.75	9.20
Albert J. Loehr, St. Cloud	1/3 of 47, 1/3 of 127A, B, C, 89	96.75	13.20
Jos. N. Berres, Stratford	48B	95.75	18.75

Name and address	Prizes	Score	Check
O. H. Stoltzmann, Kiel		93.00	11.26
A. W. Hahn, Plymouth		91.50	5.12
Fred H. Schultz, Kiel		93.00	5.47
Rueben Widman, West Bend		93.00	4.67
Casper Loberger, Oconto		91.25	3.22
Albert L. Wagner, Chilton		91.50	4.06
Emil Sonnenberg, Cato		95.75	5.80
A. L. Bjornberg, Merrill		95.75	4.54
Jos. Sevcik, Oconto		93.13	4.46
Arnold H. Kohler, Black Creek		94.00	4.35
C. H. Schneider, Merrill	33	97.00	8.05
H. W. Behrens, Plymouth		91.50	5.39
C. F. Heckman, Cleveland		96.13	6.28
Fred H. Kalkofen, Granton		94.25	6.77
Otto Duebner, Manitowoc		93.00	6.26
H. H. Rindt, Clintonville		95.00	5.76
A. J. Reiss, Cascade		91.00	5.18
Erwin O. Wunsch, Cleveland	12, 86	97.75	12.68
A. E. Law, Brillion		95.75	6.13
E. H. Junker, Manitowoc		94.00	6.67
Edwin W. Klug, Greenleaf		91.50	4.39
Henry Siewert, Dale		95.75	7.39
Theo. G. Woldt, Chippewa Falls		91.50	5.39
Henry Nolte, Cleveland		95.00	6.82
Elmer H. Braun, Manitowoc		91.00	4.18
Arthur H. Woldt, Reedsville	112, 113	93.50	9.94
Otto Weyer, Manitowoc		95.00	7.08
L. J. Breher, Sheboygan Falls		97.25	7.47
A. J. Reiss, Cascade (Comp.)		91.00	6.91
Albert Gruenstern, Marion		96.00	5.90
J. A. Hernke, Hilbert		95.00	5.49
A. J. Blahnik, Kewaunee		91.50	4.06
Herman Kalkofen, Greenwood		93.00	6.47
O. F. Greunke, Granton		94.75	5.45
Andrew Peterson, Muscoda		94.00	6.41
A. C. F. Witt, Marshfield		94.25	6.24
E. H. Peters, Sugar Bush	11, 15, 46, 141	98.00	19.69
A. T. Stewart, Withee	39	88.75	4.03
Eugene Buergi, Dodgeville		93.50	4.15
John Fischer, Boaz		95.00	3.37
Ben R. Welsch, Lomira		90.00	.32

Class No. 4. American Cheese Made by Colby Process.

Rich. M. Schmitz, Unity	18	95.00	$ 8.84
Gay Olson, Abbotsford		91.00	7.33
Adolph Peterson, Abbotsford		91.25	5.09
B. F. Grossman, Waterloo		87.00	5.84
Ernest Mandel, Colby	16, 19	96.00	21.92
Math. Holzmann, Unity	17	95.25	8.71
Harry A. Olson, Abbotsford		93.75	5.69
Oscar Stock, Manitowoc		87.50	2.41
H. W. Behrens, Plymouth		91.50	5.76
L. J. Schubert, Hillsboro		88.00	2.03
Fred W. Buss, Curtiss		87.50	4.95
Bert. McKinney, Mineral Point		87.50	4.86
A. J. Blahnik, Kewaunee		94.00	7.16
Carl R. Peters, Shawano		94.00	6.36
Gottfried Moser, Beaver Dam	159	94.87	9.65
H. A. Kalk, Sheboygan Falls		94.25	7.30
Elmer H. Braun, Manitowoc		91.00	5.48
L. J. Breher, Sheboygan Falls		94.00	6.10

Name and address	Prizes	Score	Check
Lester R. Hilderman, Northland		91.25	4.29
Alvin F. Jindra, Two Rivers		94.75	6.58
A. H. Hein, Clintonville		93.00	5.54
Theo. W. Mech, Bonduel		94.00	4.83
Anton Rank, Antigo		91.00	3.42

Class No. 5. Drum Swiss Cheese.

Ernest Wenger, Clayton	49, 1/2 of 50, 52, 177	96.00	$ 48.95
John Hubacher, Darlington		95.00	37.00
Jacob Aeschlimann, Argyle		94.50	44.52
Alex Hoerburger, Argyle		93.50	48.07
Robt. Emmenegger, Gratiot		94.50	40.92
John Rechsteiner, Blanchardville		93.50	34.07
John Bussman, Gratiot		94.25	32.74
Christ Ubert, Monroe		92.50	35.12
Hans Studer, Darlington		94.00	33.85
John Luthi, Brodhead	53	95.75	30.65
Jacob Niffenegfer, Darlington		93.25	36.28
Eugene Wirz, Darlington		95.50	48.47
Alois Niederberger, Darlington		95.00	41.20
Valentine Zibung, Argyle	51, 193	98.00	42.75

Class No. 6. Block Swiss Cheese.

Leopold Hildebrand, Mt. Horeb	56, 181, 228	95.00	$ 10.65
Arnold Schmid, Barneveld	216, 218, 223	93.25	6.45
Gottlieb Werren, Blue Mounds	1/2 of 50, 55, 58, 180, 227, 229, 231	96.00	26.80
Ulrich Furrer, Hollandale	232B, 234, 236	92.00	5.70
Joseph Lauber, Blanchardville	57	94.00	10.50

Class No. 7. Limburger Cheese.

Ernest W. Jung, Juneau	61, 122	96.00	$ 10.24
Martin Kammer, Basco		94.00	4.60
A. Blatter, Bruce		93.50	6.44
Anton Motz, Monroe	59, 62, 128	99.00	10.20
Gottlied Zulliger, Rice Lake		92.75	4.20
Edw. F. Horn, Beaver Dam	1/2 of 123	94.50	5.51
Gottfried Moser, Beaver Dam	64, 158	95.00	12.42
August Martini, Monroe		94.50	2.26
John Minnig, Monticello	60, 188	97.50	9.22
Rudy B. Lengacher, Monticello (Comp.)		....	4.00

Class No. 8. Brick Cheese.

Jacob Freund, West Bend	73	95.00	$ 9.83
Jacob Freund, West Bend (Comp.)		96.00	4.83
Alfred Gertsel, Horicon		94.00	4.80
Henry Egli, Dalton	77	93.25	8.41
Jake Balsiger, Pardeeville	76, 176	96.00	12.81
Fred Schneiter, Turtle Lake		93.00	3.24
Ernest Kuecken, Columbus		93.50	4.13
Arnold Zumbach, Darlington	65, 68, 70, 194	97.50	12.98
Leopold Hildbrand, Mt. Horeb	224, 235	95.00	9.60
Oswald Schneider, Appleton	66, 142	97.00	8.11
Emil Schneiter, Lomira	72	95.00	10.75
Earnest W. Jung, Juneau		94.00	4.88
Fred Feutz, Rubicon		93.00	6.31
John Feutz, Waterloo		94.00	6.26
John Blickenstorfer, Gratiot		92.50	6.10

Name and address	Prizes	Score	Check
Fred H. Kuchen, Reeseville		93.25	3.88
Anton Sutter, Jr., Sun Prairie		94.00	4.42
Anton Sutter, Sr., Sun Prairie		94.25	3.29
John J. Peirick, Beaver Dam		94.00	5.49
Gust Drachenberg, Watertown		92.00	5.44
Joseph Huhn, De Forest	225	95.00	6.59
Lloyd Peirick, Beaver Dam	1/2 of 71, 1/2 of 78, 1/2 of 79, 124	94.50	11.46
Arnold Schmid, Barneveld		93.75	6.39
Gottlieb Werren, Blue Mounds	232A	94.00	7.65
Gottlieb Zulliger, Rice Lake	74	96.00	9.16
Ernest Schwartz, Rosendale		94.00	4.80
R. Ganschow, Bonduel		94.63	3.67
John Schuetz, Barneveld	67, 186, 214, 217, 220, 221	96.50	17.17
Fred Mani, Mt. Horeb	226	94.50	4.62
C. F. Franke, Ashippun		93.25	6.18
Alex Hoenburger, Argyle		92.50	8.17
Fred Indermuehle, Brownsville		93.00	3.78
John J. Peirick, Beaver Dam (Comp.)		94.00	12.42
John Duertschi, Barneveld	222	94.25	3.52
Emil Gruber, Dalton		94.13	4.85
Gott. Moser, Beaver Dam		90.75	3.77
Christ. Bhend, Pardeeville		92.00	3.83
Fred Ogi, Neillsville		92.00	5.13
Otto Munz, Cambria		93.00	4.39
Wm. Lichtenberg, Beaver Dam		93.25	5.49
Frank Mock, Waupun		93.13	3.29
Edw. F. Horn, Beaver Dam		92.00	4.29
Rudolph Streit, Brandon		94.50	4.31
A. Blatter, Bruce		93.00	4.70
Jacob Disler, Hartford		93.50	4.90
Ulrich Furrer, Hollandale	215	94.00	4.65
Casper Durtschi, Barneveld		94.00	3.65
Carl Stocker, Monroe		93.63	4.64
Karl Zuberbuhler, Iron Ridge	1/2 of 71, 1/2 of 78, 1/2 of 79, 1/2 of 123	94.50	11.48
Rudolf Schaller, Verona		93.25	4.11
Jacob Voramwald, Rileys		93.50	3.67
O. Sutter, c/o Badger Cheese Co., Monroe		93.25	4.72
Joseph Lauber, Blanchardville		93.50	4.44
Adolph Gurtner, Rubicon		93.63	6.56
Adolph Risser, Monroe		92.25	6.00
Otto Badertscher, Rice Lake	75	94.50	4.70
Valentine Zibung, Argyle		95.00	3.91
Fred Gurtner, Jackson		93.50	5.82
Herbert F. Tietz, Ixonia (Comp.)		....	5.98
Total to page 19			$3,013.57