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Proceedings of the Wisconsin Cheese Makers' Association annual convention 1923 assembled in its thirty-first annual convention in the Milwaukee Auditorium, January 10, 11 and 12, 1923. 1923

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PROCEEDINGS

OF THE

WISCONSIN CHEESE MAKERS'
ASSOCIATION

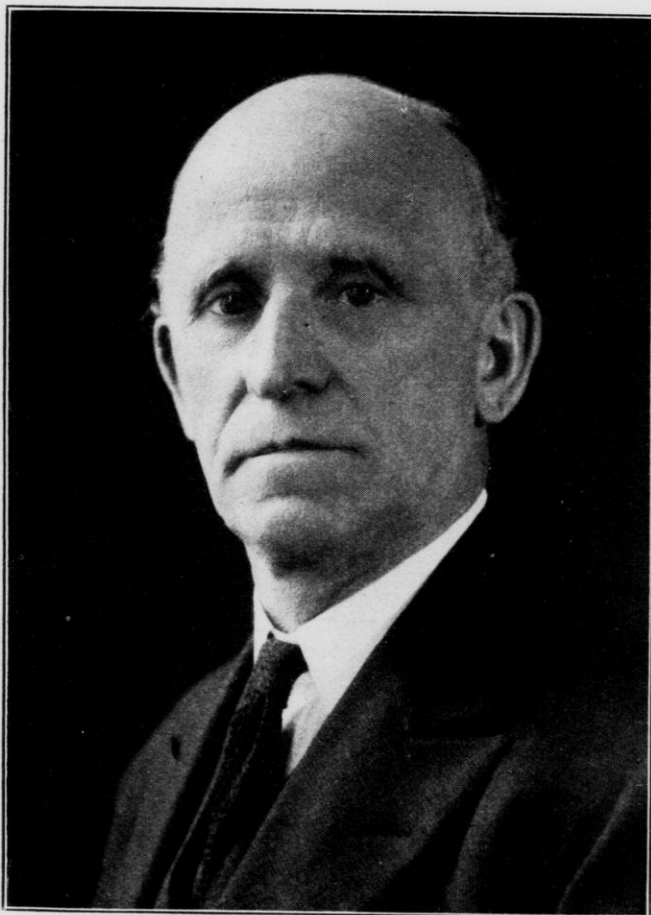
ANNUAL CONVENTION 1923

Assembled in Its Thirty-first Annual Convention in the Milwaukee Auditorium, January 10, 11 and 12, 1923.

Compiled by
J. L. SAMMIS, Secretary



Madison, Wisconsin
1923



MR. J. W. CROSS

An active member of the Wisconsin Cheese Makers' Association since its organization. For over thirty years a cheese maker in New York state and Wisconsin. Superintendent of cheese exhibits at 28 of our conventions, up to the present. Widely known among the craft for his kindness, promptness and reliability.

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LETTER OF TRANSMITTAL

Office of the Secretary,
Wisconsin Cheese Makers' Association,
Madison, Wis., 1923.

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

I have the honor to submit report of the thirty-first 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, 1923.

Respectfully submitted,

J. L. SAMMIS,
Secretary.

WISCONSIN CHEESE MAKERS' ASSOCIATION

THIRTY-FIRST ANNUAL MEETING

Auditorium Building, Milwaukee, 1923

Officers

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

Directors

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

Judges of Cheese

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

Superintendent of Cheese Exhibit

J. W. CROSS.....	Milwaukee
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Life Members

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

1923 Honorary Memberships

Gottlieb Werren, Blue Mounds, for 14 new prizes.
Alex Schaller, Barneveld, for 10 new prizes.

Official Reporter

Miss Libby Miller, First Nat. Bank Bldg., Milwaukee.

Official Organs

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

PROCEEDINGS OF WISCONSIN CHEESE MAKERS' ASSOCIATION IN ANNUAL CONVENTION MILWAUKEE, WIS., 1923

The thirty-first annual meeting of the Wisconsin Cheese Makers' Association was called to order Wednesday, January 10, 1923, in the Auditorium Building, Milwaukee, by President Chas. E. Reed. An address of welcome was given by Mr. Frank Cleveland, representing the Milwaukee Association of Commerce.

ADDRESS OF WELCOME

By MR. FRANK CLEVELAND, *Convention Secretary of the Milwaukee Association of Commerce.*

Mr. President, Members of the Wisconsin Cheese Makers' Association, Ladies and Gentlemen: It seems almost unnecessary to welcome the Wisconsin Cheese Makers' Association to Milwaukee. This is your city and we want you.

Milwaukee is your metropolis, Milwaukee needs Wisconsin much more than Wisconsin needs Milwaukee. We, of the Association of Commerce, of these later days are trying to teach that precept, not only here in Milwaukee, but through the state. Milwaukee is yours to use. The business men, the Association of Commerce, the Mayor and all of the people welcome you as a group and individually in Milwaukee. The latch string hangs out for you always and with this goes an invitation to meet here many and many times in the future.

I have been asked to say just a word on business conditions and give just an idea or two on merchandising of cheese.

I understand there is a movement on in the state to bring the importance of the dairy products as food, more directly to the attention of the Wisconsin and the American public. I am not familiar with the details of this, but I do want to call your attention to the fact that the average consumption of cheese in the United States today is less than four pounds to the individual and it should be sixteen to twenty pounds on the basis of the advance in the use of other food products. That is not at all beyond the possibility—because in European countries today the average use is from eight to twenty-five pounds to the individual. I did some figuring on this matter yesterday. If the people interested in dairy products in this state were to find a way in which to expend for cheese less than one-half cent on the dollar income, we should increase the individual consumption of cheese from four to eight pounds inside of four years. Another thing, you are not advertising—you are not educating the American public to the use of dairy products and the use of cheese, which should be done in the interest of the American public.

I am somewhat familiar with the activity of the California Fruit Growers' Association who were in a dire state just a few years ago. Their product is not nearly so important to the American home as are dairy products, yet these people thought they could do something to bring their product before the American people that would be of advantage to them and also be appreciated by the people. They organized and placed their product so that it could be marketed and merchandised, and began to tell the world about it in an educational way. Of course, each individual did his share of advertising in his own way to sell his own goods, but all of them combined in a campaign of advertising and merchandising to tell the American people what oranges, the lime, grape-fruit and the raisins and other fruit was good for—with the result that they have for a number of years hardly been able to supply the market and they have put competing concerns out of business. Now, these people had something to contend with, which you would not have with the dairy products. If they were not able to get cars to ship their fruit in and if weather conditions were against them the fruit would spoil and they had trouble to get rid of it at a reasonable profit. Something always would come up each year so that they were only making use of their crops one year out of four. They were at a greater disadvantage than you people are. They continued their advertising and as a result of this great big campaign—when an American housewife calls up her grocer and asks for some good food products to be sent over to her, she immediately thinks "Oh! yes, and please send me a dozen oranges, if you have 'Sunkist'." She wants no other, with the result that the brand which has been advertised is the one that is being sold. This last year they could not raise enough second grade raisins to supply the market—all because of that activity. I could go on and on into great detail on this subject, and I know the man who put it across. I know what it has done for the California fruit growers. You have a much more substantial—a much more popular product with which to deal. The American people today are using cheese very largely only as a dessert. We go into a home and have a piece of cheese with some pie, when as a matter of fact it should come as a substantial food and the American housewife should know more of the splendid and efficient and economical ways in which cheese can be used in the home, which she doesn't. I am not going any farther on this, but I am urging you to listen to some of the talks on this subject later. It is a big idea and there is money in it and you will be doing something for the American people. Let's all get together for Wisconsin and Milwaukee. I thank you.

President Reed: Before I introduce the speaker who responds to this welcome, which was so ably put, I want to mention that two years ago in Convention here a resolution was passed not to use any left over curds. We have here an exhibit of some cheese and I want you to take notice of this cheese and study it and then go home with the idea, never to use such. I now introduce Mr. Sammis of Madison.

RESPONSE TO ADDRESS OF WELCOME

By PROF. J. L. SAMMIS, Madison, Wisconsin.

Mr. President: This address of welcome which Mr. Cleveland has given is characteristic of Mr. Cleveland and Milwaukee. They always make us feel very welcome here and very happy, and apparently we all like to come again. I think we are going to keep right on coming for some time in the future. This expression of good will and friendship of the state of Wisconsin for the Cheese Makers' Association finds a response in our hearts. We feel the same way for Milwaukee; we are glad to be here. This welcome is expressed not only in words, but also in the use of this splendid room given to us for the Convention meetings.

Friendliness is evidently a normal characteristic of Mr. Cleveland. In a large sense it is also true that Wisconsin, America and all normal human beings are animated by friendly feelings toward their fellowmen.

Friendliness is contagious and the kindly way in which we are welcomed here, and invited to come again, should fill us with similar feelings toward the fellows back home. Many cheese makers throughout the state regret their inability to come. Our convention has grown to its present size as a result of friendly cooperation among the members in past years. Just as hundreds of cog wheels, put together properly can make up a giant printing press, or other machine, which can turn out a great amount of useful work, so this Convention with its hundreds of members is capable of doing a vast amount of good work, if we can get each of the members to work properly.

If we can each absorb more of that brotherly spirit which is really what has made Milwaukee famous, and take it home with us when we go, we may be able to extend the benefit of this Convention more widely over the state.

The Wisconsin Cheese Makers' Association exists under state support for the benefit of our whole cheese industry. We as individuals have each been benefited by the work of this and all past Conventions. Each one of us by our presence and assistance here to-day are advancing our own interests and benefiting the cheese industry as a whole. Whatever lessons we may learn here this year about cheese making or cheese selling, or tests, or laws, the most important thing we can carry away with us is a determination to share these benefits with the 2,000 cheese makers of the state who are not here. An emotion of pleasure or displeasure should lead to some sort of action. It isn't sufficient to be happy over this or that unless we make some effort to give that emotion some form of expression. I mean that if anything is going wrong we should at once make an effort to correct it. On the other hand, if a thing is going fine we should make an effort to push it along.

If next year's Convention is to properly represent the cheese industry we ought to have over 2,000 members in attendance or at least a majority of all those engaged in the industry.

This is the biggest Cheese Convention in the world. It is yours. It is worth building up. It is worth a few hours of your time and work each year to make it grow. Yet it is 30 years old and is less than half grown in size of membership. About one-third of the cheese makers in the state belong to the Association. The pleasure which we have here should move us to some action in the matter. We should extend the invitation in a fairly urgent way—in an impressive way—in a way that should produce results. We are trying to convince the cheese makers who have not been here that it is worth their while to come—that they will get more than their money's worth. Let's have a little thought for the fellow who isn't here and who doesn't know what he is missing, unless it is told him by you individually or by me. Each one of us has an influence on some other man and can induce him to come to the Convention. The words of Mr. Cleveland arouse in my mind a feeling that we ought to send out an equal welcome to those out in the state, and make them come next year.

We tell the dairy students in Madison that the Cheese Makers send them a welcome. We think if they come this time they will come again in later years. We have brought down a carload of them. If you want to get somebody to work in your factory—come and look them over. Stand up boys, I want to see how many of you are here. (about 35) (Applause). We will hear from them again before the Convention is over. In fact they have organized, for their own amusement, an orchestra and they will play for you. I thank you.

PRESIDENT'S ANNUAL ADDRESS

By CHARLES E. REED, Thorp

Members of Wisconsin Cheese Makers' Association, Ladies and Gentlemen: After listening to the address of welcome, so ably put by the speaker, and the response thereto, I think you will agree with me that I should make my address in words of suggestions as to the different problems which have come up during the past year and are now confronting us as the State Association as well as all others vitally interested in the welfare and development of the cheese industry in Wisconsin and the nation.

Therefore I will confine myself to what has been brought to the open, and offer suggestions to be taken up and acted upon at this meeting, providing after discussing them you feel and desire to do so.

There has been much talk about the present limit of moisture content being too low. Some, however, think that the present law limiting it to 38 per cent is most fair and most helpful to the industry. Naturally, all are not of the same opinion. You will readily recall that it was this body in convention that was the guiding influence in getting the change made from 40 per cent to 38 per cent after a most lengthy and ardent discussion of the subject. If it is your desire to make a change and it can be proven to you by the majority that to go back to the old standard is the better move, then I would suggest that you again take action on it.

You have found out that legislation for the cheese industry is to be had if you go after it; and that the only safe and sure road to travel is one that has been made better by your own help.

Several of the local Associations throughout the State have been recommending raising of the standard of requirements and qualifications for obtaining a license as cheese maker.

There has been a lot of talk pro and con on this subject around the state. I wish to state for the benefit of the few who may not know as yet, that our Honorable Dairy and Food Commissioner, through his commission has taken this matter in hand and the qualifications and requirements as to experience have been raised, taking effect February 1, 1923.

If you happen to be a new man in the field, looking for a license, you will do well to look into this matter and see whether or not you have had the necessary experience required to qualify for a license. This move will likely be a direct agent in improving the quality of our famous Wisconsin cheese.

For two years past we have been talking of cheese instructors sufficient in number to cover the field. This has never come to a head. Most of the talk has been along the lines of instructors with police power, connected with and under the direct supervision of the Dairy and Food Commission.

I am beginning to believe that we are proceeding in the wrong direction. It reminds me of the man from the city who had never had any experience on the farm or with horses. He purchased a piece of wild land and after seeing that he could do little without a horse or team he bought a horse and at once started in to harness his steed. Coming to the bridle he took it in his hands, bit uppermost, held same up in front of his gentle animal and said, "Here Bill, here's the bit, take it."

We have been trying to work this through the Dairy and Food Commission, when I think we should have been on another track.

Now then let's look at it from another angle. This idea of instructors with police power. I would add to that a modification and say SOME police power, if any.

The present Dairy and Food Commission force is seemingly large enough to attend to all of the law enforcement. What we really want is instructors. Not in the sense that these men are to go into our factories and dictate to us long experienced makers knowing our local conditions ourselves, how we shall proceed. But instructors in the sense that they will be a help as an outside agency in overcoming difficulties and bringing about uniformity. This, in my mind, will bear heavily on the improvement of the quality and uniformity of the make of cheese, and will tend towards higher market prices.

Thereby the farmers of the state will be materially benefited, also the State and community along with the thing that all are vitally interested in, namely, cheese and dairying.

Therefore, I will suggest for your careful consideration that this association take steps to get legislation on this subject, and that same

be placed, if possible, under and in direct control of the Department of Agriculture, which seems a more logical standpoint.

A few words on a subject of National Legislation that seems very important at this time. One that is vital interest to our State.

Wisconsin has sustained her filled cheese law, skimmed cheese law, and filled milk law, and the latter is now in question in Congress through a bill by one of our Wisconsin Congressmen.

Certain states are making and putting onto the market directly along side of Wisconsin full cream cheese, a skimmed, or what they term part skimmed cheese, made up in the same style and form as the Wisconsin cheese. I have been told that some of these cheese are labeled. But the lettering of the labels are so small that it can hardly be seen; and in fact just a light lunch cut off by the retail salesman for the first cut would wipe out the whole label. Now, then, what will be the effect on Wisconsin if this is allowed to continue?

Our Wisconsin full cream cheese of better quality and more value, will sell for the same price as the inferior or skimmed cheese, or not sell at all; meaning a tremendous loss to the dairy interests of Wisconsin.

Can our great State afford this? I think you will all cry with me in answer an emphatic NO! I much desire to see steps taken at once by this Association through instructions to your legislative committee, to obtain such legislation by congress as will curtail and stamp out all filled or skimmed cheese in the United States, unless made up in some specific style or form, not at all similar to the styles or forms of Wisconsin Full Cream Cheese, also to recommend and work for the passage of the Voigt filled milk bill.

The grading system when made perfect so as to work satisfactorily for all concerned and connected with the cheese industry, really should become national so as to make the grades and qualities of cheese throughout the country as near uniform as possible, and when this time comes, do not forget that Wisconsin producing nearly three-fourths of all the cheese, should make herself heard and make others sit up and take notice, by taking the lead in the project through her Cheese Makers Association.

Members! Never lie down, and never cease to have uppermost in your minds, that Wisconsin cheese makers are not mere machines that receive milk and manufacture same into cheese daily, 365 days in the year, year after year. But on the contrary you will come to know that you have a large part to play in the enactment of such laws as are best for both state and nation, for the dairy industry.

Put your shoulder to the wheel, lift yourselves up out of the mire and then strive to stay always on dry footing, always going higher up.

No other branch of industry will materially help you. You are organized in State association and your numerous local County associations. Many of you are members of the new born National Cheese Association. Right in your midst, yes right in your daily work, you

can see the handwriting on the wall. The success of Wisconsin cheese industry lies in the hands of the cheese makers of Wisconsin.

The other fellow will get in on the ground floor if you give him a chance for he is a booster, too. Consequently you having the VOLUME, POWER and EXPERIENCE, should take firm hold of the reins and guide your grand State safely through; but don't forget to give UNCLE SAM a lift and take him with you.

In conclusion I wish to say: Each of you get in the game, take part in the meetings, express your views and don't carry any good thought you may have brought to Milwaukee, home with you, unuttered and unheard. The program which our worthy Secretary has so nobly compiled is of the best and has considerable length. Edge in your ideas anywhere you have a chance, you will always be given a hearing. Subjects that cannot be finished are the very ones that go to help make up a program for the next convention.

Let our slogan be: Better cheese, better dairy cows, better farms, better cheese makers, better Wisconsin, brought about by boosting our National, State and Local Associations, and taking active part in their meetings. I thank you.

President Reed: Now we will have the report of the Directors by Mr. O. A. Kielsmeier. He is absent, and I have here a letter from him which reads as follows:

Manitowoc, Wisconsin.

Wisconsin Cheese Makers' Association:

Owing to other business interest, I feel that I have not the time to devote to the Directorship on your Board, and do justice in the work. Therefore, I hereby present you my resignation.

(Signed) O. H. KIELSMEIER.

PRESIDENT REED: We will hear from Mr. Bruhn in the absence of Mr. Kielsmeier.

REPORT OF DIRECTORS

By A. T. BRUHN, Spring Green.

MR. CHAIRMAN: There is very little to report. We looked over the books this morning and found them correct as near as we can look them over in that short length of time. Now looking over the books of the Secretary is a pretty big job and it cannot be done in a few minutes, but everything balanced and we took it for granted to be correct. I was not supposed to give this report, but since they asked me to I naturally have got to tell you what I can. That is all of the Directors' report I have to make.

CHAIRMAN: Mr. Zelm will now give us the report of the Treasurer. Very likely his money is all gone, so he is not present. We will now hear the report of the Secretary, by J. L. Sammis, Madison, Wis.

MR. SAMMIS: Every one of you can audit this report. Every item of it will be published in the printed annual report. For all of the expenditures listed here, we have check books, stubs and returned cancelled checks pasted on the stubs. I will be much pleased indeed

to show anybody the system. If you elect a new Secretary, I will break him into the scheme. If anyone would like to look at it, come along.

The main thing I want to talk about is the matter of the future. The past is dead. The future is what we make it. There are a number of things we have got a chance to do some work on. In the first place, supposing we should get a telegram from Washington asking us what the Wisconsin cheese makers would say about a particular question, we could only reply there are three thousand makers but there are only about one-third of them here, so we don't know what the others who are absent would think about the question. Let's do some real work the next year. It takes so little work from each member—let us bring in the other two thousand and make the Wisconsin Association a real success and have a big Convention. The growth that we have made is due to hard work on the part of our past members and our present members. The association has undertaken to make some of these members, "Life Members" because they did such good work and they will receive a ribbon which bears the inscription "life member." We find everywhere new people taking an interest and doing work for the Association.

A new plan has been suggested for the coming year in which we shall have a third class of members. They will be called annual honor members, members who distinguish themselves. They will be honor members for that one year and will receive a badge in recognition of that fact. The Board of Directors discussed this matter and thought it was a good thing and want to submit it to you. We want to give credit to all to whom credit is due. The town you live in or near contains a number of merchants who do business with the cheese makers. Each of you could go to some of them and see if they will give small or large prizes, and you then send the prizes to our office. For each prize you send in we will give you one honor point and for each new prize donor added to the list, we will give you an additional honor point and in that way you could each get a few new prizes for next year, and send them in to our office.

In the second place, when you meet a cheese maker, who is not a member, speak to him about this Convention and get him interested enough to join. You send me his check for one dollar. I will send him a membership receipt and will give you credit for one honor point for each dollar you send in. If this is a new member and if he wasn't a member of last year's list you will get an additional honor point. In this way we will be able to value what each one of you do. Anyone doing this will be an honor member for one year. Their names will be printed in the program and they will be invited to come and make a few remarks. I want to show you how this works out. This year with this system in operation we have two men who have become honorary members for 1923. One earned 23 points on the plan I mentioned—Mr. Gottlieb Werren, Blue Mounds, and Mr. Alex Schaller of Barneveld has earned 20 points. Mr. Schaller is our first honorary member and we will remember that and that will

go down in our records as such. There isn't one of you boys who couldn't do this if you will remember to try it.

I would like to have an expression of opinion from you as to how many of you could just as well come to this Convention the first week in December instead of January. Those who think December is just as well I wish you would hold up your hands. It usually happens that when an ordinance is to be passed a great many people vote "yes" on anything that is proposed to them, but we want to know what the majority of those present would prefer. It was voted to have it in January.

MR. CARSWELL: I would like to say just a word in regard to that. The Wisconsin Products Co. have a convention the first week in December. When they hold that, these halls are all occupied and they already have engaged the whole Auditorium for that week in December.

MR. REED: The Wisconsin Products exposition is held for the purpose of advertising industries and Wisconsin products. More sales with them means more money. We cannot participate in this because we are an educational Association under the state of Wisconsin and we are obtaining state aid. We are not getting enough aid, and we need \$400.00 more at this time. We would lose it all if we go into anything like this advertising exposition.

MR. SAMMIS: Sometimes some members would like to meet in some other town than Milwaukee. We now have an invitation from La Crosse to go up there, but I guess we will have to come here as here we have plenty of room and they give us this hall free.

I would like to get your opinion on our banquet. We want to make this an annual event and it is going to be better each year. We are going to have more to eat, and some good music. It will be short and snappy, fine and dandy. I would like to get an idea as to what would be your judgment—do you think we ought to have a 75c or a dollar meal? How many of you would rather pay 75c than a dollar on such an occasion? (The majority wanted a 75c meal).

The Wisconsin Cheese Makers' Association has been receiving \$600 as an appropriation from the state each year now for several years. We would like to add to this convention a cheese judging school that would enable each cheese maker to examine his cheese in comparison with other cheese here and to use the second half day of the convention for that purpose next year, but that it would cost more money. We still have the same state appropriation now but the officers thought best to ask that our appropriation be increased from \$600 to \$1,000 hereafter, to enable us to do this additional work.

Meeting adjourned until 2:30 p. m.

SECRETARY'S REPORT ON 1922 CONVENTION (READ IN 1923)

BY J. L. SAMMIS, MADISON, WIS.

Part 1. State Treasury Account

Receipts

1921			
June 30	Balance forward in treasury.....	\$	387.55
July 1	State appropriation		600.00
Sept. 16	Refunded overcharge from printer		43.87
1922			
Jan. 17	824 membership fees deposited.....		824.00
	Total		\$1,855.42

Disbursements

1921			
Oct. 15	Rental on Auditorium.....	\$	260.00
Nov. 14	Louena Findorf for mailing list.....		25.00
Nov. 19	Postage on annual programs.....		40.00
Dec. 1	Postage		90.00
Nov. 28	825 annual reports, 151 pp.....		310.42
Dec. 21	Circulars and envelopes.....		27.88
Dec. 21	Convention prize chairs.....		168.00
Dec. 27	Convention prize hand bags.....		138.00
Jan. 14	Milwaukee Auditorium bill.....		594.70
Jan. 15	Schwaab Stamp and Seal Co.....		140.00
Jan. 29	State printer bill.....		15.27
Apr. 1	State printer, letter heads.....		13.01
	Balance forward.....		33.14
	Total		\$1,855.42

Part 2. Secretary's Donation and Program Fund

Receipts

	Balance forward from last report.....	\$	370.19
	Damrow Bros. Co., booths.....		85.00
	A. H. Barber Cry. Supply Co., booth.....		45.00
	D. & F. Kusel Co., booth.....		40.00
	Creamery Pkg. Mfg. Co., booth.....		40.00
	Stoelting Bros. Co., booth.....		40.00
	De Laval Separator Co., booths.....		80.00
	Marschall Dairy Laboratory.....		40.00
	Sunstrand Office Specialty Co., booth.....		40.00
	Chris Hansen Laboratory, booth.....		40.00
	Eagle Chemical Co., booth.....		40.00
	Manitowoc Plating Co., booth.....		40.00
	J. B. Ford Co., booth.....		40.00
	Sharples Separator Co., booths.....		80.00
	J. G. Cherry Co., booth.....		40.00
	Rexine Co., booth.....		40.00
	Oakes & Burger Co., booth.....		40.00
	Frint Motor Co., booths.....		80.00
	Wisconsin Bandage & Supply Co.....		40.00
	A. H. Arnold & Bros. Co., booth.....		40.00
	A. J. Stiegler, booth.....		40.00
	Toledo Scale Co., booth.....		40.00
	Thos. A. Rohde, booth.....		40.00
	Republic Chemical Co., booth.....		45.00
	Worcester Salt Co., booth.....		40.00
	Better Products Co., booth.....		45.00
	Morton Salt Co., booth.....		40.00
	Consolidated Coal Co., booth.....		40.00
	John Kirkpatrick, half page.....		10.00
	Sheboygan County News, page.....		20.00
	Brodhead Cheese and Cold Storage Co.....		5.00
	Woodland Box Co.....		10.00
	Brillion Iron Works.....		10.00
	J. Gempeler Co.....		5.00
	Plymouth Exchange Bank.....		10.00
	H. G. Liebzeit.....		10.00
	Northern Wis. Produce Co.....		10.00
	Chas. A. Parfrey.....		20.00

H. B. Stanz Co.....	\$ 5.00
Plymouth Refrigerating Co.....	10.00
Winnebago Cheese Co.....	10.00
Creamery Pkg. Mfg. Co., cover page.....	22.00
Schwaab Stamp & Seal Co.....	10.00
Kiel Woodenware Co.....	20.00
Stoelting Bros. Co., 3 pages.....	60.00
Kraft Bros. Cheese Co.....	20.00
Colonial Salt Co.....	10.00
Grunert Cheese Co.....	20.00
First National Bank, Brillion.....	5.00
Vilter Mfg. Co.....	20.00
Republican Hotel.....	20.00
Richardson Bros., Sheboygan Falls.....	20.00
DeLaval Sep. Co.....	20.00
Lincoln Box Co., Merrill.....	20.00
Marschall Dairy Laboratory.....	20.00
Konz Box & Lumber Co., Appleton.....	10.00
Fairbanks, Morse & Co.....	20.00
Pyramid Oil Co., Minneapolis.....	20.00
Hotel Gilpatrick, Milwaukee.....	20.00
Phenix Cheese Co., Zeeland, Mich.....	20.00
Quincy Market Cold Storage Co., Boston.....	10.00
Champion Milk Cooler Co., Cortland, N. Y.....	10.00
Mojonnier Bros. Co., Chicago.....	10.00
Damrow Bros. Co., Fond du Lac, 2 pages.....	40.00
D. Picking & Co., Bucyrus, Ohio.....	10.00
A. D. De Land Co., Sheboygan.....	20.00
Manhattan Refrigerating Co., N. Y.....	20.00
Manitowoc Savings Bank.....	10.00
Elliott & McGarraghy, Chicago.....	20.00
Wisconsin Dairy Supply Co., cover.....	22.00
Sheboygan Dairy Products Co.....	10.00
A. H. Barber Cheese Co., Chicago.....	20.00
C. A. Straubel Co., Green Bay.....	20.00
C. E. Blodgett Cheese Co., Marshfield.....	10.00
General Laboratories, Madison.....	20.00
Dairy Supply Co., Minneapolis.....	10.00
D. & F. Kusel Co., Watertown.....	20.00
Eagle Chemical Co., Milwaukee.....	20.00
Juneau Boiler Works, Juneau, Wis.....	20.00
Fauly & Pauly Co., Manitowoc.....	10.00
Sheboygan Bandage Factory.....	10.00
Green County Herald.....	20.00
H. Iwen Box & Veneer Co., Shawano.....	20.00
J. B. Ford Co., Wyandotte, Mich.....	20.00
Baker Ice Machine Co., Omaha.....	20.00
Hotel Martin, Milwaukee.....	10.00
Sharples Sep. Co., Chicago, cover.....	22.00
A. H. Arnold Bros. Co., Chicago.....	20.00
Louis F. Nafis Co., Chicago.....	10.00
G. A. Stallman, Watertown.....	5.00
Stanley Woodenware Co., Stanley.....	10.00
J. G. Cherry Co., St. Paul.....	20.00
Oakes & Burger Co., Cattaraugus, N. Y.....	20.00
Print Motor Car Co., Milwaukee.....	20.00
A. H. Barber Creamery Supply Co., Chicago.....	20.00
Walter Voechting Co., Sheboygan.....	10.00
Puerner Creamery Co., Marshfield.....	10.00
Conlev Foil Co., N. Y.....	10.00
New York Produce Review, New York.....	20.00
Sheboygan Falls Creamery Co.....	10.00
Hotel Brown, Milwaukee.....	10.00
Reinhold & Meyer, Plymouth.....	5.00
Kratochwill Bros., Muscoda.....	10.00
J. S. Hoffman Co., Chicago.....	5.00
Blum Bros. Box Co., Marshfield.....	20.00
L. O. Rehm, Kiel, Wis.....	5.00
Johnson Mfg. Co., Marshfield.....	10.00
Kielsmeier Co., Plymouth.....	5.00
Jos. Dusek Co., Chicago.....	20.00
Valley Sheet Metal Works, Neenah.....	20.00
Fairmont Creamery Co., Green Bay.....	10.00
Milwaukee Hotel Association.....	20.00
Rogers & Johnson, Marlon, Wis.....	20.00
Chris Hansen's Laboratory, Milwaukee.....	10.00
Lehmaier & Schwartz, New York.....	20.00
Cheesemakers Mnfg. Co., Riolinger.....	20.00
Sunstrand Office Specialties Co.....	20.00
Edwin C. Thiedt, Milwaukee.....	20.00
Butter, Cheese & Egg Journal.....	10.00
Hunter, Walton & Co., New York.....	20.00
	10.00

Thos. A. Rhode, Timothy, ½ page.....	\$ 10.00
Torsion Balance Co., page.....	20.00
Winnebago Cheese Co., prizes.....	20.00
Stoelting Bros. Co., prizes.....	30.00
First National Bank, Brillion.....	10.00
De Laval Separator Co., prizes.....	35.00
S. D. Cannon, Neenah, prizes.....	15.00
Ad. R. Vallesky, Manitowoc.....	5.00
State Bank of Manitowoc.....	5.00
Wernecke, Schmitz Hardware Co.....	5.00
A. H. Barber Cheese Co., Chicago, prizes.....	75.00
C. A. Straubel Co., Green Bay, prizes.....	48.00
C. E. Blodgett Cheese Co., Marshfield.....	15.00
Manitowoc Co. Cheese Makers Assn.....	5.00
Kraft Bros. Cheese Co., Plymouth.....	35.00
Bank of Sturgeon Bay, prizes.....	10.00
Peoples State Bank of Thorpe, prizes.....	10.00
C. E. Reed, Thorpe, prize.....	10.00
Pauly & Pauly Co., for prize chair.....	25.00
Schuette Bros. Co., Manitowoc, prizes.....	10.00
Sharples Sep. Co., Chicago, prizes.....	35.00
Oakes & Burger Co., Cattaraugus, prize.....	25.00
A. Grossenbach Co., Milwaukee, prizes.....	20.00
Sheboygan Falls Cry. Co., prizes.....	25.00
H. J. Bamford Co., Plymouth, prize.....	5.00
Wis. Cheese Producers Federation.....	15.00
Blanke Cheese Co., Plymouth, prizes.....	15.00
Kielsmeier Co., Plymouth, prizes.....	45.00
State Bank of Plymouth, prizes.....	5.00
Plymouth Exchange Bank, prizes.....	5.00
Hunter, Walton & Co., N. Y., prizes.....	5.00
Rogers & Johnson Co., Marion, prizes.....	6.00
First National Bank, Marion, prizes.....	15.00
George Bros. Co., Manitowoc, prizes.....	10.00
Manitowoc Lumber Co., prizes.....	10.00
Manitowoc Savings Bank, prizes.....	10.00
Fond du Lac Co. Holstein Assn.....	10.00
Jos. Dusek Co., Chicago, prizes.....	25.50
First National Bank, Clintonville.....	10.00
Clintonville State Bank, prizes.....	10.00
Dairymen's State Bank, Clintonville.....	10.00
Citizens State Bank, Bear Creek.....	6.00
Holstein Breeders Assn. of Wisconsin.....	5.00
Iowa Co. Holstein Breeders Assn.....	10.00
Brown Co. Holstein Breeders Assn.....	5.00
Manitowoc Bldg. Supply Co., prize.....	10.00
State Bank of Kiel, prize.....	10.00
Marketing Div., table space.....	25.00
Brillion Iron Works, booth space.....	20.00
C. L. Santee Agency, booth space.....	20.00
Sale of 425 supper tickets, 75c.....	318.75
A. Grossenbach Co., for cheese.....	2,185.77
J. W. Cross, cheese sales.....	44.54
Marketing Division, cheese used.....	13.77
Refund by Arthur John, Luxemburg.....	3.00
Leo von Arx, membership.....	1.00
E. H. Kielsmeier, Astico, refund.....	3.00
Donation from friend.....	60.00
Donation from friend.....	10.00
J. L. Sammis, cash for prize.....	5.00
Partial list sold.....	3.50
W. C. Thomas, complete list.....	5.00
Hotel Martin, partial list.....	4.00
Donation.....	7.00
Manitowoc Plating Co., page.....	20.00
Total receipts.....	\$6,571.02

Disbursements from Secretary's Donation Fund

Streissguth-Petran Co., 10,000 stickers.....	\$ 28.16
Olson Publishing Co., 3,200 programs, 100 pages.....	540.00
Postage stamps.....	20.00
Convention ad, Butter, Cheese & Egg Journal.....	20.00
Convention ad, N. Y. Produce Review.....	20.00
Secretary's office expense to Jan. 3, 1922.....	137.13
Van Housen Co., 81 Lake St., Chicago, horns.....	28.72
Olive Holt, Madison, typewriting.....	5.00
Louis Alder, Monroe, Swiss quartette.....	51.68
T. A. Ubbelohde, Glenbeulah, expense.....	6.88
C. E. Reed, president.....	100.00
F. W. Keller, expense.....	23.96

Fred Marty, judge, expense.....	\$ 29.46
Miss Louise D. Mason, stenographer, advance.....	50.00
John E. Krines, 425 suppers at 75c.....	318.75
P. H. Kasper, expense.....	18.71
J. D. Cannon, expense, judge.....	21.91
H. J. Noyes, expense.....	18.83
C. E. Reed, president, expense.....	70.47
O. G. Gibson, doorkeeper, expense.....	15.32
J. W. Cross, supt. of exhibits and expense.....	55.62
O. H. Kielsmeier, expense.....	17.00
H. A. Rindt, expense.....	41.24
C. E. Reed, expense.....	3.55
Ad. R. Vallesky, expense.....	6.45
A. F. Zelm, expense.....	40.35
A. F. Zelm, treasurer.....	50.00
Alex Schaller, expense, judge.....	41.70
Fred Marty, judge.....	15.00
R. A. Young, Monroe, expense.....	23.50
Republican Hotel, convention expense.....	118.11
M. E. Jansky, clerk and expense.....	70.94
E. G. Pickering, Dayton, Ohio, tags.....	1.25
E. H. Farrington, expense.....	7.20
Olson Publishing Co., 1,000 score cards.....	6.39
N. E. Possley, Appleton, expense.....	9.50
E. M. Sammis, clerical work and expense.....	64.00
Office Specialties Co., typewriter rent, etc.....	7.65
G. F. Bachman, Fremont, refund overcharge.....	1.00
C. A. Straubel Co., Green Bay, refund.....	3.00
E. G. Hastings, expense, Madison.....	7.96
Sheboygan County News, convention ad.....	10.00
Wm. C. Lindow, Plymouth, prize.....	1.00
J. C. Grieb, express on prize chairs.....	10.64
W. F. Hubert, expense.....	46.28
Earl B. Whiting, refund overcharge.....	.94
Fritz Marti, Argyle, prize.....	5.00
Earl B. Whiting, Gillett, prize.....	2.50
C. H. Schneider, Merrill, prize.....	2.50
Joe Schmid, refund overcharge.....	1.00
Green County Herald, convention ads, etc.....	30.00
Ralph W. Leeseberg, refund overcharge.....	1.00
Jos. Dusek Co., Chicago, refund.....	15.00
Alex Hoerberger, to correct error.....	1.00
P. M. Franzen, Madison, signs and cards.....	23.00
A. W. Hahn, Plymouth, prize No. 95.....	7.00
A. F. Zelm, Plymouth, prize No. 96.....	5.00
H. W. Behrens, Plymouth, prize No. 97.....	3.00
H. J. Kuschel, refund overcharge.....	8.00
Paid exhibitors for cheese and prizes as per cancelled checks Nos. 1-767 (See p. 130).....	2,904.26
Secretary's convention expense.....	105.00
Postage on diplomas.....	12.00
Express on prize hand bags.....	1.98
Clerical help, listing, typewriting.....	10.00
J. L. Sammis, secretary.....	450.00
F. H. Schroeder, Abrams, refund overcharge.....	4.00
A. Peterson, Muscoda, refund.....	.51
Secretary expense to State Fair Conference.....	9.50
Secretary expense to Wis. Dairy Council Conference.....	8.75
Secretary expense directors' meeting.....	15.70
C. E. Reed, expense to directors' meeting.....	19.62
Wm. Hubert, judge.....	15.00
J. D. Cannon, judge.....	15.00
Schwaab Stamp and Seal Co., stamps.....	1.70
Office supplies, accounting.....	3.00
A. J. Mensch, Glenbeulah, prize.....	3.00
Adolph Gutherz, Muscoda, to correct error.....	5.00
John H. Peters, Plymouth, prize No. 108.....	5.00
O. A. Kielsmeier, expense to meeting.....	10.70
Addressing and mailing circular letters.....	6.00
A. F. Zelm, expense to meeting.....	5.50
Secretary, expense to Nat. Dairy Assn. meet.....	9.60
Miss L. D. Mason, stenographer, balance due.....	55.00
Circular letters mimeographed.....	1.00
Space at Nat. Dairy Show, Minneapolis, 1922.....	10.00
Balance of donation fund.....	594.85
Total	\$6,571.02

SECOND SESSION—WEDNESDAY, 2:30 P. M.

The Dairy School Orchestra played several selections, which were appreciated and applauded.

PRESIDENT REED: Don't forget to reserve your tickets for the banquet for to-morrow evening. There is only a limited number of tickets. Get them early enough so that you will get in. Also leave your railroad certificate at the door as soon as possible, because they must be signed by the secretary and the local railway agent.

THE VALUE OF CHEESE IN THE DIET

By S. K. ROBINSON, Chemist for the J. L. Kraft & Bros. Co., Chicago

We are all interested in the growth of the cheese industry and greater consumption of cheese in the United States. The cheese maker himself is, of course, interested for obvious reasons; it will mean more business, bigger profits and a more stable demand for the product. The milk producer should be interested because an increase in the amount of cheese used, necessarily means a greater demand for milk. If we were to double the amount of cheese consumed in the United States, we would increase the demand for milk by four billion pounds. Such an increase is not at all impossible for, as will presently be shown, there are many important influences in this country that tend to stimulate and produce this very thing.

Before we attempt to take steps that lead to an increase in the total cheese consumption of the United States, it is necessary for us to analyze the facts that would influence our method of approach. Let us glance at the accompanying chart—you see here that the total meat consumption in the United States is about 33 per cent of all the money spent for food, whereas, we spend only 9 per cent for milk and 1 per cent for cheese. From the standpoint of composite food value, as you will see in this same table, these same meat products for which we spend approximately one-third of the food budget, yields only in heat calories, protein, and mineral salts, a little more than one-fifth of the total furnished by all food. Considering milk and cheese, however, we spend 9 per cent of our money for milk, but it yields approximately 16 per cent of the food elements necessary for building up the body; with cheese this comparison is still more striking, for every per cent of money spent we get over 2 per cent of energy. The cost per pound of cheese is also something that must be considered. This cost we must compare with such foods as milk, meat, and bread. We must also consider the factor of (let us take 32 cents as the price which the house-wife has to pay for her cheese. Let us compare this price with milk and the cheaper cuts of beef. Let us take the cost of milk at 13 cents per quart and meat at 15 cents per pound) how much does the housewife consider these points when she goes out to buy her food for the table?

If we consider all these factors we must come to the conclusion that the importance of food value does not as yet play a very important part with the average house-wife. With the advent of the newer ideas of nutrition, bringing to light such important factors as mineral salts, vitamins, and the like, it is not at all unwise to prophesy that in the future this will become important. We will not only buy what is palatable but also take into consideration foods that are healthful, and we can already see where this is becoming a fact. The importance of iron in spinach is a point which is commonly known. The sales of raisins and yeast have been greatly increased for similar reasons. The great milk campaign in our schools to-day, which is bound to become of much greater importance in the next few years, is also supported for reasons of food value. It is, therefore, obvious that in order to increase the total consumption of cheese, it is important that we not overlook its food value.

Cheese Composition

In the making of cheese, the greater part of the casein and fat is brought down in the curdling process, leaving behind in the whey the milk sugar and albumen. Most of the mineral substances go into the cheese. The three most important constituents of the mineral matter viz., the calcium, phosphates and the iron, are retained in the cheese. Since the cheese is rich in fat, the Fat Soluble A or growth vitamin is almost completely retained. The vitamins B and C are also retained but to a smaller extent, the exact extent has never been determined. It is, therefore, clear that whatever is said about the nutritive value of milk is to a great extent also true of cheese, because the most important constituents are retained to a very remarkable degree. As a matter of fact, cheese being the more concentrated food, enhances some of the benefits derived from a milk diet, several fold.

The Importance of Mineral Matter

Up until recently the science of nutrition busied itself chiefly with the study of fats, proteins, and carbohydrates, and a deal of important work has been collected. The importance of mineral matter in the diet has been overlooked unfortunately. That the minerals are important, however, can be seen at a glance when we realize that 2 per cent of the body weight is made up of calcium and over 1 per cent phosphorus.

Here is an interesting experiment that shows the importance of minerals. Rats fed upon a well-balanced diet composed of carbohydrates, protein and fat, but devoid of minerals, died sooner than another litter of rats placed on a starvation diet.

The Role of Calcium and Phosphorus in the Diet

Ninety-nine per cent of the calcium content of the body is found in the bone. Phosphorus, however, is found all over the body; there is no other element which has such a wide distribution. Both of these minerals are of the greatest importance in growing animals.

Rickets and soft bone in children, poor teeth and similar troubles can be directly traced to insufficient calcium in the diet. (According to Dr. J. B. Delee, of Northwestern University, the disease, hyperemesis gravidarum, a pernicious vomiting of pregnancy, has been traced to an insufficient calcium diet. Phosphorus is always found where growth is taking place, where it plays a leading part. It is also abundant in brain tissue; pathological cases of the brain have been attributed to insufficient phosphorus).

According to Lorand, we owe our superiority to all other organisms to the brain which is very rich in phosphorus. Without phosphorus, there is no thought. It is claimed by others that fatigue of the brain and nerves should be met by more phosphorus in the diet.

The point of great interest in this connection is that a mixed diet will in most instances produce the required amount of iron and protein but is apt to be deficient in calcium and in calories. Analysis made of the mixed diet in American homes, shows that they are deficient in calcium a great part of the time.

The American diet is apt to be made up chiefly of the grains and meat products. Both of these foods are known to be deficient in calcium. Indeed, it may well be said that the deficiency in calcium is the big gap in the American diet today and it is primarily in this connection that cheese becomes an essential factor—because cheese contains a combination of calcium and phosphorus in greater proportion than in any other food, organically combined with the casein in such a way as to make it readily available.

To put this same matter entirely in other words, although bread and meat may be a balanced ration from the standpoint of supplying carbohydrates and protein, from the standpoint of supplying mineral constituents it is decidedly deficient and unbalanced. The best way to stabilize this inequality is to increase the amount of cheese and milk consumed.

Vitamines

In the last twelve years the interest of the scientific world has been focused on accessory food substances existing in small amounts in various foods without which normal growth and health cannot be maintained for any great length of time. These substances are known as vitamins.

Up to the present time, three such vitamins have been definitely found to exist. They are the Fat Soluble A or the growth vitamin; the Water Soluble B or antineuritic; and the Water Soluble C, or the antiscorbutic vitamin. As a result of this unusual discovery, foods hitherto unknown to any great extent have become a prominent part of the diet. There is a sad side to this problem, however, many drug preparations have been put on the market which are supposed to contain the necessary vitamins to maintain health and bodily vigor. It is unfortunate that the public gets the idea that these vitamins are to be administered in the form of drugs and lose sight of the natural foods which contain vitamins in abundance in an uninjured form.

One of the foods that combines the three vitamins in greatest abundance is whole milk. Cheese is very rich in the growth vitamin and also contains the other vitamins but to a lesser extent than does milk.

Digestibility of Cheese

Concerning the digestibility of cheese, there has been a wrong conception prevalent. This was rather conclusively shown in experiments conducted by the Office of Experiment Stations. Young men in good health were fed a mixed diet containing large amounts of American factory cheese at different stages of ripening. The result showed that over 90 per cent of the cheese was available as energy and furthermore it caused no constipation or physiological disturbances. Experiments on cooked cheese also indicate the same result. Cheese being a food in which the protein is closely intermingled with fat, remains a little longer in the stomach than is the case with other foods and gives a sensation of fullness and heartiness. In the intestines, cheese is very quickly digested.

The respiration calorimeter experiments were conducted to measure the energy expenditure during active digestion. Comparisons were made with meat and cheese. Meat is usually considered a food very easily digested. These experiments did not show any material difference between the amount of energy expended during meat and cheese digestion.

Another point of interest is brought out in the work of Konig, of the University of Minnesota. He states that cheese ingested together with other foods, had a marked influence in increasing the digestibility of the entire meal. We need not worry about the digestibility of cheese. The English and Scandinavians, who use many times over the amount of cheese that we do, are not troubled with as much constipation as the American public.

Acid-Forming and Base-Forming Elements of Diet

There are certain foods that cause the acid to predominate after a meal and others that are not so acid-forming or are entirely basic. The acid-forming foods tend to decrease the alkali reserve in the blood, a condition which is undesirable if not harmful. (The comments of W. Fitch on the acid-forming foods are as follows: "It must be regarded as physiologically wrong for man and correspondingly disadvantageous, moreover, it is quite certain that in certain pathological conditions the lack of base-forming elements is actually harmful.") Cheese and milk are both important as basic foods.

Some Advantageous Uses for Cheese

As can be seen from the foregoing discussion, cheese must necessarily be considered an important food in the diet from any one of the factors considered. It would, however, be of greater value, in special cases, for instance in growing children who are in great need of calcium, phosphorus and the growth-promoting vitamin A.

As has been pointed out, cheese is especially rich in all of these factors and the intelligent mother should see that her growing boys and girls have at least one ounce of cheese per day.

To the expectant mother, the value of these same three aforementioned factors, viz., calcium, phosphorus and vitamine A are very important in order to prevent soft bones in the infant. During the period of lactation the richness of the mother's milk in these growth-promoting constituents is dependent to a certain extent upon the food ingested. It has also been shown that cows during the lactation period, will actually draw calcium salts from their bones.

As a source of the proper amino salts, as a basic-forming food and to balance the diet in calcium, cheese must necessarily find a place in the diet of adults. In the convalescent diet, cheese can often be used to very good advantage. On this point, W. Fitch can be quoted as follows: "Cheese has its place even in the sickroom, as in cases of tuberculosis, neurasthenia, diabetes, convalescence, dyspepsia, enteritis, and enterocolitis. The easy assimilation of a certain quantity of soft cheese and their peptogenic and antiputrefactive elements is of decided value from a therapeutic standpoint." I thank you.

DAILY REPORTS AND CHEESE MARKETS

By MR. J. B. MCCREADY, Fond du Lac

Mr. President and Fellow Members: I want to call your attention to a few rate reports which we issue at Fond du Lac. Reports are free to any who ask for them. A weekly cheese Review from the United States gives us the figures for the week of products, etc. In addition you have the storage stocks of New York, Chicago and Boston. The Weekly Cheese Review also gives you the Plymouth market and is issued on Tuesday from the Fond du Lac office. We also have a daily report. In reading these reports I call your attention to the fact that you shouldn't expect to get these figures from your cheese dealers when shipping your cheese. Those two are the important reports which we issue. We have a monthly report, also a monthly export report. The latter is not of interest except to the cheese dealers. You can all get these reports sent to you by applying for them here at the table.

PRESIDENT REED: Now that we have heard from our Canadian, we will hear from another gentleman who comes from a greater distance and who is one of the pioneer cheese makers of South Africa.

ADDRESS: THE NEAR EAST RELIEF

By MR. CARL W. SCHMOLKE, of South Africa

Fellow Cheese Makers: I am very happy of having this opportunity of meeting with you. I am here on behalf of a lot of children who would give a lot for a little cheese. I am here for the Near East Relief who have a campaign on throughout the United States to get some dairy products for these children, so I came to Wisconsin with

that idea and I have had a wonderful response from the condensaries. We have all those children and they are dying, and in one camp our loss is at the rate of 180 a day. They haven't enough food to keep them alive. I am here this afternoon in the hope that each one of you will be pledged to do something—just a little bit, but that little bit will go very far with those children. I am going to ask you to give enough to buy five pounds of cheese for those children—115,000 children in the orphanages. They are begging to keep alive. I can assure you that conditions are such that if you would see those pictures you would cry. If any of you would like to give a case of cheese or if you represent a firm who would give some we will be only too glad to receive what you can give. All the dairying people in the United States should work together to make this the biggest advertisement for Wisconsin. We will see that Wisconsin gets the advertising and publicity from what you do this afternoon. We are very grateful for anything you may give in the future. We will look forward to getting some cheese from you.

I will be glad to talk privately about my experiences in South Africa. I am one of the pioneer cheese makers in South Africa. I established the second cheese factory in that country. I taught cheese making and other classes of dairying throughout the whole of the Union of South Africa. Since 1916 we are exporting cheese and there is very little condensed milk made there. The breed that predominates is the Holstein. We also have the Jerseys. Cheese making is going ahead in leaps and bounds. I established the largest cheese factory in that country. I started in a room 12x16 feet and had to enlarge the place and after about eight months we were turning out about a car of cheese a day. They have increased that considerably and they are doing pretty well. They are working under great difficulties. I had to go to a tinsmith to show him how to make the different equipment we required. I introduced a new industry there—that of making of dairy equipment. I may say that at different times we exported cheese from our country to England. My cheese competed with that of New Zealand, Canada and other countries. My cheese won the first premium and I was mighty proud of that. I can put it down only to the fact that the most careful attention was paid to cleanliness. I have no time for a man who will spoil all the business and all my efforts to break it down through careless methods. The first thing I judge a man by is his cleanliness. If a man is careful in that respect I believe he will be careful in other ways as well and in his factory. Caution is the thing I always aimed at. We were able in that way to build up a business and to educate the people to eat cheese, who never ate it before. I had a man say to me, "How is it we never get cheese of this kind? I would be a confirmed cheese eater if we could get cheese of this kind (pointing to a cheese he had). Well, if you could give me cheese such as we get from England or Canada I would be glad to buy your cheese." So I said to him, "What sort of cheese are you handling now?" and he replied, "I have some Canadian cheese now." He showed me a cheese and it was

some of my own which had been sold to him through a wholesaler who told him it was imported from Canada and I said to him, "I am satisfied if you handle that brand of cheese because that is the cheese which comes from our factory, and after that we had him and he always ordered cheese from us. I always give uniform quality and we built up a fine trade through this. This was in Cape Colony.

Collection for Near East Relief

PRESIDENT REED: You will now listen to the result of the collection for the Near East Relief. The committee report here, signed by Mr. Winder, Peters and Damrow shows the collection of \$92.59.

MR. SCHMOLKE: I want to thank you for your contribution. I am sure the Near East will appreciate it very much indeed.

Appointment of Committees

PRESIDENT REED: I will also make my Committee appointments at this time. Committee on Resolutions will be: H. A. Rindt of Clintonville, J. H. Peters of Plymouth and A. T. Bruhn of Spring Green.

Legislative Committee: The president and secretary are ex-officio members of the legislative committee. I will place Mr. H. F. Garling of Clintonville and Mr. Fred Marty of Monroe on this committee.

The committee on resolutions should get busy. We want a report on this to-morrow afternoon; the majority of the members are present then and you should act on them then.

Now we will have the reports from the different local cheese organizations. We have one very new one. We will go from the north to central and from central to south and then to the southwestern districts.

Barron county cheese makers have organized and they are called the Northern Wisconsin Cheese Makers' Association. This is the correspondence which we have received from Rice Lake, Wisconsin. (Mr. Reed read letter, but he did not give it to the reporter). Mr. Cook of Cumberland has written up this article. Mr. Cook states he was very sorry he could not be here to represent the Northern Cheese Makers' Association but because of illness he could not come here and be with us.

We have a letter from the president of the Northern Wisconsin Cheese Makers' Association which says, "We are unable to get any one to go down to represent our organization, etc., etc. We want the members to know that we are organized and if you will urge the cheese makers from different parts of the state to organize small associations we will be pretty well organized by 1924, and at that time the State Association can be either reorganized or altered so that all parts of the state will be represented. I trust the new secretary of the State Association for 1923 will help the cheese makers get organized and I am sure we will be pretty well organized by 1924."

MR. WINDER: The object of our association is to better the quality of cheese—to get better acquainted; to put on scoring contests; to have expert men score the cheese and explain how it should be made

and we should have a uniform scale of wages. I was at the meeting that they held in Rice Lake, I think it was on the 19th of December, and they were but newly organized. I think with about twenty members and they are starting out and their object is something like the Wisconsin Cheese Makers' Association and as soon as they can get together they wish to develop into something of that kind. The idea is to give service and to better the curd. They realize there has been too much free for all among the cheese makers and no cooperation, no organization and a few of the cheese makers up there conceived the idea of organizing along that line. That is about all I can tell you about it. Just what they hope to do in connection with that I am not sure.

MR. SCHALLER: Don't you think they are trying to organize like the butter makers of the state?

PRESIDENT REED: Let the locals throughout the state organize in any manner that they wish for the betterment and improvement of the industry itself. Then all the members of the State Association at large will be glad to help them as much as we can.

REPORT OF THE CENTRAL WISCONSIN ASSOCIATION

By MISS L. C. BRUHN, Auburndale, Wisconsin

Mr. President, Members of the Wisconsin Cheese Makers' Association, Friends, Ladies and Gentlemen: The opportunity of being on your program is an honor highly appreciated. It is my privilege to give a report of the Central Wisconsin Association, an excellent convention held at Neillsville a few months ago.

President Reed called at my factory several times last summer. He said that the 31st program of the Wisconsin Cheese Makers' Association should be characterized by more cheerfulness and good fellowship; also added material for educational purposes. It seems to me I recall him saying that he is going to seek talent in this audience this year, for more brief talks, perhaps songs, music, jokes, and stories. Just be prepared, for he may call on you, silent member, for a number on the program.

Perhaps you will feel that there is a little truth in the old saying—An ounce of keep-your-mouth-shut, is better than a pound of sorry-I-said-it.

Your organization needs your assistance. It offers you the broadest opportunity to bring your joys, trials and tribulations, here for discussion. The work in the vineyard is plenty and laborers are few. It calls for you if you would gather any harvest. Sitting back, and expecting your officers to get results without your fullest cooperation, is surely a mistake. No matter how small or humble your support may be, it will help the big movement along.

Let us not forget to pay tribute to the life members of this association who have rendered faithful service for Wisconsin's Dairy

industry and have stood solidly back of all good movements and given liberally of their time and money to strengthen our organization. The chain is no stronger than its weakest link. The progress of the individual should keep step with the whole.

Articles have been written in dairy papers for the express purpose of awakening the producer, manufacturer, consumer, to the tremendous loss occurring in the production and care of dairy products. Money value in food loss in this way runs up in the millions of dollars annually. It starts with the improper care of the cow and keeps on growing, some way or other, through process of manufacturer, market, transportation until the product at last reaches the consumer.

The question may be asked,—Who is the loser? Every man alike is the loser, from the producer to the consumer. Careless, inefficiency and improper methods are at the root of most of the evil. They feed the loss column and make it grow. Poor management covers it all, in every department along the line.

Dairymen do not realize how much they could help to correct this evil. They often become discouraged and offer complaints, such as low prices on products, milk checks too small, dairying does not pay, cows are no good, cows dry up when prices are high, condensaries and creameries pay better, prices on gasoline and garage repairs and everything they buy is out of proportion to prices received for farm products. Politics are in the hands of the wrong class. The devil is to pay and our good Lord is far away. I am sure that most cheese makers have been called upon to answer these very questions the past few years. It is said that the cheese maker is the hub of his community. He has the opportunity, and a great deal is expected of him. Will you agree with me that our responsibility can not be overestimated?

What can be done to improve our condition? The first great problem is to study the demands and taste of the public—to offer quality attractive and make cheese that will suit the consumer. We all have our ideas as to what an ideal cheese should be and yet our ideas may not meet with that of the consumer as to flavor, body, texture, color, type and size of package. Of course, it is impossible to suit the notion of every individual consumer, still I believe, with the fullest cooperation of the Division of Markets, the cheese trade could meet the demands made upon it. Some people like a mild new cheese, while others prefer a stronger or cured cheese. A prime quality, a meaty body, smooth, silky, waxy body, fairly good texture and flavor, a cheese that will cut without crumbling or breaking will meet the approval of nearly every housewife, creating a desire for more. To manufacture a cheese of this type, requires prime quality of raw material, skilled workmanship, and the best care in storage and distributing channels. Increasing the demand would naturally bring advanced market prices. Dairymen and manufacturers realize the fact that there is no demand for an inferior grade of cheese. The time was when this cheese could be given over the free lunch counter, but that outlet no longer exists.

We can not overemphasize the necessity for a spirit of cooperation, better understanding and confidence, to stimulate the farmer who milks the cows, to induce him to handle milk in an up-to-date, sanitary way.

Another important factor is the qualification of our cheese makers. Wisconsin needs the kind of maker who has the good of the public at heart, who from day to day is a careful student of his work, and can adapt himself to the changing conditions, giving time and energy to produce cheese to meet the demands of the market.

At the Neillsville convention resolutions were drawn up and adopted of the Central Wisconsin Association, recommending to the legislature of Wisconsin to make appropriation of sufficient funds to the Dairy and Food Department, so they can put a sufficient number of instructors in the dairy field. Second, with reference to the issuing of licenses, that the apprentice should have eighteen months of apprenticeship and Dairy School, or two years without Dairy School.

I sincerely hope that the Wisconsin Central Association will go on record favoring these two resolutions, which are aimed to maintain the good cheese maker in business, and induce bright, young men to enter the industry.

In early summer, through the courtesy of our dealer, quite a number of cheese makers of Central Wisconsin had the opportunity to receive instruction in behalf of a new process, or rather New York process, to manufacture American cheese with the cold water system, under the direction of Mr. Stevens and wife, both expert cheese manufacturers of the state of New York. They spent one and one-half weeks with me at my factory teaching an instructor to go out in the field for the dealer after his return to the state.

Time does not permit to go into detail in behalf of this process, but I want to say this, that cheese made right with this system is sure a fine article. Please bear in mind and understand that is no Colby or Soft Cheese, but it retains the fat that is otherwise lost in the old process, and has a smoother, silky, waxy texture, meaty body and a clearer flavor. Experience at my factory taught that it also meets the approval of the consumer. We are selling to two grocery stores direct besides the large list of farmers and outsiders. By adding this system, the retail list has been much larger than former years. Compliments were extended by consumers as to the prime quality of cheese manufactured the past year at the plant.

To prove to myself if this cheese will stand in storage I placed in storage five boxes made the 12th day of June, making no choice, manufactured from 22,000 pounds of milk. I placed one of these cheese at the Marshfield Fair as an experiment. Someone at the warehouse did not see my note, hence it was stamped Wisconsin Fancy. Messrs. Bruhn and McCready scored it 94 at the age of seven weeks. At Neillsville, Messrs. Cannon and Bruhn scored 95, at the age of nearly four months.

I note your program has a number on this process, and I can assure you it is worth consideration.

It was said the expert was sent to Wisconsin on account of the shortage of cheese in the state of New York. Dealers who are distributing to hundreds of stores in the eastern markets report the consumers in their territories demand cheese made under this process only, hence, the expert was sent to Wisconsin to instruct along this line, to answer the call of the eastern market.

The 1922 annual convention of the Central Wisconsin Association was notable for its growth, showing that the educational work is attractive and useful to its members. The city of Neillsville was decorated in gala attire, with welcome signs everywhere, Convention Hall, Banquet Hall, business places and streets. Neillsville is one of the few cities that decorated to boost the cow.

With a splendid spirit of cooperation, cheerfulness and good fellowship prevailing everywhere among its citizens and the members of the Kiwanis Club, the little city left no stone unturned to make the occasion pleasant for the guests.

The attendance the first day was fair. On Thursday the Convention Hall was filled to overflowing. The quality of the exhibits were remarkable and a center of interest. Hundreds of visitors called at the Exhibition Hall to view Wisconsin's fine cheese and butter. Donations of products were made by members and the Neillsville condensary to advertise our slogan, "Use More Dairy Products." Lots of good cheese, wafers, and cold milk was served to visitors.

Thursday afternoon the city closed its business places. A parade was planned, led by the Neillsville Band, with plenty of features to advertise Dairy Products.

First among the generous gifts which we received to support the convention was \$325.00 from the citizens of Neillsville and Granton to be used in the prize contest. Convention Hall was heated and lighted with decorations free of charge.

It was our first attempt to issue program booklets. Twenty-two advertising firms and a multitude of friends donated the 102 prizes, valued at \$700.00. The total membership is 476. Total number of exhibits during the year were 170. Total money received and disbursed in connection with the organization work from November 27, 1921, to December 31, 1922, runs to nearly \$2,200.00 receiving no appropriation from the state. After paying all bills, there is a balance of about \$440.00 on hand.

A most fitting climax of the convention was the banquet served by the ladies of the M. E. church, with community singing, brief talks, songs, music, jokes and stories at the close.

The excellent growth of the Central Wisconsin Association is sufficient guarantee as to its continued usefulness.

The city of Stevens Point has extended an invitation for the 1923 convention. We are looking forward to growth, in every department. The members join with me in extending greetings to all. Come and let us entertain you in the convention city, in the fall of 1923.

In closing, I beg of you each to determine as an individual and as an organization to render greater service to humanity. Forget for

just a moment the peculiar benefit you have been working for. If we knew each other better and others knew us better, we would get along better. There is lots of good in everybody. There is more sunshine than cloud. In our frenzied chase for the almighty dollar let us not forget to be grateful for the good things we have, in modern conveniences, comfort and happiness.

We wish you success in this convention. I thank you.

PRESIDENT REED: Miss Bruhn, I want you to tell the members the number of pounds of milk you handle and how much help you had to handle it.

MISS BRUHN: I had 22,500 pounds. I have a boy and a girl and we do our own house work and we are making squares and are wrapping them, and we are washing those wrappers. We are using 11,000 pounds of milk at the present time. (Applause). Any time any of the members happen to pass along that part of Wisconsin you are welcome to come to my factory.

PRESIDENT REED: Mr. G. C. Reidel of Hilbert representing Calumet county is not here so we will listen to what Mr. Damrow's people are doing over in Fond du Lac county.

FOND DU LAC COUNTY

MR. DAMROW: Ladies and Gentlemen, Fellow Cheese Makers: We have a double header here in Milwaukee. I came down here to attend the Ice Cream Convention which finishes up this afternoon and I expect to go back there. We are working on the same lines as we did last year. I want to tell you something about a trip I made last summer and some of my experiences at that time. I made it a point to stop at the universities and especially in the dairy sections. While I was in the Agricultural department in Sacramento one of the instructors asked me to go along in the northwestern part of the state. This is what he was doing. He says in a part of the northwestern part of California a few of the farmers are shipping grain, but that there is practically three to four months in the year when they can not bring their stuff to the market. They were planning to send up two men to organize the farmers to produce milk for cheese and in that way, if they did make cheese and had to hold the cheese for the three or four months they cannot ship, it will improve the quality of the cheese and the farmers don't lose anything. These two men were to be gone from four to six weeks. I asked him where he got the money from and he replied: "The state appropriates it, not only the dairy department, but all our other agricultural departments." He told me that he talked to the farmers individually, and collectively at meetings. Another thing which struck me very much was a statement he made and that is: "I can't see why you in Wisconsin are always advertising every dirty factory and pulling the different cheese makers into court and prosecuting a man. That is the worst thing you can do." He said, "If a man can't run a place right, he never will be able to run it right and he has no business to be in it. We don't publish these facts in our papers or the public would get the

opinion that if a man is brought into court for such conditions—they would think that all factories are dirty.” That got me to thinking quite a little, and I agree with him on that subject, and I was wondering why we couldn’t do that in Wisconsin. Instead of giving the facts to the general public and make them feel and think that our cheese and butter, or all our dairy products are produced in unsanitary and dirty places, suppose we get away from that and see if we can’t get them to clean up in some other way. I am not prepared to lay out a plan for that purpose, but we should have a resolution adopted that we get better cheese makers in the business with better experience. We should also adopt a resolution to have a bigger force of inspectors—not only inspectors but also instructors in both cheese making and butter making to go out and inspect and instruct. I think that they will help quite a little. In Wyoming, the money that is appropriated at present is given to the sheep and not to the cow. In a mining state, the money is appropriated entirely for the mining industry and the few cows they have there are only a side line. Wisconsin is a dairy state. Let us get an appropriation large enough to carry on this kind of work, and I think we are entitled to a larger appropriation from the legislature to boost the dairy industry in the state of Wisconsin.

I have another interesting experience in Tillamook, Oregon. I spent a little time there with a friend who was a lawyer about fifteen years ago in a small country town where it was very hard for a lawyer to make a living. At that time there was five cheese factories there and they had their troubles to get their cheese to the market. This man started to get them together and they are now organized with 25 factories and all of them are cooperative factories. When I was in his office on the 16th of July, he says: “Do you people down in Wisconsin get our prices for your cheese?” I haven’t figured it out, but if you could figure it out and know the number of pounds of cheese that we are making in Wisconsin this would run into millions of dollars. They get so much more for their cheese than we do for ours. He showed me an invoice on the 14th of July to Armour & Co. and he was getting 10 per cent higher price than we get for our Wisconsin cheese. He showed me another letter in which Cudahy offered 26 cents a pound, which they could not accept. That is practically 7 cents a pound more than we get in Wisconsin. That would amount to \$16,300.00. You can belong to the Association or you don’t have to belong to it. You can quit to-day and you can come back to-morrow. It don’t cost anything, but when you quit you can’t use their brand. You must market your own cheese. This is the reason that they are sticking together. They get 13 cents more per 100 pounds for their milk. I asked Mr. Peterson, an inspector, what the cheese maker is getting for wages and he said, “The cheese makers are all organized. Every cheese maker at the head of the factory has got to learn through me and they get the price they ask and we get together that way, but none of them can hold the job unless they turn out the goods.”

If there is any trouble in any factory that the cheese maker himself

cannot locate, he telephones Mr. Peterson and he is there the next day, unless he is laid up. I visited several factories with him. Some of them use as much as 35,000 pounds of milk and eight men in a factory. They never get through before six o'clock and the day I was there they had 28,000 pounds of milk in the factory. He told me he could get more out of a man that he has trained than he can out of a man who has learned somewhere else.

He also told me about the support they receive from their banks. He told me about a factory which burned down and which was not quite paid for—that the owners had borrowed the money from the bank at 3 per cent whereas the legal rate was 8 per cent. On the strength of this, I stopped in to have a visit with one of the bankers and I told him I wanted to start a cheese factory out here and I want to see if we can get some 3 per cent money. He said, "Of course, you refer to the factory that burned down. Well, we loaned them the money at 3 per cent as an accommodation because if it were not for the cheese in this community, it would not be worth half of what it is. This is the first year that they had a dry season, and that is something that never happened before."

I have not been very active this year in Fond du Lac county because I was gone most of the time, but there is much to take care of. We are working about on the same lines as we did the last year and most of your men know our work. Our organization is just a county organization. We have approximately half of the cheese makers affiliated, and it seems to be a hard proposition to get the cheese maker out. We are making plans now for our 1923 work. We are planning picnics, amusements and scoring contests. Fond du Lac county is entirely different than other counties. Many factories are privately owned and scattered, and there are cooperative factories amongst them. It is hard to work as they do in Oregon. That would be out of the question, unless years might bring it about. The market out there is practically going from Tillamook to Los Angeles and there is a difference in freight rate of about 2 per cent, while here in Wisconsin to Los Angeles the rate would be so much higher, still they are getting approximately that difference, although last year their difference was only 2 cents and they are gradually raising it. As for their cheese, I don't think it is better than our cheese, which is our average or better grade of cheese, but they are trying to hold it uniform. I thank you. (Applause).

MR. CHAIRMAN: We will now hear from Mr. L. J. Blahnik of Ke-waunee county. (Absent). We will then listen to Mr. Dave Korth of Langlade county. (Also absent). Is Mr. Hugo Wilkowski of Marathon county present?

MR. HUGO WILKOWSKI: I believe somebody is playing hooky from school as there has been quite a few counties called and there has been no response. After the foregoing orations, I don't know whether I will have much to say, but I have written it down.

REPORT FOR MARATHON COUNTY

By HUGO WILKOWSKI

I presume you have all heard of Marathon county, more or less. You know it is in the northern part of the state somewhere, but in all probability never heard much about it nor of Wausau, the county seat, outside of the names. We in Marathon county claim we have the world's greatest dairy county. This we know is a pretty large statement to make, but if you will bear with me for a minute I will give you a few figures showing that we are not making any statements which we can not stand behind. These figures are official and therefore should be correct.

Marathon county, situated in the center of the state, is 51 miles from east to west and thirty-five miles from north to south, covering an area of 1,552 square miles, which is 316 square miles larger than the whole state of Rhode Island, this goes to show that it is the largest county in the state area.

During the year 1921, the last official figures, the county produced 18,847,000 pounds of American and 42,900 pounds of Brick cheese besides 406,000 pounds of butter, this was manufactured in 157 cheese factories and ten creameries, besides this there is one condensary which started several weeks ago on which we have no official figures as yet.

To keep the cheese factories, creameries and the condensary going, there are in the county 6,450 cow owners. This includes about 400 who live in little towns who have perhaps only one or two cows, in round numbers there are in the county 100,000 head of cattle, of which approximately 60,000 are milk cows. The value of the products of these milk cows in round numbers is \$3,549,000.

A word in regard to the progressiveness of the farmers of the county. There are in the county at present, eight cow testing associations with two more ready to start as soon as they can employ a tester, giving us ten, which, from good authority, is more than any other county has in the state, also have seventeen breeding clubs, the most of any county in the state. There were brought into the county during the year just closed, 200 males and 110 females, pure bred, to be used in building up the dairy herds of the county. In passing, will say other states send their buyers to Marathon county for to buy their dairy cattle. During the year just closed, there were shipped from the county, 38 carloads of Guernseys and Holstein cows and heifers, some pure bred and some grades, a total of 913 head. These were bought for breeding purposes and were shipped to the following states: California, Colorado, Connecticut, New York, New Jersey, Maryland, Minnesota, Ohio, Illinois, North and South Dakota and some to the southern part of Wisconsin. Also will say papers are now being circulated for a tuberculin test of all cattle in the county. These will have enough signatures in the next couple of weeks to be put across, and I expect this to be done before spring.

From the above figures, should we not feel proud of our county? And we do beyond a doubt.

In regard to our county organization, I have not much to say. We had several meetings last spring, but the cheese makers felt they did not want to pay \$10.00 to the Cheese Makers' Protective Association and out of this have only \$1.00 for our county local, therefore, it was impossible to get them to pay their dues. There we were up against it. It was then proposed to have a county organization for Marathon county only, not to be affiliated with the Protective Association. This met with very good approval from all sides. We have done a little work on this, and aim to have this county organization completed this spring.

When we have our county organization well under way, keep your eye on Marathon county. We are going to catch up to the best county in the state, not only that, but are going to leave you far behind, for this reason: at present there is only 20 per cent of the available land in the county under cultivation, when we will have about 60 per cent under cultivation, giving us three times the amount we now have, Marathon county, we expect, will produce in round numbers, 60,000,000 pounds of cheese annually, with an estimated figure of \$12,000,000 worth of dairy products per year.

Take it for granted we will lead the state. When we do, we cheese men are coming to one of your annual conventions 100 per cent strong and take Milwaukee by storm and boost to have one of the annual conventions held at Wausau, the center of the greatest dairy state, the county seat of the world's greatest dairy county. By the way, did you know that Wausau, with a population of 20,000, is the richest city in the state for its size. We also claim the distinction of having the highest point in Wisconsin before our very doors, that is Rib Hill, 2,600 feet above sea level. We are looking forward to the time when the rest of the state looks to the highest point, not only to our Rib Hill, but to the highest point in the production of dairy products, more particularly, to the highest production of cheese per county. In behalf of the cheese makers of the county and the Chamber of Commerce of Wausau, when we lead the state, we extend to you a cordial invitation to hold one of your future conventions in our city, where you will be royally received and made welcome and know if you come there once you will want to come again. (Applause).

PRESIDENT REED: Next will be Manitowoc county, Mr. Adolph Valleskey.

MR. VALLESKY: I have nothing to report.

CHAIRMAN: Marinette county, Mr. Albert Jossie. (Absent). Mr. O. T. Radtke of Shawano county next. (Absent). Sheboygan county, Mr. W. C. Lindow. (Absent).

SOUTHERN WISCONSIN CHEESE MAKERS' AND DAIRYMEN'S ASSOCIATION

By Mr. FRED MARTY, MONROE

Fellow Cheese Makers: About the only thing I have to report upon is that our organization while seven years old, is the junior of this organization and is an organization composed of between 500 and 600 members. The interest of that organization is devoted largely to the foreign types of cheese. The organization is strong in many respects. I may say this, that the organization in itself is a little stronger than this one for the simple reason that we have been successful in reaching and putting our hands just a little bit deeper in the pocket of the state treasury than you have been doing. We receive one thousand dollars per year, while you are only receiving \$600.00. We have been having a cheese instructor that is financed by the appropriation for that cause from the state of Wisconsin, and with the proceeds of our annual convention we have been able to nearly alternate about every other year. Sometimes we would have to wait until we could get enough money again so we could put another man on, again, so we have been limping along on one leg. Three years ago we started a Swiss cheese dairy school in cooperation with the University of Wisconsin. Now, I want to say right here that its success so far has been largely due to your worthy secretary, Professor Sammis. It seems as though you cannot burden that man with too much work—he has a faculty of taking on work and making you think he really likes it. That man has taken charge of that particular course and again in the beginning of February we will hold that course in Madison. I haven't prepared anything to tell you further, but as I was sitting there, I have listened to different speakers on different county organizations and I believe that if we had a few more women as cheese makers in the state of Wisconsin—if we could cast them, one here and one there, we could get that spirit that we ought to get back of us as a unit in the state of Wisconsin. It is either greed, selfishness, or some unknown factor that has been creeping into our cheese industry. It is this competition that has crept in that has undermined us. Fellow members, when there are dealers in the state of Wisconsin who will come in to a factory and buy any kind of cheese no matter how young it is, it is a sorry day. I haven't become a dealer myself yet, and the only way I can compete is to do what the rest are doing. Business men are compelled to go here in the state of Wisconsin and pay any old price for cheese that is not ripe. All summer long they do this whether it is good, bad or indifferent and they say that if you don't like it, there is another man there to take the cheese right off your hands. There are dealers, who even pay spot cash and all the maker has to do is to deliver to that particular dealer. All he has got to do is to hand in the weight before he makes out the bill of lading and to get his certified check from the bank.

Now we are up against competition of that kind in our section in the southwestern part of Wisconsin. There is no control of the quality or what you may say even as much as to write to a particular maker or the manager of that factory a letter in a nice way, stating that the last shipment was not what it should be and we wish for him to make a proper adjustment, and the only answer you get is: "If you don't want it, say so, there is another man waiting for it."

Continuously here for 31 years we have jumped from one place to another. I wrote a little article which will be published in a different paper. I had planned to entitle it "In a Nut Shell."

We heard a very able explanation about promoting the increased consumption of cheese by Mrs. Bruhn and all the way along the line. I am, however, here to tell you right now, it is the customary practice of the majority of the dealers, particularly so, when the market is high, when you believe in your own mind it is not a good policy to speculate to paraffine cheese and shove it onto the poor consumer. Get rid of it, even at a loss but get rid of it. You are shoving this green curd upon this patient consumer. It is a wonder that we still have him with us to consume 2.8 pounds of that green curd for us. Why is it that we are about to launch a campaign to advertise cheese? Why? Have you ever heard of foreign nations advertising cheese? Switzerland consuming 22 pounds per capita, Great Britain 12 pounds per capita. Have you ever heard in their history that they launched a campaign to advertise the consumption of their cheese? No you have not. Cheese did it itself. Cheese did the advertising, and I believe that if we had a system whereby we could put down on the counters of the retailers in all of these cities here good cheese, cured cheese, matured cheese, cheese with a little kick and a little flavor to it, there would be no need to advertise it. Can you get a flavor into a cheese without age—you can not. Now if you had a cheese that you could lay down on the counters before that consumer and let them try a pound of it, it would demand immediately another purchase of that same cheese, and I want to tell you, if we could only inaugurate a policy whereby Wisconsin could put a good piece of cheese before the public, it would not be necessary to advertise. Pardon me for the statement, it is simply a fact that the cheese that you are eating today is not fit for the people to eat in its state of age. It is not a food—it is not what is known by the term of cheese. We are drifting away from it. I think this organization should go on record with an idea whereby, if necessary, if you please, so long as we have a state marketing department that is coming out with rules of branding a grade, why not put an age limit on that cheese. Have you men ever considered those two points that have been crossing one another? Years ago you would find that we had a cheese that reached the dealer in the matured stage. The cheese were kept in the factories. We had then no limit upon that cheese covering the moisture content with the exception of the old standard that 50 per cent of the water free substance must be butter fat. We have put a rule on our cheese from 40 to 38 which necessarily means that to the

present writing we are going before the consuming public with a cheese that really should need more time to mature and cure than in the days when the cheese was held longer with a higher moisture content. The result is that there is two points crossing one another and it is beginning to tell on us. The public is getting tired of eating this hard, unresisting, rubbery curd—they want cheese and if there is anybody that tells us that they don't like old ripe cheese, give them a nice cheese and it won't be long before they are nibbling on that cured cheese. They will be eating cured cheese if they have a chance to get it. What we should do in an advertising campaign, more than anything else, is to notify the consumer of only one thing, to absolutely insist upon a cured cheese. The consumer don't know that there is a cured cheese; they haven't been educated up to it. Day in and day out this curd has been handed to them, and accidentally there was a cured cheese passed on them and they could not find any more like it. I dare say if somebody here asked for a pound of cheese, they would take it and walk right out of the store with it. If you go down east, what do you find? I stood there waiting to get a chance at the buyer for hours. People came in there one after another. It seems they were wise to the fact that they could have cured cheese if they want it. So there is one thing I want to say to this body that they should go on record with some sort of a move whereby the State Marketing Organization should incorporate in its present rule, some sort of a regulation of aging cheese before marketing it. I am satisfied, had they done it in the southwestern part of Wisconsin, it would have been accepted with a blessing on the part of the farmers and everybody. We were surprised when that ruling didn't come out. The farmers expected it—they absolutely expected it would be a ruling that cheese couldn't leave the factory before it was so many days old. The ruling never came. There is no reason why we can't do it. It is for the betterment of the cheese industry. In conclusion, I wish to say that the Southern Wisconsin Association will be in session at Monroe next Tuesday and Wednesday and I will accord you in the name of that organization a hearty welcome. I thank you. (Applause).

BENEFIT OF COW TESTING ASSOCIATIONS TO THE CHEESE INDUSTRY

By H. M. KNIPFEL, Neillsville, Wisconsin

MR. PRESIDENT: Members of the Wisconsin Cheese Makers' Association: I am looking at this dairy business from an entirely different angle. I realize that this standardizing, marketing and advertising is necessary to the business, but I hope you can look at it from my point of view. The dollars and cents to the factory—that tells the tale. I am interested in cow testing work only from what it is doing and what has been done in that branch of the work. I am absolutely sold on the proposition from the results obtained in our country. I am not looking to organizing a lot of cow testing associations, for

it don't make any difference as far as I am concerned, but I do wish to give you an idea of a better understanding of cow testing work. You may wonder what this has got to do with the cheese maker—well it is just this much, that I know you men as cheese makers coming in contact with the farmers, you hear all kind of stories as to what he is losing on his milk, etc. But if you can put your men on a paying basis whereby he is making a little money and he can pay his taxes, you will be better off. Cow testing will bring more milk in your factory and I can prove that to you. I come from a county that produces 17 million pounds of milk a year. We have eleven cow testing associations in Clark county now which is more than in any other section in the United States. We have got hundreds of Holstein organization groups and breeders organizations of every kind in Wisconsin and you men have not seen the results and how this dairy business and good cattle have been brought about in Wisconsin. Now I am taking the results from my county—I don't know the conditions all over. But it will do for the average farmer what it has done for us. Our farmers average around five thousand pounds of milk a year. My county averages 4,700 pounds of milk to the cow. People are talking of getting the cost of production and the problem is how are we going to get to that point. The average test would be 3.6 probably, about 165 pounds of butter fat. If our cows are not doing that then we should not be in the dairy business. The question is how can we do it? I will tell you of one case in my county. The banker there says to me, "Do you want to go out in the country, Mr. Brown wants to borrow more money on his cows?" I went out there and Mr. Brown says, "There is the cattle and I can't make it go." I immediately told him, you have too many—you have ten too many. He got mad when I said that. He had all spring cows that come in the spring. In July we went there again as the bank makes a practice of testing that milk, and the second day that it was tested, Mr. Brown was taking in 13 cents a day from his cows a piece, and we told him that he had better sell the whole works and we would buy him five new cows. I then went to an auction and paid from \$50.00 to \$95.00 for a cow, and to-day Mr. Brown has six cows on his farm. He don't have to work so hard and he is making a profit from his fat now and he never did that before. Cow testing association work of course will do that and after all that is what dairy men are in this business for. In order to have better conditions that is the way it has got to be brought about. If a farmer is to figure 165 pounds of fat for each cow and figure the cost of his farm, the insurance on his buildings, etc. and pay for the feed and charge his labor up, some of those fellows would have to get \$1.50 a pound for butter fat to come out even, and they won't get it. That will never come about. They must get a higher average yield of milk. If there is anything that will do it, it is cow testing association work and better feeding. Mr. Laabs told me: "I never had less kicking in my life as long as I have been a cheese maker. We have other men in Clark county who are doing the same thing because the people

know what their cows are doing and they know that the milk is tested. So in closing, if I can't do anything else but just to make a plea with you cheese makers to back this proposition up. It is on a different basis now and they are getting better results. Judge it fairly and I think you will come out and say it is a mighty good thing and if you people here believe in this thing it might be a good thing to endorse cow testing association work—but use your own judgment on that, but you can't judge it right unless your patrons have been in this for a year's time.

The record book tells the tale of whether they are making a profit or losing, but do give it your moral support; tell your patron to join a cow testing association and he will know where he is standing. I give you these ideas as coming from my own experience, I have followed it for three years. I am sure that by next year we will have many more cow testing associations in Clark county. It is going to do something for the dairy business in the state of Wisconsin, if you will give it your moral support. I thank you.

THIRD SESSION, THURSDAY, 10:35 A. M.

SAFE INVESTMENT OF THE CHEESE MAKERS SAVINGS

By MR. H. A. MOEHLNPAH, Milwaukee, Wisconsin

Ladies and Gentlemen: I want to assure you that I appreciate the honor of being with you this morning. As a business man, after thirty years of direct contact with the dairy men of this state, I think I quite fully appreciate the significance of such a conference as this and at such a time. I wish I might say something this morning which would be a source of inspiration to you young men. I always take heart as I come in contact with a group of young men like this. In the chaos of the world economically, it is opportune that we can have together in a conference like this the forward young men of our state. May I congratulate you young men of the University that you are here in conference this morning in this year 1923. If you read the papers right this morning, my countrymen, if you read between the lines and underneath, you must appreciate as never before the importance of that word "cooperation." We learned how to cooperate during the war. That is a new word in our vocabulary and we have put it over against that old word competition. This world is finding out today the real importance—the real meaning of cooperation and I mean that, and I say it with all my heart as a citizen, that we should give first concern to the great movement of cooperation in our community and in our state life.

You represent the greatest industry in our state—the greatest division of the greatest industry of our state. You represent 2,700 cheese factories—not in your organization, but as an industry—institutions producing three hundred million pounds of cheese annually—70 per cent of all that is used in these United States. Does that

mean anything to you? And I want to congratulate you young men today that you have the privilege of capitalizing in your life the great heritage that has come to you from the leaders in the past in your industry. I am still a young man in heart, but it was only yesterday that we heard Governor Hoard talk to the men of his day as they were getting an idea of the dairy industry as we men know it. Now, as I think of Governor Hoard and Professor Babcock and Dean Henry and Dean Russell and these other great men that are in the period of greatest usefulness, may I appeal to you, as young men, this morning, to value and improve that heritage? Use it in this state to make in the future in your business what it ought to be. If I did not feel keenly on this this morning I would not trespass on your time.

Wisconsin is now the recognized home of pure bred cattle. Wisconsin the outstanding leader of all the states in production of pure bred cattle—a foundation that you men can well dwell upon this morning. An average factory in this state produces 100,000 pounds of cheese a year, and if you get 1 cent a pound—after you have paid your gasoline bills, etc., you haven't money for savings left. I don't care if you are a privately operated creamery and you get 2½ cents per pound and you have to set aside funds for the depreciation of your equipment and of your factory in fifteen or twenty years, you haven't much money to save. If you have, then go to your nearest banker and find a place to invest your money in the community in which you live—with the men who have put their life's work upon your soil. You haven't any money to put in the oil wells in the south or in the pineapple plantation in Florida and the other get-right-quick propositions that come to you too often. If you don't know how to do that I can tell you because that is my business.

If you are thinking about investing your money in a cheese factory where you must depend upon the uncertain or spasmodic interest of the patrons of your factory without their capital investment, you certainly are taking chances. You are on a sure foundation when your patrons in that community have a real financial interest in that factory that you operate. A dual relationship should exist, but don't put your eggs all in one basket. I have had some experience with farmers the past thirty years. I have seen too many young men coming from the agricultural schools going out to take charge of these factories and their dads helping them with a few thousand and they have lost it, not because they were not good workers, but because of the selfish interest involved. Consider this well.

Wisconsin, because of her dairy industry, rode the storm and stress of the past two years in a more comfortable manner than the other agricultural areas of our country. The one crop sections were in great distress. Exports on cotton had closed down completely. Wool had dropped from 67 cents to 25 cents and no demand. The war price on wheat had gone from \$2.26 a bushel to \$1.50, with a crop of 800,000,000 bushels of wheat and a home consumption of a little more than one-half so it can be easily understood the distress that prevailed in these great one-crop sections. In all those days of distress in this country we never had a murmur from Wisconsin. There is

a reason, gentlemen, for this. The reason is obvious because we have a diversified industry in this state. We did not depend upon one crop like the cotton and the wheat sections.

They tell us that Wisconsin asks for less than any other state, yet I know because I come in contact with a certain banker in this state that in the small communities that the farmer is in distress. It is almost entirely a dairy program which you men represent this morning. The demand for all dairy products is apparent and we have the greatest market at our door. The time is come when this great dairy industry should be organized from the standpoint of standardizing, advertising and merchandising. When I say merchandising, I don't mean selling. I want you to get that distinction. We have the background—we have the assets. The people of the world and the people of our own country know about us and yet the people of the state of Wisconsin haven't been told about it the way they should be. We have been too long in the selling game. We have been too long dependent upon one group—noticeably the packer group in the purchase of our cheese product. Wisconsin, the leading cheese state of the Union producing 70 per cent of all of the cheese of the United States within the borders of our own state, producing one-sixth of the butter, and yet we have developed no program for standardizing or advertising or merchandising.

May I make just a little illustration that might put it in a picture upon your mind? About thirty years ago as a young man, I went to Madison to attend a lecture at the Monona Assembly grounds. A lecture was given by the greatest platform speaker that this country has produced, Dr. Russell Conwell of Philadelphia. I was attracted there by the curious subject: "Five Million Dollars for the face of the Moon." I said to myself, as ten thousand other people did, at that great assembly: "What has he got to say on a subject such as that?" The reason I speak of that is, because it has influenced every hour of my life since. This is the idea. He starts his lecture with a little story about a man he knew who was supposed to be dying from an incurable disease. Doctors and surgeons had given him up, when an old lady neighbor asked that he might try a tea made of herbs—the request was granted, and strange as the story may seem, he began rapidly to recover. In his convalescence, he began to speculate as to what he would do with his life that he had given up. He finally decided "What better could I do than to sell this tea so that others might profit the same as I." First he peddled the tea by hand from house to house—then later he put wagons upon the road—then he began to advertise it until the fences and barns and rocks by the roadway told the story of this wonderful remedy. He even placed the signs of his medicine on the Rocks of the Andes and on the Rock of Gibraltar so that passengers on passing ships might read with profit. One night his trance found him gazing at the moon—being accosted they asked him what was the matter and he said, he would gladly give five million dollars for the face of the moon, and they asked: "What for?" He said I would put five words upon the face of the moon so that all the world might ever read. These words were: "Find Good, Then Advertise It."

The great point of his lecture is—that the Creator has placed in the breast of every human being a conscience, a love for the right, which, if coached or strengthened will be sufficient to crowd out all the bad. The point I would like to make is, gentlemen—we have the assets, we have the good thing, let's advertise it. Let's tell the world about it; that is what the dairy industry needs. We use 4 pounds of cheese per capita, England uses 11 pounds, Denmark and Holland use 12 pounds, and so on—now how many men in this meeting here were served a piece of cheese with your pie yesterday? Mighty few of you, and if you did, you didn't get a good article, and if it wasn't good, I hope it was a piece of cheese you made yourself. (Applause). You men represent the greatest industry of our state. The products of the dairy cow amount to, I find, over three hundred million dollars. It is the one great conserving factor in our commonwealth. If we advertise this great asset and bring to the farmer the just returns from his produce that he is entitled to, we will not only have solved his discontentment and happiness, but the great economic and political problem of our day. It is the only way a proper answer can be made to the discontent that prevails with the dairy farmer at this time. Let me remind you living on the dirt of Wisconsin, producing the greatest health food product in the world,—let me remind you that about one-tenth of the population of these United States can be seen from the top of the Woolworth Building of New York, and they don't raise even a spear of grass on those cement streets down there. Do you get that fundamental basis proposition? It is a big man's job to relate this greatest industry of our state to the centers of human life. I don't know how true it is, but I have been told that this nation of ours used to spend two billions of dollars on beer and booze. When you think of 250,000,000 dollars worth of dairy products in this state, butter, cheese and milk, remember that \$250,000,000 is only one-fourth of what was spent on beer and booze. As an economical fact they tell us that \$750,000,000 is spent on powder and other cosmetics they put on their face—three times as much money as we get from all the cows in this state—and every one of those dog-gone things is advertised on the boards as a health proposition.

We see on every hand men of enterprise advertising all kinds of articles under the garb that same is a health product. Soap, or gum, or cigarettes or tooth paste. What do you see about Coca Cola—Health, Health. Candies, Life Savers. How about Wrigley's Chewing Gum—Health, more health, and you all buy it, and so I could go on and on. Isn't it possible, dairymen, to direct some of that great volume of money back to the position of real health-giving food? If so, then why don't you do it? Is it because we are not organized? Why is it you have meetings like this? They have farmers' and political meetings and they talk bunk. You have your meetings and you have had the greatest good that man could give to you at the industry during the past fifty years—and it is about fifty years since the first carload of butter went out of our state. Now, gentlemen, I

want to tell you as a business man, we are going into a new game. It means this, that in the production of cheese or butter, the standard has to come up and the quality must go into the article to be able to advertise and to merchandise continuously—to bring to the man who is the real producer of the dairy farm, the result of that product. STANDARDIZE—ADVERTISE—MERCHANDISE, but standardize first.

We have seen what cooperation has done in our own state in the handling of the great cherry and cranberry business of Door county and what the potato sections have done.

We know something of what the fruit growers on the Pacific Coast have done in standardizing oranges, prunes, raisins, etc. By cooperation and advertising they have been able to organize this past five years this great industry so that the returns to the Pacific Coast are fabulous in results.

Just a few days ago I was with a bunch of six or seven country bankers of Wisconsin. We were going down the streets of New York on Broadway, and I was intensely interested to see what the orange men of California had done in New York for that product. All along Broadway little marble stalls were made 10 or 12 feet wide, selling Orangeade. I don't know much about beer and whiskey, but I do know that on that hot night in October we got some of that Orangeade; it was cool and it was refreshing, and every drink we took of that Orangeade, every banker thought of California. On every counter was a package of Sun-Maid raisins. We ate Sun-Maid raisins of California. We had seen it on bill boards—in the papers and other places, and so have you: "Have you had your Iron?" And we thought we wanted more iron in our system, and so we bought the raisins. The raisin industry is out of danger in California.

In Washington and Oregon they took their prunes and put them up in packages. They are saying to the world now: "Eat them Raw." So we are getting to where we are eating prunes now.

On February 2nd, in the city of Madison, we are going to have a conference, after six months of hard work. The farmer will be celebrated there. We hope to have a man from every cheese factory in this state; a man from every butter factory; a man representing the Farm Bureau and the Equity. We hope to have a conference of five thousand men and before that conference will be put a concrete program to put this industry where it belongs. The time is come when business brains must be related to your game. The farmer must be kept contented—his business must be made profitable in these days when prices are out of plumb—we do well to give our first attention to this very important subject. Milk, cheese and butter are the most important foods for the human race. With our state leading in this industry, why not advertise and put the industry to the front where it belongs? So I appeal to you men to think in terms of quality. Young men, you cannot hope to get the best out of your own life unless you make good cheese. Wisconsin's dairy products should be known the world over by some name, just as the word "Sterling" is

related to silver. Let's put quality into it and let's tell the world about it. Let us therefore as producers, manufacturers and business men cooperate and pull together and put this over. May I assure you I am with this to the limit. I thank you.

LETTER FROM GEO. A. PUTNAM, B.S.A.,

Director of Dairying, Toronto.

"I regret not having had time to prepare a special paper for your convention. The best I can do, however, is to send you copy of the address which I have prepared for our own convention being held this week.

I had the pleasure of a visit to Wisconsin this past summer and it would appear to me that the problems facing your dairymen are quite similar to the questions confronting the producers and manufacturers of this Province. The quality of the raw material, with well-equipped, good-sized manufacturing plants, and efficient marketing organization, would do much to place the industry upon a sound business basis.

We have a staff of 34 cheese instructors for 845 cheese factories, also four men employed in checking up testing of milk and cream in the factories and creameries, condensaries, etc. We also have a grading staff for the grading of butter, consisting of two men in the winter and four in the summer. Then we have two chief dairy instructors and two dairy schools with efficient staffs, mostly composed of instructors who are employed in field work during the manufacturing season.

Since spasmodic and somewhat effective efforts have been made in years gone by to induce the dairy farmers and manufacturers to produce high quality goods, lack of efficient marketing has been a continuous handicap. Unless we introduce a system whereby a definite standard will be fixed and the product will be paid for on a quality basis, I see little hope for rapid or permanent improvement. The marketing proposition is not a problem which can be solved by government action, although governments should be and are prepared to give advice and assistance to the producers in their efforts to place the marketing of their goods upon a business basis. There is no problem of such importance before the farmers of this continent as that of the proper merchandising of their goods, and the broad-minded business men of our country, financiers, tradesmen, and manufacturers are coming to appreciate the fact that permanent national prosperity rests in the efficient organization of agriculture, not only for production only, but also for efficient marketing. It is a matter of national concern. Agriculture does not need artificial bolstering but rather the introduction of business principles all along the line.

Would it not be well for the producers of cheese to study the market situation, since the methods which have been followed may result in high quality Ontario cheese, not only losing ground on the export

market, but also being crowded off our own market to a considerable extent, if the producers continue to be satisfied with the present methods of marketing.

The Dominion Government is, I believe, about to appoint an agricultural marketing agent for the United Kingdom.

1923 PLANS OF THE WISCONSIN DAIRY COUNCIL

By A. J. GLOVER, Fort Atkinson

Fellow Cheese Makers: I always feel at home among the cheese makers of Wisconsin. In my early boyhood days I learned to make cheese and for several summers I operated cheese factories. I also grew efficient enough—at least Minnesota thought so, so that I became the instructor of the Minnesota Dairy School, a position I held while I was attending college. I have watched the growth and development of the cheese industry pretty close now to thirty years and the same problems that faced us then are before the cheese makers today. We have listened to a very enthusiastic address by Mr. Moehlenpah and the dairy industry should be congratulated that the bankers of this state are interesting themselves in the welfare of our greatest industry.

Speaking of California and the raisin reminds me of a little book I saw. You know before the days of prohibition California manufactured a great deal of wine and when this 18th Amendment came up the people were very much against its enactment because they thought their greatest industry would be injured, if not entirely destroyed—but the coming of prohibition has only stimulated the greatest growing industry of California and last year when they had a chance to vote for it again, they voted for prohibition—and somebody added there was a raisin in it. (laughter).

I am not going to say a great deal about the plans of the Dairy Council for 1923. I will say this, that the organization has been established for about three years and has established itself firmly in Milwaukee County. The milk that comes in this city for distribution is being assessed, or in other words, an assessment of one cent per can is placed upon all milk in this city and for every dollar raised in that way the distributor is raising a dollar with it.

Much money is being spent in publicity and in advertising. You will observe as you go about that you will see large bill boards setting forth in very trite statements the food value of milk, its health qualities, etc. A campaign is now being planned that will be carried on in this city by the schools, women's clubs, the Health Department, and in fact, every organization. I can't help but feel that I did not have an entire agreement with my friends that the dairy men of Wisconsin can well afford spending considerable money in setting forth the food value of butter, milk and cheese. It has been my hope that every county in the state could be organized in that direction as we have here in Milwaukee county—but that work has been suspended for a little time. Mr. Kelly came in with a plan of merchandising this proposition. I know Mr. Hatch has a good address for you as I had

the opportunity to read it. We do need merchandising and we need quality in the dairy products that are so essential to the health and welfare of the people of this country that even the public schools are giving their efforts towards that end and they tell the students that they should drink milk. There is no other food product, gentlemen, in all this land that can go into our public schools and be advertised, if you wish to call it that. It is only because milk is looked upon as a fundamental food that its value is permitted to be set forth before the boys and girls in the schools of this country, and the moment the dairy industry loses sight of that fact it is taking a tremendous step backwards. I think that publicity and merchandising and advertising can go side by side. Now, the Wisconsin Dairy Council rendered its support as far as it could to the movement that Mr. Kelly has so ably started in our state and the bankers are now helping in this movement also. I am also in favor and I can't help but repeat that it would be a serious error upon the part of Wisconsin to hinder the work of the Dairy Council in giving publicity to that product, to the things that have made Wisconsin what it is today. Why is it Wisconsin stands at the head of all the states of the Union? In this state of depressed times, the financial statistics tell us it is the dairy industry that has kept us up and we have been paid a high compliment by such men as Babson. These men say, go to Wisconsin, there they have money, there you can sell your goods—it is the most prosperous state in the Union. It doesn't mean that all is well and that we can rest as we are now, but it should be an assurance that Wisconsin has been going in the right direction and that we should be slow to overthrow those forces that have made Wisconsin what it is today; that has made her farmer the most prosperous in the Union. There is something fundamental in that; it is something we must not let go of. We should go forward otherwise we will begin to decay. Now what are the factors that has made the Wisconsin farmer or has placed Wisconsin in the position she holds today? The Wisconsin Dairymen's Association was organized over fifty years ago and they began to preach "get good cows, etc." It worries me when I hear men say that we underestimate the cows in our state. Let's us not for one moment think that by decreasing the production of each one of our cows that we are going to raise the prices of the dairy products to the consumer. No farmers ever became well off except through efficiency—by making every cow that he keeps produce well, every acre that he tills produce well; in the keeping of good cows. Let us reduce the number of cows—it wouldn't take very much of a cow to produce 300 pounds of fat average in this country—we could dispose of 11½ millions instead of keeping 23. That is the way to make progress and that is the way Wisconsin has made progress. I will say to you that when Governor Hoard began to preach the gospel of dairy industry, he knew what he was talking about.

We have a cow testing association around Fort Atkinson that last year averaged 305 pounds of fat per cow per year, that would make over 350 pounds of butter average of those dairymen and gentlemen

we must not lose sight of the fact that that is what is making Wisconsin. In our little city we have shipped as high as a carload of dairy cattle a day. We are shipping out of this state millions of dollars worth of dairy stock. Farmers are coming to us from all over the world and for what? For efficient, healthy dairy cows and they are willing to pay more for them in Wisconsin than in any other state in the Union. I was in Illinois week before last (where I used to labor) and while out to a friend's place, I saw in his barn a lot of two-year-old heifers of pure bred cattle and I said "Harry, where are all your old cows, you have a splendid bunch of pure-bred heifers," and he said "My herd was so infected with tuberculosis that I disposed of every animal and I went up into Wisconsin, as our neighbors are doing, and bought new cattle because they are free from tuberculosis." I got the same story from several other places. Does that mean anything to you men? Encourage your patrons to breed healthy cows.

I am invited to talk on the 16th at McHenry, Illinois on this same subject and to tell them about eradicating tuberculosis from their cows. Men I have known for more than 20 years say it must be done. Twenty-two years ago they gave a banquet in Illinois because they repealed the law that all cattle should be tested for tuberculin.

Now people let us remember that Wisconsin has had wise leadership. We have the most efficient cows in the United States and a move is now on to go at the work of eradicating tuberculosis with more energy than ever before. The thing now to do is to look out that we don't go too fast. The Wisconsin Dairymen's Association when organized 50 years ago had men in it that sold their goods for good prices but they put good quality in it. Now they are paying their entire attention to the conducting of Cow Testing Associations. Wisconsin has been returning to her patrons more money for her butter fat than any other state in the Union. It is because we are producing quality products that causes the buyers to come here. Unless you have got quality in it you won't sell it. Quality is the first thing to consider. Before we begin to tell the people what kind of products Wisconsin is producing be sure you have the quality in them. We are suffering today, not so much from the lack of advertising, but because 35 years ago eight or ten men thought if they take out the butter fat and put in foreign fat in cheese they could get away with it, but it killed our cheese industry and we are still paying the penalty. In 1919 our cheese went on to the market with a great deal of moisture in it and it came back to this state. That shows, doesn't it, the necessity of putting quality in it. And this merchandising program that Mr. Moehlenpah has so well outlined carried with it the quality advertising. That Wisconsin stands at the head of all states in her prosperity is due to the efficient cows—it is due to producing quality products. In study—the merchandising of this great state it has been staggering to me after having consulted with business men in Chicago, men I knew were interested in the welfare of this state. Major Critchfield says: "Put quality in Wisconsin's dairy products and you can't produce as much as the people will demand." That is true. Do you know that while the prices of dairy products are not high enough to suit me—

that they are about as high as they can be without a diminishing consumption. Do you know that when the price of butter goes to 65 cents a pound the consumer thinks, "I will have to eat a little less butter." Do you know that when the price of cheese is higher the consumption will be decreased? I found last week in Minnesota they were manufacturing sweet butter to sell for 10 and 12 cents more at wholesale than we get and the market is crying for more; so you see what it is when you put quality into your goods, whether it be butter or whether it be cheese, they will buy it if it is good. And let us not forget, good people, the things that have made Wisconsin what she is to-day and let us go on in this merchandising program, but also let us carry on this proposition of clean products and products of good quality. I thank you.

POPULARIZING THE USE OF CHEESE

By PROF. K. L. HATCH, Madison.

Ladies and Gentlemen: Look at this cigar and see what the wrapper reads. Last night I walked down Grand Avenue and I saw at the top of a building a wonderful sign all lit up with a man on it, lighting a HARVESTER cigar. Every moment since then, when I have not been chewing Wrigley's chewing gum I have been smoking a Harvester. We walked down the street a little further and saw another sign reading: "Learn to say Mi Lola."

The cheese industry is the strong right arm of the dairy business. The hand at the end of this arm holds ten per cent of the net annual income of all the state's business enterprises. The cheese business in Wisconsin is no mean business. It contributes more new wealth each year to Wisconsin's accumulation than any other single enterprise. The five fingers on this strong right hand are quality, trade names, handy packages, advertising and service. We cannot expect to popularize cheese consumption in America without perfect control and coordination of the fingers on this good right hand.

You cheese makers say that if the farmer will bring you good milk you can put the quality in the cheese, but the farmer's part is to bring me the good milk. Now when will the farmer bring you good milk? When you will pay him for good milk, and only then. And what is the cheese makers part? I am told by Mr. Glover and men who know about the manufacture of cheese that the cheese maker can take the quality out of the product that the farmer has put in it. Now has the cheese maker done his part? The farmer delivering to you a good milk that will make a good cheese your part is to put the quality in it and you will put that quality in it when the dealer pays a little better for it.

I like to think of this cheese industry as the strong right arm of the state and I like to think of the five points of the cheese industry as represented by the five fingers of this right hand. The first, quality, the second naming that quality so that the consumer may be able to call for it by name. Names like these: "Mello-Creme, Sunkist, Nippy, Meadow Gold, Tillamook, Skooken, Sealed Sweet, Sun-maid, Swiss

Charms and Eskimo Pie." All these things suggest a certain individuality—a picture that you have in your mind. This is the thing that made Mr. Moehlenpah address you so forcefully and vigorously. It is the package of Sun-maid raisins that puts so much iron in his blood. Sun-maid raisins—you can't think of raisins without thinking Sun-maid raisins and you can't think grapefruit without thinking "Sealed Sweet" grapefruit, and you can't think oranges without thinking Sunkist oranges. What do you think of when you think cheese? Tell me now, tell me. If you had any particular picture in mind—any particular quality? It has been profitable, so Mr. Moehlenpah has told you, for these men to put up these raisins in this kind of a package and sell them under that kind of a name. You can't think anything else. So my second point, the second finger of this industry is the name, a mark that will designate to you quality so that the consumer may know what to call for, when he asks for cheese.

And the third thing, the third finger of this right hand, is a handy package. Now what has the cheese business done in the matter of package? It was my pleasure just a few weeks ago to present to the Historical Library at Madison, a collection of dairy utensils for the dairy show last year and for the celebration of your organization of the Wisconsin Dairymen's Association, and among these things there was a cheese press one hundred years old—a press that was used on the farm in Ohio throughout the early part of the cheese industry. The same kind of a hoop you are using today, the same kind of package. It hasn't moved a single inch in one hundred years. It is using the same package. Whoever saw a customer go into a grocery store and lug home a sixty pound cheese. It is easy to make Mr. Moehlenpah eat raisins, he can't help it, he wants iron in his blood, but he couldn't get it if they hadn't devised a package that he can carry in his pocket. I want to take back what I said about the same package being 100 years old. We have one man that has done more to popularize cheese, more than any other man in the United States—he has provided you with a handy package. You can get any kind of a package of cheese you want. Any kind of a cheese in any kind of a package. Now Mr. Kraft is too wise a guy to let the grocer put that kind of thing over on him. He has soldered it in and the grocer can't get rid of that package without Mr. Kraft's name on it. It is there to stay, and so he has devised other methods. Who would want that three and one-half ounce package of cheese? I know Mr. Glover wants to take along some provisions when he goes on his trip. He could carry this with him and could fish it out and have cheese for dinner, and he would be dead sure of getting it in that kind of a package. Devise a package that will provide for the use of this article in any form at any time by anybody that wants to use that article and you will do much to popularize it. That is why I say this man has done more than any other man in developing that kind of package. Here's an article manufactured by the Carnation Condensed Milk Co. I remember two years ago we had a tremendous fight in the state legislature about this—that is just closed, on the matter of a product produced by the Carnation Condensed Milk Co. known as "Filled Milk."

We fought that proposition because it did not afford a new advantage for the use of milk. But now this same concern has come along here with a product they call "Cho Cho." It is skimmed milk and cocoa. Two years ago Professor Sammis got you a little circular on milk drinks. One year ago I went over to the National Dairy Show and hunted all over the grounds there at St. Paul in which you could get a milk drink or a cheese sandwich, and I finally discovered one place where you could get a dairy product to eat on those grounds. I then went to Mr. Skinner and asked him, "What kind of a Dairy Show are you running?"

Well, last fall I went to the National Dairy Show and right inside the door I saw a big National Cheese Association counter, that during that week sold 26,000 cheese sandwiches and milk drinks, and right back in the center of the hall I saw another organization that was giving away a milk drink. Another organization was selling Angel drink and way back was another organization that was dishing out cheese sandwiches of all kinds. It is these new uses that is helping to popularize the market for these products. How about cheese? How do we get cheese anyway? Where do you find it on the bill of fare? I went to the best club in town with a banker friend—to the City Club, and looking over the bill of fare, I said I would like some cheese. Now, there are one thousand members that belong to this club, representing the very best of Wisconsin's industries here in Milwaukee, but they do not recognize the industry which transcends all others in the state on their bill of fare. It is partly our fault. Do you know what put ice cream on the market? Was it advertising? Was it quality? Was it health, Mr. Glover, was it all these things? No it was this. It is this (holding up an ice cream cone). It is the handy package. Ice cream was sold in an old fashioned ice cream parlor until some wise guy had a new notion. The cone is the reason that ice cream became so popular—it is the handy package. Every kid on the way to school stops in and gets a cone. That is one of the things we have got to do in the cheese business.

A man in the bakery business in Madison got an idea. He said this sandwich business means you must get a loaf of bread and get your supplies and then put the two together and finally you have a cheese sandwich. He said if I can just fix something that all you have to do is drop a piece of cheese in it—so he made a roll—simply a roll like a parker house roll and you drop a slice of cheese in it. A newspaper reporter got hold of that and made fun of that and so the newspapers came and wrote the thing up, making a little fun of us and having a joke on us, and they got into the papers. A man down in Monroe got hold of the idea and he asked about it, and this is what he is doing. He is taking that thing and calling it "Swiss Charms." That is the thing for Monroe County to sell our Swiss cheese in. Now if you can get volume enough you can make it pay, so he advertised in the papers. That fellow believes in the next thing, the little finger—the advertising. That fellow believes in advertising because he knows you could not have a strong right hand without you have four fingers on it. He has a distributor down in Madison. This

is the way to popularize the Swiss cheese in Green County—so he advertises. He is doing something to let the people know that we have such a thing as cheese.

That right hand cannot do efficient work without the thumb. That is the most useful finger on that hand. And the thing that makes that fist close up tight, to strike a good solid blow is "service." It is for this reason that a sore thumb is always in the way. It is used so much we do not fully appreciate its value until it becomes injured. So it is with service. It is the most important part that must be played in making cheese-eating popular. Now I want to agree with these speakers who have gone before me—that the thing that makes this strong right arm is "service" and you can't have a popularizing of Wisconsin cheese under its most fanciful trade name—under the most efficient kind of advertising, without you have a service organization like Mr. Kraft has, and to keep the grocery shelves continuously filled with the product you have got to give service. Sun-maid raisins you can find on every counter, every cigar counter in the city of New York and in every city you can think of. If you want iron in your blood, all you have got to do is to walk into any store and you can find it. That is what we have got to have if we are going to popularize Wisconsin cheese and have it remain popular.

I want to say to you that these organizations that we have heard about this morning that have been set up and that are now being set up, should function together. This new merchandising scheme is going to have one branch, an educational branch, which is going to carry on or assist the Wisconsin Dairy Council in the carrying on of this educational campaign. And I want to tell you further as an assurance from the U. S. Department of Agriculture and the Wisconsin College of Agriculture that in all this educational work to popularize milk and butter and cheese you will have our strongest encouragement and support and active help. I thank you.

SECRETARY SAMMIS: To-night we have the annual event, the biggest event of the whole convention—the banquet, and we have a wonderful program for this evening, so all try to be present.

PRESIDENT REED: We will dispense with the parade this noon.

LETTER FROM MR. H. J. NOYES

Secretary J. L. Sammis,

Sebring, Florida.

Dear Professor:

As the time for the Annual Convention approaches, I feel a longing to be with you in person, but as that can not be, I am sending this note of greeting.

I sincerely hope this convention may be the largest and most profitable ever, and very much desire that something may be done to make the State inspectors of the factories, instructors of cheese making as well, and also abolish the present grading law.

Mrs. Noyes and myself are basking in Florida sunshine amid orange and grape-fruit groves and most beautiful flowers.

Sincerely yours,

H. J. Noyes.

PRESIDENT REED: This is the first time Mr. Noyes has missed a meeting in thirty-one years. A motion by Mr. Damrow and Mr. Bruhn was carried that the Secretary be instructed to reply to Mr. Noyes' letter by telegram.

FOURTH SESSION THURSDAY 2:45 P. M.

ESSENTIALS FOR SUCCESS IN A GRADING SYSTEM

By PROF. B. H. HIBBARD of Madison.

Ladies and Gentlemen: I notice that I am the fourth speaker on this interesting program on what was to have taken place this forenoon. It reminds me of the case of the convention of colored preachers which took place in a southern town, and the resident pastor wanting to honor as many of the visitors as possible, invited four of them to preach in his pulpit on Sunday morning, but he made the prayer himself and it read something like this—"O Lord, bless the man who is to preach the first sermon and grant a double portion of thy blessing on the second sermon and grant a triple portion of thy blessing on the third sermon, but Lord have mercy on the man who preaches the fourth sermon."

Now, I wasn't so apprehensive of this when I saw the printed program, the subjects were different, but I was here during the morning session and I noticed it did not seem to make much difference what the subject was in print, but that all of these gentlemen talked on the same theme as the one that was assigned to me. Therefore I want you to have mercy on me.

So I am not altogether to blame because I am the fourth on the program, because those other gentlemen were first, second and third. And they all talked on grades and standards. It seems that everything that can be said on the subject has been said. It is my purpose to tell you that the price of cheese is excessively low. The wonder is that the cheese is bringing as much as it is now bringing. The only explanation to offer is that the American people are beginning to recognize a valuable food market and are beginning to use it seriously and to pay a fair price for it. I always feel like stopping and telling what "fair price" means. I have read a great deal to-day on what men say about fair price. You can find about sixteen definitions about what fair price is. If I were asked to define fair price, I would define it about this way—"It is about 10 per cent more than you can get at any time." The fair price from the standpoint of the producer is always high from the standpoint of the consumer. The fair price from a standpoint of the consumer is always low.

I am not a cheese maker and I am not much of a cheese eater; not because I do not appreciate the value of cheese as a product, neither is it because I don't like it. It is rather that I don't like the variety which my storekeeper keeps and I do not know what I am going to get. I once bought some cheese. It was highly recommended, but we did not care for it. I offered a little of it to the neighbors and they said "a little was enough." So I went to my grocer with my problem. Well, he said, I will let you taste of any cheese before I will let you buy it. I tasted a piece of the cheese, and he asked me "do you like that kind of cheese?" Now that is the basis on which one storekeeper was selling cheese. He did not know the different grades and qualities.

I want to bring to your attention another testimony which is from life. I happen to know a little group of cheese factories off to the northwestern part of the state and from this group of factories a carload of cheese had been made up at different times for a certain Western cheese dealer. I was down to visit that dealer and he said—"Do you know them? Will you ever see them? I wish you would take a message to them." And this is what he says: "I received two carloads of cheese within the last few weeks and these carloads are so very choice that I wish you would tell these people that if they will continue to produce cheese of that kind that I can depend upon, I will give them one cent above the regular market for it." When I went to these different factories I told these people about this and I would like to tell you what I got in the way of a response.

They did not know just what goes into the cheese because they don't know just how it will be cured. They did not know because there had been no organization; there had been no pains taken, and there had been no progress made whereby they could know just what they were doing. They did not make the better cheese for the man and they did not get the one cent bonus for the cheese.

They are making cheese that is no better than a great deal of Wisconsin cheese. You can make just as good cheese as they do and you do make as good cheese as they do; but they do not put on the market any cheese that has not been inspected and brought up to a standard, labeled Tillamook, and do you happen to know that to-day in the towns on the west coast the Tillamook cheese outsells the Wisconsin cheese. They ask for it for one reason only and that is they know what they are getting. That is a fact. That was not true a few years ago. It wasn't true because the Tillamook had not developed a grade that was known, and it did not outsell Wisconsin cheese. To-day it outsells ours. That is not creditable for the state of Wisconsin.

In this country eggs are eggs, or perhaps we will have two grades of eggs. One will be fresh eggs and the other will be storage eggs. And the fresh eggs are not always fresh and the storage eggs are not always storage, but we have about two grades. Certain places in New York City they have other grades. They have large eggs and they have small eggs. If you go to England, you will find displayed in a store that handles eggs, about eight different kinds of eggs. They will be displayed in wire baskets. At one end of the row will be a given price as perhaps a shilling—six pence. On the first grade just below that it will be a penny or two less, and on the next one a penny or two less until you get to a relatively low price on the last basket and if you will inquire you will be told practically every time that the basket at the end of the row with the high price comes from Denmark. Do you think the Danish eggs are better than any other eggs? They are not and the reason they don't pay so much for the other eggs is because they don't know what they are. The Danish eggs are one to two weeks old at best. They are all stamped the same as the Danish butter is stamped. Now keep in mind that those products are no better than the products in England and no better

than ours. Just as good apples grow in Wisconsin—just as good apples grow in Michigan—just as good apples grow in New York as ever grew in the valleys of the west. Someone asked why it was that a western apple sold for more than the Michigan apples here. The box contained about forty pounds and the basket probably forty-four to forty-six pounds of apples, but the box sold for fifty cents more. The answer was directly to the point. First he replies, "I know exactly how many apples are in the box. If I want to sell them for so much a box or so much a dozen, I can do so. I know how large these apples are. I know the color of them. I know that there is not a spot on them of an objectionable character. I know there is not a rotten apple in the box or if there is I will get my money back. As to the basket of apples, you will have to turn them out in order to see them. They are not even of one variety. Some of them are just as good, some not as good, and they are not all one quality. New York is so near to the market that they are not worried about this. The result is that the New York people are complaining bitterly because one-half of the apples sold there come from out west and the middle states. It is because the people of the west know how to market their stuff and have labeled the box, stating how much it contains. I bought Wisconsin cheese that has gone to New York and back again. At least it was sold for New York cheese. New York cheese is our cured cheese. Herkimer cheese has a sting to it. They keep on selling it. Probably it was made in Sheboygan county or maybe in Clark county or maybe in Washington county, but it is called New York cheese and Herkimer county cheese, and Herkimer county cheese means a big thing to a large number of people. Down in Chicago you can find stores not pretending to handle cheese as a major product. They are buying from our dealers quantities of cheese and storing it for six or nine months and selling it out for particularly choice cheese. Of course, if they do so they get the benefit of it, and why should they not? It is not my purpose to say to you that anything should be done. I merely want to say, and I can say it briefly, that when Wisconsin cheese is as well standardized as some other cheese that is being made and as well branded as products that come from the countries of Northwestern Europe, as well branded as the apples of the west, the Wisconsin people are going to profit by it and we are going to be known in the markets of the United States and probably in the world as the producers, not so much of the quantities which we boast so much about, but for the quality that we are making.

Remember the case of the dairy butter. One woman will take infinite pains with making her butter and she will take it to a store and they will pay her the dairy butter price. Another woman will make a poorer butter and will take it to a store and gets the same price. This is only because the storekeeper knows nothing about grades of butter. It works out the same way with the cheese. The lack of grades and standards has put many and many an excellent article in with the bad and it has been sold as an inferior article.

Probably everyone of you individually is doing the very best you can, but no set of men in Wisconsin, Oregon or anywhere else can

place any product, whether it is cheese, apples or potatoes up to a given standard without giving it a standard first. It means get together. Now are you all determined to put Wisconsin cheese on the market so that will bring a higher price? It can be done. The essential of a grading standard is simple. It means that somebody should insist that you handle your cheese in the best possible way and that when it is done and the product is ready for the market, it shall be so labeled as to be known, and known for what it is. This means more than we would imagine—it means not only a higher price for the cheese that is made now, but that more cheese will be wanted. Wisconsin is undoubtedly getting through all of these sorry days of reconstruction better than any other state in the Union. This is because our business was not boomed during the war like so many other products—like the corn and the Iowa land. It means that there is not such a great collapse in the dairy business because it wasn't boomed so much. We have been able to live through it. We have graded one product after another in Wisconsin until outside of this state all people expect that when anything comes from Wisconsin it is good. No matter how good the cheese is on an average so long as we have every now and then the poor kind that I mentioned before, somebody else is going to do the grading for you and somebody else is going to have the profit when it is done.

Mark Twain had a watch which ran too fast, so naturally he ran ahead of his appointments. He took it to a watchmaker who told him that all he had to do was to hang it up for a week or two, and it would come out just about right on the average. Mark made one of his characteristic replies to the watchmaker, saying: "An average may be a mighty good thing in some places, but it is a very mild virtue in a watch." Therefore, I say to you, a good average cheese is a mild virtue. Shrewd men have been picking out the best of your cheese and paying you a high price for your article. The real question that confronts you and the dairymen of Wisconsin is—when are we going to have cheese that is going to be known as Wisconsin cheese? That will be a fortune for someone. We may have good cheese on an average, we may have good potatoes on an average, but somebody else is going to do the averaging. Somebody else at a distance will grade our stuff and label it, and will show evidences of prosperity while we are complaining because interest rates are high and because yields are low and because somebody else is making more money than we are. The most obvious thing to do is the relatively easy thing on top of what we have already done with so great excellence, namely to grade and standardize our products in such a way as to advertise them after the manner of those things that were so vividly portrayed to you this morning.

I thank you.

PRESIDENT REED: The next subject is "Process Cheese as a Food for Thought." This does not appear on the program and I will leave it to the members if you want that subject presented.

MEMBER: I move you let Mr. Gunert present his subject.

MEMBER: I second it.

PRESIDENT REED: It has been moved and seconded that we have this subject presented. All those in favor say aye and those opposed no. The noes have it.

PROGRESS OF THE WISCONSIN CHEESE GRADING SYSTEM

By MATH. MICHELS, Madison, of the Wisconsin Department of Markets

I am willing to go on record that I fully agree 100 per cent with what these gentlemen have said before me to-day on all of the topics that we have had on the program. I am glad to see so many dairy school students here. I want to say I was one of the first dairy school students. I want to give you a paragraph of a letter which I received from Mr. Potts of the Federal Bureau in which he says: "Last week I spent one day at each of the markets in Boston, New York and Philadelphia. While at these markets, I took occasion to inquire of our representative of the different markings of cheese in these markets.

An incident was brought to my attention where some cheese was branded number two. The grocer, on noting the number two brand insisted that his trade required a number one. In these eastern markets quality is becoming a more and more important factor with the trade. It should be of interest to you to know that the Wisconsin system of grading cheese has been received with wonderful favor in the eastern markets.

Our representative in New York stated that while occasionally they take slight exception to the grade, on the whole they consider it in line, and that it has materially improved and shipments are more uniform.

I also want to state that Mr. Murray has spent two months in the state of Pennsylvania, and his work took him to small towns throughout the state. He took particular pains in finding out what the store-keeper had to say about Wisconsin cheese and to his surprise in all the stores he visited (he thinks he saw fifty or sixty) most of them handled the number one brand. That is contrary in this state. Most cheese sold here is marked number two and none is marked Fancy."

Wisconsin produces 70 per cent of all the cheese produced in the United States. In other words we produce about the same amount of cheese as does the rest of the United States and Canada combined. In round numbers Wisconsin produces about 300,000,000 pounds annually. This is divided about as follows:

American or Cheddar	235,000,000 pounds
Brick	44,000,000 pounds
Swiss	20,000,000 pounds
Limburger	1,000,000 pounds

The grading of American cheese was made effective last February and in July the program was enlarged to include Brick, Swiss and Limburger. The results to date have been very gratifying. The improvement in the quality of our cheese, which is the real aim of standardization, has been greater than we had any right to expect. Some who are antagonistic to the work have tried to credit the improvement to the weather, to the feed, to the stars and what not, but the very fact that they acknowledge that the improvement has been accomplished should satisfy any fair-minded person as to the real cause. To substantiate my claim that the grading of cheese is directly responsible I want to say that we have on file dozens of letters—some from the very highest authorities in the country. Among them we have thirty-five (35) signatures of as many Wisconsin cheese dealers over which they state such improvement in the quality of Wisconsin cheese has been 20 to 40 per cent.

The Wisconsin Department of Markets in its preliminary survey of Wisconsin's cheese industry found at least three bad practices which existed for many years, all of which were detrimental to both producers and consumer. I refer first to the practice of short weights which was corrected by the fractional weight order by our department. Second, is the shipment of cheese from the factory which is too green to be successfully paraffined. Heavy losses were being sustained on such cheese by developing rind rot and the loosening of paraffine while being cured in cold storage which has been practically overcome by our three-day holding order. Third, the common practice of paying for cheese on a more or less flat basis regardless of quality which will be remedied only by a uniform cheese grading system, and buyers recognizing the fact that cheese should be bought on a quality basis.

The Wisconsin Department of Markets was created by the legislature four years ago for the purpose of aiding in the marketing of all produce and especially that which is produced on the farms of Wisconsin. By better marketing we mean to get the produce to the consumer in the best possible condition and at the least possible expense. To accomplish this the aim must be for a high and uniform quality product, which we feel cannot be put over unless such product, first of all, is properly standardized or graded.

Thinking that it will be of interest to you to know how the cheese has been graded since the state program was made effective, I will give you the average monthly percentage of all reports as sent in on the various grades of cheese, which are as follows:

	Wis. Fancy	Wis. No. 1	Grade 2
March	6.3	92.9	.9
April	6.4	92.0	1.6
May	8.6	90.3	1.1
June	12.7	84.7	2.6
July	13.7	83.9	2.4
August	7.1	90.2	2.7

All of the grading is done by licensed men of whom 350 are dealers and 450 are cheese makers. Many cheese makers, however, take out

licenses to grade only such cheese as they sell direct to local stores. While some of the licensed men have graded 50 to 75 per cent of their cheese Wisconsin Fancy, others have not used their Fancy stamps. It is true up to this time few have been unable to get any extra price for cheese that does score Fancy. Some dealers are now offering a premium, among them being one of the largest cheese handlers in the United States and we are certain that in the near future all cheese grading Wisconsin Fancy will be rewarded by an extra price over that which scores Wisconsin No. 1. Grade No. 2 is being taken care of in the regular channels of trade ever since the grading became effective, and we expect the same of Wisconsin Fancy this year.

It would seem, therefore, that the improvement so far has been due principally to the commendable desire on the part of cheese makers to rank high among their brothers. Just as soon as Wisconsin Fancy commands a more substantial reward in the shape of an extra price over that paid for No. 1, the percentage will go up by leaps and bounds. Ninety per cent of all cheese troubles are in the hands of the cheese maker and the other 10 per cent are under the control of the cheese maker who in turn can then put up a very convincing argument for the production of better milk.

As stated before, any program for better marketing of cheese must reach both producer and consumer and the only way we can reach the consumer is by a quality product which increases the consumption of cheese; in other words, make it so good that the people will demand and eat more cheese.

How to Increase Consumption of Cheese

The low consumption of cheese in the United States is due mostly to a distrust of the product by the consumer. The common practice of getting away with low quality cheese to the retail trade at nearly full price should and must be prevented. To this we may add the lack of sufficient curing or age before the cheese reaches the consumer. The present consumption of cheese in this country is only 4.2 pounds per capita when in all European countries it ranges from 8 to 24 pounds. We contend that the production of a high class article will encourage cheese eating habits among the public resulting in a greatly increased price to the producer with practically no advance to the consumer. We explain this apparent impossibility along this line: The present consumption of cheese in the United States can be increased only by an appeal to the appetite and taste to the consumer. Our low consumption is due entirely to the uneven quality of cheese as it comes to market at present. Without knowing the reason, the average consumer does not like cheese. It moves over the grocer's counter in small volumes and often brings complaints. He holds the cheese long, suffering a loss in shrinkage and mould and his turn-over is slow. Consequently, in order to break even he must ask a wide margin, amounting to 50 or often as high as 100 per cent over the cheese factory or Plymouth market price. Cheese is a finished

product as it comes from the factory and there should be nothing to warrant such a wide spread. The American consumption of cheese will approach or equal that of the European when he gets a cheese at all times that is really fit to eat. When this time comes the grocer will be handling cheese on a small margin and yet realize larger net returns. The situation then will be similar to that now prevailing in the handling of butter, flour, sugar and other staple articles which the grocer now handles on a very close margin.

September 13, 1922, we sent the following letter to all licensed cheese graders:

Dear Sir: This is to inform you that a hearing will be held at the Association of Commerce Rooms, Fond du Lac, Wisconsin, Friday, September 22, at 1:30 p. m. At this hearing will be discussed the advisability of adding a cheese grade that will assure the consumer a well cured cheese when desired. The advisability of extending the three-day order will also be discussed. State and Federal representatives will be present and you are all urged to come and take part in the discussion.

The result of the Fond du Lac hearing was the appointment of a committee of six to help or aid the department in suggesting if possible a way by which we could put on a grade of cheese—well cured—something to take the place of the present so-called "New York" cheese. The members were Frank Schujahn, F. G. Swoboda, H. A. Rindt, J. B. McCready, Aug. Westphal and H. C. Davis.

The report of the above committee was received December 27th, which follows:

First. That the grade Wisconsin Fancy be eliminated.

Second. That all cheese scoring 90 points or over be branded "Wisconsin Full Cream."

Third. All cheese scoring 90 points to be left unbranded.

Fourth. To change the three-day holding order to read five days from October 1st to April 30th.

This report was signed by five of the six members of this committee. I thoroughly believe the committee was honest in its endeavors to improve the quality, and in so doing, the consumption of cheese; but it seems to me that they have overlooked some fundamentals that ought to be analyzed. In order that the department may get the benefit of our organization, I shall analyze what the recommendation of this committee means.

First, the elimination of Wisconsin Fancy means lowering the score for the highest grade two points which means that there could be nothing gained by making a cheese scoring above 90 points. The second and third recommendations would raise "off grade" two points from 87 to 89, which would mean instead of having two or three per cent to go into the "off grade," it would be in the neighborhood of 40 to 45 per cent going into the "off" class. The Plymouth board would be based on the 90 score and those scoring below or nearly one-half of the cheese made would come in for a trimming or a deduction from the Plymouth board price.

The Canadian grading system is exactly the same as ours except

that they have an extra grade in which they place all cheese which merits a score of 94 points or better and is called "Specials." We feel that when the time comes for a change that the state will add to rather than subtract from the number of grades recognized.

It is my judgment, based upon my experience of more than thirty years in the cheese business, covering all phases of it, that grading is a vital essential in the upbuilding of the industry. I cannot help but feel that the cross currents we are meeting in our work are largely inspired by standpatters like we have in all walks of life, who want things left as they have always been and who are eternally opposed to any progressive move, fearing that it may in some unaccountable way injure them. Educational and inspection work has always been hampered by the lack of cheese and butter grading. So long as quality is not recognized when found, no one will take the pains to produce it. It is only by a rigid enforcement of grading such as we now have in Wisconsin that we have any right to expect any improvement in the quality of Wisconsin cheese or any appreciable increase in the American consumption of same.

We have only a few men opposing the movement. They claim that the only way to improve on the quality of our product is to get a better milk supply by more frequent inspection of cheese factory and farms. This has been the aim and practice for many years without accomplishing the desired results. We have 2,800 cheese factories and 185,000 farms in Wisconsin. To properly police all of these has proven impossible. In fact, under the policing system the quality of our cheese has been gradually but steadily falling off.

Permit me to digress from my subject for a moment to point out what regulation along lines parallel to cheese grading has done in another industry.

Up to about fifteen years ago the seed business was under no legal restrictions. Unscrupulous traders unloaded all sorts of worthless stock upon the farmer. The seeds he bought so often were loaded with noxious weed seeds, or they were not true to name or were of low germinating power so that he was driven to the point of refusing to plant any seed which he had not raised himself. As a consequence, he continued to plant old run-out seed which did not give him satisfactory returns. Naturally the seedsman's business did not prosper.

Then laws were passed regulating the seed trade. The seedsman was obliged to label each package with the name of the variety, the percentage of purity, percentage of germination. More than that, if the seed contained noxious weed seeds, he was prohibited from selling it.

Immediately the cry went up from seedsmen that they were being made the goats for the sins of others. They pointed out that poor seeds were grown by farmers and that instead of holding the seedsmen liable such farmers should be made to pay the penalty. While this grievance seemed justifiable the State Department went ahead with their program on the theory that the seed business should be a specialized line, that the seedsman should be capable of discriminat-

ing between poor seed and good seed and that it was an impossible task to regulate the thousands of farmers who were producing the seeds. The law has been in force long enough so that we can judge of results. The seedsman has equipped himself with up-to-date machinery which will remove objectionable weed seeds. At a trifling cost he makes germination tests. He finds he can comply with the law with a minimum of inconvenience. Best of all, he has regained the confidence of his customers. With the assurance that he will get what he pays for, the farmer buys freely of new and better varieties of seeds. He finds that instead of trying to dabble in raising all sorts of seeds himself, he is money ahead by leaving that to the seed-growing specialist. In short, everyone has gained. The specialized seed grower has been given proper recognition. The seedsman's business has never flourished as it does to-day. The consuming farmer is raising bigger and better crops.

Is it unreasonable to hope that after fifteen years the grading of cheese will have proven as great a blessing to the man who produces the milk, to the man who manufactures the cheese, and to the man who eats it?

I am satisfied that the principle of grading cheese is absolutely sound. I do not claim and do not think anyone should expect that with this brief experiment the machinery should be perfect.

We welcome all constructive criticism and are willing to try out any proposed modifications which show any reasonable prospect of realizing the object for which we are all striving—a better cheese.

DISCUSSION

MR. DAVIS: I would like to ask Mr. Michels one or two questions. His report speaks about the large quantities of fancy cheese made in March and April. Why is it larger than in June? Do you think there can be any fancy cheese made out of fodder milk?

MR. MICHELS: Yes. My remembrance is that in the fore part of June and July there were abundant rains, nice pastures and that the condition of the milk was good.

MR. DAVIS: This committee that you speak of, was it appointed by the Division of Markets?

MR. MICHELS: It was appointed by the members of that meeting held at Fond du Lac and it was published in the News Letter issued from Madison. An article in that paper said that the committee as constituted was not satisfactory and it was proposed to discharge them.

MR. DAVIS: Who was the authority for that article?

MR. MICHELS: I think Mr. Anderson was. The committee had not reported at the time that article came out in the paper—that was long before.

MR. DAVIS: That was countenanced then by the Division of Markets?

MR. MICHELS: It was purely an idea of Mr. Anderson's.

•MR. GRUNERT: Why don't you brand the cheese when it is a "Full Cream Cheese?" If you have a law for one, why don't you have it for another grade?

MR. MICHELS: There are so many things here. I want to make one point clear. We realize that in some directions our grading is rather lame, but those are things that you can't expect to come all at once. I think it is too much to expect that it should come the first year, although I have good reason to believe that we will get that far. We have one of the largest dealers in the United States that is going on with a program of this kind. Just as soon as an extra price will be offered for Wisconsin Fancy there will be all sorts of it made. Instead of 13 per cent going into the fancy grades, I know it will be twice that much. I know the results of the Canadian work can be duplicated here—it can even go better than that. It showed results within twelve months of work.

PRESIDENT REED: Let's confine ourselves to our program now. Are there any other members of the Department who wish to offer something on this line before any other discussion comes on?

MR. OSTERHAUS: Mr. President, Gentlemen: It is quite a surprise to be called upon to take part in the discussion of what has taken place—what progress has been made in the grading of cheese during the last year, in somewhat less than a year. As a fieldman, officially designated as supervising grader, my activities have been confined to the Lake Shore district of the state, particularly Sheboygan and Manitowoc counties and part of Calumet county and some further south and eastern counties adjoining. I think about the best I can do is to give you some ideas as to the manner in which I personally think the grading has worked out. For the most part we have had very satisfactory cooperation in the warehouses in reviewing the grading that has been done. Earlier in the year before grading actually started, we made some calls around at various warehouses trying to get acquainted—to get everyone who was to do the grading to give some expression as to their standards and try to get all these ideas nearly along the same line as we could. I think the grading has been quite uniformly done. I do not like to use the word average. There have been instances where the grading has not been done according to the standard, although I have some reason to question whether the individuals always did their extreme best in the matter. I do not think this is the place to bring up names and particular instances, which we might have criticised and which even in extreme cases might have served grounds for revocation of graders' licenses. I think the first year of our work we should all show a great deal of tolerance and there should be a great amount of cooperation in the grading system. I agree with others who spoke this morning that a grading system to be successful must be combined with a system which will pay the men who produce the highest grade product and should receive a premium or a better price for his superior article.

I am glad to know that there seems to be some progress made in the direction of recognizing merit of the better quality of cheese. Now, I am very sorry that during the last year no grade premiums have been paid for Fancy quality. It has not been general at all and some of the producers of cheese, factory men particularly, feel somewhat disappointed that the extra efforts they have put forth during the last year in producing a higher quality cheese have not been rewarded. I want to ask those men to continue striving to do their best to make the highest grade cheese they can and say that in time dealers will recognize it. They need to wait for their reward in heaven as someone suggested here this morning.

MR. DAMBOW: I would like to ask Mr. Michels this question: Shall all cheese be graded? Do I understand this process cheese is not graded? It is held by the Assistant Attorney-General to come within the standards of Full Cream Cheese. I would like to ask if it comes in the standard of Full Cream cheese—if it comes in with the moisture content and why is it not graded?

MR. MICHELS: This question has been decided by the Attorney-General's office and also by our attorneys, and it is agreed upon that it came within the regular standards of American cheese.

MR. DAMBOW: Why shouldn't it be graded?

MR. MICHELS: There are a good many "ifs" and "ands" on this. We are particularly interested at this time that the cheese maker, who makes a Wisconsin Fancy cheese should be rewarded in his efforts, and when we put that across, we will take up the next step.

MR. DAMBOW: But a process cheese maker is also a cheese maker and wants to put his cheese before the public. If you want to protect the No. 1 and No. 2, why not protect the consumer? Is this process cheese always running uniform? Why is it not graded?

MR. MICHELS: I want to answer Mr. Damrow's question. I feel that this process cheese is graded, in that, the process manufacturer puts out a grade that is quite uniform and it seems to me that for the time being at least we have got more important work to look after than that. The moisture is low, that is all true. It is possible that in the future we may find more time for that.

MR. DAMBOW: What is the moisture percentage of the process cheese?

MR. MICHELS: I would refer that question to Mr. Winder.

MR. WINDER: On the question just asked regarding the moisture in the so-called process cheese, considerable work has been done the past few months. There has been considerable time taken up in determining what this cheese was. It is only very recently that we obtained an opinion from the Attorney-General's office that puts it in the class of American or Cheddar cheese. That brings it under the specific law regulating the moisture content of 38 per cent. We have had some running considerably over this moisture and it is only, as you know, very recently that we received this opinion from the Attorney-General. We have no law under which we can call this process cheese. It comes under the specific law controlling the moisture. The next step will be that if it is not kept within the moisture limits, we will then take further steps in that direction. (Applause).

PRESIDENT REED: Next on the program is "Experience with the Wisconsin Cheese Grading System." I will read two letters which have been received, which might be of interest to you at this time.

LETTER FROM D. W. WHITMORE & CO.

Wholesale Cheese & Butter, 10 Harrison Street, New York

Dear Sir: Yours of the 29th ult. received regarding grading of Wisconsin cheese. As you stated you wish to secure as much light on the subject as possible, it is our opinion no cheese can be properly graded before it is at least ten days old, and we understand they are grading and branding the cheese in Wisconsin from three to five days from the hoop, also that there are too few inspectors to cover the entire state in an efficient manner.

When cheese are graded so young it is impossible to detect faults that may develop later, and while we have no doubt the inspectors intend to do their work as well as possible under present system, we have had cheese in here branded "No. 1" and "Fancy" that certainly were not entitled to it.

One car of summer-made Wisconsin daisies we recently received had developed a very bad flavor and these were branded "Fancy" and "No. 1." This does not happen very often, however, but also have occasionally found acidy as well as gassy daisies branded "No. 1."

While we are opposed to branding under the present system, believe if it could be done in a thorough and unbiased manner, it might prove to be a good thing for the cheese industry in the future.

There are other points that could be discussed to advantage, but presume they will be brought out at your Convention, which we would certainly like to attend, as we have been handling a large quantity of Wisconsin cheese this season, and looks as if we will use still more of them in the future.

With best wishes for the members of the Association and for the success of the Convention, we remain,

Yours very truly,

D. W. Whitmore & Co.

LETTER FROM NEW YORK MERCANTILE EXCHANGE

Cor. Hudson and Harrison Streets.

Howard J. Runyon.

Dear Sir: Replying to your letter of December 29, 1922.

The Cheese Committee of the New York Mercantile Exchange composed of nine men representing the prominent cheese houses in New York City, express themselves in regard to the Wisconsin grading and branding system as practiced the past year, as follows:

The grading of cheese soon after being taken from the hoops and before being properly cured is more or less a matter of uncertainty and guess work.

We have found the quality of the different grades to vary considerably, probably due to the judgment of the different inspectors.

It has been our experience that some cheese have been branded seconds that should have been firsts, and some firsts that should have been seconds.

The trade will not pay any more for cheese because they are branded Fancy or Firsts, but the branding of Seconds prejudices the buyer against the cheese no matter how they show on the trier.

For these reasons we prefer to buy the cheese over the trier, or on the guarantee of the dealers in whom we have confidence rather than on the uncertain grading as practiced last year.

Yours very truly,

Howard J. Runyon, Ch. Committee.

EXPERIENCE WITH THE WISCONSIN GRADING SYSTEM

By MR. HORACE DAVIS, Plymouth.

Ladies and Gentlemen of the convention and fellow students: We have had a very interesting program and everything has been running smoothly, but now the jangle starts. (Laughter). I am associated in the dairy business in Wisconsin and Michigan, whose conditions were about the same years ago. But Michigan had a greater population than Wisconsin at that time, and to satisfy that trade locally they manufactured a soft cheese—so soft that in the heat of the summer the cheese would burst open and drip on the floor. They sold it. They sold quite a lot of water. They got rid of it, while there were few factories making it. Then others started factories thinking there were advantages in making this kind of cheese and they were confronted with more cheese than they could sell locally. The result was they could not market those soft goods in outside markets and they are practically wiped out because they could not sell an article

that was not wanted. The state of Wisconsin pursued a different policy. They made a firmer, more solid article that could be marketed to-day, next week, or in six months. Years ago we used to have to carry cheese in the factory three, four or five weeks and rub them with Johnson Hot wax once a day. This meant that you would have to have cheese that would stand. It was suitable for marketing and no moisture law was necessary then. By-and-by the conditions of marketing changed so that you commenced to ship the cheese every week, and then you shipped twice a week and a good many of them didn't care and rather enjoyed selling as much moisture as possible. The competition amongst you was such that you put as much as 40 per cent of moisture in cheese and beat your neighbor one month and he in turn put 42 per cent in and he beat you the next month and so you disregarded the quality of cheese very materially until about three years ago a large portion of the summer-made cheese that was in storage was taken out covered with rind rot, causing heavy shrinkage to the extent that many of the dealers who were putting their money in stated that they would not continue unless there was some reasonable method pursued to stop this. The moisture law was afterward changed to 38 per cent and we now hear that some people claim that they can't make as soft a cheese as their trade wants under 38 per cent moisture. I venture to say that 5 per cent of the cheese made in Wisconsin is wanted soft and it is a peculiar fact that two years ago the average moisture on the ten highest lots of cheese at the convention here was 35 per cent.

Now, when you want to send cheese to the convention, why do you cheese makers commence to make a low moisture cheese? If you can make just as good cheese out of 40 per cent, then why do you get down to a low moisture cheese when you want to send it to the convention here? (Applause). Gentlemen, you must produce an article that a man investing his money in it at the time of the greatest production time, June, July and August, will be reasonably safe in carrying until he takes it out in the fall, if you want to stabilize your market and get the better price in the summer. If you reduce your quality and that cheese can't be stored, the price will have to go to a figure where it can be consumed at once and that is very low. About four years ago there was a law passed in Wisconsin creating the Division of Markets. They had hearings. I attended a number of those hearings and I remember one held in the City Hall which was attended by a number of cheese dealers and their attorneys and we thought enough of it to take an attorney down there to see where we stood and what our rights were. They put the various cheese dealers on the stand and took their testimony—they gave their experience and we didn't finish the meeting by noon. We couldn't feel that we were finished by noon and we wanted to continue in the afternoon but Mr. Reiss said it was not necessary to go on. The law compelled us to have these hearings and it will only take a few minutes to finish up. He didn't care what we were saying and I protested to Mr. Reiss that we go on with the hearings and he says, your rulings are wrong and you can have recourse in law. We might have com-

bined a number of cheese dealers and brought suit. At Madison every cheese dealer got up before the Division of Markets and told them to the best of their knowledge they didn't believe that a fair judgment could be made on cheese in three days from the hoop. That law was passed and the rulings have been in direct opposition to the evidence. This committee has recommended an increase on this. I have been in the cheese business for a great many years and am a judge of quality—and I cannot consider myself qualified to judge it three days from the hoop, taking the cheese out of the hoop one day and sending it to the dealer the next day. Now the Division of Markets, I think, hasn't worked with the cheese dealer. They haven't been willing to take our advice. They haven't been willing to absorb the knowledge of the business that we have tried to give them, and I made a remark that I trust the time was coming when they would consider the experience we have had.

I consider a cheese factory a public utility—it is absolutely a public utility to the district or the neighborhood it serves and I believe as a public utility it should be under the law of the state and protected.

I would suggest to this convention the standardizing of all cheese hoops; that all long horn hoops be made one size, that all daisy hoops, flat hoops, square hoops be made one size so that when the dealer gets the product of a number of factories, that he is going to get a uniform size of goods.

There is another point I want to raise and that has been the terrible injustice done the dairy business in the state of Wisconsin in 1922 by the withdrawal of refrigerator cars from this section. The Interstate Commerce Commission ordered 25 cars to be sent to California and California in 1921 shipped 44,446 cars loaded with grapes and grapefruit. In the same time the state of Wisconsin sent out by railroad 44,021 cars loaded with milk, cheese and butter. But this last year cheese dealers in the state of Wisconsin had their warehouses full and were unable to get cars for three or four weeks. I would suggest and recommend that this convention draw up or send a resolution to the Railroad Commission of the state of Wisconsin asking them to protect the industries of this state.

Now, gentlemen, instead of grading so strong it is my idea that we in the state of Wisconsin need more good inspectors. Here is Canada, as we understand, has got one instructor for about every 25 factories. It was a nice time last June when the weather was good and the grade of milk was fine to make cheese, but how about the days when the temperature was 105? I believe that if the state of Wisconsin was districted and enough money furnished to hire the very highest grade cheese makers as instructors to handle a district to standardize the product of that district in color, quality, in boxes, in everything, so that when a man wants to buy a carload of cheese in New York they are going to get a uniformity in quality, size and condition, and I believe that instructor under the dairy division will help materially the improvement and quality in the state of Wisconsin. I thank you.

PRESIDENT REED: Are there any remarks?

MR. SCHUJAHN: I would like to correct a false impression that has been made regarding this committee, seeing that I was Chairman at Fond du Lac. Mr. McCready was on the committee and did not sign the report and did not do so not because he did not agree with them. I can explain why he did not sign the report. He isn't present, so I will say so for him. Mr. McCready, you understand, is a Bureau of Markets man from Washington and the Washington authorities did not feel that he should sign any report of any committee of the state and he felt or rather we all felt that if he did really sign the report that he should withdraw it—so that the impression should not go home with you that there was even one rescinding member in that committee. There was not.

Another thing, in this report which was misleading was to this effect, that we did not believe in a grade of aged Wisconsin cheese, for the reason that not over 5 per cent of Wisconsin cheese is aged in the state of Wisconsin. We do not believe that a grade should be established for that small percentage of cheese that is aged in Wisconsin. In fact, when the cheese dealer receives his cheese and grades it he does not know that he will hold it or not. How are you going to get a brand for aged cheese? When is it aged and regraded? We could not see it, for that reason we did not recommend it. Another reason why we recommended elimination of the Wisconsin Fancy, we did not find dealers that could receive a premium for Wisconsin Fancy. Personally, our firm has quoted since the 3rd of February. I received two orders—one for 20 Daisies and one for five Twins. The customer who received the 20 Daisies ridiculed me because I asked him more for that cheese which was no better than the Wisconsin grade one was. We felt that if the dairy council wanted to advertise Wisconsin dairy goods, they should only advertise such goods as we can feel proud of and for that reason we recommended that cheese grading 90 per cent or over should bear "Wisconsin Full Cream" brand. We also felt that such cheese grading under 90 points should be sold upon its merit and then it would not be branded with a stigma. (Applause). That was the recommendation and the reasons for the recommendation.

Now, there has been so much said that there is nothing left for me to say, but I wrote up a little paper and I trust you will bear me a little indulgence while I read it.

GRADING OF WISCONSIN CHEESE

By FRANK SCHUJAHN, Fond du Lac.

Cheese has always been graded by all homes and legitimate dealers since the inception of the industry. While the method of manufacturing, place of manufacture, tools and utensils were crude in the early days, compared with those of the present time, we must admit that the cheese makers as well as the farmers were more painstaking and exhibited more pride in producing sanitary milk and high grade cheese than they do at the present time.

The cheese dealers were more strict in regard to quality and only purchased cheese that was matured. They only knew of two grades of cheese, good and poor, and a very pronounced spread in prices was established between good and that which was termed undergrade cheese.

As the industry grew we found that quite a few inexperienced people were entering the wholesale cheese business which brought about keener competition. It was then that quality was lost sight of and that the spread in price paid for good and poor cheese narrowed down considerably. The cheese makers became more careless and quantity rather than quality became more of a factor.

When the milk condenseries came into Wisconsin and especially into the cheese producing communities, competition for milk between the two industries became very keen. The cheese makers, in order to hold their patrons, had to be very lenient with them as to the care given their milk, cleanliness of utensils and milking machines, as well as to the time of delivering their milk to the factories. This contributed considerable to reducing the standard of quality.

During the period of the world war the demand for all dairy products exceeded the supply. Quantity was in demand and any cheese dealer who insisted upon receiving strictly quality cheese soon found the number of his factories from which he drew his supply dwindling down. High moisture cheese was made. Yield was placed in the foreground and quality was lost sight of. Generally speaking, we reached the height of poor quality of cheese making during 1918 and 1919.

With the enactment of the moisture legislation and its enforcement, we gradually came back from quantity to quality cheese. But the greatest calamity to the industry brought on during the years of the war is the lack of curing or maturing cheese in the vat, as well as in the curing rooms. This evil will be the hardest to combat, due to the fact that labor in all industries is not willing to work long hours but would rather do the least possible work for the remuneration they receive. Generally speaking, cheese makers are no exception. We find American or so-called Cheddar style cheese insufficiently cured in the vat, also not held long enough in properly ventilated curing rooms. The same thing must be said of Brick and Domestic Swiss cheese. It is insufficiently cured and salted in underground rooms to become the real cheese that the consumer demands.

To remedy this, I believe it is necessary to ask the present legislature to appropriate sufficient funds to our worthy Dairy and Food Commission to enable them to place sufficient instructors in the field with certain police power, to correct the evils, as far as possible to produce good and healthy milk and improving sanitary conditions on both the farm and in the cheese factory. Also to aid the cheese maker in receiving good, wholesome milk under the most sanitary conditions. It is my belief that in a great many instances it is lack of knowledge on the part of the producer of milk that so much poor milk is delivered to the cheese factory, from which it is impossible

to manufacture high class cheese. A great many cheese makers also either lack the knowledge or are not willing to give the cheese proper time and attention to produce the proper quality.

In the early days in a good many sections annual meetings were held between the cheese manufacturers and the patrons; talks were given as to what kind of milk should be delivered to the factory and what kind not, also as to the care of the milk. Written contracts were drawn up and signed by both parties, especially in the Swiss and Brick producing sections. At the present time at these meetings the farmers preside at the meeting, dictate to the cheese manufacturer as to the price he must guarantee for the milk or cheese and on what day they are to be paid or to have the money at certain banks for distribution, demanding pay in a good many instances by the 15th of the month for the preceding month's milk. This we all realize is insufficient time to cure the cheese, market same and get returns for the cheese by that date. This only to show that it is not alone the manufacturer's fault that uncured cheese is placed on the market.

At these cheese factory meetings at the present time, seldom do you hear anything regarding the care of the milk or about the feeding of the cows and sanitary conditions of the barns, cows, utensils, etc., or at what time of the day the milk should be delivered to the cheese factory. These conditions help to contribute to the producing of poorer quality. It is these evils that the Department of Markets wishes to correct by the grading system. I believe this is hitching the cart before the horse. Starting at the root of the evil would bring about more satisfactory results. If instructors were put into the field to bring about producing milk under the most sanitary conditions, helping to educate the farmer, as well as cheese maker, pointing out that it is essential to their financial success to produce high quality milk and cheese and cure it properly in the vat, as well as curing room, before any branding or grading can be effected, then we believe we may look for success in grading cheese.

It is my understanding that the aim of the Department of Markets is to elevate the quality of Wisconsin cheese and by branding protect the consumer. In this the present method I believe, is an utter failure, in so far as the holding order of three days from the hoop before paraffining or boxing covering American Cheddar Style Cheese is insufficient and not enforced. Only in rare instances where the cheese maker holds his curd in the vat and properly cures it there, can cheese four days old be graded with some degree of accuracy. Even then no man could conscientiously claim upon narrow margin where cheese should be graded Wisconsin Fancy or Wisconsin Grade 1, as it might grade considerably different when it reaches the consumer. Cheese four days old will change considerable in texture, as well as lactic acid, also in flavor, as it matures after grading. Nobody can accurately judge flavor when cheese is four days old, unless it is weedy or barnyard flavor and in that instance it would have to be graded Grade 2. The real clean flavor and real silky texture

required in grade Wisconsin Fancy, can only be acquired with age.

I believe all the cheese dealers were unanimous in their opinion that it was impossible to accurately grade Wisconsin Fancy if cheese was only four days old. The Department of Markets, however, felt differently about this and the dealers have had to use their best judgment in grading certain cheese fancy which they thought might develop into fancy cheese later. Most of us, however, have found that some of this cheese when aged or when it reached the consumer was poor Grade 1 and a lot of cheese graded Grade 1, should have probably been graded Grade 2. Therefore, the wholesale grocer trade does not respect our grading as standard of quality. They are to-day only buying cheese on its merits under the tryer, unless they can rely upon the judgment and honesty of the seller.

As to protecting the consumer, we fear it is not as far-reaching as the Department of Markets believed it would be when they promulgated these rulings. Where cheese cutters are used the bandage with grade mark is removed before the cheese is offered for sale and unless the retail dealer is honest, he is able to sell Grade 2 cheese instead of high grade cheese. The wholesale grocer and general distributor, however, refuse to buy cheese with stigma of Wisconsin Grade 2 branded on the cheese.

In reality the grading of Brick cheese is a farce. I have seen Brick cheese packed and stamped Wisconsin Fancy, Wisconsin Grade 1 and Wisconsin Grade 2 all on the same box. I have reasons to believe that the grader was very conscientious, he did not want to misbrand and no doubt the box contained both Grade 1 and Grade 2 cheese, but was entirely too young to be graded.

Last October I happened to be in a Brick cheese factory on the day of packing. I found that the cheese maker had packed all of his cheese in the curing room with the exception of one day's make on the shelf. In fact this cheese maker only had three days' make of Brick, one day on the shelf and two days in the salt, in his curing room. The rest was all packed to be shipped to Chicago and it was all branded Grade Wisconsin Fancy, when cheese had neither salt nor rind and could not be judged either as to texture nor flavor. It was too young to show whether slow-working gas creating bacteria had a chance to develop in this cheese. This same cheese may have turned out to be quality that should have been branded Wisconsin Grade 2.

The same thing could probably be said about Swiss cheese, but I do not wish to argue on this point as this does not come so much under my observation as American Cheddar or Brick cheese.

It was for this reason that the Committee, that was appointed at Fond du Lac last September at a hearing of the Department of Markets, recommended that all styles of American Cheddar cheese scoring 90 points or over, should be branded Wisconsin Full Cream Close Made Type or Wisconsin Full Cream Open Type as the case might be. That all cheese scoring under 90 points should not be entitled to the brand Wisconsin Full Cream and should be sold upon its merits. This

for two reasons. We do not believe it is fair to the producer to over-penalize him by putting the stigma Grade 2 on his cheese when this cheese is probably better than that produced in other states. He should have the opportunity of meeting same class of quality under same competition unbranded. As it is now our Wisconsin Grade 2 penalizes the producer, in some instances, we believe somewhat unjustly, as it can only be sold to people manufacturing process cheese. I am not opposed to these manufacturers and I do not mean to say that they are not fair in the price they are paying for Wisconsin Grade 2 cheese but the stigma creates a monopoly for them of that class of cheese in Wisconsin. But the greatest menace is that this stigma on undergrade cheese spoils, yes kills, the market outside of Wisconsin.

The process cheese manufacturers, however, are using this article in their different packages of process cheese that they manufacture. They are selling it to the consumer as something superior to Grade Wisconsin Fancy cheese. Nobody questions but what at least the greatest majority of this cheese is ground up and mixed in with other cheese to make this process cheese. Chemical analysis shows that this process cheese, as compared with good Cheddar cheese, is lower in fat contents, as well as protein contents, also in calories. Chemists agree that if vitamine analysis were made, it would show still greater difference. I have personally made a number of moisture tests of this process cheese and in all instances the moisture contents were above the point permitted in Cheddar, as well as Brick cheese.

Is it fair to the cheese maker and his patrons to have to comply with the moisture limit on this Cheddar cheese, be penalized on his Grade 2 cheese and permit his Grade 2 cheese to be made into this process cheese containing high moisture and low fat and protein contents to take the place of Wisconsin Fancy in the markets of this country? Is it not a fact, that this cheese has been advertised in the press, as well as in magazines with national circulation, that such cheese is the acme of perfection? Is it not a fact that when you go into a grocery store, even in the state of Wisconsin, and ask for aged cheese, that the consumer is handed this processed article, which we must all admit contains this inferior cheese and is sold to the consumer at a large premium over aged Wisconsin Fancy cheese?

Is it not a parallel with the process butter manufacturers before legislation was passed to protect genuine butter by branding it process butter and taxing it, also making every wholesale and retail dealer take out a license to sell this article and place placards in every public place where this process butter was furnished for the table?

We all know what results were accomplished after that law went into effect and the demand created for genuine butter and what returns have come to the producer and manufacturer since the consumer knows what he is buying.

I believe that the same thing is true of this process cheese. I believe that the consumer is entitled to protection, that every pound of

this process cheese should be branded process cheese, whether put up in individual portions, in tins, in loaves or in whatever kind of package it may be, but it should be branded very conspicuously process cheese. Every wholesale, as well as retail dealer, who deals in this process cheese should have a license and wherever process cheese is served placards should be placed in a conspicuous place. The manufacturers should pay a tax.

I believe it proper for this convention to pass a resolution to this effect and ask the Department of Markets of the state of Wisconsin, as well as the Federal Bureau of Markets, to assist us. Also believe that the Dairy and Food Commission should lend us all the assistance they possibly can to correct this evil. Every cheese maker should call this to the attention of his patrons and petition their respective representatives and senators at Washington to enact such legislation which will correct this evil and protect the industry. It is justly coming to the producer, as well as the consumer of this great country of ours.

DISCUSSION

MR. ADERHOLT: In regard to branding the cheese "Full Cream," I was wondering just what would be the object of that. That really is a misnomer. What would be the object of branding it?

MR. SCHUJAHN: Because Wisconsin is not permitted to make a skimmed cheese excepting under a certain size.

MR. ADERHOLT: It is a misnomer. It is not "Full Cream," it is whole milk cheese.

MR. SCHUJAHN: I could not interpret the law. I know New York is branding their cheese "Full Cream Cheese."

MR. ADERHOLT: By putting our cheese up in different shapes, it would distinguish our cheese from the others.

MR. DAVIS: I took a trip to Washington to see Mr. Wiley and he said he did not want to revolutionize the whole world at once—but that it is still called the full cream cheese.

MR. ADERHOLT: Will you put the full cream brand on your cheese?

MR. DAVIS: All of it, yes sir.

MR. ADERHOLT: Supposing you wanted to send some out without that label on, you would want to be privileged to do it, wouldn't you?

MR. DAVIS: I am willing to send the goods out for what it is.

MR. ADERHOLT: It is full milk.

MR. DAVIS: It is full cream and Prof. Wiley admits it. He was at the head of the Department at Washington. (Applause).

MR. ADERHOLT: I have seen cheese made from cream. Now what would you call that?

MR. DAVIS: I am willing you call it "Cream Cheese." I don't object to that. (Applause.)

MR. HUBERT: I got the same answer that Mr. Davis got, that they can still brand cheese "full cream," (Applause) and I think the state of Pennsylvania requires that you have got to mark your cheese

"full cream," and so does California. That is in the ruling of Mr. Wiley. A number of years ago when the Pure Food Bill was put into effect it was stated that we had to brand it full cream cheese.

MR. BRUHN: May I speak as a cheese maker and a farmer on this?

MR. MICHELS: Mr. Chairman, may I just interrupt here one second? Mr. Bruhn is no longer with our Department and I would like to state that he resigned from our Department. I want to say further, I don't blame Mr. Bruhn at all. He has a business of his own. We owe him a vote of thanks for what he had done during the year.

MR. BRUHN: In Denmark they have an old saying that the shoe-makers' wives and the blacksmiths' horses usually wear the poorest shoes. I think that applies to Wisconsin cheese sold in Wisconsin. We are selling our poorest stuff right here at home and we are wondering why we could buy it here. Most of my talk is going to be questions. There is one thing that I can't understand very well, if the percentage is raised off from a Fancy cheese and it gives no assurance that it is a Fancy, those two things don't stand together. Another statement was made that the dealers have always graded—and from my experience, the cheese came in less than three days old, two years ago. If that is the case they would grade it to their own satisfaction when it came in, less than three days. Why can't they grade it to-day when it is three days old to the satisfaction of the market and to others when it is less than three days old? One more thing, in regard to the statement that the cheese years ago was held in the factory, was held three weeks. Twenty-seven years ago I took cheese out of the press and set it up alongside of the stove and boxed it and shipped it to Minnesota and the next week we got a letter for a return shipment. That was in the spring of the year. I don't know what we did, but we got a repeat order. We used five ounces of rennet to get 45 per cent of moisture. But the fact that we got a repeat order for it showed that they wanted more of it. That was one of the reasons why I thought it was good cheese. I am not trying to kick on the moisture law. At certain times of the year people will want that kind of cheese.

Another thing, if 90 scoring cheese, or cheese scoring 90 points and above is considered a perfect cheese, why do we give premiums out here for the cheese scoring 99 points and not less to the cheese scoring 90 points and more. If there is no difference to the cheese-eater between cheese that is scored at 90 and cheese scoring 99, then I feel that we have done a lot of work for nothing and we might just as well change right over and divide all the premiums equally between all the cheese that scores 90 and above? In answer as to why don't we make the cheese we sell around home with as low moisture content as the cheese we exhibit out here and get a score on it—if you would pay more for that kind of cheese, you would get it.

Just a word for a criticism on the grading system. We are, as a rule, a bunch of kickers, in fact chronic kickers, I may say. A fellow told me out in the hall that if he couldn't kick any more he would expect to be put in a little wooden box and be shoved off. I have no objection to that. We have evidence all over to bear out the fact that 8, 10, 12 or 15 years ago, the Dairy and Food Commission had kicks from all over the country. The Dairy papers were full of them and wherever you met anybody they were kicking about the Dairy and Food Commission. I think they were as efficient and energetic men as they had at that time and at that time as well as they have to-day. Going back to thirty years ago when a Babcock tester was first used, we had all kinds of kickers. A few were holding up for it right along and eventually it got to be a common thing and you got no kick but got paid from the cheese factory for the milk according to the Babcock test. However, let us thrash it out now, if there is anything to the

cheese-grading system of getting it through, and to get a benefit from it. There may be some modifications made. In fact, I heard since I resigned that they intend to change the three-day holding law to a five-day holding law, especially in the winter time.

During the summer everybody admitted that there was an improvement in the cheese over years ago. The Department of Markets did not get credit for it. In the fore part of the season however, they admitted there was a great improvement in the appearance of the cheese and in the quality of the cheese in general. Later on they said, "yes" there was an improvement, but that we had better weather, that we had better conditions to make it than last year, and that was the cause of it.

I found in my own factory that we had harder work to make cheese this year than we did last year. I do know that during December years ago and during December this year when weather conditions were practically the same, there was still a big improvement in the cheese over years ago. You can blame it to the 38 per cent law in force by the Dairy and Food Commissions. You can lay it to the grading system or to whatever you have a mind to, so far as I am concerned the fact remains that in the territory I travel in that we have a better grade of cheese than we had a year ago. I want to tell you of an incident that came up when I met a farmer who was Secretary of a Farmers' Association. They had just sent in a batch of cheese that was grade Fancy. I talked to the farmer and said something like this: "I am sorry that at the present time there is no increased price paid for Fancy over No. 1," and he made this statement: "I never saw an article sold for a higher price than a similar article unless it has been advertised, and I don't know but what sending out Wisconsin Fancy cheese branded as such for a year without being sold at a higher price, is as good a way of advertising it as any way I know of." I thought he had a pretty broad view of it as a farmer; much more so, than we have as cheese makers. We started in to make Fancy cheese, but when we found out that we did not get any prices for it, we gradually got down and some got so far as to make a No. 2 of it.

Just one more thing and that is this. As I look at this business, it is a farmer's duty if you want fancy cheese to bring good milk to a cheese maker, and it is a cheese maker's duty to make it up into as good a cheese as he knows how, which we don't very often do; and it is the cheese dealer's duty to know where to send that particular cheese. That is, into a market where it fits and to send it at such a time that it will reach there in its best condition. The objection was raised that Fancy cheese may be fancy to-day and when it gets to the consumer's table it is not Fancy. It might be graded Fancy before it actually is Fancy and for that reason we could not grade cheese, like we could potatoes, beans, apples and so on—but let me just answer this in one way. How many of you would want to eat a Northwestern green apple, even if it was marked Fancy. You have got to wait until that apple is ripe until it is worth while. There is very little opposition to the kind of grading they do in Canada except from those who are trying to pass off their cheese for No. 1. We had a little experience in Denmark when they started grading eggs there and from that in Denmark and with that which I had in grading in Wisconsin and what Mr. Putnam has reported in Canada, I feel that human nature is the same the world over. I thank you.

PRESIDENT REED: Mr. Schujahn, we have now had nearly eleven months' experience in grading cheese—how many cheese in your territory could you grade Fancy in three days from the hoop?

MR. SCHUJAHN: Do you want me to answer that?

MR. BRUHN: It wasn't necessary for me. In the first place I tried to be pretty careful that there was none shipped out of the factory

before it was three days old. They got away from me, but there was very few that was shipped out of the factory. They are only shipping about once a week up there—that means some are ten days old, some eleven and some even twelve, because it took two days on the route to the factory. If I had a cheese that is six days, or over six days old and they run pretty uniform in that time I will take my chance on the seventh day as a rule. Of course, I have made mistakes, I admit.

MR. SCHUJAHN: The Department of Markets has laid down a formula. How many cheese even four days old could you grade Fancy according to the points laid down by the Department of Markets?

MR. BRUHN: I claim that is the duty of the dealers to send that cheese to the proper market.

MR. SCHUJAHN: But we have to grade it when we get it. You do not doubt the ability of Mr. Creasy as a grader, do you? He was out grading one day and he graded some cheese that was seven days old, the cheese boxed up very waxy on the dryer and it was entitled to a score of Wisconsin Fancy. I took this cheese out in November and it had a leak in it as big as this pencil and it did not have a crack when it was put in the cooler.

MR. BRUHN: We all make mistakes. What I want to drive home is this, that no man can say positively a cheese even seven days old, that it is going to be a 92 score after six months.

MR. MICHELS: How about if it was 30 days old?

MR. SCHUJAHN: I don't say 30 days, but you cannot just say.

MR. BRUHN: Can you in all cases say if it is ten days old?

MR. SCHUJAHN: Well you can say it better than if it is only five days old.

MR. BRUHN: I have made my mistakes when they were four days old and when they were ten days, and even made it when it was fully cured. I know that it didn't go right this past summer. What about the Game laws, what about the Prohibition laws; what about the moisture law in cheese—what about any law in fact, have they been carried out to the fullest extent—there wouldn't be laws if they had.

MR. DAVIS: There was one matter that I want to call your attention to, that I omitted before. Last September I was in Los Angeles, California and I heard so much about Tillamook cheese so I went to the markets in Los Angeles and I examined a sample of this cheese, and I assure you that 80 per cent of the Tillamook cheese that I saw didn't grade No. 2 cheese of Wisconsin. Now they had a wheel all around that cheese marked "Tillamook." I asked him how do you put across this Tillamook at 2½ cents more than a better quality goods and he replied, "Mr. Davis the Tillamook people are spending money in advertising and this is what sells the goods, not the quality."

MR. SWOBODA: There is one thing we should settle to-day and that is, we are after the best average of Wisconsin cheese—not what we can do with a very small percentage under the most favorable conditions, but what we can do with the average Wisconsin cheese. Well, we would do more by raising 5 per cent or 10 per cent from the No. 1 grade to the Fancy grade or by raising that 35 or 40 per cent, which would fall below the 90 point. That is what we ought to settle. Whichever will grade down to the greatest interest of Wisconsin cheese should guide our actions.

MR. NOYES: We haven't heard anything from the southern part of the state in our territory on these discussions and as every maker

knows down there, I have tried my best to get an improvement on the quality of our cheese and am having harder work of it this Fall than ever before. They say what is the use of making Fancy now when No. 1 is good enough and I don't blame them. How can a man conscientiously make a better cheese when a No. 1 is just as good. Last October in one of our best factories we made some cheese and let it set on the floor and let it stay there for eight days, then I put them in the coolers for the consumption of my father, myself and some friends. Then I asked Mr. Carswell to grade a cheese for me that had been sitting out in a warm warehouse for ten days and Mr. Carswell broke that cheese and he said that it pulls very nice and that it was waxy and that it looks very good. Then he smelled of it and says "Wow" this is one of the few warehouses where you can get a nice old cheese. In one of the biggest places in Washington where they sold Wisconsin cheese and Tillamook, I watched them and saw about three pounds of Wisconsin cheese sold to one of the Tillamook. The dealer told me that formerly he used to buy five cars of Tillamook cheese to two of Wisconsin, but that it is the reverse now and that Tillamook is living upon its advertising and reputation which it had gained in the past.

ELECTION OF OFFICERS

MR. DAVIS: I move that the rules be suspended and that the Secretary cast a unanimous ballot for all of the present officers. Carried.

PRESIDENT REED: The following is the letter which I received from Ray A. Young, one of our Directors.

LETTER FROM RAY A. YOUNG, WINSLOW, ILLINOIS

Dear Mr. Sammis: I am very sorry that it will be impossible for me to attend the convention this year and aid you in this week of hard work. My new work makes it necessary I be out on the road at this time.

In justice to the cause, I do not think it proper that I be reelected and would like to have the name of

Jacob Gempeler, Jr.,

suggested to fill my directorship in the association. He is a live wire and understands the foreign cheese industry.

Please give all the Directors my regards.

Very truly yours,
Ray A. Young.

MR. DAVIS: There is a vacancy in your newly elected directorate. If there is no objection that Mr. Gempeler be elected to the vacancy, I move that this be done. Carried.

REPORT OF THE COMMITTEE ON RESOLUTIONS

Mr. Rindt read all of the resolutions and they later were considered individually, in their respective order.

RESOLUTIONS OFFERED AT THE 31ST CHEESE MAKERS CONVENTION

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, much cheese is damaged by mixing old held-over curd with fresh, be it resolved that this Association go on record as being very much opposed to such practices.

3. Whereas, the scores of cheese in the present Class 1, made before October 1st, show that the September and October cheese usually score higher than the June cheese, so that the two cannot fairly compete in the same class, therefore be it,

Resolved, that hereafter Class 1 shall include any style of American cheese made before September 1st. Class 2 shall consist of all styles American cheese made during September or October. Class 3, shall consist of all styles American cheese made during November and December of the same year. Class 4 shall consist of any style Colby type cheese.

4. Whereas, a great many different sizes of cheese hoops are in use in Wisconsin in making each style of American cheese, namely, flats, daisies, horns, Y. A. and squares, causing lack of uniformity in shape and appearance of different lots of cheese, causing difficulty in assembling carload lots of uniform size and shape, and

Whereas, uniformity of appearance is an essential element in the successful marketing of any product, and establishing its reputation, and

Whereas, the U. S. Department of Commerce, is now actively promoting the adoption of uniform sizes of packages and containers for dairy products, therefore be it

Resolved, that this Association ask the Wisconsin Department of Markets to co-operate with cheese hoop manufacturers and the United States Department of Commerce in establishing proper standards as to dimensions of cheese hoops to be made hereafter for use in Wisconsin.

6. Be It Resolved, in view of the fact that our dairy school is now and always has been the leading dairy school of this, or any other country, and further, since our dairy professors have made many important contributions to the science and the art of cheese and butter making, we respectfully request that the Governor of the state, the state legislative bodies, and the board of regents of the University of Wisconsin do most seriously consider the needs of our dairy school and provide a new building for the Dairy Department of the University, be it further,

Resolved, that a copy of this resolution be forwarded to the Governor of the state, the state legislature, and the board of regents of the university.

We call attention to the fact that our Association represents about 2,700 cheese factories and over 70,000 farmers. We, the cheese makers of Wisconsin, heartily endorse this resolution and are eagerly looking for results. We sincerely hope something definite with regard to our new dairy building be accomplished at the coming session of the Wisconsin legislature.

7. Whereas, the membership of this Association has increased from 300 to over 900 during the recent years, and the cost of running the annual convention has increased, also the size and cost of the annual report of the Association printed according to law and distributed to all members by mail, and

Whereas, the educational cheese exhibit by members conducted by the Association has attracted larger numbers of cheese makers each year to attend the Convention and reap the educational benefits thereof, and should help attract 2,000 more, and

Whereas, a new educational feature most needed for the purpose of the Convention is a half day school for cheese judging and scoring in which hundreds of members present will have an opportunity to themselves examine, judge, and score a number of typical cheeses, under the direction and with the help of cheese judges, cheese dealers, and other experienced men, and because of the additional cost of this and other Convention expenses, be it

Resolved, that we ask the legislature to increase the annual appropriation to this Association from \$600.00 to \$1,000.00.

8. Be It Resolved, that we ask the Wisconsin Railroad Commission to take steps to protect the dairy industry of Wisconsin by taking steps to provide refrigerator cars as needed.

9. Resolved, That all process cheese should be branded as "Process Cheese."

10. In view of the terrible conditions existing in the Near East, brought about by war, famine and deportation, and in view of the fact that Near East Relief, incorporated by Congress, is rendering relief to hundreds of thousands of orphan children and refugees; and in view of the excellent opportunity afforded us for the advertising and popularizing of Wisconsin Dairy Products in the Near East, be it

Resolved, that the Wisconsin Cheese Makers' Association, in Convention assembled, heartily endorse the work of the Near East Relief, and appeal to all our members, as well as to other cheese manufacturers and cheese dealers, to donate liberally, money, cheese and other dairy products, through the Wisconsin office of the Near East Relief, at 229 Plankinton Arcade, Milwaukee, Wisconsin.

Further Be It Resolved, that a committee of three be appointed to discuss plans with regard to making this as effective an advertising campaign as possible.

11. Resolved, that this convention endorses the recommendation of the Committee appointed at the meeting called by the Department of Markets at Fond du Lac, Wisconsin, last September.

First: To eliminate Grade Wisconsin Fancy.

Second: All cheese scoring 90 points and over shall be branded Wisconsin Full Cream Cheese.

Third: All cheese scoring below 90 points shall not be entitled to the brand "Wisconsin Full Cream" and shall be sold unbranded.

12. Resolved, that this Association favor the enactment of National Legislation or regulations controlling the manufacture of skim or part skim cheese requiring same to be put up in different style hoops than whole milk or full cream cheese. This will prevent skim and part skim cheese from being sold at retail on certain markets as whole milk cheese as is being done today.

PRESIDENT REED: I will ask Mr. Hubert to explain resolution No. 3.

MR. HUBERT: In judging the cheese for the past two years we have found that November's cheese took the first prize. This year September's has taken it. You have at the present time 60 or 70 very fine June cheese on exhibition and for that reason the judges have handed this resolution in. In our judgment the June cheese should go in one class and the later one in a second class and the still later one in a third class. In that way each cheese maker has a chance to compete with the rest. This year we had 23 entries of Colby cheese. The judges found that 11 of those entries read Colby type and the other 12 were very fine American cheese and hand stirred, and we don't believe those 12 should have gotten into this Colby type of cheese. They were entered as Colby but they were not this type.

All of these resolutions were adopted by vote excepting No. 11, which was tabled. One other resolution was introduced and voted down.

THURSDAY EVENING

Mr. Jack McCready presided at the annual banquet with his usual good humor. Two hundred and sixty members attended and enjoyed a very fine program of music, songs and stories afterwards.

A moving picture was then shown upstairs on the operation and cleaning of milking machines, by courtesy of the DeLaval Separator Company, and a joint meeting was held with the National Cheese Association.

SIXTH SESSION FRIDAY MORNING, JANUARY 12, 1923

THE NEED FOR MORE TRAVELING CHEESE INSTRUCTORS

By H. J. NOYES, Muscoda, Wisconsin

(Read by Mr. Luther Noyes, Muscoda.)

Wisconsin, for many years, has been trying to improve the manufacture of cheese in its many varieties and forms.

In the first place, we manufactured the large cheese, weighing around fifty pounds, for home consumption and eighty to ninety pounds for export. We had no instructors nor inspectors. Every maker stood upon his own merit and had to make good if he was to hold his position. Cheese then was made by the granular system. This tested the ability of makers to have them uniform in texture and firm in body. Our cheese was made and inspected in the factories and sold on their merits. They had special care in curing, and were held from three weeks to two months or longer. They were all turned and rubbed with the hands to keep mould off and to make a smooth rind. At that time our cheese was nearly all cured in upper rooms where it was dry and hot in summer and heated with a stove in cold weather. This meant much more care and work than we have now, but the cheese had to be cured before it was sold and as the maker had to face the buyer in his own factory, he learned what the trouble was with them and if they were not right, learned why they were not and the maker was anxious to improve his methods.

From time to time we have changed the making; the first one being the cheddar system which was one of the very best and I am glad to say has been the most practiced since, and which is the foundation of every American type. The state authorities then thought we should put instructors in the cheese factory sections, and these should be the best skilled cheese makers in the state. This was one of the best plans ever made. Then there was a big improvement noticed in the cheddar system. The state thought it would be better to put in state inspectors instead of state instructors, under supervision of the State Dairy and Food Commission. Each factory was compelled to pay a license to manufacture cheese, and every cheese maker had to obtain a license to make and qualify. Each maker should have twelve months to qualify in order to get a license and this is long enough, I believe, for it has been demonstrated that some men can make fine cheese with six months experience and other men can never make good cheese with years experience.

I believe these inspectors should also be made instructors with the same power they now have and should be required to go to cheese factories when a maker asks for help and show him where he is wrong, even staying with him for several days and inspect the factory and surroundings. At the same time also inspect bad cans and condemn them, if necessary, as this is where lots of trouble comes from for the maker and it is hard for him to condemn them, as he is afraid he will lose his patrons.

However, we have been told that the state could not furnish instructors enough, as it would cost too much. Let us review what has been done. We have had inspectors for a number of years and the sanitation has been improved, in some cases a good deal, but not as much as it should be for what it has cost. Nor do I believe it can be done with one visit and sometimes none a year, at a cheese factory or creamery. The inspector should be familiar with all the details and utensils used by the operator and note if they are fit for use, also the surroundings. On the other hand, if we had enough instructors with the power of inspectors, they could assist makers in improving their cheese, in controlling the moisture and they could have the control of the whole cheese making situation in the state with a good high standard.

Our law requires cheese makers to take out a license to make cheese, but they can make any kind of cheese they wish, pin-hole, sour, high moisture and can be fined for high moisture a number of times and still make cheese. As I understand it, they have no power to revoke a maker's license. This should be changed and when a maker continues making poor cheese, his license should be taken from him. We have makers that should never make cheese. This law should be changed, giving it the power to control as I have said.

Then came the law for the grading of cheese with four state graders who may be efficient in every way, and the state have licensed cheese dealers and warehousemen to assist in the work. Now there are only two grades that could be recognized by the trade at all, not only that but location and different sections demand different kinds of make and style, which grading does not include and cannot do so. This has not helped the maker or dealer in the least and the way it has worked out, the dealers have the say and responsibility, the same as they did forty years ago, when we had no laws in regard to it.

The moisture law should be sustained and I repeat, the inspector should be changed to both inspector and instructor, with help enough to enforce, otherwise it is not efficient. By that I mean that if one of the Dairy and Food Commissioners comes to your factory and finds the machinery in bad condition that the state cannot condemn it—that cheese maker seems to be able to make any cheese he wants so long as he obeys the laws and his license cannot be revoked. I think that if a cheese maker cannot go into a factory and make cheese that will pass for the majority of the kind that the trade wishes that he should not be a cheese maker.

DISCUSSION

MR. DAVIS: In the state of Wisconsin, I understand the Dairy Commissioner has informed the legislature that he has enough, or an appropriation of more than enough, to conduct his department as it has been conducted, and I understand that that appropriation only calls for \$100,000 and that they were willing to furnish him with \$125,000, that he didn't need. But I don't think that is the consensus of opinion of the dairy dealers and the factory men of the state of Wisconsin. Most of them do not feel that the Dairy Commissioner had enough money to continue his department as the cheese makers wish

it conducted—they feel that increased instructors and increased number of efficient good inspectors are necessary. We don't want a boy to do the work, we want experienced cheese makers where enough money can be paid to them so that we can get the best—a man that is thoroughly competent and who can go into an old cheese maker's factory and be able to help him. Have these instructors been receiving the best wages to get the best men? They have not, and when the best men don't come into your factory you don't have as much good feeling that he can help that you might have, if he was an expert. We heard yesterday that Canada is divided into districts where a man has 25 factories to look after. But I guess the men in Wisconsin have over 25 factories, so I think it is up to this Convention to take up with the proper authorities of the state of Wisconsin and place before them the importance of the dairy business. Reports show that ten billion pounds of milk flows into cheese, butter, ice cream, and therefore, milk needs the attention of well-posted, qualified men in each line to produce the better results and that we want more of those inspectors and more of those graders to go to the barn of the farmer, to the factory and instruct. It is little late for a resolution, but I wish that in some way this could be put to the Dairy Commission strongly, that instead of not needing this \$125,000, that we really need \$300,000 for the work in this state.

MR. WINDER: In regard to the amount of money that is appropriated and the amount that is asked for the coming year, I understand that Mr. Emery stated we could get along with \$5,000 less than he needed last year. \$5,000 was appropriated at the time that the whey pasteurization law was given to the department. The present situation regarding that law puts it in a rather peculiar predicament in view of the fact of the amount of money that was used last year, he thinks we can get along without that amount this year. There are other considerations that must go along with the appointment of instructors or men instructing. I don't want the impression to go abroad that we don't do any instruction work. I think the average number of factories and creameries in each man's territory is about 275; I can give you the exact figures, if necessary. The question of instruction will depend a great deal upon other things. The question that we must consider today is, are we ripe for the instruction business? I can give you concrete instances where I have been asked to go to factories and where our men have gone. The different owners have asked that we help the cheese maker. The cheese dealers will tell us that we send a man out to one of their factories and in some instances we have done a great deal of good. In other instances it was a waste of time.

The idea I want to convey is this, that unless a man is in that frame of mind that he needs instruction it is practically impossible to instruct. You cannot teach him unless he is willing to learn. For quite a long time a cheese dealer in this state asked me to make a personal visit to his factory in which he had an interest and on several occasions whenever I would meet him he would ask me to go there, but I was so busy I could not go, but asked one of our men, who is a very competent cheese maker. He went there early in the morning to see what kind of milk was coming in and to see the condition of the cans. Upon entering the factory the cheese maker, quite an intelligent man and a good cheese maker said: "I am sorry you have come, I wish you would not make an inspection. I can get this all cleaned up all right." The other man had been at us all the time saying that he could not market the cheese. He says, "I am afraid it will make trouble among my patrons, if anything goes wrong I am going to get the blame." The inspector went there for that purpose and he stayed until during the day. The cheese maker said, "I could take care of this proposition myself, the man that is employing

me told me not to send back any of the milk;" you don't want to do that or you will get in trouble with the farmers and you will lose the patrons, so of course this man was handicapped in his work. And then there is the other case, where we can go into a factory upon somebody's request and find that the cheese is not coming in right and it is off grade—that he wishes somebody would go out and see what is going wrong and again I can give you concrete instances. One in particular, how in Fond du Lac we were asked to go out. We sent our Mr. L. R. Stewart and he went into quite a large factory where they were receiving the average summer milk. There might have been some carelessness there as we often have found it. The cheese maker was in business around twenty years. Mr. Stewart worked along with the cheese maker during the day on friendly terms and they finished their day's work between four and five in the afternoon. The curd was not a bad curd and it would make a nice cheese for the market. That was the understanding that day. The next day or rather the following afternoon, Mr. Stewart had some work in that territory and he stopped at that factory to see how the curd was coming along. It was about one or two o'clock and he found nobody at the factory. Everything was cleaned up and dried and no one was there. That is too often the case. Now I want to leave it to your judgment if instructors can get very far in that way under those conditions. It is true that where things get to a point where the maker is losing money and he is experienced and there is something wrong, he then welcomes the work of an inspector or of an instructor at that time. A great deal of that has been done the last two years. Now my idea of instruction is this, that it is one of the things that is probably most needed in this state today, but before we have instructions there are other things that must go along with it. When we go to a factory and find that the maker will say "What is the use of making the finest when it is all the same and we are only getting the market price for it?" Those are the things we are confronted with. I feel that all of us to a certain extent may be accused of "passing the buck." We do want the other fellow to help our business that we are a little reluctant about doing ourselves. We go to farms and make inspections and we go to cheese factories and inspect cans, etc., and we find dirty cans and the farmer will confront us with the statement in front of the cheese maker "Well, they (the cheese makers) have never found any fault with our milk. That can has been that way for a year, he never found any fault and I don't want to bring any milk here that isn't right." It is a matter that every one of us should take a hand in and we should all do our part. You have got to have some responsibility and you have got to face some very unpleasant situations. The thing to do is to make up your minds that you are going to make cheese in Wisconsin the very best that you possibly can. You are failing to realize that if you will make a larger percentage of good cheese, you will increase your cheese business. When you can make that kind of cheese a larger per cent of you are going to increase consumption all over the country. That is one of the essentials we need. That will all be necessary if you succeed in getting the appropriation and inspectors. If you will all accept instruction, then we can expect to see a wonderful improvement in our cheese. There has been little call for instruction. In fact we have had very few calls for it until this last year, when we have had more than there has been for some years. That is my understanding from my experience of a number of years.

MR. DAVIS: Do the instructors have any police power?

MR. WINDER: To a certain extent, Mr. Davis, yes.

MR. DAVIS: What are those powers?

MR. WINDER: They have certain rights to go to factories and make inspection, but their powers are greatly overestimated by a great many people.

MR. DAVIS: You say you went to a factory and found a bad condition of affairs, and where the maker was taking all kinds of milk against his judgment and he claimed under the instructions of the owner that he should take that kind of milk, knowing that it was going to produce a poor article. Has the state of Wisconsin any power to go in there and say that we want better cheese made?

MR. WINDER: We have this power, that upon making the milk inspection, when they find certain conditions—dirty milk and dirty and unsanitary conditions, which in the opinion of the inspectors are in violation of the law, they can then invoke the aid of the court in that case, but if they find dirty milk coming in to the factory, no inspector in the state of Wisconsin has the authority to return that milk other than in this way. We can tell the cheese maker it is in a certain condition and that it is violating the law—that if he accepts it he is violating the law and that the man that is offering that milk to the factory is also violating the law.

MR. DAVIS: Where he finds a poor maker that will continue without any effort making bad quality, and taking bad milk, is there any way of shutting that factory up and taking his license away?

MR. WINDER: No, he can't do that; but so far as the quality of the cheese, we have no power to revoke a license.

MR. DAVIS: If your instructor goes in a factory and shows that maker he is not getting the best results you straighten him out, don't you? And then you come back in two weeks time and he is right back where he was and you start in again to straighten him around; and then the instructor goes back the third time and does the same thing, can you then do anything to that man?

MR. WINDER: That depends upon that man.

MR. DAVIS: Then I think it is about time that the dairy laws of Wisconsin should be straightened and that paid representatives be sent out to the factories all over the state to instruct; and go out there honestly and go there earnestly to instruct and when they come across a man that after three times of instruction—that that man from his own inefficiency or carelessness or laziness will not receive those instructions, then he should be stopped from making cheese and that the laws should be so prepared to take care of cases of that kind.

PRESIDENT REED: Then I would like to ask, if you haven't the power that Mr. Davis is asking for—what good will the set of drafted rules be that are to be pasted up in open view in the factories with their licenses? If you haven't a law to prosecute violations of those rules, what good are they?

MR. WINDER: We have the power to prosecute it, but so far as the license or stopping his work is concerned, we have no authority to say "Make better cheese," if he is maintaining his factory in a sanitary condition and taking in milk from which he could make cheese. We have just as much good milk made into poor cheese as we have poor milk made into good cheese.

MR. NOYES: There was one maker last summer that was making poor cheese out of milk that any maker that was half way qualified could make better cheese out of. We do a good deal of instructing in our territory. Mr. Winder and his men have done a good deal of good work. We instruct in our factories. The Dairy and Food Com-

mission had men there and a cheese maker defied them to take away his license as long as he was conforming to the rules of sanitation and his milk was coming in in such a condition that they could not say that he was taking bad milk and they couldn't do a thing. I am sorry to say that the state of Wisconsin has got a few of those kind of makers and I do not believe they should ever be allowed to have a license.

MR. ADERHOLD: Wasn't that maker losing anything by it? Don't he lose anything?

MR. NOYES: Yes, he lost one month's wages, but he continued to do it. We would manage to straighten him up this fall. He isn't a cheese maker and never will be a cheese maker and such men are a detriment to the state of Wisconsin.

MR. BRUHN: In regard to inspection work in the factories and proving that the man is not doing the best he can, and taking his license away because he is not doing the best he can, let me say that if I made up a batch of cheese yesterday and an instructor came along to-day and if yesterday's cheese wasn't quite as good as what I made to-day, I defy the devil to prove that I didn't do the best that I could with yesterday's milk. It is practically an impossibility to make good cheese out of some milk in some cases. Then what is the inspector going to do? He can't take the license away. There is only one thing to do and that is to sell that particular cheese at a reduced price.

MR. NOYES: I would like to ask Mr. Bruhn if you couldn't nearly prove it on something when you see those curds and just hang around and he makes a good cheese. The next day he makes a poor cheese. I don't see why you couldn't prove to any court on earth that he is passing up good quality.

MR. DAVIS: Mr. Bruhn mentioned that if a man's intentions are good, the inspector can't prove that that man has not done the best he could. That is no argument because if he hasn't done the best he could, it is no use and if he could do any better, he is not on the job.

MR. BRUHN: I perhaps made the wrong impression, I wanted to make the impression that I defy anybody could do better than I did the day before.

MR. DAVIS: That qualifies what he said because I heard Mr. Bruhn is one of the best cheese makers in Wisconsin.

PRESIDENT REED: I heard in 1921 where a man was having trouble with his milk from January on. He was trying to do the best he could, and he can make good cheese, so he resolved to make Wisconsin curd tests. He took a sample of each cows milk and he found that the farm was sanitary and the factory was sanitary and that everything was according to law.

MR. CARSWELL: I would like to say a word or two on inspections. I have had considerable experience in the past year. Every warehouse should have (and most of them have in my district) at least an experienced cheese maker working in that warehouse, and a good grader. There is all of 100 warehouses in this state. I think Mr. Noyes will bear me out in the point that during the time when they are having bad milk and bad results, he is busy from morning until night to just visit the patrons in his own district and keep them straight. Well, if you have to have 100 inspectors and one for every warehouse, you would need, during the bad season, more inspectors. Now the dealers can do a large amount themselves by having these. I know that one of the warehouses where I am supervising, we have a very fine maker. He makes it a point not to take any cheese in on Saturday. That man really has more power than a state inspector

because they know that cheese has got to go through his hands, be graded by him, be paid for by him and if the cheese don't come up to where it belongs, he will not get paid for it and when it comes to the pocketbook it hurts. Now that is the case—those warehouse men can do more towards improvement of the quality of the cheese than these state inspectors can, especially where he has 400 factories to look after.

They are not calling for instructions now or in June or in September or October, it is during the bad season when they want instruction. When the weather was bad I had a stack of calls. Then after the weather changed we had no calls for instructions. The instructions should come right out from the warehouse and those men that are doing that from the warehouse are getting the best results and getting the best cheese.

It would take 100 paid men to do this. You have got to have good men at an expense to the state of at least \$300,000 a year.

MR. DAVIS: Yes, \$500,000. This is the principal industry of the state of Wisconsin; we can't do it when the principal official says "I have got enough money." The devil gets after those that help themselves too much.

MR. CARSWELL: You know yourself, Mr. Davis, that your warehouse man, and you have got a good man, and good instructions in your warehouse are helping you in the quality of your cheese to a great extent. I know you have good men and they are doing good work.

MR. DAVIS: You want me to pursue that with Mr. Carswell. I want the state of Wisconsin to have good men just the same as the dealers have good men. I want the state of Wisconsin, that reaches all over the state where we reach only in limited places, to have just as an effective organization for the betterment of the product as we do in our limited district. I want your state men, on the factories they cover, to see that a uniform cheese, a uniform color, a uniform style is made and to get the makers in that section so well posted up so that when Smith sends poor milk, he will have to take it home and that he can't go to Jones and get rid of that poor milk. I think a factory has a right of protection against the farmer and the farmer against the factory, and that if a neighbor takes it from a selfish motive, he ought to be stopped. (Applause). And when these factory men know the man in their district that can be obtained quickly, and he sends that milk home that he is going to be supported by the state of Wisconsin—then the factory can demand better milk and get better milk from the farmer.

MR. CARSWELL: How are you going to get the 100 instructors to carry that out in that district?

MR. DAVIS: Can't you see what is taking place in the dairy business in the state of Wisconsin? The bankers of the state are now taking hold of it. We have a large National organization for the purpose to have broadcasted the importance of the dairy business in the state of Wisconsin, in the drinking of milk and other products so that we are going to have more help and this association should have a railroad committee and that railroad committee should be empowered to go before the legislature to show the benefits of their industry and demand adequate money enough to take care of this line of goods and give us the appropriations we need and enough of it to put out these instructors.

MR. CARSWELL: I am willing to get that kind of a committee. When men like you come before the legislature you are going to get that. I remember when Mr. Emery asked for sixteen men and finally all he got was eight men.

MR. DAVIS: They did not have this organization behind them. You didn't have the bankers of the state behind you—have this organization make that kind of a committee. I know that I went down there alone and got that moisture law through.

MR. KIRKPATRICK: We have been getting a whole lot about this instruction. We have a lot of state graders. They should be combined as I think they have not got enough to do now. It don't take long to do that. You can't tell me anything about grading cheese, I know as much as he does. My men have been in it. Why can't they instruct at the same time they inspect? I have been fighting this for forty years, to get instructors. Surely this state of Wisconsin, as far as cheese is concerned should give us this. Lots of factories never need instructions. It is for the factories that have hard luck and poor cheese makers that need the inspectors. I don't see way a grader should come up here and say what the legislature should or should not do, or what he will or will not do. I don't see what the state graders do anyhow. Nearly every warehouse in this state have got men amply capable to judge cheese without any supervision at all. They don't need any if they do it as they should. I would like to know what the state grader knows more about it than we do. We don't need any 100—we don't need half of them.

MR. CARSWELL: Mr. Kirkpatrick and I have no troubles. He has competent men in his warehouse. I have no fault to find. That is just the very proposition that the men are sent around for—to see if they are competent.

MR. MANDEL: I wanted to ask whether it wasn't a law that when we get dirty milk to our factory, whether the laws didn't protect us on that? The way I understand it is that we were protected on that.

MR. DAVIS: I understand that the law is very loose on that subject.

MR. G. H. STUBER, of Madison: The law does cover that subject in our inspection of work the past number of years. The maker is given notice that after the inspection is made if a patron does not come back the following morning for the reason that he didn't bring good milk, that maker should immediately notify the inspector and he will follow up to see if that man is delivering that kind of milk to another factory; and to see if he is giving good milk to another factory. If so, then the state has no power to prosecute him.

MR. DAVIS: I am very glad to hear that because there is a factory right near Random Lake that receives 12 to 15 thousand pounds of milk. He saw his milk being skimmed and he saw that it was being skimmed, so he notified the state. I understand that they saw the evidence. He took it up with that patron and the patron got mad and took his milk to another factory. This factory lost that patron and he had no way of forcing that patron's milk to his factory. He couldn't handle it himself and yet the state didn't do a thing about it. Now, I don't believe that if you talked to these vast number of cheese makers here, but what they will all complain of some patron's milk and he himself does not know if that milk is good the next day; but he loses that patron and the state inspector, if he is not too busy, can at this gentleman's request, go to that other factory and make a test and see if the milk is improved. But I think your factory entering into a contract with the patron in the spring to bring in his milk should run a season and that you should protect each other, which you don't do at present. (Applause).

THE PRIZE-WINNING SWISS CHEESE

By Mr. FRED MARTY

I want to show you a sample of the prize winner of Swiss cheese. In fact it was shown in the exhibit out here. I have brought it here so you could really see what a domestic Swiss cheese looks like and I think that many of the dealers to whom I have showed this piece of cheese will admit that if we had Swiss cheese like that, that we could draw upon from Wisconsin storage, we would have the imported where it belongs—but not in this country, to contend with. I want to take the pleasure of showing you one of the finest pieces of cheese equal to any imported. (Applause). It goes to show that it can be made. This particular boy here that made this cheese took the Dairy school course—a special Dairy school course that was given by the Southern Wisconsin Dairy Men's Association, in cooperation with the University of Wisconsin. Mr. Gere is practically the man back of this cheese. He was formerly of the United States Department of Agriculture and is now with the Pabst people at Oconomowoc. He taught this boy how to make this cheese. This boy had a uniform run of Swiss cheese until the last day he made Swiss this season and this is the prize-winning cheese. This cheese was scored 98 points. If I could have looked into that cheese and seen what was on the side of it, I actually believe I would have scored it 100 proof. I thank you. (Applause).

MR. GERE: I appreciate very much the remarks Mr. Marty has made in regard to this cheese. However, I do not feel that it is all instruction that this boy was given with my cooperation, he also had help from the University people and also from Mr. Marty. There should not be any bouquets thrown my way. We are going to repeat this same thing this coming February—this course in school. I might say this student that made this cheese was very enthusiastic and it is not only this particular cheese, but I have watched his work all summer. He was very successful right along and he certainly has made good in every detail. The average run has been wonderful. (Applause).

SKIMMED CHEESE ON THE MARKET

MR. DAVIS: Last year we found that Colorado was producing lots of skimmed milk cheese and we had a party in Texas write us that they can buy Cream Cheese about 3 cents a pound cheaper than we name it. We instructed him to buy a box and send it to us, which was done and when it arrived, it was nothing but a common grade of skimmed cheese. He thought he was getting a full cream cheese and the consequence was that they were paying a good deal for nothing when they thought they were getting something for a little price, and if the National Legislature can be induced to stop the manufacture of skimmed milk cheese, and have it sold for what it is, you will be benefited a great deal.

PRESIDENT REED: The next on the program is the "Results of washing curds with hot or cold water." Mr. Lindow and Mr. Krause being absent, we will hear from Mr. Witt.

RESULTS OF WASHING CURDS WITH HOT OR COLD WATER

By Mr. A. C. F. WITT, Granton

When I was asked to appear on this program, I had in mind to refuse. But on thinking the matter over, I found I did not have the heart to refuse our hard-working secretary, Mr. Sammis, so I dropped him a line and told him I would be there; and here I am.

I have attended this convention a dozen times and I never failed to get a thrill out of meeting all our brother members. I find it is a lot easier to get acquainted with our brother cheese makers from all over the state than it was for a certain fellow to get acquainted with a druggist in a southern state, where it was against the law, quite a while before it was here, to get any liquid spirits from anyone else outside of a druggist.

This fellow got to town and got it in his mind that he wanted some of the goods that makes a fellow feel like a millionaire, if you get the right amount surrounded. He went to the only drug store in town and asked the druggist for the desired article. He got turned down on the grounds that the druggist did not know him. He goes out and returns later with the same request and got turned down again, so he goes out and returns for the third time. The druggist asked him "How often do I have to tell you that I can not help you because I do not know you?" The fellow, getting thoroughly disgusted, replied "For goodness sakes how often does a fellow have to come here to get acquainted?"

Well, I did not have to come to the convention that often to get acquainted.

I haven't much to say about this. We will have to work that out ourselves. If I was to tell you, you might spoil your whole batch. It is an art to make cheese and you have got to use a lot of good judgment and therefore it is very hard to tell you how to apply water, but if anyone will ask some questions, I will try and give you what information I can.

DISCUSSION

MEMBER: How much water would you use on 500 pounds of cheese?

MR. WITT: That all depends on what conditions the curd would be in.

MEMBER: Do you have it spread across the back or do you have it dashed?

MR. WITT: If I have some slow-working curd, I might use that water, but if I have some fast-working curd, I would not use that hot water. I use it all the way from well water up to 175°.

MR. BRUHN: If you use water at a temperature of 175°, do you use cold water after that?

MR. WITT: No.

MR. ADERHOLD: When your curd works just the way you want it to work, how would you use your water then?

MR. WITT: Around 100° or 102°.

MEMBER: Some cheese makers have the habit of washing the curd all the time regardless of what kind they have. Is there any reason for that? Are you not taking something out that should be in there after milling?

MR. WITT: You rinse it.

MEMBER: You are rinsing off some fat—you gain that by spreading that. Are you not taking something out of that cheese that should be in there?

MR. WITT: That fat in my opinion is a detriment to that curd and it is better out.

MR. ALBERT HUNCKEE: When I wash my curd, first I will pack my cheese and get it ready for the mill and I pack it down when it is ready for the mill, then I run water on the end of the vat and make it luke warm. If it is too cold it is not good and when it is ready with the curd mill, my curd runs right in that water. Then I have my fork and stir that right up—not too much either. But as soon as that white stuff reaches the top and if you have it a little dry, then wait a while; then put your salt on and as soon as you put your salt on, you will set everything running out of your curd and it will have a very nice color and the bad flavor will run out. The cheese will last longer and keep better flavor and keep it for years, if that white stuff is out of the cheese. It will go into the whey tank and your whey cream will get the benefit of it and you will have a nice glossy cheese.

MEMBER: Do you practice that in every day make—

MR. HUNCKEE: Every day, the cheese should be nicely packed.

MR. PETERS: How long do you leave that water on there?

MR. HUNCKEE: As soon as it is through take your water and wash that white stuff out and you will have the finest and glossiest and silkiest cheese. It will last longer and the flavor will last for years, because if that white stuff is not out of there, you are going to get a bad flavor.

MR. PETERS: Do you dash that water there?

MR. HUNCKEE: Let it run off.

MEMBER: How much salt do you use?

MR. HUNCKEE: A little more than usual.

MR. DAVIS: I have known Mr. Hunckee when he used to have hair on the top of his head a good many years ago and I have been getting these cheese and look at them very carefully and I have noticed that he has a rather of a nutty flavor in his cheese. I have occasionally run across a cheese that has that peculiar nutty flavor, and the curd is more opaque and not clouded. I have known that he was using this water to wash this curd.

MEMBER: How long should the curd lay after salting?

MR. HUNCKEE: About 5 or 10 minutes and your cheese will close better.

MR. BRUHN: I would like to ask Mr. Witt how long he leaves his salt on.

MR. WITT: After salting I put it to press. Those times vary all the way from one to four hours. You can't notice that there is any salt there. I keep it on at least one hour.

MR. ADERHOLD: How long do you hold it between drawing the whey and rinsing it?

MR. WITT: Right away.

MR. ADERHOLD: Don't you mat at all?

MR. WITT: No.

MEMBER: Don't you mat it?

MR. WITT: As I wash it.

MEMBER: How long do you hold it after you mat?

MR. WITT: That varies, about 2½ or 3 hours.

MR. ADERHOLD: What is your process after milling?

MR. WITT: I put some more warm water on it and drain it.

SEVENTH SESSION, FRIDAY 1:45 P. M.

HOW I MAKE COLBY STYLE CHEESE

By HARRY OLSEN, Abbotsford, Wisconsin

I heat my milk for setting to 88 degrees and use about half of per cent starter.

Use half ounce of coloring to a thousand pounds of milk, so as to make it a light straw color as trade demands on Colby cheese. Ripening of milk for setting about three hours from setting to drawing whey.

Use 3 to 4 ounces rennet to every thousand pounds milk. This will coagulate the milk in about 30 to 40 minutes. Cutting of curd is the same as other American style.

Stir curd after cutting lightly for about ten to fifteen minutes before turning on steam.

Use thirty minutes for cooking.

Cook curd to 104 degrees.

Stir curd properly after turning off steam, so as not to let curd mat together. When the curd has developed one-eighth inch of acid on hot iron in the winter and one quarter in summer, it is ready to draw whey. When the whey is drawn to the surface of curd, slush it with cold well water and cool evenly to 85 degrees.

Drain the curd by piling it on both sides of the vat. Do not leave the curd lay longer than 10 minutes at a time, before mixing again. Keep this up until it is well drained and worked up loose free from lumps.

Use 2½ pounds of salt to every hundred pounds of curd. Stir salt in well. If this curd has large lumps at time of salting, it is apt to have uneven color. Leave curd lay in vat after salting ten to fifteen minutes before hooping so salt has chance to dissolve.

Pressing of curd is same as other American cheese. Colby cheese should have 38 per cent of moisture, especially in winter, to make a good Colby cheese. It is fairly cured in five or six weeks.

PRESIDENT REED: If any of you have any questions to ask about the process that he goes through in the making of his cheese, now is the time to do it. Now Mr. Mandel having the highest scoring of Colby cheese, I would like to ask him if he has any difference of opinion from that of Mr. Olsen.

TALK BY ERNST MANDEL

Mr. President, Ladies and Gentlemen: I am glad to have received the highest score on Colby Style Cheese, and am very thankful to this Association and its officers that they have given the Colby Style Cheese a grade for itself, and would urge every Colby Style Cheese maker to put in an exhibit on every occasion where they give Colby Style Cheese a grade for itself and help to boost it. This prize cheese was made September, 1922. This is the way it was made:

Pounds of Milk in vat.....	4,000 pounds
Added starter when milk was in one quarter.....	25 pounds
Rennet test showed.....	3½ spaces
Added color	2 ounces
Added Rennet	16 ounces
Vat set at	730
Vat cut with ¾ inch knife at.....	8:05
Began heating at.....	8:30
Stopped heating F. 103 at.....	9:05
Stopped agitation at.....	10:45
Marschall Acid Test showed.....	1.4
Salted at	11:20
Salt used.....	11 pounds
Began hooping at.....	11:40
Per cent moisture in cheese.....	37.5

DISCUSSION

MEMBER: Do you rinse with cold water?

MR. MANDEL: Yes.

MEMBER: How much acid have you in your salt?

MR. MANDEL: I couldn't tell you that exactly.

CHAIRMAN: How much acid at salting time?

MR. MANDEL: We want to make this a sweet curd cheese and we do not want much acid. ⅛ or ¼" of acid would not hold it down anyway.

MEMBER: You have got to have good milk?

MR. MANDEL: We preach that in our factory and we get good milk. When we get off milk, we send it home.

MEMBER: Do you make your cheese that way the year around

MR. MANDEL: All the year around, when we get good milk. We have a little off-grade milk in the summer. We stir it down and that will get that acid.

MR. JOE STEINWAND: We work our cheese about the same as Mr. Mandel stated. We generally ripen the milk so that from the time of setting to the time of drawing whey is about three hours and you have got to have time to give it a good cooking. We use $\frac{1}{2}$ ounce of rennet and after it is cut we heat it slowly. We take about one hour to heat it and get a good cooking, say 104° to 106° then wash your acid—you want very little acid drawing your whey. We don't add quite as much water as Mr. Mandel, we only add 4 pails to 5,000 pounds of milk. Some makers that use a barrel of water spoil their cheese.

MR. ADERHOLD: What is the percentage of moisture in a good Colby cheese?

MR. STEINWAND: Not over 37 per cent. I like to see a Colby cheese cured about six weeks. I have turned out a piece of cheese in June and I just made it good and firm; the second day I took a moisture test of $34\frac{1}{2}$ per cent. I held that to three months and I thought it was fine. They have too much moisture on their cheese and that is what spoils it. We are very hard on our patrons. We don't use poor milk.

MR. ADERHOLD: I want him to tell you these things because he is the originator of the Colby type of cheese. He started that nearly 10 years ago and I was with him; but what I wanted him to bring out was that it is not a high moisture cheese. It hasn't any more moisture than we have in our other cheese. The other thing that sounds good is that he hasn't any gas or pinholes; he hasn't seen that for years.

MR. MANDEL: At the time we made this particular cheese, we saved some out of this vat. We put one in at that Dairy Men's Association convention and they scored the cheese there at $95\frac{1}{2}$ per cent, and this is from the very same batch. It was scored in a court house. It was made on September 17 and it was scored on the 26th of October at $95\frac{1}{2}$ down there and 96 here. That goes to show that the older the cheese gets the better it gets.

MR. STEINWAND: A number of years ago I made a cheese that was made the latter part of September and I had it in the curing room about a month, then I moved it down in the cellar and let it lay there until May and it turned out to be a fine cheese; so it shows it keeps.

MR. ADERHOLD: There is a principle there that is applicable to the other styles of cheese—the better the milk, the better the cheese.

CHAIRMAN: Harry Olsen, have you a curdmill in your factory?

HARRY OLSEN: No.

CHAIRMAN: Now you three gentlemen, according to reports as conditions are, make the Colby style of cheese all the year through, or don't you?

MEMBER: Yes.

MR. OLSEN: So it goes to show that he couldn't make the granulated form as he could the matted form. When he made the milled cheese it didn't work so it shows that the cold water kills the gas.

THE USE OF A PURE CULTURE IN MAKING CHEESE

By P. H. KASPER, Bear Creek, Wisconsin

Mr. President, Members of the Convention, Ladies and Gentlemen: Among the modern improvements in the art of cheese making, there is perhaps no other one factor which influences the product to a greater extent than the use of a good commercial starter. Recent experience seems to demonstrate the fact that the successfully prepared and properly used starter is invaluable in modern cheddar cheese making. It is today a universally recognized fact among up-to-date cheese makers that a good starter is one of the main factors controlling abnormal fermentation in cheese. We know that whenever abnormal fermentations predominate, the flavor and texture are, to a greater or less extent, impaired. Therefore, it is evident that some controlling factor is essential, when we consider that in some cases cheddar cheese has been known to actually walk off the shelves. It is necessary then, in order that this stage of the development of abnormal fermentation may not be reached, that something be done to prevent it.

The preparation of milk for the propagation of a pure culture starter is very simple. Select two quarts of good sweet milk, heat it in water to 185 or 200 degrees F., and hold it at this temperature for about one hour or longer. Then cool quickly to about 70 or 80 degrees F. Now get your little bottle of pure culture, clean the sealing wax carefully from the neck of the bottle and empty the contents into the pasteurized milk. Carefully close the jar or vessel containing the milk and shake it at intervals of five minutes for about an hour. Then let it stand at a temperature of a little above 70 degrees F. until nicely coagulated. When this stage is reached, you no longer have a pure culture, as applied to starters, but the preparation now takes the name of startoline or mother starter. Whenever obtainable glassware should be used in growing the startoline, because when glassware is cleaned and sterilized, it may be stoppered and left for a day or longer without acquiring a bad odor. The only smell which would manifest itself upon opening a glass vessel which has been closed for some time would be a dead air smell. This is not the case with a tin vessel, for no matter how carefully cleaned and sterilized it may be, if it be closed tightly for 12 hours or less, upon opening it, a very offensive odor is noticeable, somewhat resembling bad milk or an old tin can. Due to contamination from this source, all tinware for growing the startoline should be discarded wherever used, and should be replaced by glass vessels. A few glass quart jars with glass stoppers are all that will be needed for the handling of the startoline. The glass jars can very easily be sterilized either by boiling them for five minutes or by applying live steam to them. I believe that by following closely a few simple rules, we ought not to fail to achieve good results.

As we have already seen, we obtain our startoline by inoculating sterilized milk with a pure culture, and allowing it to coagulate. For

the perpetuating of the startoline, the milk may be taken daily from the can of milk pasteurized for the starter. Having the pasteurized milk and the startoline vessels ready, break the coagulated starter up thoroughly, add from 1-3 to 2 per cent startoline to every can and fill with pasteurized milk to within an inch from the top. This space at the top of the bottle is to allow the contents to be thoroughly shaken. After adding the milk to the startoline, shake up well and set it at a temperature of about 70 degrees F. This is our second generation and should not be grown at a temperature lower than 70 degrees F., because the little plants cannot produce the desired flavor when grown at a much lower temperature than 70 degrees for the first three generations. With most cultures the first two generations are not fit to be used for a starter making, as the media in which the germs are sent out impart a peculiar odor to the startoline; therefore, it should not be used for starter-making until free from such odors. The per cent of startoline necessary to be used from day to day for the propagation and perpetuation of the startoline is governed by the strength and condition of the startoline used, the temperature of the room, the time allowed for its growth until it is to be used, and the possible variation of room temperature. In ordinary room temperature about 70 degrees, the milk, when $\frac{1}{4}$ to 2 per cent of startoline is used, should be well coagulated after the lapse of from 10 to 16 hours, and should have an acidity of from .55 to .75 of one per cent.

The care to be exercised in selecting, heating and cooling milk for the starter is not necessarily different from that exercised in the handling of the milk for the startoline. The can or cans used for the making of the starter should be well tinned and all seams should be smooth, to allow it to be easily and thoroughly cleaned. Old cans, especially when the tin is worn off, or if they are somewhat rusty, will impart a "tin can flavor" to the milk, which will affect the flavor of the starter and impair its usefulness. The per cent of startoline necessary to be added to the starter milk to have it ready for use at a certain time depends first on the temperature of the starter milk when startoline is added; second, on the average temperature at which the milk will be kept during the ripening period; third, on the average temperature of the room; fourth, on the time allowed for the starter to ripen before it is to be used; fifth, on the vigor and acidity of the startoline, and sixth, on the faculty of the startoline to produce acidity under variations in temperature. Being influenced by these conditions and the kind of culture used, the average temperature at which the starter can be grown may vary from 65 to 68 degrees, F., with practically the same results.

When the starter is at the point of coagulation at a temperature higher than 65 degrees F. and is not to be used at once, immediate cooling is imperative, since the starter is likely to become overripe and whey off, a condition in which a starter is almost unfit for use, as its action is greatly impaired by this condition and the effect which it should produce on milk for cheese making is partly, or even in some cases, wholly destroyed. It is a good plan to see to it that the starter finishes coagulation at a temperature lower than 64 degrees if not to

be used at once, since when the finishing touches of coagulation take place at a comparatively low temperature, the texture of the starter is more likely to be loose and silky. When in this condition it will, when poured, have the appearance of nicely ripened cream, leave no streaks or show specks or particles of curd. Starters grown at too low temperatures and for too long a period of time, invariably develop sour, slightly bitter, rank or flat flavors, and will if the startoline is saved out from the starter, under such condition impair its future usefulness for perpetuation. During the hot season the starter should not be inoculated in the morning for the next morning's use, since when it has developed quite a degree of acidity, it is difficult to prevent its becoming overripe. When the starter milk is inoculated in the evening, the startoline having the proper temperature and acidity, the starter will as a rule, be in good condition when needed in the morning. During cool weather, however, there is not much danger of the starter spoiling when set in the morning and cooled before evening.

The startoline and starter should be judged by smell, taste and appearance. They should have a clean sour milk smell, a clean acid taste, be free from all cheesy or curdy taints, free from lumps and smooth when broken up.

When a culture produces a low acidity and a sweet flavor in the starter, this can be remedied by ripening the starter to a higher degree of acidity for several days. Also if the culture is slow in coagulating the milk, you will find it will improve in activity by ripening the starter at a temperature higher than usual and using a large quantity of startoline for some two or three inoculations. The slowest culture can in this way be made more active in a few days. If a starter is too acid in flavor it can be brought back to a mild pleasant flavor by ripening it to a low acidity. This is especially noticeable if the starter is cooled to below 56 degrees while still sweet after the inoculation, and kept cool for about 6 to 12 hours. It is then to be heated to about 75 degrees F. in order to quickly coagulate it, when it will be found to have a mild pleasant taste. When this process is used, the starter must be used as soon as coagulated, because there is danger of it wheying off if allowed to stand.

While methods of handling a startoline or starter may vary considerably under different conditions, we must bear in mind that in this as in most other things, the fundamental principles must be adhered to.

THE WORK OF THE COLLEGE OF AGRICULTURE IN THE MAKING OF SWISS CHEESE

By PROF. E. G. HASTINGS, Wisconsin College of Agriculture

Those who are familiar with the manufacture of both American and Swiss cheese, recognize that it is more difficult to make a uniformly high quality of Swiss cheese, than to make a uniformly high quality of American cheese. One of the reasons for this variation in ease of manufacture, and possibly the most important one, is that the

Swiss maker uses one kind of acid-forming organism, the American cheese maker another. The one used by the Cheddar cheese maker is the organism that causes the ordinary souring of milk. It will always be present in the milk and often in such numbers that no additions in the form of starter need be made. The raw material of the American cheese maker carries the essential kinds of bacteria.

The organism which the Swiss maker uses is not found in milk. At least not in such numbers that the milk can be handled with assurance of obtaining a good Swiss cheese without the addition of materials that shall introduce the needed bacteria in good condition and in sufficient numbers. This seeding of the milk with the essential bacteria the Swiss maker seeks to accomplish through the addition of some acid whey, the "Sauer," and through the use of home-made or whey-rennet in place of the commercial extract used by the Cheddar maker. The "Sauer" is made by placing whey from the kettle in a warm place and allowing it to stand until a high degree of acidity is developed. Such an acid whey will contain chiefly bacteria of the so-called *B. bulgaricus* group. These are propagated by transferring some of the acid whey to fresh whey each day.

The whey rennet is prepared by placing some of the dried stomach in whey and keeping at a somewhat lower temperature than the "Sauer." This rennet will contain some of the same bacteria as does the "Sauer" and also the bacteria which produce the "eyes," one of the characteristics of Swiss cheese. It is evident that there are many chances for failure, first in regard to the development of the proper kind of bacteria in the "Sauer" and in the rennet and second in regard to the successful propagation of the acid-forming bacteria in the "Sauer." A prominent factor in the latter process will be the temperature at which the "Sauer" is kept. The success which the many cheese makers have is evidence of what can be done with care and constant attention in the preparation of "Sauer" and rennet.

The quality of the milk is another important factor in determining the quality of the cheese.

During the past season the College of Agriculture has cooperated with the Dairy Division of the Federal Department of Agriculture in helping to introduce methods which are more likely to be uniformly successful than those in common use. Cultures of *B. Bulgaricus* have been supplied to factories for the preparation of the "Sauer." The use of the culture removes the uncertainty connected with the preparation of this starter, for that is what the "Sauer" represents. In case the acidity or the flavor of the "Sauer" becomes abnormal, a new start can be made with a fresh culture. The success of the factories to which these acid-forming cultures have been supplied leads us to believe that their wider use will prove of distinct advantage to the Swiss makers.

Mr. Gere who has been in charge of the work in the field has assisted a number of factories in obtaining a cheap and yet satisfactory equipment by which the "Sauer" and rennet can be kept at constant and favorable temperatures from day to day. The equipment con-

sists of a home-made chamber heated by a kerosene lamp. The temperature controlling device is one used on an egg incubator. The use of such an apparatus removes still another of the uncertainties connected with the making of "Sauer" and rennet and has lightened rather than increased the work of the maker. That such an apparatus would be of advantage in the Swiss industry was self-evident. The satisfied users confirm the self-evident conclusion.

Cultures of eye-forming bacteria have been supplied to a limited number of factories. Their use has been very successful, especially in factories in which the temperature of the curing rooms can be kept low enough during the warmer periods. The eye-forming bacteria exert a marked influence on the flavor of the cheese, imparting to it the sweet taste which characterizes the imported cheese.

By the use of the acid-forming culture and also the eye-forming culture Swiss cheese has been made with success throughout the year. Milk, during the winter, that is forty-eight hours old, has been used with good results.

Another point that has been emphasized in the work is the quality of the milk and the tests by which this can be determined. Poor milk and poor "Sauer" and rennet are certain indications of failure. The tests which have commonly been used for judging milk are the fermentation tests and its modification, the Wisconsin curd test. It has been recognized that there is danger in the use of these tests in that the milk that may be best for Swiss cheese will be adjudged poor. The maker is thus led to influence a patron who is already doing all he should to produce a good quality of milk to improve his methods, while a far more guilty patron is missed. A good curd in a fermentation test is ordinarily obtained only when the milk contains a considerable number of ordinary lactic bacteria. A milk which is very fresh and which has been produced under very clean conditions will usually show a poor curd, yet there are many reasons to believe such milk is the most favorable for Swiss cheese since the few bacteria it contains can not compete with those added in a good "Sauer" and rennet. In other words, the Swiss cheese maker is interested in not only the kinds of bacteria, but in their numbers. The methylene blue reduction test gives the maker a good indication of the number of bacteria in the milk of a patron and when the results are combined with those secured in the fermentation test, he is in a better position to judge the quality of milk supplied by any patron than if he uses the fermentation test or the curd test alone. He will also avoid, we believe, doing an injustice to any patron, something not possible when the fermentation or the curd test is used alone. The results which we have obtained with the methylene blue test have justified the hope which we had in it.

The production of a good quality of cheese for Swiss cheese is an easy matter if the farmer will pay sufficient attention to the condition of the milk utensils.

It seems from our work that the milking machine is one of the chief sources of trouble at the present time. There is absolutely no reason why milking machines should not be used with success in the

production of milk intended for any purpose. The cleaning of the machine, however, cannot be neglected without injury to the quality of the milk. Many farmers say they do not have the time to give toward the care of the machine. This is one of the things for which time must be taken. It is very easy for the cheese to be reduced in quality to such an extent that it will bring a number of cents a pound less than it would have brought if the milk had been of higher quality. If the farmer could be brought to realize the true relation between the condition of his milk utensils and the price he is receiving for his milk, he would undoubtedly realize that the time spent in keeping the utensils in good shape is bringing him a large return.

One of the troubles which has attracted a great deal of attention in the Swiss cheese district of this state has been the so-called Stinker cheese in which larger or smaller areas of the cheese develops a most offensive odor. In the more marked cases, the odor is quite similar to that of a rotten egg. This trouble has caused an enormous amount of loss in past years, especially during the summer of 1921. During the past summer, 1922, there was very little, if any, Stinker cheese made. Many suggestions have been made with reference to the cause of the trouble. It undoubtedly rests upon the presence of certain types of bacteria in the milk. The source of these organisms is unknown. In our field work it was noted that the Stinker cheese did not occur when active acid-forming bacteria were used in the making of the "Sauer." This has led us to undertake some experiments in which we have sought first to produce Stinker cheese by the inoculation of the milk, and second to determine whether by the use of good acid-forming cultures the occurrence of this trouble in the cheese made from such inoculated milk could be prevented. We have been able to make cheese which showed a most offensive odor. The degree to which this odor develops depends to a considerable extent upon the number of bacteria which were introduced into the milk. A sufficient number of cheese has not yet been made under such a variety of conditions that one can say exactly what can be done with acid-forming cultures to prevent this trouble. All of our results, however, point to the fact that with good acid cultures there will be a marked improvement in the cheese made from any sample of milk containing the organisms which are responsible for this particular cheese trouble.

The results which we have secured emphasize the necessity for care by the Swiss cheese maker in the propagation of his "Sauer" and in the preparation of his whey rennet and in shipping the milk delivered to him by his various patrons. We are very certain that starting with a good culture and maintaining the culture at a favorable temperature will do much to overcome many of the troubles to which the Swiss cheese industry is now subjected.

The results of the field work and of that done in the laboratory and cheese room show that much of the trouble encountered in the Swiss industry is due to faulty milk, poor "Sauer" and rennet, things which are self-evident, and that to avoid trouble the makers must use reliable methods for the examination of the milk and for the preparation of the "Sauer" and rennet. All of these are more or less neglected at

the present time. The whole-hearted cooperation of farmers and cheese makers is needed in order to improve conditions. This cooperation is something that is sadly lacking in many instances at present.

Now we hope to continue this work during the coming season, but it depends on if we can get sufficient men to come into the field. You may get the money, but there is a question if you can get the men. Private companies can pay salaries that the State and National Government cannot compete with. If we can get men to put into the Swiss cheese district is something that we will have to leave to the future to take care of.

FAULTS SEEN IN THE CONVENTION CHEESE EXHIBITS. HOW THE PRIZE CHEESE WERE SCORED

By MR. WM. HUBERT, Sheyboygan

Class 1.			
1922.....	88.....	73 Fancy 15	No. 1 and 2
1923.....	114.....	82 Fancy 26	No. 1
Class 2.			
1922.....	112.....	61 Fancy 51	No. 1 and 2
1923.....	82.....	60 Fancy 22	No. 1 and 2
Class 3.			
1922.....	68.....	50 Fancy 18	No. 1 and 2
1923.....	53.....	37 Fancy 16	No. 1 and 2
Average Score.			
Class No. 1.....			94.78
Class No. 2.....			93.92
Class No. 3.....			93.80
Class No. 4.....			92.29

We had one cheese in the exhibit room whose texture and flavor was way up, but it was badly checked. We only had two really bad cheese in the whole exhibit. We have made a great improvement over last year and if you keep on like this next year at the same rate, I do not think we will have any bad ones at all.

SECRETARY SAMMIS: I have great pleasure in introducing Prof. Fisk of Cornell University. He will tell you what he has learned out of last year's experience. I believe you will be glad to hear what he has to say.

ADDRESS

By PROF. W. W. FISK, Ithaca, N. Y.

I have been hoping you would not pass a resolution that no one can come here from outside of this state. This is the second time I have come here and I assure you that I have enjoyed every minute that I have been with you. I want to congratulate you on the great industry you have in this state. I went across the water last summer and in the hold of that ship, 75 feet below the water line, I saw men who were stoking the boilers that were furnishing the steam that

was making that ship go. It was the officers on the bridge above that were running the ship, it was the cooperation of these officers and men that made the ship go—so you may talk all you want about advertising and merchandising, but you have got to strip down to the waist and you have got to make the quality of cheese that will make this "ship" go. It will take a lot of work to do it.

I enjoyed hearing the discussions that have taken place here. New York state as you know has produced a great deal of cheese. We have lost ground because of the demand for city milk. We too have had all these discussions which I have heard here to-day and we have gone through the same mill that you are going through and perhaps you might take a little of our advice. But I do want to mention one thing, when you come to consider quality in cheese there are three things that will produce quality. One is, equipment in the factory; the other the skill of the cheese maker and the third, the quality of the raw products that go in to make that cheese. We are finding down in New York state, and it has puzzled us quite a bit, that the question of the raw material is a big factor. It is a thing that has come to stay. Prof. Hastings mentioned it this afternoon. I refer now to the mechanical milker. I know we have some people in New York that have been against the mechanical milker. We have found that if the milker is given the proper care and attention it is possible to produce as good and even better milk than hand-drawn milk. The whole secret is to keep the machine clean. You have to preach the gospel of giving a good quality of milk and so this simply adds another burden on you to preach the gospel of clean milking machines, and I believe that is the only solution. Some cheese makers will protest against mechanical milkers. I asked one if he would trust me to weigh the milk the next morning. I weighed the milk and he and I checked up identically on the flavor of the milk. Each one of us checked out the poor milk. They couldn't pick out the mechanical milker milk. It was simply a case where they were prejudiced against the mechanical milker. I urge you not to be against the mechanical milker. I believe it has come to us to stay. It does offer us a serious problem. In order to make good cheese from mechanical milk, you must keep the machine clean.

I certainly have enjoyed myself and I hope that next year you will have even a more successful convention than you have had this year. (Applause).

MODERN CHEESE FACTORY VENTILATION

By R. R. CROSBY

Mr. President, Ladies and Gentlemen: In discussing the subject given me, Modern Cheese Factory Ventilation, I do not intend to describe or advise any particular combination of fans, flues, openings and dampers, because there are probably not two factories in the state where conditions affecting ventilation are the same. Recommending any cut and dried system for all factories would be like treating all

diseases with the same medicine, or like trying to use exactly the same methods every day in making cheese, regardless of the amount, temperature, or ripeness of the milk. It would be a failure.

I will try to outline:

1. What is meant by ventilation.
2. What we expect to accomplish when we attempt to ventilate.
3. What ventilation depends on, or the principles back of it, and a short discussion of the means of putting these principles into practice.
4. And then, if possible, to have you feel as I do, that good ventilation is as necessary to the cheese factory as the vat or kettle.

Now what is ventilation? Ventilation, as the word is generally used, may be called the process of getting fresh air into a room, building, or space, in sufficient amounts, or removing undesirable air, gases, odors, moisture or dust, and at the same time maintaining the proper temperature. If this definition is correct, ventilation is efficient when all that is expected of it has been accomplished. In the bank of the Mississippi River at St. Paul, are some dark and very moist caves where large crops of mushrooms are grown commercially. Although no special devices are provided, these caves are surely efficiently ventilated because the small amounts of fresh air and light which do get in are the right amounts, and the correct amounts of moisture and heat are left in the caves.

It is, therefore, results we are after, but the desired results are very seldom obtained as easily as they are in the mushroom caves. In fact, in cheese factories it seems that we meet as many problems as anyone ever meets when trying to ventilate. We will all probably agree that factories should be ventilated, but let's spend a few minutes on what we hope to accomplish by doing so.

In the first place, we want to get rid of excess moisture. There is always some moisture in the air and a certain amount is necessary. If the air is too dry, we have such results as the pulling apart of glued furniture joints, the drying of the linings of our noses and throats, which often has serious results on our health, and in the curing room that is too dry, we have one of the common causes of checked rinds. Some types of cheese have to be in a very moist air for curing in which cases it is often necessary to get more moisture into the air rather than to dry it. But most of the problem of factory ventilation relates to the decreasing the amount of moisture in the air. This water may exist in two forms, as very small drops which we can see and may call steam, and as vapor which we cannot see. Water vapor resembles a gas and is in the air just as truly as the gas in the cylinders of a motor before the explosions.

The free steam in an unventilated room may condense on the surface of objects or may evaporate and become water vapor. The vapor cannot increase beyond a certain amount for any given temperature, and when it reaches that point, the air is said to be saturated with moisture, or to have a relative humidity of 100 per cent. The air in an unventilated factory may actually hold almost this amount at times; it may be like a saturated sponge just ready to drip. But there does not have to be anywhere near this much present to cause damage.

Normally the air in this climate has a relative humidity of about 70 per cent and an increase of only 5 or 10 per cent over this amount is harmful if it is not removed by ventilation. By this excess moisture being in the air, there is greater condensation on cold surfaces to add to the water which may already have condensed there from the free steam. The drying of all wet surfaces of the factory and utensils is greatly slowed down. Normal drying of the cheese is hindered. Woodwork of the factory decays rapidly. Wooden utensils and equipment decay. Coat after coat of paint may be ruined. Pipes and all metal equipment rust and corrode. The saving of machinery and equipment from preventable destruction is good business at any time, but more especially now that their cost is high. Mold growth appears on walls, ceilings, shelves and cheese. As moisture is one of the greatest factors in promoting the growth of mold, the checking of mold in a poorly ventilated factory is almost impossible. Disinfecting, burning sulphur candles, scrubbing and scraping cannot replace ventilation to keep down mold, because the spores or seeds of mold are practically everywhere, especially indoors. Mold spores are here in this room now by millions and it would not take long for a moist piece of bread or cheese to become moldy, if it were exposed here.

Moisture may collect in sufficient quantities on the ceiling and pipes to drip into milk or other food products, hardly a sanitary condition. Moisture may also induce mold growth to take place in starter. Probably many a good starter has been ruined by going "Frowy" or moldy by infection from the air. And last to be mentioned, but not least in importance, is the result of damp air on the people who work in the factory. Clothing is never then dry and whenever a draft at the intake strikes a person, or he goes into cold air for any reason, he is subjecting himself to colds and rheumatism, and even paving the way to pneumonia and tuberculosis. This is not theory or supposition for you and I have seen maker after maker working against the handicap of chronic rheumatism, or suffering from acute rheumatism, or have seen them with colds which hung on until pneumonia or tuberculosis resulted. We have seen them go into other work against their desire, or have seen them forced to give up their places, unable to do any work. These men are disabled veterans of the dairy industry just as truly as some are disabled veterans of the World War. And disability isn't always as far as it goes; there are far too many who become fatalities, who die as a direct result of working in damp factories. Men may become hardened to stand a great deal, but there is always a breaking point.

Besides removing excess moisture and checking its accompanying evils of rust, decay, mold growth and disease, we also by ventilating expect to provide fresh air for those working in the factory, replacing the air which has been once breathed as well as objectionable gases and odors. Removal of the carbon dioxide breathed out by men and animals is not now emphasized as much as it used to be as one of the great reasons for ventilating. If a great number of people or animals remain in a tightly closed room for very long, removal of the carbon dioxide may become important, but even then the greatest

reason for ventilating is still the removal of the moisture and often of the heat given from the lungs and bodies of those in the room. With only one or two working in a cheese factory, removal of the carbon dioxide is somewhat of a consideration but not the chief one. Such fresh air, however, provides more sanitary conditions in which to produce and handle cheese and whey cream than would exist if these products were manufactured in a tightly closed factory, where the air had been breathed over and over again, or where odors accumulated rather than being removed as they were produced. Removal of dust by ventilation from some mines and from some kinds of factories is necessary, but is hardly a consideration in a cheese factory.

In accomplishing what we expect to as thus far giving in cheese factory ventilation, we must do so without creating drafts and must maintain a desirable temperature. In going about this, what facts and principles must we depend upon and how should we attempt to work out the principles in practice?

Above all we should have a system under our control. One which we may regulate to varying natural conditions over which we have no control. If parts of the system are well regulated automatically so much the better for us. A system which cannot be controlled is much like the outside wind.

We may place the elements of a controlled system of ventilation for cheese factories in the following order which is merely for convenience and is not intended to give them in their order of importance.

1. The building itself.
2. The motive force required.
3. The fan.
4. Heat.
5. The outlet flues.
6. The inlet flues.
7. Miscellaneous devices—sub-earth duct, etc.
8. The human element.

The building itself is a very important part of every ventilation system, so important a part that if it is not of the right construction all of the other elements of the system could be of the best and no ventilation would be accomplished. The room or building to be ventilated must have tight walls and ceiling and have them if at all possible containing a dead air space. In getting tight walls it is necessary that all windows be tight as to frames, sash and glass, and that doors fit well. It is better to have storm sash and doors for winter if possible. Roofing or tar paper nailed on a screen door is good. If possible there should be a wooden door between the weigh room and make room with an outside door of course on the weigh room. Trap doors going into the garret or overhead rooms should be kept closed. If there is only a garret above the factory rooms, ceiling joists should by all means be covered with a tight floor. All breaks in the siding or inside sheathing of frame building should be promptly repaired and as the lower boards rot loose they should be replaced with sound lumber. For other reasons than ventilation, keeping a building in repair is a good investment and not an expense. A well-

made frame building is very satisfactory to ventilate. Paper should by all means be placed under the outer siding and the inside lumber should be of good grade and be tongued and grooved rather than plain or matched as ship lap. For the side walls six inch white pine flooring is probably as good as anything.

If the walls be of concrete block, tile, or brick, all cement and mortar work should be done as well as possible—air leaks may make ventilation impossible and waste expensive fuel. Walls of unglazed tile seldom are air-tight unless outside stucco finish and inside plaster are put on, when a wall of such tile becomes very satisfactory. Solid concrete blocks or stone are hardly the best things for cheese factory walls. If they are used a course of brick inside, leaving an air space between, or lath and plaster on two inch strips attached to the solid walls are necessary if ventilation is to be efficient. Hollow concrete blocks or glazed tile are often satisfactory, especially if they have interlocking joints. In a brick wall there should always be two courses of brick with an air space between. The air space should really hold dead air. In a building of which I know shingles could be stuck in around the window frames and all along above the inside course of brick was a space which had not been closed with mortar. An otherwise complete system of ventilation was installed but was a failure until these cracks were stopped after which it worked successfully.

Why spend all this time discussing the building? Why is it so important a part of the system? Here are the reasons: No real year around ventilation was ever accomplished by drafts. Drafts may be called the rather strong winds or air currents that blow directly into a factory through a door, window or crevice. In the summer when conserving heat is not a problem, make room windows and windows and doors may be opened and walls which are not tight may then be no handicap. Drafts will blow through and we get somewhat of a change of air. But even then we all know that there seems to be one or more hot stuffy corners where there appears to be no change of air. We therefore must have a building which will admit no drafts as part of a ventilation system which is to operate when we do not find it possible to leave the doors or windows open.

We must have a dead air space around the room because many materials of which buildings are constructed are excellent conductors of heat. A single wall becomes so chilled in cold weather that as soon as the air inside the factory touches the cold walls or ceiling it contracts and much of the moisture it was carrying is at once condensed and settles on the cold surfaces. It either freezes or furnishes favorable location for mold, decay, odors, and other unsanitary conditions. Warm air being able to hold considerably more moisture than cold air, will pass on by a warm wall with its load of moisture and eventually out of the room through the ventilating flues.

Cold walls may also, by cooling the air at the wrong place, in the room, interfere with the direction of currents circulating in the right direction up to that time to produce good ventilation. Walls not containing a dead air space also permit enormous heat loss to take place through them which makes the double wall a distinct gain economically.

The next element of ventilation is motive force. Movement of air or any other matter requires force and we cannot ventilate unless we have a moving or motive force. Like running even a Ford without an engine, it simply cannot be done; and when the motive force stops acting ventilation ceases.

In so-called forced ventilation, the ventilation currents are caused by a fan run either directly by an electric motor, or from a power shaft. Forced ventilation of this kind is essential under many conditions in industry—as in mining, in factories where dust or harmful gases may escape into the air, and where the heat is high, as bakery, hotel and restaurant kitchens. Creameries find fans almost a necessity because of the great amounts of steam set free when cream is pasteurized and when churns and ripeners are washed. But as soon as the clouds of steam are gone the fan must usually be stopped at once, or heat which is needed in the room will also be forced out. It is doubtful if a fan is advisable in the average cheese factory. In many it is impractical because of there being no suitable and available power.

Leaving the forced draft system, we come now to the so-called natural draft systems. Here we must also have a motive force, or we get no movement of air through the flues. We have available three such natural forces. Sometimes any two or all three of them may be acting at once. They may not only act to help ventilation, but unless they are limited or controlled in-so-far as they affect the space to be ventilated, may hinder ventilation or even go so far as to reverse air currents in the flues, producing what is called a back-draft.

One of these natural forces is wind pressure and may come into play when the wind is blowing directly against the side of a building to force air through the intake flues. This force varies with every change in the velocity or strength of the wind and with every change in direction of the wind. Sometimes we have no wind and sometimes a gale of thirty miles an hour or more. Wind may come from any side or corner of the building. Because of this great variation wind pressure, while it affects ventilation, cannot be depended upon as the chief motive force.

Wind suction is another of the forces available and as we consider it, is the drawing of the air through a flue by the wind passing across its top or outer end. If this suction is caused in the outlet flues, we have a current of air established in the right direction. If, however, suction is caused through an inlet flue, we have a current established in the wrong direction, or we have a back-draft. If back-draft is taking place in one or more inlet flues, and atmospheric conditions are right there is apt to be a back-draft down the outlet flues, for air will enter the factory to replace that drawn out at the inlets. There have been various devices put on the market for preventing back-draft.

Wind suction, like wind pressure, varies with every change in the strength of the wind and is therefore hardly more dependable than wind pressure as the primary motive force even though it does play a part in every natural draft system.

We now come to the third and last force available which we will call temperature difference. Under ordinary conditions heating air will expand it and hence a cubic foot of warm air will weigh less than a cubic foot of cold air, giving warmed air a tendency to rise. Heating air through 1° F, expands it about one cubic foot for every 491 cubic feet, or about $1/500$ ths of its volume which seems like a small amount. But as the expansion continues for every degree the air is heated the increase in volume is considerable when there is a rise of 5° or 10° in temperature and it is enough to cause the heated air to rise easily. The currents caused by this rising of warm air and falling of cold air are called convection currents. As there is practically always a source of heat in a building to be ventilated, such as the natural heat from the cattle in a stable, or the heat artificially produced in a cheese factory, and because the supply of heat is fairly constant or is more under control than wind pressure and wind suction, it is, for most natural draft systems of ventilation, the heat produced within the building which is depended upon for moving the air. Heat is, therefore, a necessary element in a ventilation system.

We now come to the question of flues. As I said in the beginning, it is not my purpose to advise any particular arrangement or combination of flues. No one could do so with any assurance at all of the arrangement recommended being successful. There are, however, some general facts which may be considered.

About thirty-five years ago Professor F. H. King of the Wisconsin College of Agriculture, devised a system of ventilation for barns and later applied it to schools and dwellings. A few others had made some study of the subject, but there was very little for Professor King to start on, and he may be called a real pioneer in the science of ventilation. The ideas of his original system are in general use to-day, and practically all modern systems of natural draft ventilation are based on that system to almost the extent that they may be called King Systems.

In the King System, the warm, foul air, moisture, etc., from the room to be ventilated was conducted up through an outlet flue going through the roof. The lower end of the flue extended well down toward the floor, but it was advised that there be an opening in this outlet flue near the ceiling, this opening having a damper or shutter. By the flue going to within a foot or two from the floor it was expected to conserve heat in the room by drawing off the colder lower air. Then by having an opening into the flue near the ceiling and the damper open as needed, it was thought possible to cool the room more efficiently in hot weather. Many of these floor flues are in successful operation today, and many are being installed. It seems best that there should always be ceiling openings in connection with the floor flues, either as openings higher up in the floor flues or as openings from which separate flues lead. Some are even completely discarding the floor flues.

Many of the outlet flues whether leading from near the floor or from the ceiling were formerly made of wood. They were made with tight sides, as all flues should be. Air leaking into the flue through

cracks and holes causes cross or back currents which check or entirely stop the flow of air up the outlet flue. Properly made wooden flues were insulated by being made with paper between two thicknesses of lumber, and it is best to-day to insulate flues where exposed for any distance in very cold garrets or rooms above the ceiling. This is to prevent condensation of moisture on the cold inside surface of the flue. But even when insulated, the wooden flue absorbed moisture as any wood will when there is excess moisture in the nearby air. I have seen wooden flues in time become wet, slimy, foul and unsanitary. The corners in the wooden flues have also been considered a handicap to the upward passage of air, because for a given area they presented more surface for friction and condensation, and because eddies were apt to form in the corners working against the air going up. It seems better, therefore, to use round galvanized iron flues, insulating them where necessary by asbestos, felt or boxing of some kind. If square flues are used below the ceiling of the room, it is for appearance and convenience, but they are often somewhat larger than the round flues above the ceiling to make up for their lower efficiency.

An outlet flue should always have a reasonable length as its efficiency is somewhat dependent on its length. But there are disadvantages to extending it above the roof of the building as the part of the flue above the roof is then exposed to the cold and great condensation of moisture in the flue may take place—the moisture being the very thing we are trying to get rid of by having it pass out with the air instead of condensing in the flue. A flue extended above the roof is also more exposed to wind suction, which we have seen is so variable that it cannot be considered a satisfactory force to draw air up through the flue.

An outlet flue should always have a cowl or weather cap of some kind at its upper end. Rain and snow are, of course, thus kept out of the flue. A disadvantage of the revolving cowl on a cheese factory is that some of the large amount of moisture at times going through the outlet may condense and freeze where the cowl revolves. If the cowl were thus to be frozen in place, a change in the wind might result in a very strong cold draft coming down through the outlet. I will frankly say that I believe the commercial ventilator heads, caps or aerators to be better than the great majority of home-made heads, as they are better designed to prevent back-draft.

The intake flues admit the air through the walls, usually near the ceiling, although systems have been devised where the intake flues were in other places. In the Rutherford system they were near the floor line. In the system as designed by Professor King and in many systems installed to-day, the outside end of the intake flue is three feet or more lower than its inside opening, which is just below the ceiling. This was done with the idea of trapping the warm air in the room, of breaking the force of the cold air entering the room when wind pressure was high, and of decreasing the tendency to back draft. These flues were provided with slides or dampers. Some systems now being installed have practically a straight intake flue, the downward turn being omitted. But in these flues are various parts designed to act as baffles against air coming in with too much force, and to automatically prevent back draft.

Two common structural causes for the failure of flues to ventilate a room are locating the flues in the wrong places and having them too small. Some have too few flues which is similar to having them too small as the total capacity of all flues is insufficient in either case. Only a few words as to location of the flues. An extreme case of inefficient location would be to have all the intakes and all the outlets in one corner of a room—the air at the other end would not be changed at all unless perhaps the room was no wider or longer than it was high. Flues should be located so that convection currents will circulate in all parts of the room or cover all of the floor space. And, of course, flues should be large enough. It is far better to have them too large than too small for dampers may be partly closed when necessary.

And lastly, but not least, there is the human element of every system. The most complete and elaborate set of flues it is possible to install is not going to work as it should if a man neglects his duties. I have seen many systems which were installed and paid for and then absolutely neglected. I have gone into factories to find them full of heat or steam and all dampers closed. The man in charge must see the dampers are closed when they should and opened when they should be or the expense and labor of putting in the system may as well not have been spent.

If a whey tank is located in a separate room very foul and unsanitary conditions may be created if that room is unventilated. Such conditions are especially objectionable if the whey is to be skimmed.

In the making room it is common practice to close all dampers at night. Besides saving fuel and steam the prompt repairing of leaks in steam lines is a great help to any ventilating system.

In the curing room conditions should be such that a rather uniform temperature results. The curing room must be kept cool in summer and warm in winter. Properly built walls are important in this but ventilation is also essential. Summertime ventilation is sometimes accomplished by opening the windows only at night but even here it seems agreed that a more constant but slow change of air would be better and that a more efficient removal of moisture would take place if such removal is needed, or circulation of moist air if that is needed, depending on the type of cheese.

The sub-earth air duct is another means of ventilating the curing room and its use has been discussed in previous years at the convention. I believe there are some here now who are using the sub-earth duct and find it very satisfactory.

A good many of us here this morning do not own or expect to own factories, but whatever influence we can exert for better ventilation of cheese factories will directly help in benefiting the cheese industry. In addition to all the direct benefits to the maker, the factory and the cheese, there will be the example set to the patrons who have not yet ventilated their barns. Do you know of the healthiest cows or the best-flavored milk coming from the unventilated barns?

And let all of us realize that ventilation is being paid for just as surely when a factory is not ventilated as when it is, and often paid

for at a greater cost. It is being paid for in the deterioration of the building and equipment, in increased labor and fuel necessary, in decreased efficiency of the maker or decrease in working life of a good maker, and in direct lowering of quality of cheese. Let us consider it just as necessary to ventilate a factory already built as to provide ventilation for a new building. Let us notice that many or most of the new factories going up to-day have ventilation systems installed when they are built which is good indication that many men believe that they may as well have the advantages of ventilation as long as those advantages are paid for whether they are there or not.

WHY AND HOW TO PASTEURIZE THE WHEY

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

There are many cheese makers in Wisconsin who believe that it is well worth the trouble and expense to pasteurize the whey and have made whey pasteurization a part of their daily work for years. If you ask them why they pasteurize, the answer will be, "Because I get better milk. The whey tanks are more readily cleaned. The farmers like the whey pasteurized."

There are hundreds of other makers who believe it would be a good thing to do, but do not do it. When asked why they do not pasteurize the whey they will say, "It costs too much. The farmers won't pay me anything extra for doing it. The patrons don't like the whey pasteurized;" and many other excuses, all of which are mostly imaginary. All of these objections that may be presented rapidly vanish with a few weeks trial of efficient pasteurization.

Another class of cheese makers believe that to pasteurize the whey is wasted effort and useless expense. They talk that the whey is practically valueless hog feed, and that the whey tank is only a large sized swill-barrel. As a consequence of this line of talk and practice, whey tanks are found that make the farmer's swill-barrel appear as a sweet smelling sanitary receptacle in comparison with tanks that are not cleaned for weeks and months, so putrid and rancid, that in hot weather they become infested with maggots, and the farmer must haul this liquid mess home in the cans which must be used the next morning to deliver milk to the factory. Considering whey as hog feed and allowing that it will be fed at a nearby feeding station, even then to allow tanks to become so filthy as those that are found at some cheese factories, would be demoralizing to the standards of even a hog.

Years of experience in cheese factory operation convinced me pasteurization of the whey was a labor saving proposition for the cheese maker and a direct benefit to the patrons. I do not want to be understood as thinking that dirty whey tanks are directly attributable to an absence of pasteurization of the whey. Whey tanks can be kept clean without pasteurizing the whey.

No valid reason can be advanced for not keeping a whey tank clean, and any reason that may be advanced would be born of an ignorance

of the facts relating to the fundamentals of the cheese industry. Where the whey is returned in the same cans that are used for delivering the milk, the whey tanks should be kept as clean and sanitary as you would expect your patrons' cans to be kept, or as clean as your milk vat or other utensils in the factory.

Advertising cheese and other dairy products is being more strongly considered to-day than ever before, the object being to increase the consumption of these products that play such an important part in the prosperity of Wisconsin. Printer's ink and skillfully worded paragraphs combined with the lithographer's art accomplish wonders in letting the world know that you have something to sell, and that it is the most valuable and highly prized line of foods known to man. Printer's ink will not accomplish all, in fact very little, unless we can back up our advertising with the quality of dairy products that we tell them we have and show them examples of the cleanliness and sanitation practiced in the manufacture of these goods.

The dirty whey tank is an example of advertising, a striking example of the kind of advertising that brings adverse results and does much to destroy the effectiveness that might be gained by skillful advertising. It is a daily advertisement to the farmer of unclean practices at the factory, and a transgression of the fundamental principles of cleanliness and sanitation. With what grace can the maker ask or expect the farmer patron to bring pure milk as raw material to his factory, when the whey tank has been permitted to become the source of pollution of the farmer's milk cans.

Returning whey in milk cans has been practiced since the early days of cheese making. It is a practice fraught with many evils, and so recognized by many for years, but inasmuch as we are up to this time unable to get away from it, the next thing to do is to reduce the evils to a minimum.

Pasteurization of whey can be best accomplished by heating the whey to 145°F. and holding at that temperature for twenty-five minutes. At this temperature disease producing germs, such as tuberculosis, scarlet fever, diphtheria, and other bacteria producing yeasty fermentation and gas are destroyed.

When trouble is being experienced with yeasty fermentation resulting in Swiss holes in American cheese or with pin-hole gas, the trouble is often traced to a certain patron's milk, and the original cause removed only to find that other patrons' milk is like affected, but not from a like cause. The trouble once started, the whey from the originally infected milk inoculates the whey tank, and unless absolute sterilization of the whey tank is practiced daily, the whey becomes a seething mass of liquid, bacteria laden, to be returned in the milk cans of the patrons.

If all cans are not thoroughly washed and sterilized, enough of the troublesome bacteria remain to inoculate the fresh milk, and often the trouble is carried along day after day long after the original source of trouble has been removed.

Pasteurization of the whey prevents such epidemics of Swiss holes and gassy curds, that so frequently occur, especially in the hot weather.

The tank may be thoroughly cleaned daily, and should be, but unless the whey is pasteurized, bacteria will continue to multiply and be carried along from day to day through the medium of the farmers' milk cans, that have been infected from the whey tank. The hot whey in the tank acts as a sterilizing medium. Wooden tanks, rough and open seamed, are more readily kept sanitary because of the fact that the whey at pasteurizing temperature penetrates the rough spots and crevices and serves to keep the tank in a sanitary condition.

Pasteurization of the whey and clean tanks mean a sweeter, cleaner whey. The farmer's milk cans are more readily and more perfectly cleaned. The whey, when pasteurized, is much preferred by the patrons. Pasteurization takes nothing from the whey and adds nothing to it but sanitation and safety, and that is everything. The cost of pasteurizing is very frequently the reason advanced for not so treating the whey. The expense varies greatly in different factories, depending upon the manner in which the heating is done. It is true that in factories not equipped with steam boilers, the original cost for the equipment necessary to pasteurize the whey may be quite an item, but when the convenience, and it may well be said the necessity of having a steam and boiling water for cleaning and sterilizing purposes, is considered, the investment would be a profitable one and the expense negligible. In the majority of factories today, the whey is skimmed, and the jets used for elevating the whey heats it to temperatures varying from 120°F. to 150°F. The additional steam needed in the average factory to finish heating to the pasteurizing temperature is a very negligible quantity. The exhaust steam from turbine separators is sufficient to pasteurize the whey in most instances when properly applied. It is true that the expense of heating the whey in an open tank by carrying the steam directly into the tank is expensive. The whey, being kept in circulation by the steam, is constantly exposed to the temperature of the air, and the cooling effect, constantly present, results in an extravagant use of steam. After the whey leaves the separator, the heating should be continued rapidly to the required pasteurizing temperature, either by the application of the exhaust steam from the separator, or by steam direct from the boiler. Many devices are now being successfully used to heat the whey, the makers frequently working out a system of heating suitable to their own factory. When whey is jetted from the separator, a steampipe can be connected with the delivery pipe and enough steam turned in to complete the heating. Heating done in this way requires but little steam to raise the temperature from 120°F. to 145°F.

The expense of and how to do it are not the things that keep men from pasteurizing whey. The thing most required is the knowledge that the future success of the cheese industry of Wisconsin demands that every man connected with it do the very best he can to maintain the proud position we now hold in the cheese markets of the country. We must tell the world that Wisconsin cheese is the very best that can be made. We must demonstrate that cleanliness and sanitation is adhered to in every detail in the production and care of the milk and the

process of manufacture into cheese. When cleanliness, sanitation and quality are to be considered, the question is not, "Can I afford it?" but, "Can I afford not to do it?"

Many of the best cheese makers of the state, with records of high standing as manufacturers of high grade cheese, are pasteurizing the whey, and have been for years, not because of any law, but because of a common sense view.

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 OCT. 1, 1922.

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

\$10 in gold from Stoelting Bros. Co., Kiel, Wis.
 One stag handle, silver ferrule, Carving Set, from the J. B. Ford Co., Wyandotte, Mich.
 One First Quality Kaaba Pearl Necklace, gold clasp, from the Pyramid Oil Co., Minneapolis, Minn.
 One box Buckeye Metal Polish from the Buckeye Chemical Co., Akron, Ohio.
 \$5 cash from the De Laval Separator Co., Chicago, Ill.
 One nickeled, Automatic Pencil, from The General Laboratories, Madison, Wis.

(See also Sweepstake Prizes.)

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

\$25 Leather Cushioned Rocking Chair from the Pauly and Pauly Cheese Co., Manitowoc.

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

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

Special Prizes, for American Cheese in Class 1.

- (4)** \$35 Waltham Gold Watch, 16 size, with 25 year gold filled case, and 17 jeweled adjusted movement, from A. J. Marschall, of the Marschall Dairy Laboratory, Madison, Wis., for the best cheese made with Marschall Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points. No maker can get more than one watch, and only one watch can go to the same factory. At least ten cheese must be entered in the class.
- (5)** \$50 Gold Watch, or \$50 cash, winner's choice, for the highest scoring cheese in this class, provided that Hansen's Rennet Extract was used in making the prize cheese, and so stated on the entry blank.
- (5A)** \$5 cash from the Morton Salt Co., Milwaukee, for the best cheese in this class made with Wyandotte Salt, and so stated on the entry blank.

CLASS 2. CHEDDARS, FLATS AND DAISIES, MADE ON OR AFTER OCT. 1, 1922.

(6) First Prices in Class 2.

\$10 in gold from Stoelting Bros. Co., Kiel, Wis.
 One stag handle, silver ferrule, Carving Set, from the J. B. Ford Co., Wyandotte, Mich.
 One First Quality Kaaba Pearl Necklace, gold clasp, from the Pyramid Oil Co., Minneapolis, Minn.
 One box Buckeye Metal Polish from the Buckeye Chemical Co., Akron, Ohio.
 \$5 cash from the De Laval Separator Co., Chicago, Ill.
 One nickled Automatic Pencil from The General Laboratories, Madison, Wis.
 (See also Sweepstake Prizes.)

(7) Second Prizes in Class 2.

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

(8) Third Prizes in Class 2.

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

Special Prizes in Class 2.

- (9) \$35 Waltham Gold Watch, 16 size, with 25 year gold filled case, and 17 jeweled adjusted movement, from A. J. Marschall of the Marschall Dairy Laboratory, Madison, Wis., for the best cheese made with Marschall's Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points. No maker can get more than one watch, and only one watch can go to the same factory. At least ten cheese must be entered in the class.
- (10) \$50 Gold Watch, or \$50 cash, winner's choice, for the highest scoring cheese in this class, provided that Hansen's Rennet Extract was used in making the prize cheese, and so stated on the entry blank.

CLASS 3. LONG HORNS, YOUNG AMERICAS AND SQUARES, MADE ON OR AFTER OCT. 1, 1922.**(11) First Prizes in Class 3.**

\$10 in gold from Stoelting Bros. Co., Kiel, Wis.
 One box Buckeye Metal Polish from the Buckeye Chemical Co., Akron, Ohio.
 One First Quality Kaaba Pearl Necklace, gold clasp, from the Pyramid Oil Co., Minneapolis, Minn.
 One stag handle, silver ferrule, Carving Set, from the J. B. Ford Co., Wyandotte, Mich.
 \$5 from the De Laval Separator Co., Chicago, Ill.
 One nickeled Automatic Pencil from The General Laboratories, Madison, Wis.
 (See also Sweepstake Prizes.)

(12) Second Prizes in Class 3.

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

(13) Third Prizes in Class 3.

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

Special Prizes in Class 3.

- (14) \$35 Waltham Gold Watch, 16 size, with 25 year gold filled case and 17 jeweled adjusted movement, from A. J. Marschall, of the Marschall Dairy Laboratory, Madison, Wis., for the best cheese made with Marschall Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points. No maker can get more than one watch, and only one watch can go to the same factory. At least ten cheese must be entered in the class.
- (15) \$50 Gold Watch, or \$50 cash, winner's choice, for the highest scoring cheese in this class, provided that Hansen's Rennet Extract was used in making the prize cheese and so stated on the entry blank.

CLASS 4. LONG HORN CHEESE MADE BY THE HAND-STIRRED GRANULAR PROCESS, NOT MATTED OR MILLED, AND SO STATED ON THE ENTRY BLANK.**(16) First Prizes in Class 4.**

\$15 cash from A. Grossenbach Co., Milwaukee, Wis.
 One stag handle, silver ferrule, Carving Set, from the J. B. Ford Co., Wyandotte, Mich.
 \$5 cash from the De Laval Separator Co., Chicago, Ill.
 One nickled Automatic Pencil from The General Laboratories, Madison, Wis.
 (See also Sweepstake Prizes.)

(17) Second Prize in Class 4.

\$25 Leather Cushioned Rocking Chair from the Association.

(18) Third Prize in Class 4.

\$20 Leather Traveling Bag from the Association.

Special Prizes in Class 4.

- (19) \$35 Waltham Gold Watch, 16 size, with 25 year gold filled case, and 17 jeweled adjusted movement, from A. J. Marschall of the Marschall Dairy Laboratory, Madison, Wis., for the best cheese made with Marschall Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points. No maker can get more than one watch, and only one watch can go to the same factory. At least ten cheese must be entered in the class.
- (20) \$50 Gold Watch, or \$50 cash, winner's choice, for the highest scoring cheese in this class, provided that Hansen's Rennet Extract was used in making the prize cheese and so stated on the entry blank.

SWEEPSTAKE PRIZES IN CLASSES 1, 2, 3 AND 4.

- (21) **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.

One thousand A grade Bandages from Walter Voechting & Co., R. 2, Sheboygan.

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

\$5 from the Bank of Sturgeon Bay, Wis.

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

The Manitowoc Plating Works will retin six hoops free of charge.

- (22) **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.

\$3 from the Bank of Sturgeon Bay, Wis.

- (23) **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 \$5.00 additional if the winner is shipping his cheese regularly to A. H. Barber & Co., at Chicago, Plymouth or Dodgeville.

\$2 from the Bank of Sturgeon Bay, Wis.

SPECIAL PRIZES ON AMERICAN CHEESE, ANY STYLE.

- \$45 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:
- (24) \$3 First Prize from Kraft Bros. Cheese Co. for American Cheese from Clark County.
- (25) \$2 Second Prize from Kraft Bros. Cheese Co. for American Cheese from Clark County.
- (26) \$3 First Prize from Kraft Bros. Cheese Co. for American Cheese from Eau Claire County.
- (27) \$2 Second Prize from Kraft Bros. Cheese Co. for American Cheese from Eau Claire County.
- (28) \$3 First Prize from Kraft Bros. Cheese Co. for American Cheese from Iowa County.
- (29) \$2 Second Prize from Kraft Bros. Cheese Co. for American Cheese from Iowa County.
- (30) \$3 First Prize from Kraft Bros. Cheese Co. for American Cheese from Langlade County.
- (31) \$2 Second Prize from Kraft Bros. Cheese Co. for American Cheese from Langlade County.
- (32) \$3 First Prize from Kraft Bros. Cheese Co. for American Cheese from Lincoln County.

- (33) \$2 Second Prize from Kraft Bros. Cheese Co. for American Cheese from Lincoln County.
- (34) \$3 First Prize from Kraft Bros. Cheese Co. for American Cheese from Marathon County.
- (35) \$2 Second Prize from Kraft Bros. Cheese Co. for American Cheese from Marathon County.
- (36) \$3 First Prize from Kraft Bros. Cheese Co. for American Cheese from Portage County.
- (37) \$2 Second Prize from Kraft Bros. Cheese Co. for American Cheese from Portage County.
- (38) \$3 First Prize from Kraft Bros. Cheese Co. for American Cheese from Taylor County.
- (39) \$2 Second Prize from Kraft Bros. Cheese Co. for American Cheese from Taylor County.
- (40) \$3 First Prize from Kraft Bros. Cheese Co. for American Cheese from Wood County.
- (41) \$2 Second Prize from Kraft Bros. Cheese Co. for American Cheese from Wood County.
- (42) Bundle of Bandages for the highest texture score on American Cheese at the Convention, from H. L. Mueller, Sheboygan Bandage Factory, Sheboygan, Wis.
- (43) One Nafis Automatic Acidity Test, complete from Louis F. Nafis, Inc., Chicago, for the highest texture score on American Cheese at the Convention.
The Wisconsin Cheese Bandage and Supply Co., Green Bay, Wis., offers:
- (44) One bundle Twin Bandages for the highest scoring Flat.
- (45) One bundle Daisy Bandages for the highest scoring Daisy.
- (46) One bundle L. H. Bandages for the highest scoring L. H.
- (47) \$5 from the Winnebago Cheese Co., Fond du Lac, for the best American Cheese from Fond du Lac County, and so stated on entry blank.
- (48) \$25 from Oakes and Burger, Cattaraugus, N. Y., for the highest scoring American Cheese at the Convention from any state made in Oakes and Burger hoops, and so stated on the entry blank.
\$15 in three prizes offered by the Wisconsin Cheese Producers Federation, Plymouth, for cheese sent to the Convention from any Federation factory and so stated on the entry blank, provided that the cheese must score at least 93 points, and not more than one of these prizes may go to the same maker as follows:
- (48A) \$7 for the highest scoring cheese, described above.
- (48B) \$5 for the second highest.
- (48C) \$3 for the third highest.

PRIZES OFFERED TO WISCONSIN MAKERS OF SWISS CHEESE, CLASS 5 OR 6.

SPECIAL SWEEPSTAKE PRIZE ON WISCONSIN SWISS CHEESE, CLASSES 5 AND 6.

- (49) \$35 Gold Waltham Watch, 16 size, with 25 year gold filled case, and 17 jeweled adjusted movement, from A. J. Marschall, of the Marschall Dairy Laboratory, Madison, Wis., for the best cheese made with Marschall Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points, and at least ten cheese must be entered in the classes. Only one watch can go to the same factory, and no maker can get more than one watch.
- D. Picking & Co., Bucyrus, Ohio, offers
- (50) \$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.)
- (51) **First Prizes for the Highest Scoring Drum Swiss Cheese.**
\$5 from the De Laval Separator Co., Chicago, Ill.
One stag handle, silver ferrule, Carving Set from The J. B. Ford Co., Wyandotte, Mich.
One box Buckeye Copper Polish from the Buckeye Chemical Co., Akron, Ohio.
One nicked Automatic Pencil from the General Laboratories, Madison, Wis.
(See also Sweepstake Prizes and Special Prizes.)

(52) Second Prizes for Drum Swiss Cheese.

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

(53) Third Prizes for Drum Swiss Cheese.

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

Special Prizes Offered for Drum Swiss Cheese.

- (54)** \$50 Gold Watch, or \$50 cash, winner's choice, for the highest scoring cheese in this class, provided that Hansen's Rennet Extract was used in making the prize cheese, and so stated on the entry blank.

PRIZES OFFERED FOR WISCONSIN BLOCK SWISS CHEESE, CLASS 6.

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

(55) First Prizes for Wisconsin Block Swiss Cheese.

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

One nicked Automatic Pencil from the General Laboratories, Madison, Wis.

(56) Second Prizes for Wisconsin Block Swiss Cheese.

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

(57) Third Prizes for Block Swiss Cheese.

One stag handle, silver ferrule, Carving Set from The J. B. Ford Co., Wyandotte, Mich.

One box Buckeye Copper Polish from the Buckeye Chemical Co., Akron, Ohio.

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

Special Prizes for Wisconsin Block Swiss Cheese.

- (58)** \$50 Gold Watch, or \$50 cash, winner's choice, for the highest scoring cheese in this class, provided that Hansen's Rennet Extract was used in making the prize cheese, and so stated on the entry blank.

PRIZES OFFERED TO WISCONSIN MAKERS OF LIMBURGER CHEESE, CLASS 7.

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

(59) First Prizes for the Highest Scoring Limburger Cheese.

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

One stag handle, silver ferrule, Carving Set from The J. B. Ford Co., Wyandotte, Mich.

One box Buckeye Copper Polish from the Buckeye Chemical Co., Akron, Ohio.

One nicked Automatic Pencil from The General Laboratories, Madison, Wis.

(60) Second Prizes for Limburger Cheese.

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

(61) Third Prize for Limburger Cheese.

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

Special Prizes for Wisconsin Limburger Cheese.

- (62)** \$35 Waltham Gold Watch, 16 size, with 25 year gold filled case, and 17 jeweled adjusted movement, from A. J. Marschall of the Marschall Dairy Laboratory, Madison, Wis., for the best cheese made with Marschall Rennet Extract and so stated on the entry blank. The cheese must score at least 95 points, and at least ten entries must be made in the class. No maker can get more than one watch and not more than one watch can go to the same factory.

- (63) \$50 Gold Watch, or \$50 cash, winner's choice, for the highest scoring cheese in this class, provided that Hansen's Rennet Extract was used in making the prize cheese, and so stated on the entry blank.
- (64) \$5 for the best Limburger Cheese wrapped in tin foil, from the Conley Foil Co., 511 E. 25th St., New York, N. Y.

PRIZES OFFERED FOR WISCONSIN BRICK CHEESE, CLASS 8.

(65) First Prizes for the Highest Scoring Brick Cheese.

One box Buckeye Copper Polish from the Buckeye Chemical Co., Akron, Ohio.
 One stag handle, silver ferrule, Carving Set, from The J. B. Ford Co., Wyandotte, Mich.
 \$5 from the De Laval Separator Co., Chicago, Ill.
 One nicked Automatic Pencil from The General Laboratories, Madison, Wis.

(66) Second Prizes for Brick Cheese.

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

(67) Third Prize for Brick Cheese.

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

SPECIAL PRIZES FOR BRICK CHEESE.

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

- (68) \$35 Waltham Gold watch, 16 size, with 25 year gold filled case, and 17 jeweled adjusted movement, from A. J. Marshall of the Marshall Dairy Laboratory, Madison, Wis., for the best brick cheese made with Marshall Rennet Extract, and so stated on the entry blank. The cheese must score at least 95 points, and there must be at least ten entries in the class. No maker can get more than one watch, and not more than one watch can go to the same factory.
- (69) \$50 Gold Watch, or \$50 cash, winner's choice, for the highest scoring cheese in this class, provided that Hansen's Rennet Extract was used in making the prize cheese, and so stated on the entry blank.
- (70) \$5 cash from the Morton Salt Co., Milwaukee, Wis., for the best cheese in this class made with Wyandotte salt, and so stated on the entry blank.
- (71) \$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.
- (72) \$5 cash from the Winnebago Cheese Co., Fond du Lac, for the best brick cheese made in Fond du Lac County, and so stated on the entry blank.
- (73) \$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:
- (74) \$3 First Prize from Kraft Bros. Cheese Co. for brick cheese from Barron County.
- (75) \$2 Second Prize from Kraft Bros. Cheese Co. for brick cheese from Barron County.
- (76) \$3 First Prize from Kraft Bros. Cheese Co. for brick cheese from Columbia County.
- (77) \$2 Second Prize from Kraft Bros. Cheese Co. for brick cheese from Columbia County.
- (78) \$3 First Prize from Kraft Bros. Cheese Co. for brick cheese from Dodge County.
- (79) \$2 Second Prize from Kraft Bros. Cheese Co. for brick cheese from Dodge County.

STATE PRIZES FOR WISCONSIN CHEESE IN ANY CLASS.

- (80) One Vacuum Sediment Tester, value \$10, from the Vacuum Sediment Tester Co., Box 244, Madison, Wis., for the highest scoring cheese at the Convention, any class.
- (81) \$5 from the Holstein-Friesian Association of Wisconsin, L. L. Oldham, Secretary, Madison, Wis., for the best cheese, any class, at the Convention.
- (82) The New York Produce Review, 173 Chambers St., New York City, offers one year's subscription for the highest scoring cheese, any class.

SPECIAL PRIZES OPEN TO MAKERS OF ANY CLASS CHEESE.

- Midwest 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:
- (83A) \$7 First Prize for shippers to Mid West Creamery Co., at Plymouth.
- (83B) \$5 Second Prize for shippers to Mid West Creamery Co., at Plymouth.
- (83C) \$7 First Prize for shippers to Mid West Creamery Co., at Manitowoc.
- (83D) \$3 Second Prize for shippers to Mid West Creamery Co., at Manitowoc.
- (83E) \$3 First Prize to user of boxes from Rogers and Johnson, Marion.
- (83F) \$2 Second Prize to users of boxes from Rogers and Johnson, Marion.
- (83G) \$1 Third Prize to users of boxes from Rogers and Johnson, Marion.
- (83H) \$3 First Prize to factories checking at Plymouth Exchange Bank.
- (84) \$2 Second Prize to factories checking at Plymouth Exchange Bank.
- (85) \$5 First Prize from the Sheboygan Falls Creamery Co., for best cheese "make up" score from factories shipping cream to this firm.
- (86) \$5 Second Prize as above from the Sheboygan Falls Creamery Co.
- (87) \$5 Third Prize as above from the Sheboygan Falls Creamery Co.
- (88) \$5 Fourth Prize as above from the Sheboygan Falls Creamery Co.
- (89) \$5 Fifth Prize as above from the Sheboygan Falls Creamery Co.
- (90) \$5 Sixth Prize as above from the Sheboygan Falls Creamery Co.
- (91) \$5 Seventh Prize as above from the Sheboygan Falls Creamery Co.
- (92) \$5 Eighth Prize as above from the Sheboygan Falls Creamery Co.
- (93) \$5 Ninth Prize as above from the Sheboygan Falls Creamery Co.
- (94) \$5 Tenth Prize as above from the Sheboygan Falls Creamery Co.
- (95) \$5 First Prize from the Manitowoc County Cheese Makers' Association for the best cheese sent to the Convention by any of their members and so stated on the entry blank.
- (96) \$5 First Prize from the State Bank of Manitowoc, as above.
- (97) \$3 Second Prize as above, from the Manitowoc County Cheese Makers' Association.
- (98) \$2 Third Prize as above, from the Manitowoc County Cheese Makers' Association.
- (98A) \$5 First Prize to factories checking at State Bank of Plymouth.
- (98B) \$3 Second Prize to factories checking at State Bank of Plymouth.
- (98C) \$2 Third Prize to factories checking at State Bank of Plymouth.

PRIZES OFFERED FOR CHEESE MADE IN THE LEADING COUNTIES.

(See also State Prizes, Premiums and Diplomas.)

Prize for Cheese made in the County Sending the Largest Number of Cheese to the Convention.

- (99) \$10 Prize offered by the Convention President, Chas. E. Reed, Thorp, Wis., as first prize.
- (100) \$5 cash from the Manitowoc Savings Bank, as second prize.
- (101) \$5 Gillette Safety Razor offered by Secretary J. L. Sammis, Madison, Wis., as third prize.

COUNTY PRIZES OFFERED BY CHEESE DEALERS AND OTHERS.

For the Highest Scoring Cheese in the County Named.

County	Prize Amount	Donated by
(110) Brown	First \$3.00	C. A. Strauble Co., Green Bay.
(111) Brown	First \$3.00	Denmark State Bank, Denmark, Wis.
(112) Brown	Second \$2.00	C. A. Strauble Co., Green Bay.
(113) Brown	Second \$2.00	Denmark State Bank, Denmark, Wis.
(114) Brown	Third \$1.00	C. A. Strauble Co., Green Bay.
(115) Calumet	First \$3.00	First National Bank, Brillion.
(116) Calumet	Second \$2.00	First National Bank, Brillion.
(117) Clark	First \$3.00	C. E. Blodgett Cheese Co., Marshfield.
(118) Clark	Second \$2.00	C. E. Blodgett Cheese Co., Marshfield.
(119) Door	First \$3.00	C. A. Strauble Co., Green Bay.
(120) Door	Second \$2.00	C. A. Strauble Co., Green Bay.
(121) Door	Third \$1.00	C. A. Strauble Co., Green Bay.
(122) Dodge	First \$5.00	Jos. Dusek Co., Chicago.
(123) Dodge	Second \$2.50	Jos. Dusek Co., Chicago.
(124) Dodge	Third \$1.00	Jos. Dusek Co., Chicago.
(125) Dunn	First \$5.00	Jos. Dusek Co., Chicago.
(126) Dunn	Second \$2.50	Jos. Dusek Co., Chicago.
(127) Dunn	Third \$1.00	Jos. Dusek Co., Chicago.
(127A) Fond du Lac	First \$5.00	Fond du Lac Co. Holstein Assn., C. H. Brugger, Sec.
(127B) Fond du Lac	Second \$3.00	Fond du Lac Co. Holstein Assn., C. H. Brugger, Sec.
(127C) Fond du Lac	Third \$2.00	Fond du Lac Co. Holstein Assn., C. H. Brugger, Sec.
(128) Green	First \$5.00	Brodhead Cheese & Cold Storage Co., Brodhead.
(128A) Kewaunee	First \$3.00	Denmark State Bank, Denmark.
(128B) Kewaunee	Second \$2.00	Denmark State Bank, Denmark.
(129) Kewaunee	First \$3.00	C. A. Strauble Cheese Co., Green Bay.
(130) Kewaunee	Second \$2.00	C. A. Strauble Cheese Co., Green Bay.
(131) Kewaunee	Third \$1.00	C. A. Strauble Cheese Co., Green Bay.
(132) Langlade	First \$3.00	C. A. Strauble Cheese Co., Green Bay.
(133) Langlade	Second \$2.00	C. A. Strauble Cheese Co., Green Bay.
(134) Langlade	Third \$1.00	C. A. Strauble Cheese Co., Green Bay.
(135) Manitowoc	First \$3.00	First National Bank, Brillion.
(135A) Manitowoc	First \$3.00	Denmark State Bank, Denmark.
(135B) Manitowoc	Second \$2.00	Denmark State Bank, Denmark.
(136) Marathon	First \$3.00	C. E. Blodgett Cheese Co., Marshfield.
(137) Marathon	Second \$2.00	C. E. Blodgett Cheese Co., Marshfield.
(138) Marinette	Second \$2.00	C. A. Strauble Cheese Co., Green Bay.
(139) Marinette	Third \$1.00	C. A. Strauble Cheese Co., Green Bay.
(140) Marinette	First \$3.00	C. A. Strauble Cheese Co., Green Bay.
(141) Outagamie	First \$3.00	S. D. Cannon, Neenah.
(142) Outagamie	Second \$2.00	S. D. Cannon, Neenah.
(143) Oconto	First \$3.00	C. A. Strauble Cheese Co., Green Bay.
(144) Oconto	Second \$2.00	C. A. Strauble Cheese Co., Green Bay.
(145) Oconto	Third \$1.00	C. A. Strauble Cheese Co., Green Bay.
(146) Pierce	First \$5.00	Jos. Dusek Co., Chicago.
(147) Pierce	Second \$2.50	Jos. Dusek Co., Chicago.
(148) Pierce	Third \$1.00	Jos. Dusek Co., Chicago.
(149) Shawano	First \$3.00	C. A. Strauble Cheese Co., Green Bay.
(150) Shawano	Second \$2.00	C. A. Strauble Cheese Co., Green Bay.
(151) Shawano	Third \$1.00	C. A. Strauble Cheese Co., Green Bay.
(152) Waupaca		C. A. Strauble Cheese Co., Green Bay.

THIRTY-FIRST ANNUAL MEETING

(153)	Waupaca	First	\$2.00	S. D. Cannon, Neenah.
(154)	Waupaca	Second	\$2.00	C. A. Strauble Cheese Co., Green Bay.
(155)	Waupaca	Second	\$2.00	S. D. Cannon, Neenah.
(156)	Waupaca	Third	\$1.00	C. A. Strauble Cheese Co., Green Bay.
(157)	Waupaca	Third	\$1.00	S. D. Cannon, Neenah.
(158)	Winnebago	First	\$3.00	S. D. Cannon, Neenah.
(159)	Winnebago	Second	\$2.00	S. D. Cannon, Neenah.
(160)	Wood	First	\$3.00	C. E. Blodgett Cheese Co., Marshfield.
(161)	Wood	Second	\$2.00	C. E. Blodgett Cheese Co., Marshfield.

POST OFFICE PRIZES FOR CHEESE IN ANY CLASS.

(162)	Clintonville	First	\$5.00	Dairymens State Bank, Clintonville.
(163)	Clintonville	Second	\$3.00	Dairymens State Bank, Clintonville.
(164)	Clintonville	Third	\$2.00	Dairymens State Bank, Clintonville.
(165)	Manitowoc	First	\$5.00	Schuette Bros. Co.
(166)	Manitowoc	Second	\$3.00	Schuette Bros. Co.
(167)	Manitowoc	Third	\$2.00	Schuette Bros. Co.

Thorp Post Office Prizes:

- (168) \$10 in trade from the Garrison Mercantile Co., for first prize, any style.
- (169) Two years' subscription to the Thorp Courier by Wm. Wagner, for the best Daisy from Thorp Post Office.

COUNTY PRIZES OFFERED BY THE ASSOCIATION.

For the Highest Scoring Cheese from the Counties Named.

	County	Prize Amount	Conditions
(170)	Barron	First \$2.50	If five or more entries from county.
(171)	Barron	Second \$2.50	If ten or more entries from county.
(172)	Buffalo	First \$2.50	If five or more entries from county.
(173)	Buffalo	Second \$2.50	If ten or more entries from county.
(174)	Chippewa	First \$2.50	If five or more entries from county.
(175)	Chippewa	Second \$2.50	If ten or more entries from county.
(176)	Columbia	First \$2.50	If five or more entries from county.
(177)	Columbia	Second \$2.50	If ten or more entries from county.
(178)	Crawford	First \$2.50	If five or more entries from county.
(179)	Crawford	Second \$2.50	If ten or more entries from county.
(180)	Dane	First \$2.50	If five or more entries from county.
(181)	Dane	Second \$2.50	If ten or more entries from county.
(184)	Grant	First \$2.50	If five or more entries from county.
(185)	Grant	Second \$2.50	If ten or more entries from county.
(186)	Iowa	First \$2.50	If five or more entries from county.
(187)	Iowa	Second \$2.50	If ten or more entries from county.
(188)	Green	Second \$2.50	If ten or more entries from county.
(189)	Jackson	First \$2.50	If five or more entries from county.
(190)	Jackson	Second \$2.50	If ten or more entries from county.
(191)	Jefferson	First \$2.50	If five or more entries from county.
(192)	Jefferson	Second \$2.50	If ten or more entries from county.
(193)	Lafayette	First \$2.50	If five or more entries from county.
(194)	Lafayette	Second \$2.50	If ten or more entries from county.
(195)	Lincoln	First \$2.50	If five or more entries from county.
(196)	Lincoln	Second \$2.50	If ten or more entries from county.
(197)	Manitowoc	First \$2.50	If ten or more entries from county.
(198)	Portage	Second \$2.50	If five or more entries from county.
(199)	Portage	Second \$2.50	If ten or more entries from county.
(200)	Ozaukee	First \$2.50	If five or more entries from county.
(201)	Ozaukee	Second \$2.50	If ten or more entries from county.
(202)	Polk	First \$2.50	If five or more entries from county.
(203)	Polk	Second \$2.50	If ten or more entries from county.
(204)	Richland	First \$2.50	If five or more entries from county.
(205)	Richland	Second \$2.50	If ten or more entries from county.
(206)	Rock	First \$2.50	If five or more entries from county.
(207)	Rock	Second \$2.50	If ten or more entries from county.
(208)	St. Croix	First \$2.50	If five or more entries from county.
(209)	St. Croix	Second \$2.50	If ten or more entries from county.
(210)	Sauk	First \$2.50	If five or more entries from county.
(211)	Sauk	Second \$2.50	If ten or more entries from county.
(212)	Shawano	First \$2.50	If five or more entries from county.
(213)	Shawano	Second \$2.50	If ten or more entries from county.

Similar Prizes will be awarded in any other counties not listed.

Another 1923 Convention Booster, Alex Schaller, Barneveld, sends in ten prizes.

- (214) Alex Schaller, Manager, Jas. Marty & Co., Barneveld, offers \$10 cash for the highest scoring block or brick cheese from Iowa County or Dane County.
- (215) J. W. Pryor, Barneveld, offers \$5 worth of Victor Records for the cheese maker from Iowa County scoring highest for both brick and block cheese.
- (216) Barneveld State Bank offers \$2 for the highest scoring block cheese from Iowa County.
- (217) A. R. Campbell & Co., Barneveld, offers one sack of flour for the highest scoring brick cheese from Iowa County.
- (218) Doyon and Rayne Lumber Co., Barneveld, offer 10 block cheese boxes for the highest scoring block cheese from Iowa County.
- (219) E. G. Kendrick & Son, Barneveld, offers choice of any pocket knife in stock for the cheese scoring highest in flavor from any factory in Iowa County.
- (220) Daniel Davies & Son, Barneveld, offers one Maydole nail hammer for the highest scoring cheese from any factory using Barneveld post office.
- (221) David Harris, Barneveld, offers one good hat for the best brick cheese from any factory using Barneveld post office.
- (222) Jones and Starry, Barneveld, offer one gallon of B-K for the second best brick cheese from any factory using Barneveld post office.
- (223) Roach and Kjolrie, Barneveld, offer five pounds Seal Brand coffee for the best block cheese from any factory using Barneveld post office.

ADDITIONAL PRIZES.

(Too late to classify).

Another 1923 Convention Booster, Gottlieb Werren, Blue Mounds, sends in 14 prizes.

- (224) Eggum, Haag & Johnson Co., Mt. Horeb, offer 10 brick boxes for the best Dane County brick.
- (225) Martinson Bros., Mt. Horeb, offer a Milk Strainer for the second best Dane County brick cheese.
- (226) Gier Hardware Co., Mt. Horeb, offer \$1.00 for the third best Dane County brick cheese.
- (227) Mt. Horeb Mail offers one year subscription for the best Dane County block cheese.
- (228) Farmers Exchange, Blue Mounds, offers \$3.00 for the second best Dane County block cheese.
- (229) Eric Bey, Blue Mounds, offers a Big Ben Alarm Clock for the best score on either block, brick or Swiss, from any maker doing business with Mr. Bey.
- (230) Walter Evans, Mt. Horeb, offers \$5.00 for the best brick or block cheese, from his cream patrons.
- (231) J. S. Hoffman Co., Mt. Horeb, offers \$10 for the best block cheese from makers selling cheese to them.
- (232) T. E. Mackesey, Blue Mounds, offers to makers delivering them cream:
\$3.00 for the best brick cheese score.
\$2.00 for the best block cheese score.
- (233) Mt. Horeb Bank, Mt. Horeb, offers \$5.00 for the best cheese, either block, Swiss or brick, from makers doing business at this bank.
- (234) Mt. Horeb Hardware Co. offers \$5.00 for the best on either block, Swiss or brick, from makers doing business with this store.
- (235) Mt. Horeb Produce Co. offers \$5.00 to their cream patrons for the best brick or block cheese.
- (236) State Bank, Mt. Horeb, offers \$5.00 for the best brick or block from makers doing business at this bank.
- (237) Mt. Horeb Times offers one year subscription for the best brick from makers in Primrose, Perry, Springvale, Vermont or Blue Mounds township.

EXHIBITORS, PRIZES, SCORES AND CHECKS—1922

Class No. 1. American Cheese Made Before Oct. 1.

Name and address.	Prizes	Score	Check
Geo. H. Scannell, Campbellsport, R. 5.....		87.25	\$ 1.25
Martin Kubitz, Edgar.....	1, 4, 6, 20, 147	99.00	55.78
H. J. Kuschel, Pound, R. 1.....	150	97.50	6.50
Reuben Abraham, Oshkosh, R. 2.....		87.00	0.00
Wm. F. Braatz, Shawano, R. 3.....		94.50	3.25
Peter Anderson, New Richmond.....		91.25	.67
G. F. Bachmann, Fremont.....		83.00	0.00
Earl B. Whiting, Gillett, R. 1.....	½ of 5; ¼ of 155	94.00	4.90
A. L. Richardson, Dodgeville, R. 1.....		93.75	3.19
Emil H. Peters, Sugar Bush.....		94.25	3.16
Wm. S. Walsh, Platteville.....	136	94.25	4.31
Louis K. Korth, Antigo.....	70, 143	93.00	4.51
Elmer Peterson, Sauk City.....		93.50	2.17
Edward Peck, Coleman.....		93.25	2.83
Edward Peck, Coleman (Comp.).....		94.00	3.25
John Levy, Kewaunee, R. 3.....	½ of 140	97.25	5.64
L. J. Breher, Sheboygan Falls.....	28A, 58, 106, 166	97.75	54.53
Chas. Mullen, Spring Green.....		94.25	2.81
Gust Burge, Stevens Point.....	217	96.25	5.51
Joe Schnittfranz, Thorp.....	½ of 187; ½ of 192	94.50	3.25
Harvey Vail, Spring Green.....		93.75	2.03
J. A. Hernke, Hilbert.....		76.50	1.10
Wm. E. Torphy, Ridgeway.....		91.75	.81
Guy Strang, Lena.....		95.25	3.86
Leonard C. Zernicke, Shawano.....		94.00	2.13
Herman W. Behrens, Plymouth.....	27	95.50	7.65
Chas. Wey, Soldiers Grove.....		96.50	4.35
Adolf Gutherz, Muscoda.....	104, 134	96.25	6.59
O. F. Greunke, Granton.....		96.50	4.04
Otto H. Yordi, Bear Creek.....	64, 87	98.00	11.70
A. J. Mensch, Glenbeulah.....		94.00	2.90
Arthur Zivney, Alma Center.....	79	94.25	2.16
H. A. Rindt, Clintonville.....	2, 171, 178	98.75	20.07
B. R. Streicher, Clintonville.....		96.75	4.14
O. R. Schwantes, Clintonville.....		94.00	3.06
C. A. Bennin, St. Cloud.....	93, 1/10 of 98 and 99	94.50	10.75
L. A. Schneider, Two Rivers.....		94.25	2.16
August Brandt, Kewaunee, R. 6.....	77, ½ of 140	97.25	5.48
P. H. Kasper, Bear Creek.....	3, 86, 172, 179	98.50	17.68
Emil Boeing, Gillinham.....		94.00	4.07
Wm. J. Hoffmann, Thorp.....	188, 189	93.50	7.93
W. F. Scholl, Spring Green.....		93.25	2.83
A. C. F. Witt, Granton.....		95.75	5.44
Rich Gotter, Spencer.....		93.25	4.23
Earl E. Gerlach, Prairie du Chien.....		90.00	3.11
L. A. Roesler, Dale.....		91.50	3.25
Ed. Levsen, Plymouth.....		94.50	3.87
F. H. Schroeder, Abrams.....	¼ of 155	94.00	4.02
Erwin O. Wunsch, Cleveland.....	84, 1/10 of 98 and 99	95.25	6.36
Henry J. Loehr, Calvary.....	1/10 of 98 and 99	95.00	6.41
Otto Weyer, Manitowoc.....		93.75	3.73
A. G. Olm, Waldo, R. 2.....		85.50	0.00
A. F. Zelm, Plymouth.....	½ of 28	95.25	5.67
Leon A. Laack, Brillion, R. 3.....	116	95.25	7.01
John H. Peters, Plymouth.....	60, 90, 108	96.50	10.50
C. J. Fokett, Reedsville.....		90.75	2.24
J. H. Deicher, Glenbeulah.....		86.00	1.56

Name and address.	Prizes	Score	Check
Herman W. Behrens, Plymouth (Comp.).....		94.25	\$ 2.62
Wm. C. Lindow, Plymouth, R. 2.....		95.25	4.32
E. H. Tober, Granton.....		96.25	3.56
O. H. Stoltzmann, Kiel.....1/10 of 98 and 99; 180-A-B		95.75	17.01
Herman W. Behrens, Plymouth (Comp.).....		94.25	3.72
Fred J. Chapman, Sheboygan Falls.....		94.75	3.81
Arthur H. Woldt, Reedsville, R. 1.....	114	94.00	8.37
Emil Sonnenburg, Cato.....1/2 of 63		95.25	5.36
Alb. Gruenstern, Marion.....	183	97.00	9.08
Ed. Knaus, Malone.....25, 92, 1/10 of 98 and 99, 131		96.25	23.44
John H. Schaefer, Chilton, R. 5.....		86.00	1.10
Rich Gotter, Spencer.....		93.00	2.82
F. W. Koller, Thorp.....	186, 191	94.75	3.66
Walter Reisner, Bonduel.....		94.50	3.09
Arthur Johns, Luxemburg.....	57, 141	96.75	7.45
John Fischer, Boaz.....		92.75	2.41
Albert R. Jossie, Coleman.....	1/3 of 154	94.75	4.66
C. H. Schneider, Merrill, R. 8.....1/2 of 5		94.00	6.11
Otto Melenthin, Spencer.....	148	96.25	8.09
Alf. R. Reinertson, Valdars.....		90.50	2.30
Jos. W. Entringer, Algoma.....		93.50	1.86
E. D. Prange, Neillsville.....		94.25	3.16
R. H. Greunke, Auburndale, R. 3.....	175	97.00	9.55
Fred C. Stapel, Clintonville.....		91.25	1.91
Joe Henseler, Marshfield.....		88.50	0.00
W. F. Winger, Wisconsin Rapids.....		87.00	0.00
Rudolph Ipsen, Cuba City.....		94.00	3.06
Adam Klonoski, Wisconsin Rapids.....	176	94.00	6.90
A. F. H. Bartell, Kewaskum.....		92.00	2.43
Lorenz Krueger, Alma Center.....		95.00	2.60

Class No. 2. Cheddars, Flats, Daisies Made After Oct. 1.

Name and address.	Prizes	Score	Check
R. F. Ott, Wausau, R. 2.....		91.50	\$ 1.46
Paul F. Ott, Wausau, R. 2.....		91.25	1.35
Ed. Levsen, Plymouth.....		94.00	3.52
Jos. N. Berres, Edgar.....		91.50	2.38
Reuben Abraham, Oshkosh, R. 2.....		92.75	1.95
Otto H. Yordi, Bear Creek.....		96.25	3.39
Ed. Levsen, Plymouth (Comp.).....		91.25	5.27
Arnold A. Zastrow, Stetsonville.....	168	89.50	3.02
A. F. Zelm, Plymouth.....		93.50	3.37
John Levy, Kewaunee, R. 3.....		94.75	3.94
E. O. Wunsch, Cleveland.....		93.75	3.49
Emil H. Peters, Sugar Bush.....		94.75	3.85
W. B. Schroeder, Sauk City, R. 1.....	162	94.50	3.44
Emil Hidde, West De Pere.....		88.00	1.33
Edwin H. Schroeder, Wayside.....	113	94.50	11.46
Alvin F. Jindra, Two Rivers, No. 3.....		90.75	2.04
E. H. Kielsmeier, Astico.....		90.00	0.93
H. J. Kuschel, Pound, R. 1 (Comp.).....		98.75	1.10
Geo. Sommer, Wausau, R. 4.....		94.75	2.86
A. C. Weith, Appleton.....		95.25	4.32
H. J. Kuschel, Pound, R. 1.....	151	96.75	5.69
J. A. Warner, Winneconne.....		89.00	2.34
Hans Puellmann, Manitowoc, R. 2.....		89.50	1.56
W. E. Bressman, Neillsville.....		93.50	3.21
Christ Bhend, Pardeeville, R. 2.....		91.25	2.27
Joe Schmittfranz, Thorp.....		80.50	1.17
Melvin Vail, Spring Green.....		90.75	2.20
G. F. Bachman, Fremont.....		75.50	0.00

Name and address.	Prizes	Score	Check
A. M. Johnson, Granton		96.50	\$ 3.58
Art M. Clarkson, Pound, R. 2.....		89.50	0.00
A. W. Hahn, Plymouth, R. 1.....		93.50	2.98
Earl B. Whiting, Gillett, R. 1.....		87.00	0.00
L. L. Rudersdorf, Platteville.....	135	95.00	4.56
Louis K. Korth, Antigo.....	72	90.50	1.62
Victor Sampe, Fish Creek.....	122	91.50	4.38
Peter Anderson, New Richmond.....		93.00	1.92
W. C. Kono, Colfax, R. 5.....		90.00	1.47
Arthur Johns, Luxemburg, R. 2.....		94.50	3.60
L. J. Breher, Sheboygan Falls.....		96.00	4.82
Herman Kalkofer, Greenwood.....	81	90.75	2.04
Anton J. Kempen, Junction City.....	161	93.50	5.21
John Kosky, Mineral Point.....		93.50	3.06
F. H. Meyer, Pittsville, R. 1.....		91.50	2.30
Frank F. Klug, Merrill.....		92.25	2.64
Ed. Markuson, Pulaski, R. 2.....		90.00	.55
Wm. Bymers, Junction City.....	160	95.00	6.98
Ed. F. Winter, Gillett, R. 1.....	11, 1/3 of 154	94.75	8.55
John Tischauser, Tilleda.....	164, 228	95.75	7.67
Elmer Moriva, Platteville.....		90.00	.55
Albert Gafner, Brownsville.....		87.25	.25
W. S. Walsh, Platteville (Comp.).....		91.50	0.00
W. S. Walsh, Platteville (Comp.).....		91.50	0.00
W. S. Walsh, Platteville (Comp.).....		91.50	0.00
Frederick Oleson, Avoca.....		92.25	2.57
A. J. Mensch, Glenbeulah.....		93.00	2.76
Raymond Larsen, Bonduel, R. 3.....		91.50	1.43
Albert C. Drone, Muscoda.....	105	91.50	2.38
Jacob Christein, Marshfield.....		91.50	.92
L. C. Zernicke, Shawano.....		91.50	1.46
Jos. Koukalik, Tisch Mills.....		94.00	2.37
Wm. S. Walsh, Platteville.....		93.25	3.18
Edw. Gruenstern, Marion, R. 2.....		94.75	3.71
Frank D. Cootway, Fennimore.....		91.50	1.30
Carroll Clarson, Fennimore.....		93.00	2.99
Adolf E. Duescher, Lena, R. 1.....	1/2 of 156	93.75	4.33
John Weyer, Manitowoc.....	182A	96.25	8.62
Gottfried Moser, Oshkosh, R. 6.....		91.25	2.04
Otto Weyer, Manitowoc.....		96.00	4.51
Lawrence J. Schubert, Hillsboro.....		86.00	1.72
A. C. F. Witt, Granton.....	8, 120, 121	98.00	10.89
O. F. Greunke, Granton.....	66	95.75	8.72
Oliver Jensen, Boardman.....		93.25	3.58
Fred W. Buss, Little Black.....		87.75	2.96
C. H. Schneider, Merrill, R. 8.....		95.50	4.60
Vick Miller, Richland Center.....		95.25	6.11
Curtis L. Walker, Osceola.....		93.50	3.84
A. F. Zelm, Plymouth (Comp.).....		93.75	9.14
A. F. Zelm, Plymouth (Comp.).....		93.50	5.11
Wm. J. Frank, Manitowoc.....	1/2 of 61, 100, 101, 182B	96.25	23.12
Walter Scheller, Oshkosh, R. 2.....	174	93.50	5.45
Joe Decker, Stanley.....		90.50	1.78
Earl Stettler, Muscoda.....		87.00	1.17
Wm. J. Hoffman, Thorp.....	1/2 of 187, 1/2 of 192	94.50	3.60
Edwin W. Flemming, Avoca.....		93.75	3.26
A. R. Radtke, Tigerton.....	165	95.00	4.98
Ralph W. Leeseberg, Suring.....		91.50	1.30
M. E. Meisner, Osceola.....		91.50	4.32
Chas. Blaeser, Manitowoc, R. 1.....		92.00	1.46
Alb. Gruenstern, Marion.....	82, 184	96.25	9.47

Name and address.	Prizes	Score	Check
C. E. Smith, La Farge, R. 2.....	½ of 28	95.25	\$ 7.37
Ed. Levsen, Plymouth (Comp.).....		93.75	9.30
F. W. Koller, Thorp.....	80	91.00	1.85
Albert Patack, Thorp.....		91.25	2.12
Glen C. Rindhammer, New Richmond.....		91.50	3.25
John Odekirk, Eden.....	75	89.25	0.00
Theo. Delain, Casco, R. 1.....		91.00	1.01
Fremont Wonn, Bridgeport.....	55, 299	97.00	4.74
Alex Korth, Menasha, R. 12.....	152	96.00	7.12
Harvey Danke, Dale.....	173	94.00	5.21
Martin Kubitz, Edgar (Comp.).....		99.25	2.94
Emil Bartz, Antigo, R. 5.....	142	95.75	6.01
G. H. Scannell, Campbellsport, R. 5.....	74	91.75	2.35
John Fischer, Boaz.....		93.00	5.09
P. H. Kasper, Bear Creek.....			
.....56, 56A, 85, 170, 177, 7, 10, 12, 19, 22B, 23, 24		99.50	103.27
Andrew Peterson, Muscoda.....		91.25	1.76
Eugene Buergi, Dodgeville.....		93.75	5.27
Albert R. Jossi, Coleman.....	1/3 of 154	94.75	4.71
O. W. Friemund, Thorp.....		91.25	2.27
D. D. Korth, Antigo.....	71, 144	91.25	3.27
Fred C. Stapel, Clintonville.....		91.25	1.27
L. A. Hildeman, Northland.....		91.25	1.96
Aug. Brandt, Kewaunee, R. 6.....	9, 76-139	97.50	7.96
Fred Ogi, Junction City (Comp.).....		91.50	2.94

**Class No. 3. Long Horns, Young Americas, Squares,
Made After Oct. 1.**

Name and address.	Prizes	Score	Check
Wm. F. Bennin, Fredonia.....	1/10 of 98 and 99	94.50	\$ 6.53
Oswald Schneider, Jr., Allenville.....		93.25	2.23
Ralph W. Leeseberg, Suring.....		87.00	.41
Julius Wessel, Plymouth.....		90.00	2.11
R. F. Ott, Wausau, R. 2.....		94.00	2.68
Otto H. Yordi, Bear Creek.....	65	96.25	8.71
Floyd Clemons, Medina.....		91.50	2.85
C. F. Heckman, Cleveland.....		95.00	4.07
W. J. Dehn, Blenker.....		91.50	2.70
Henry J. Loehr, Calvary, R. 1.....	132	95.25	7.01
John Weyer, Manitowoc.....	182	97.50	10.21
Louis J. Horn, Conrath.....		95.00	6.32
Ad. R. Vallesky, Manitowoc.....	146-181	97.62	18.27
Otto Weyer, Manitowoc.....	15-145-180C	97.75	31.30
Adolf E. Duescher, Lena, R. 1.....	17, ¼ of 155	94.00	9.18
F. H. Schroeder, Abrams.....	½ of 156	93.75	4.21
Wm. Frank, Manitowoc.....	½ of 63, 1/10 of 98 and 99	95.25	8.17
L. B. Kohlmann, St. Cloud.....		91.00	1.50
Jerome Reiff, Whitelaw, R. 1.....		96.00	3.31
Theo. G. Woldt, Chippewa Falls.....	67	96.50	4.50
Leonard Lange, Fox Lake.....		78.50	4.59
O. F. Greunke, Granton.....		93.25	3.23
Edw. R. Garling, Glenbeulah.....		93.50	3.17
A. W. Hahn, Plymouth, R. 1.....	26-59-88-107-167	96.75	26.76
Mike J. Mayer, Fredonia.....		91.50	6.57
E. F. Horn, Beaver Dam.....		90.00	2.11
F. H. Carpenter, Stetsonville.....	169	89.00	3.72
Herman Kalkofer, Greenwood.....		90.50	2.30
Frank A. Fenner, Rice Lake.....		93.25	7.11
Reinhard Jacob, Sheboygan, R. 1.....	1/10 of 98 and 99	90.00	8.64
A. C. F. Witt, Granton.....	13-16-18-21-118-119	98.87	45.59
L. J. Breher, Sheboygan Falls.....		95.00	4.07

Name and address.	Prizes	Score	Check
H. A. Kalk, Sheboygan Falls.....		93.50	\$ 3.48
Erwin O. Wunsch, Cleveland.....	83	96.00	4.31
A. J. Mensch, Glenbeulah.....	1/10 of 98 and 99	91.50	5.04
Leonard Lange, Fox Lake (Comp.).....		90.25	7.75
Arthur H. Woldt, Reedsville.....	115	93.75	6.58
A. F. Zelm, Plymouth.....	91	95.75	6.06
B. F. Grossman, Waterloo.....		87.75	.94
Arthur Dederick, Lone Rock.....		93.00	2.98
Christ Bhend, Pardeeville.....		91.50	5.02
A. C. Werth, Appleton.....	153	95.75	5.90
Ed. Levsen, Plymouth.....		93.75	3.27
Alvin F. Jindra, Two Rivers, R. 3.....		94.25	3.00
Emil Sonnenburg, Cato.....	62-102	95.75	13.59
E. H. Kielsmeier, Astico.....	69-94	94.25	5.31
Edw. Gruenstern, Marion, R. 2.....			
.....	1/10 of 98 and 99; 163-227	96.50	11.88
P. E. Pietzbach, Wausau, R. 5.....		93.25	1.61
A. J. Blahnik, Kewaunee, R. 3.....	1/2 of 61	96.25	6.13
Hans Puellman, Manitowoc, R. 2.....		93.50	2.70
Gust W. Moede, Suring.....	1/4 of 155	94.00	2.56
A. F. Zelm, Plymouth (Comp.).....		95.25	3.10
A. W. Braun, Platteville.....		92.75	2.26
A. W. Braun, Platteville (Comp.).....		92.75	2.32
A. L. Wagner, Chilton, R. 4.....	117	94.25	5.16
Ed. Levsen, Plymouth (Comp.).....		95.00	3.25
A. W. Braun, Platteville (Comp.).....		92.25	2.32
Wm. C. Lindow, Sheboygan.....	89	94.25	5.00
M. E. Meisner, Osceola.....		96.00	2.69
Linda C. Dix, Auburndale.....		93.50	2.86
H. J. Kuschel, Pound.....	14-149	98.00	7.47
Arthur Johns, Luxemburg, R. 2.....	78	96.00	4.00
C. H. Schneider, Merrill, R. 8.....		93.50	1.55
John Fischer, Boaz.....	219	96.75	6.95
Ed. J. Sleger, Denmark, R. 2.....		87.00	1.41
O. W. Freimund, Thorp.....	190	91.50	7.70
Chas. Mullen, Lone Rock.....		93.75	3.42
Henry E. Beck, Rosendale.....		94.00	.82
Albert Gruenstern, Marion.....	185	91.25	6.82

Class No. 4. Drum Swiss.

Robt. Emmenegger, Gratiot.....	95.00	52.76	
Adolf Luethy, Darlington.....	94.00	40.67	
Emil Escher, Monroe, R. 1.....	32-33	96.25	47.47
Otto Badertscher, Rice Lake, R. 3.....		94.50	39.85
Ernest Steinmann, Argyle, R. 2.....		94.75	38.63
A. Roher, Monroe.....		95.00	45.99
Robert Herrmann, Dallas.....	193	95.50	50.88
Willy Ernst, Darlington, R. 1.....		93.75	44.31
Fred Kratzer, Eau Claire, R. 2.....		95.00	40.44
F. Wieland, Monroe, R. 3.....		96.00	66.56
Arnold Zumbach, Darlington, R. 3.....	1/2 of 212	96.00	45.00
Jacob Baumberger, Browntown.....		93.00	49.00
Alex Hoerburger, Argyle.....	29-31	96.75	57.81
Nik Engelbert, Hollandale.....		87.00	29.40
John Rechsteiner, Blanchardville.....	30-34, 211	97.00	61.22
Gottfried Vogel, Brodhead.....		95.25	53.11
Albert Schlappi, Browntown.....		95.00	51.65
Joseph Willi, So. Wayne.....		95.50	48.75
Jacob Niffenegger, Darlington.....	1/2 of 212	96.00	66.20
John Hubacher, Darlington, R. 1.....		95.00	51.17

Class No. 5. Block Swiss.

Name and address.	Prizes	Score	Check
John Bleisch, Mt. Horeb, R. 4.....		93.00	\$ 4.54
John B. Wittwer, Black Earth.....		94.00	6.60
Gottlieb Werren, Blue Mounds.....		94.50	6.14
Nick Engelbert, Hollandale.....		93.50	6.18
Carl Amport, Mt. Horeb.....	38	94.00	10.72
Jost Hoesli, Black Earth.....		93.00	6.42
Jacob Blaser, Mt. Horeb.....	37-39, 204	94.75	13.74
George Graf, Argyle.....	36	95.00	5.12
Arnold Schmid, Barneveld.....	138	94.00	12.72
Otto Schaller, Barneveld.....		93.00	5.32
Gottfried Vogel, Brodhead, R. 2, Box 46.....	35	96.00	7.62
Gottfried Spak, Darlington, R. 1.....		94.00	5.06

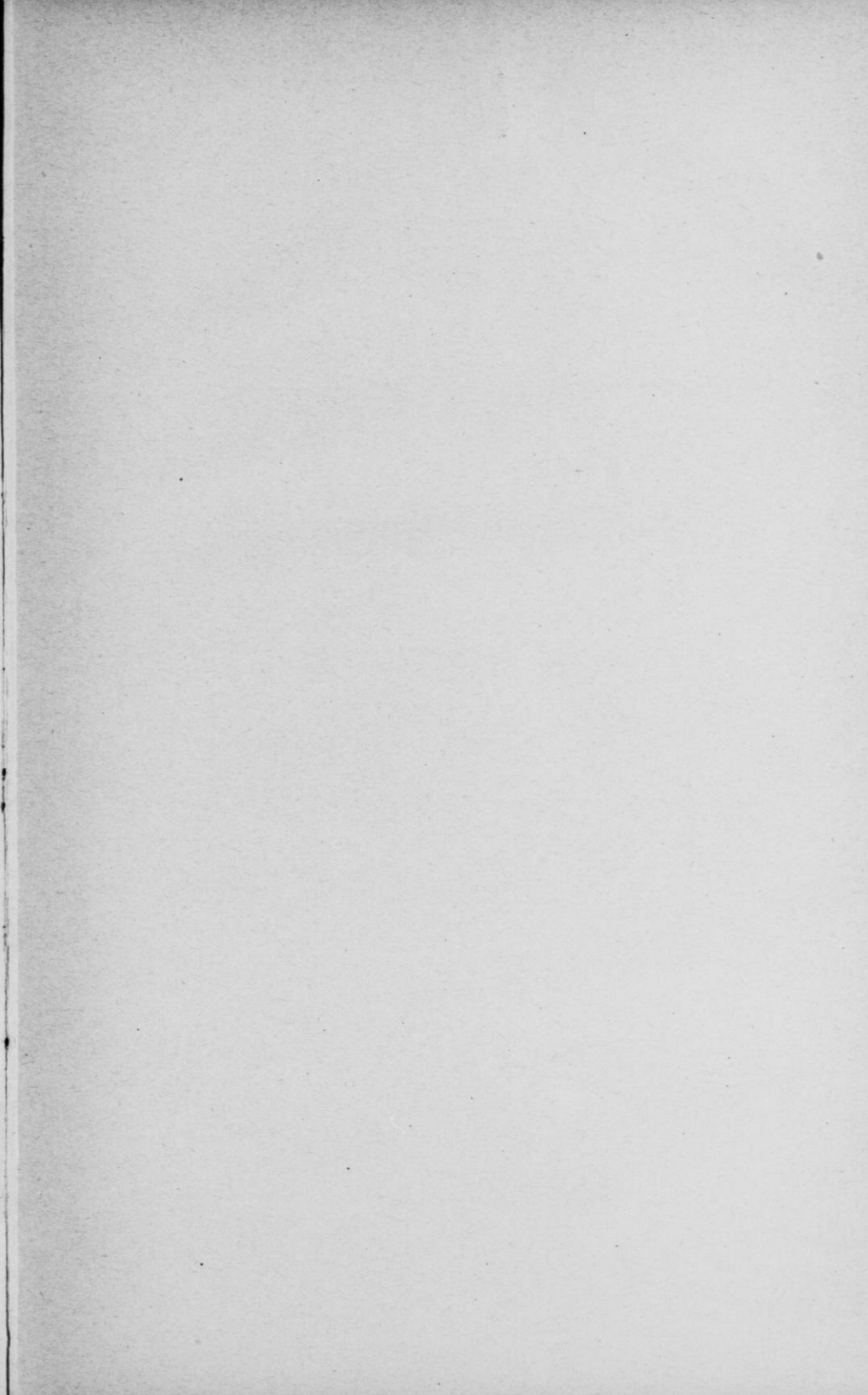
Class No. 6. Limburger Cheese.

E. F. Horn, Beaver Dam.....	45	93.00	3.84
Martin Kammer, Basco.....	203	95.00	8.96
Ernest Salvisberg, Monticello.....		96.00	3.67
Ernest Wuehrick, Bruce, R. 2.....		90.50	3.21
John Minnig, Monticello.....		95.50	3.86
Adolph Gurtner, Knowles, R. 1.....		90.50	2.41
John Sieber, Brodhead, R. 4.....		89.50	1.20
Hans Soliva, Monroe.....	40-43-54, 205	98.00	24.79
Rudy B. Lengacher, Monticello.....	42	96.75	5.97
Alois Louis Sager, Belleville.....	41, 206	97.00	10.18
Gottfried Nottter, Green Valley.....		92.00	3.43

Class No. 7. Brick Cheese.

Fred Indermuehle, Brownsville.....		93.25	2.76
Emil Schneiter, Lomira.....	52-133	95.00	9.85
Wm. C. Nass, Ixonia, R. 1.....		92.00	2.65
Fritz Marti, Argyle, R. 1.....		94.75	3.48
Frank Mocker, Waupun.....		93.00	2.80
Anton Sutter, Sun Prairie.....		92.50	2.77
A. Nass, Ixonia, R. 1.....		92.50	1.42
Otto Walder, Lowell.....		92.00	6.25
Arthur Raether, Watertown.....		90.00	.30
Carl Indermuehle, Beaver Dam.....		93.00	5.50
Adolph Gurtner, Knowles, R. 1.....		94.25	3.81
Max Prag, Randolph.....	68	94.50	3.32
Christ Bhend, Pardeeville, R. 2.....		94.00	3.40
John B. Wittwer, Black Earth.....		94.00	3.25
Jost Hoesli, Black Earth.....	203	95.00	5.90
Marroll Steins, Cambria.....	½ of 200	94.75	5.33
Ernest Wuehrick, Bruce, R. 2.....		90.75	6.33
Arthur Zumbach, Darlington, R. 3.....		94.50	8.27
Carl Blaser, Rio, R. 2.....		93.50	4.37
Robert Schaller, Blue Mounds.....		94.00	2.35
Robt. Herrmann, Dallas.....		93.50	3.17
John Badertscher, Rice Lake, R. 3.....		94.50	2.02
Gottlieb Zulliger, Rice Lake.....	48	95.25	3.11
Wm. Lichtenberg, Beaver Dam, R. 4.....	47-51-125	95.50	14.67
John Bremser, Watertown.....		92.00	2.80
Gustav Drachenberg, Watertown, R. 8.....		90.00	5.50
Rudolph H. Schaller, Verona.....		93.25	2.91
Otto Schaller, Barneveld.....	137	94.00	11.55
Frank Ehinger, Ridgeway.....		93.25	2.76
Jacob Tschan, Rosendale, R. 1.....		94.00	2.10
Gottlieb Schubiger, Reeseville, R. 2.....	126	95.00	9.15
Ernest W. Jung, Juneau.....	127	94.50	3.92
Harry Weaver, Richfield.....		94.00	2.95
Christ Abbuehl, Clear Lake.....		88.50	0.45

Name and address	Prizes	Score	Check
Fred Gurtner, Jackson, R. 1.....		93.50	\$ 3.92
E. J. Kolpack, Cambria.....		93.50	1.87
Jacob Disler, Hartford, R. 3.....	53-231	95.00	11.50
Fred Baertschy & Son, Maryville.....		92.25	2.21
Gottfr. Kraeucke, Hartford.....		92.75	1.98
Carl Amport, Mount Horeb.....		94.00	3.55
Fred Mani, Mt. Horeb.....		94.37	2.41
Jake Balsiger, Pardeeville.....	.73 and ½ of 200	94.75	5.43
Joseph Huhn, De Forest.....		93.50	2.47
Alex Hoerbuerger, Argyle.....		95.00	4.30
Joe Schmid, Beaver Dam.....		94.25	3.11
E. F. Horn, Beaver Dam.....		93.50	3.32
Mike Dahlier, Darlington, R. 1.....		95.25	4.56
Gottlieb Werren, Blue Mounds.....	203	95.00	8.15
Otto Munz, Cambria.....		93.25	2.51
Nicklaus Schupback, Dale.....		88.25	0.00
Oswald Schneider, Appleton.....		94.50	3.32
Henry Egli, Dalton, R. 3.....	46-49-50-199	96.00	12.85
Jacob Baumberger, Browntown.....		94.25	3.36
John J. Peirick, So. Beaver Dam.....	127	94.50	4.47
Joe G. Heinecke, Allentown, R. 1.....		92.50	2.17
Lloyd Peirick, Beaver Dam.....	127	94.50	4.62
Wm. P. Bobholz, Randolph.....		93.50	2.62
Paul J. Pinck, Greenwood.....		94.00	2.85
John J. Peirick, Beaver Dam (Comp.).....		94.00	3.30
John Rechsteiner, Blanchardville.....		91.00	1.60
Leo Lotscher, R. 1, Beaver Dam.....		91.50	1.57
Oscar Sutter, Monroe.....		94.50	4.27
Valentine Zibung, Monroe, R. 3.....		88.00	0.00
Albert Tietz, Ixonia, R. 2, Box 26.....		90.00	.75
A. F. Guelzow, Portage.....		92.00	7.20
Mrs. Otto Kleist, Potters, Fancy Cooked.			
Herman Tietz, Ixonia.....		89.00	2.30
Fred Ogi, Junction City (Comp.).....		94.00	3.60
Total checks (see page 19).....			\$2,904.26



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