



# LIBRARIES

UNIVERSITY OF WISCONSIN-MADISON

## **Proceedings of the nineteenth annual meeting of the Wisconsin Butter Makers' Association : held at Eau Claire, Wisconsin, Feb. 4-6, 1919.**

Wisconsin Buttermakers' Association

[s.l.]: [s.n.], [s.d.]

<https://digital.library.wisc.edu/1711.dl/SLCWGJ3MWSV4J8L>

Based on date of publication, this material is presumed to be in the public domain.

For information on re-use, see

<http://digital.library.wisc.edu/1711.dl/Copyright>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.





BW7  
B98  
1919  
18th  
**NINETEENTH ANNUAL MEETING**

**WISCONSIN  
BUTTER MAKERS'  
ASSOCIATION**



LIBRARY  
COLLEGE OF AGRICULTURE  
UNIVERSITY OF WISCONSIN  
MADISON

**STEENBOCK MEMORIAL LIBRARY**

**Held at Eau Claire, Wisconsin**

**FEBRUARY FOURTH TO FEBRUARY SIXTH  
NINETEEN HUNDRED AND NINETEEN**



PROCEEDINGS OF THE

<sup>18th</sup>  
~~NINETEENTH~~ ANNUAL MEETING

OF THE

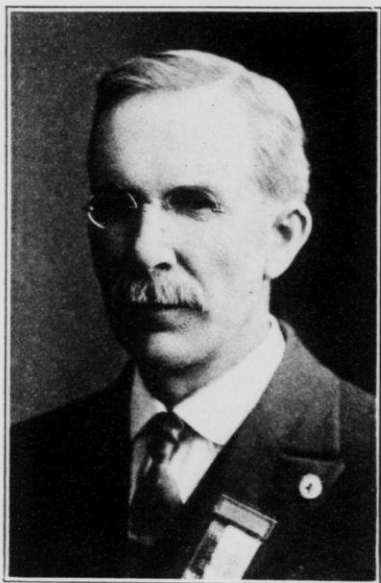
Wisconsin Butter Makers'  
Association

---

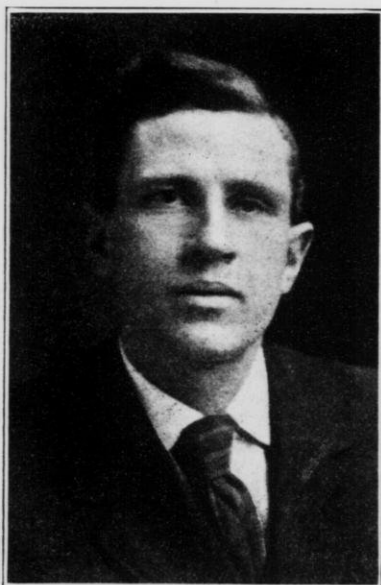
HELD AT  
EAU CLAIRE, WISCONSIN  
FEB. 4-6, 1919

---

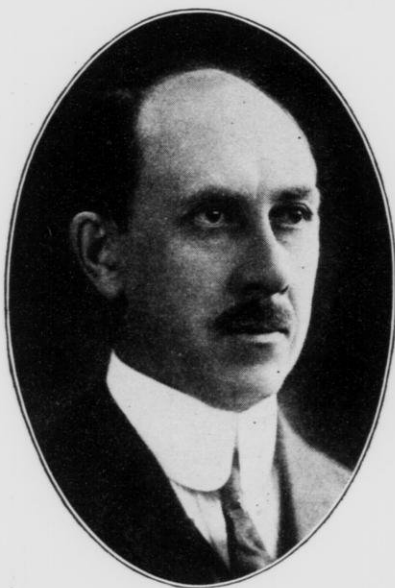
Compiled by G. H. BENKENDORF



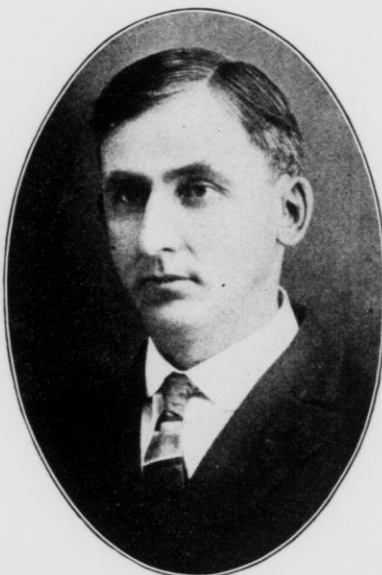
J. H. MORAN,  
West Salem, President



T. B. TOWLE,  
Baraboo, Vice President



G. H. BENKENDORF,  
Madison, Secretary



F. M. WERNER,  
Waterloo, Treasurer

OFFICERS 1919-1920

## **OFFICERS AND COMMITTEES**

### **Officers—1918—1919.**

President, E. J. MORRISON, Chetek.  
Vice President, H. O. STROZINSKY, Menomonie.  
Secretary, G. H. BENKENDORF, Madison.  
Treasurer, F. M. WERNER, Waterloo.

---

### **Executive Committee**

O. B. CORNISH, Ft. Atkinson.  
H. E. GRIFFIN, Mt. Horeb.  
C. J. DODGE, Windsor.

---

### **Officers—1919—1920.**

President, J. H. MORAN, West Salem.  
Vice President, T. B. TOWLE, Baraboo.  
Secretary, G. H. BENKENDORF, Madison.  
Treasurer, F. M. WERNER, Waterloo.

---

### **Executive Committee**

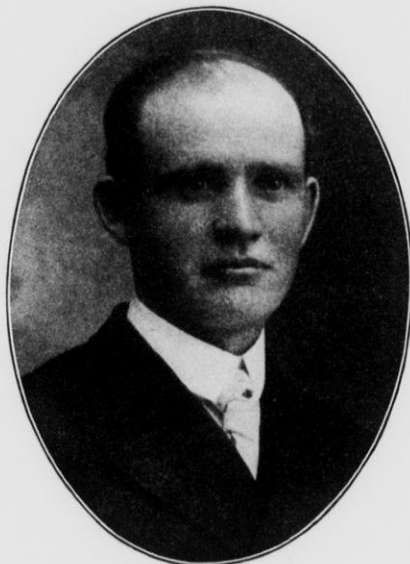
O. B. CORNISH, Ft. Atkinson.  
H. E. GRIFFIN, Mt. Horeb.  
C. J. DODGE, Windsor.

---

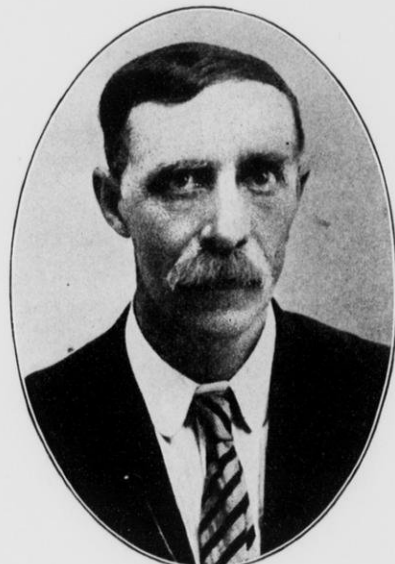
**Note**—In view of the fact that no changes were made in the Constitution and By-laws of this association, the same is not printed in this report. Anyone desiring a copy of the Constitution can obtain it by writing the secretary who will forward an annual report in which it appears.



O. B. CORNISH  
Ft. Atkinson



H. E. GRIFFIN  
Mt. Horeb



C. J. DODGE  
Windsor

**MEMBERS EXECUTIVE COMMITTEE 1917.**

# Names of Members of the Wisconsin Butter Makers' Association, 1919

## Life Members.

### NAMES

Fulmer, F. B.

### ADDRESS

Moose Jaw, Sask., Canada

## Annual Members.

### EXHIBITION MEMBERSHIP LIST

Anderson, R. S. .... Northland  
Ashley, N. C. .... Albertville

Back, Christ. J. .... Luck  
Banks, Robert H. .... Spring Valley  
Bartel, Jos. J. .... Peebles  
Bartel, Hubert .... New Holstein  
Betthausen, J. A. .... Oakdale  
Bibby, H. F. .... Galesville  
Blaschke, A. E. .... Fall Creek  
Bogart, J. H. .... Stoddard  
Butler, R. E. .... Mondovi

Christenson, Odin .... Nelsonville  
Christopherson, M. .... New Franken  
Christopherson, J. C. .... Chetek  
Cleaves, R. C. .... Iola  
Collins, Leslie .... Rio  
Colwell, R. P. .... River Falls  
Cross, A. G. .... Marshall

Danielson, E. A. .... Grantsburg  
DeGolie, H. M. .... London  
Doolan, Hod .... Brandon  
Droessler, Val .... Louisburg  
Eckwright, E. R. .... Jim Falls  
Edge, S. J. .... Patch Grove  
Ehrmann, G. H. .... Tomahawk  
Else, R. J. .... Johnson Creek  
Enockson, S. E. .... Falun  
Erlandson, Sigert .... Ellsworth  
Erickson, Elmer .... Luck  
Esker, Ole .... Turtle Lake

Forster, Albert .... Durand  
Fostvedt, C. G. .... Stockton

Galstad, N. A. .... Genoa  
Garlid, A. O. .... Roberts  
Grady, J. H. .... Barronette  
Griffin, H. E. .... Mt. Horeb  
Guertin, Eugene .... Emerald

Halliday, E. E. .... Mauston  
Halverson, H. J. .... Eleva  
Hanson, Geo. N. .... Cameron  
Hanson, H. K. .... Caryville  
Hanson, Maurice .... Iron River  
Hanson, Wm. F. .... Camp Douglas  
Harrison, Hoie D. .... Frederic  
Hayes, Amos .... Baraboo  
Hebert, Leo J. .... Chippewa Falls  
Heller, Charles .... Grafton  
Herreman, H. J. .... Black Earth  
Hoeffke, Albert .... Marshall  
Hoiberg, H. B. .... Coon Valley

Jacobson, Thomas .... Colfax  
Jahnke, H. E. .... Green Bay  
Johnson, Ole .... Oakdale  
Jorgenson, Fred .... Comstock

Karker, W. L. .... Brill  
Klauff, Max .... Ogema  
Kreinbring, L. E. .... Mason  
Kristensen, Peder R. .... Cushing



Larson, A. L. ....	St. Croix Falls	Taft, A. A. ....	Seneca
Larson, Olaf ....	Star Route	Tarnutzer, Lorenz ....	Plain
Larson, Oscar O. ....	Guys Mills	Thompson, Edgar E. ....	Rusk
Lemke, Herbert ....	Northfield	Thorson, Alfred R. ....	Grantsburg
Lieurance, John H. ....	Oshkosh	Thym, F. W. N. ....	Bloomer
Limp, Conrad A. ....	Sparta	United Dairy Co. ....	Mukwonago
Lindvig, B. J. ....	Waukegan	Van Liere, Martin ....	East Troy
Long, Albert ....	Milltown	Vigen, John ....	Frederic
Long, Robert ....	Medford	Wallace, D. F. ....	Thiensville
Longteau, Earl ....	Westboro	Wendlandt, Art ....	Plymouth
	Green Bay	Werner, F. M. ....	Waterloo
Marvin, G. M. ....	Black River Falls	Winner, Grant ....	Humbird
Mathison, Olaf ....	Woodville	Winter, L. M. ....	Eau Claire
Mayenschein, G. E. ....	La Valle	Woolridge, A. J. ....	Wilson
Mayenschein, N. C. ....	Hillsboro	Wolzien, C. F. ....	Phillips
Mays, Roscoe ....	Bloomer	Zick, Otto H. ....	Prentice
Mehleis, Wm. ....	Bangor		
Meier, W. R. ....	Cambridge	PAID MEMBERS	
Meisner, Frank ....	Boyceville	Adams, M. J. ....	Reedsburg
Melgaard, A. B. ....	Meridian	Ahrens, F. H. ....	Loganville
Michelson, M. ....	Westby	Aller, L. H. ....	Tomah
Miller, Oscar A. ....	Cedarburg	Albert, Chester ....	Thorpe
Minton, J. E. ....	Mellen	Alvord, Guy ....	Wautoma
Mogenson, John ....	Wyocena	Anderson, O. A. ....	Eau Claire
Moyes, W. A. ....	Ironton	Anderson, A. W. ....	Antigo
Nerlin, Anton ....	Amherst	Barret, H. ....	Ft. Atkinson
Nelson, N. George ....	Luck	Barber, A. H. ....	Chicago, Ill.
Newman, A. W. ....	Chetek	(Creamery Supply Co.)	
Nichols, Wm. ....	Centuria	Bean, T. G. ....	Eau Claire, Bx. 356
Olson, L. A. ....	Waupaca	Blatherwick ....	Chicago, Ill.
Ponto, Herman L. ....	Montello		4024 Grand Blvd.
Peterson, Harold ....	Cazenovia	Blegen, Peter L. ....	Spring Valley
Rasmussen, A. ....	Hutchinson, Minn.	Blood, Fred ....	Chicago Ill.
Rasmussen, E. G. ....	Melvina	Bogumill, L. E. ....	Thorp
Rasmussen, John ....	Wautoma	Bollenger, Sam ....	Eleva
Recknagel, H. F. ....	Seymour	Bond, Geo. C. ....	Chicago, Ill.
Rivard, A. J. ....	Emerald	Borden, W. N. ....	St. Paul, Minn.
Rouo, Oscar ....	Melrose, R. 2	(Care J. G. Cherry Co.)	
Sanders, H. H. ....	Fall Creek	Bouska, F. ....	Chicago, Ill.
Schauwitzer, Lou's ....	Whitewater	Brendum, H. ....	Westby
Seyforth, Lyman H. ....	Durand	Brierley, Walter ....	Downsville
Seyfurth, J. W. ....	Mondovi	Brink, Albin ....	Nelson
Schild, John ....	Oconomowoc	Brunner, J. A. ....	Durand
Schildt, A. J. ....	Cambridge	Brown, J. J. ....	Minneapolis, Minn.
Schmidt, Walter P. ....	Manitowoc	Buck, C. D. ....	Minneapolis, Minn.
Schultz, Arthur G. ....	Arcadia	(2425—1st St.)	
Scott, Gunder ....	Blan	Butler, L. E. ....	Lewis
Sieger, Wm. ....	Chaseburg	Carswell, Robt. ....	St. Paul, Minn.
Siepert, C. G. ....	West De Pere	(Care J. G. Cherry Co.)	
Soltwedel, E. ....	Loganville	Carswell, Allan ....	Clear Lake
Steinkraus, Irvin ....	Galesville	Carter, W. ....	Eau Claire
Stolt, F. L. ....	Prescott	(De Laval Co.)	
Strozinsky, H. O. ....	Menomonie	Carver, H. L. ....	Oshkosh
Schultz, E. G. ....	Bruce		
Sullivan, J. W. ....	Chippewa Falls		

Caucutt, G. S. .... Osseo	Hansen, E. R. .... Milwaukee (615—1st Nat'l. Bank Bldg.)
Chapiewsky, A. G. .... Newburg's Corners	Harvat, Wm. .... Boyd
Christiansen, H. .... Tomah	Hanna, J. T. .... Hudson
Clark, B. .... Clear Lake	Hastings, R. C. .... Marshfield
Cook, S. B. .... Cumberland	Haukom, Otto .... Cutler
Cornish, O. B. .... Ft. Atkinson	Helgeson, T. F. .... Holman
Crowe, Gerald .... Valders	Herrell, Dudley .... Ettrick
Crump, J. L. .... St. Paul Minn. (Care Dairy Record)	Herreman, J. W. .... Eagle River
	Hillstad, A. C. .... Portage
	Hoff, Theo. A. .... Osseo
Dale, J. I. .... Mindoro	Houghland, A. C. .... St. Paul, Minn. (1909 Fairmont Ave.)
Davis, E. M. .... Chicago, Ill. (448 E. 62nd St.)	Holmes, Geo. C. .... Cornell
Davis, V. E. .... Chicago, Ill. (Borden Co.)	Jackson, E. M. .... West Salem
De Bow, W. P. .... Blair	Jenks, G. E. .... Chicago, Ill.
Decker, J. J. .... Phillips	Johnson, J. B. .... Ettrick
Dehn, W. J. .... Blenker	Johnson, O. J. .... St. Paul, Minn.
Dickey, L. .... Glenwood City	Jones, Ira .... Marshfield
Dillon, H. P. .... Oshkosh	
Dodge, C. J. .... Windsor	Kachel, J. C. .... Whitewater
Douglas, Frank .... Jim Falls	Kearns, B. L. .... Chicago, Ill. (365 E. 60th St.)
Driscoll, W. P. .... Milwaukee (Milwaukee Corrugating Co.)	Keppel, V. S. .... Holman
Dufner, S. J. .... Eau Claire	Kieffer, P. H. .... New York City (Gude Bros. Kieffer Co.)
	Kelley, A. J. .... Chicago, Ill. (119 W. S. Water St.)
Elliot, O. A. .... Eau Claire	Kielsmeier, O. A. .... Manitowoc
Ellis, C. J. .... Bloomington	Kippenberg, P. M. .... Milwaukee
Emmons, Ben .... Eau Claire	Klooster, H. H. .... Chicago, Ill.
Enerson, Hilbert .... Ladysmith (609 Miner Ave.)	Kollmeyer, H. F. .... Loganville
Erickson, Albert .... Amery, R. 4	Kresse, F. F. .... Neenah
Eschenbrenner, M. J., New York City (Gude Bros. Kieffer Co.)	Krogstad, O. J. .... Stanley
Estel, E. S. .... Waterloo, Ia.	
	Lambert, Carl .... Augusta
Fahen, E. J. .... Minneapolis, Minn. (Cry. Package Co.)	Larson, Jas. .... Union Center
Falkner, Geo. .... Tomah	Lee, C. E. .... Madison
Farrington, E. H. .... Madison	Lee, V. D. .... Withee
	Logan, A. T. .... Madison (King Vent Co.)
Gallagher, T. F. .... Chicago, Ill. (Care Gallagher Bros.)	Lund, A. .... Rice Lake (De Laval Co.)
Garlid, Geo. .... Durand	Lounsbury, J. M. .... Milwaukee (Care Allwood Sales Co.)
Garlid, Ole .... Baldwin	
Gasjer, Wm. .... Tomah	McKay, Leslie .... Marshfield
General Laboratory .... Madison	McCarthy, John B. .... Chicago, Ill.
Glover, A. J. .... Ft. Atkinson	Magrane, J. F. .... Boyd, R. 1
Green, R. C. .... Albion	Matheuis, F. J. .... Birchwood
	Mayenschein, A. L. .... Milwaukee (138—8th St.)
Haase, W. C. .... Bloomer	Melgaard, H. O. .... E. Ellsworth
Haase, T. J. .... Elk Mound	Melsby, Orvil .... Durand
Hagen, Alfred .... Strum	Melles, J. H. .... Stockholm
Hammer, G. .... Colfax	Morrow, C. E. .... Sparta
Hammerslag, J. G. .... Milwaukee (Refrigerator Sales Co.)	Messner, G. W. .... Stoughton
Handy, Fred .... Wyeville	Meyer, M. H. .... Milwaukee (888—44 St.)
Hanna, J. R. .... Chicago, Ill. (116 W. Illinois St.)	

Mickelson, William .....	Arkansas	Sondergard, H. T. ....	Minneapolis (3812—12th Ave. S.)
Miller, J. C. ....	Augusta	Southard, R. B. ....	La Crosse
Mistele, N. M. ....	Hustler	Spielman, Charles ....	Boyceville
Moran, J. H. ....	West Salem	Spiers, Guy ....	Eau Claire
Moore, J. G. ....	Milwaukee (Butter, Cheese & Egg Jrnl.)	Sprecher, J. N. ....	Madison
Morrison, E. J. ....	Chetek	Stenger, Chas. J. ....	Chicago, Ill. S. Water St. (Cugel Bros.)
Munshaw, F. A. ....	Eau Claire	Stolp, Walter ....	Wheeler
Nelson, J. A. ....	Eleva	Sundin, John ....	Downing
Nelson, J. N. ....	Holman	Thiede, W. H. ....	Viola
Newhouse, Chas. ....	Augusta	Thomas, J. W. ....	Chippewa Falls
Nickel, Fred ....	Chicago (care Wayne Lowe)	Thompson, M. E. ....	Minneapolis, Minn. (Cry. Pack Mfg. Co.)
Norgaard, Jas. ....	Green Bay	Towle, T. B. ....	Baraboo
O'Brien, J. P. ....	Milwaukee (Rm. 613—1st Natl. Bank)	Townsend, Homer ....	Chetek
Oakes, Harley ....	West Salem	Tucker, E. H. ....	Lodi
Oakes, S. E. ....	Sparta	Uecke, E. G. ....	Eau Claire (Uecke Dairy Co.)
Olson, L. C. ....	Madison (336 W. Dewey St.)	Voigt, Wm. A. ....	Eau Claire
Opstun, C. P. ....	Gays Mills	Vanderhoe, Geo. ....	Reedsburg
Packard, F. E. ....	Westby	Von Haden, C. L. ....	Pepin
Parker, John J. ....	Camp Douglas	Vroman, H. E. ....	Chicago, Ill. (26 W. Kinsie St.)
Patterson, V. L. ....	Boscobel	Waite, E. N. ....	Bangor
Payne, J. H. ....	Eau Claire (Com'l. Hotel)	Waskow, Frank ....	Chicago, Ill. (Care Waskow Bros.)
Peterson, P. E. ....	Bayfield	Watson, F. ....	Minneapolis, Minn. (2009 Garfield Ave.)
Peterson, Eric ....	Mellen	Webster, B. W. ....	Buffalo, N. Y. (170 Mich. Ave.)
Purves, J. T. ....	Berlin (Creamery Package Co.)	Webster, Clifford ....	Disco
Reich, J. J. ....	Plymouth	Weeks, Maude E. ....	Chicago, Ill. (La Salle St.)
Rentz, Henry ....	Stoddard	Wichner, R. G. ....	Coloma
Rice, H. W. ....	Minneapolis Minn. (care Dairy Supply Co.)	Weigle, H. R. ....	Minneapolis (Minn. Dom. Chem. Co.)
Roch, Frank ....	Chippewa Falls	Weigle, G. J. ....	Madison
Roethle, W. F. ....	Cadott	Wilkie, Frank ....	Osseo
Roycroft, A. J. ....	Chippewa Falls	Williams, C. A. ....	Augusta
Searles, I. G. ....	Wonevot	White, W. ....	Washington, D. C. (Dairy Division)
Sammis, J. L. ....	Madison	Whiting, H. H. ....	Lake Mills
Schultz, A. C. ....	Bruce	Whitmore, E. J. ....	Owatonna, Minn.
Sell, R. O. ....	Chippewa Falls	Yager, Jos. ....	Thorp
Simmons, Jesse ....	Osseo	Yonkey, E. C. ....	Tunnel City
Skogmo, P. W. ....	Minneapolis, Minn. (110—2nd St. N.)	Zick, H. O. ....	Janesville R.F.D. 2
Smith, W. W. ....	Owatonna, Minn. (King Ventilating Co.)		
Smith, L. C. ....	Boston (W. J. Haire Co.)		
Sommerfeldt, A. T. ....	Fall Creek		

18<sup>th</sup>  
NINETEENTH ANNUAL MEETING

OF THE

# Wisconsin Butter Makers' Association

Held at Eau Claire, Wisconsin, February 4 to 6, 1919.

---

OPENING SESSION TUESDAY EVENING

February 4, 1919.

The meeting was called to order at 8 o'clock by Secretary Benkendorf.

Music by the Liberty orchestra.

G. H. BENKENDORF: Ladies and Gentlemen, you never can tell what may happen at a convention. I got a letter this morning from Mr. Morrison stating that he would be here on time for this meeting and asked me to reserve a room for him. Unfortunately I got another letter from him a few minutes ago stating he was unable to go out of the house, but that he hoped to be here tomorrow. Therefore I take great pleasure in introducing Vice President H. O. Strozinsky, our butter maker at Menomonie, who will preside at the meeting.

H. O. STROZINSKY: I didn't hear our worthy secretary mention that we were supposed to come to order but I presume we all understand that. The first thing on the program is the address of welcome and I am indeed pleased to announce to you this evening that the address will be given by the Hon. John E. Barron.

---

## ADDRESS OF WELCOME

JOHN E. BARRON, Mayor, Eau Claire, Wis.

Mr. President, Officers and Members of the Wisconsin Butter Makers' Association; Fellow Citizens and Friends:

Sometimes as is the case we are called upon to bestow certain honors upon the individual and I notice your president pro tem is occupying the stage alone, but be that as it may, I think in this address of welcome that I can talk to you perhaps in that spirit that should predominate better, as they say, at close range.

It is a privilege to again be with you. I understand that three years ago you visited the city of Eau Claire and it has not come to my mind that there are any protests in regard to the treatment that you received but it is always in order and if there are any such protests on the part of the membership I wish that you would express yourselves plainly to me on that subject.

I know full well, friends, that you have not gathered here especially out of courtesy to the mayor but that you are assembled to enter into deliberations which are evidenced in the fact that in the next two or three days that are consumed in the program, subjects will well be taken up from which you will undoubtedly profit greatly thereby. You will have many distinguished guests from far away states and not least among these notable guests is our own Dean Russell of Madison, whom I have had the pleasure of meeting.

The story is told of a Texas Congressman and I have applied that to my own case, in a measure, where, after a session of Congress he was returning homeward with the idea perhaps that he had been rather prominent at Washington, found a large



crowd gathered at the station and so his vanity was aroused by the thought that here his fellow citizens had gathered to do him honor and so he was prepared when he stepped off on the platform to address his seeming audience and so he said, "Fellow citizens, I thank you for this welcome home," and then a loud voice in the rear was heard saying, "Welcome home, thunder, didn't you know that Henry Bacon had committed suicide in the station?" So on this occasion I know that you are not gathered here to hear an address by the mayor, an address of welcome, but you are here with that steadfast purpose to derive something beneficial from the program that you have formulated.

Now we are all somewhat interested in this program and I note that the dairy situation is going to be discussed this evening by Dean Russell and we are interested to this extent, this phase of the question, this one particular phase, we wish to know when the price of butter is going to drop still lower. Now if I can carry back to my people the assurance that butter is again going to be a common article of food upon our tables I do not know of any news that would be received with greater acclaim than that. But, seriously speaking, my friends, Wisconsin has every reason to feel proud of its agricultural development. A progressive spirit has spread to every branch of industry throughout this great domain of ours and the Wisconsin Butter Makers' Association has done much to promote the building up of those herds of well bred stock that will mean in the years to come that Wisconsin will still retain the place it now holds among the states of the union in that regard. We only need look back a few years to determine to our own satisfaction what has been accomplished and I make the assertion that the State of Wisconsin has still greater possibilities.

Unfortunately the hotel situation here may perhaps receive some discussion. I can give the assurance that the project is at least upon paper and that perhaps when you return to the City of Eau Claire again that we will have a hostelry that will contain some two or three hundred rooms, and possibly four hundred for we know not as the plans are not very definite in that regard, but the ground has been purchased and there is every prospect in regard to a satisfactory solution of the hotel question. I mention the hotel question because if any of you are not supplied with quarters I have made reservations at the jail. I always do that when the Wisconsin Butter Makers' come to Eau Claire, whether you have hotel accommodations or not,

and if the officers of the organization or association think possibly that these might not be used then I would like to have them cancelled so that we can hold them for other strangers that might drop into the city during the interim.

My friends, I have nothing further to say except this, that the citizens of Eau Claire believe that the Wisconsin Butter Makers' Association and the Northwestern Wisconsin Butter Makers' Association are two of the most substantial conventions that come to our city and we entertain many of them during the year.

Again I thank you for this opportunity of addressing this convention.

MR. STROZINSKY: I want to assure you that whenever we come to Eau Claire we are always granted a very hearty welcome. It appears as though the Honorable Mayor feels somewhat of a brotherly love for us as he just mentioned that some of us might find lodging in the jail, which we hope will not occur, but I assure you as a member of the Northwestern Butter Makers' association we have always felt at home in Eau Claire, always came here with the impression that Eau Claire was going to show us a good time and most of us have had it all right, not only in discussing the different principles of the meeting, different principles of the dairy line, but a good time, in general, and that is why I say that I believe the mayor has that sort of a feeling that he likes to see us come; he knows we always have a good time and why shouldn't we come, and therefore I say that we should grant the Honorable Mayor this evening a hearty welcome to be here this evening with us, therefore I move as a body that we rise to extend our appreciation to the mayor.

JOHN E. BARRON: I am not rising to acknowledge the courtesy although I should but it was with the thought that perhaps I should not take up any more time but there is one matter that was forgotten. The Elks Lodge No. 402, occupying quarters in a building one block from here, have invited the membership of this association to visit them at any time, therefore do not heed the sign after you reach the top of the stairs that only club members are allowed because if you wear the badge they will know that you are members of this association. This evening they have an initiation and lunch, I understand, and perhaps there might be some members of the order that will be interested in calling there later on, but any time during

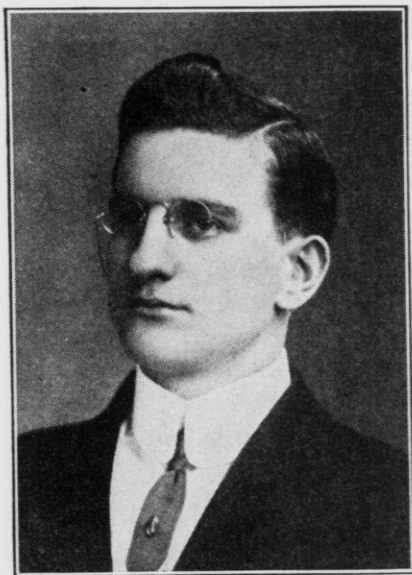


your visit yourselves and ladies are invited to partake of the hospitality of the Elks and I was especially requested by the Exalted Ruler to mention this to the Association.

MR. BENKENDORF: Ladies and gentlemen it gives me great pleasure to have Mr. Strozinsky respond to the address of welcome of the mayor.

## RESPONSE

MR. STROZINSKY: I am indeed very pleased to say a few words to you this evening and assure you that as I note the program, we have a very interesting one before us this evening; I am sure it is a program that is uppermost in our minds. I



H. O. STROZINSKY  
Menomonie, Wis.

also wish to state that when the secretary asked me to appear on the program here I was somewhat discouraged and felt as though he was kind of imposing on me to get me into this work every time and I wrote and asked him to let somebody else have a chance. I felt others have as good a voice as I have and were just as good looking, and a whole lot better and I felt that he

should ask somebody else, however, he was sort of persistent about it and so presume I will have to carry out his wishes.

There has been a thought in my mind that there does not appear to be the cooperation, in the sense that cooperation is meant; between the creamery men, butter makers, and the dairy men. I have always felt that this cooperation was essential, I have always felt that the closer unity, the closer cooperation that could be formed by these men; the butter makers, and creamery men, would naturally cause an action of that kind to be universal. I have always felt that in order to make a better piece of goods; that in order to have the dairymen and the farmers in closer cooperation with us as butter makers, that we should have these men here at these meetings; we should offer some sort of an inducement to have those men with us.

Our interests are mutual, we are in the same environment, they can't get along without us, we can't get along without them, we must have them in the field so why not a closer cooperation? We have talked cooperation, we have talked better cream, we have talked, well I don't know what you would say, we have talked everything that is to be thought of and still we go along and we are making a poorer piece of goods every year. There seems to be some way that that should be overcome, there seems to be some way that we could have these farmers with us to educate them along the line of a better piece of raw material. We realize that the majority of the dairymen are beginning to see that point; they are beginning to realize that in order to get more money for their finished product they must have a better piece of raw material, but still we have a percentage of these men with us, if they were put in one creamery perhaps there would be some solution to the problem but there are a few with all of us.

We all have that same thing to contend with; poor cream. We have laid awake nights and scratched our heads and wondered how we are going to overcome this, therefore I say, that we should make these men feel, the dairymen of the state, feel that they should be with us, that it is to their interest as much and more than it is to our interest to attend a convention of this kind. We as butter makers come to these conventions to learn new ideas, to learn from our neighbors their line of butter making, so we can put these suggestions, these ideas together and take them home with us and work them out in our plants.

We all do that, that is why we are at these meetings, that is why we come here, we come here with a sense that we want to learn something and therefore I say that we should make the dairy farmer feel that same sense, see that same question as we see it, make it a point that they should realize that it is as much to their interest to be at these meetings as it is for the butter men. I actually believe that a merging of the two associations, the Dairymen's Association of the State and the Butter Makers' Association of the State, I don't necessarily mean financially or anything of that kind, but I mean in this way that we could arrange to have our programs, to give the, say the butter makers half a day of the program and the dairy men half a day, so by that we could have a chance to attend both meetings, we could then learn their side of the problems and they could then learn our side of the problems. We know that the farmer has to take care of his raw material, he can't rely upon us to go out there and supervise that for him. We also know that after this raw material gets to the creameries it always is taken care of properly and if it wasn't taken care of properly what would be the sense of all this new equipment, all these nice enameled creameries, so on and so forth, that we are building if we as butter makers of the state couldn't feel that we were taking care of that product as it should be taken care of. I actually believe there is not a butter maker here but what feels it in his mind that he is taking care of that product to the best of his ability. I am sure of that. I have been in the game twelve years and might be in it thirty years more for all I know but I have always held that when cream was received by us it was our duty to see that this product was taken care of in the best possible manner, to see that we make the best piece of material that we could get out of that product. As I have taken up considerable time I am going to leave that idea with you as a body to think about, to wonder about, whether the dairymen should not be interested as much as we are interested, and I must say as I have said before that we appreciate the honor bestowed upon us this evening by the Honorable Mayor and we hope that we can have the pleasure of again meeting in this city.

**Music by the Liberty Orchestra.**

MR. STROZINSKY: We have with us this evening a man who is very well-known to all of us, a man who has great aims, I believe, in the dairy industry and I feel that we can't appreciate too highly his being with us this evening. I take great pleasure in introducing to you the Honorable Dean H. L. Russell, College of Agriculture, University of Wisconsin, Madison, Wisconsin.

---

## THE DAIRY SITUATION

DEAN H. L. RUSSELL, College of Agriculture, Univ. of Wis.

Mr. President and Friends: I am sure it is a pleasure for me to be here tonight. I see in the audience a number of faces of old friends of the days when it was my privilege and oppor-



DEAN H. L. RUSSELL,  
College of Agriculture, U. of W.

tunity to do something directly associated with the dairy industry of this state. That has not been my opportunity of late years, but my interest in dairy matters has never ceased. During the last year it has been my privilege to be in Washington

where I was at the "meeting of the cross roads," as we might say, and where the opportunity of learning something of the dairy conditions not only here, in this country but in Europe was accorded me. Therefore, when Mr. Benkendorf, your secretary, asked me to address you this evening I thought that I could possibly do nothing better than bring a few words along that line.

Conditions throughout the world are altogether too much disturbed at the present time to enable one to select and know just exactly whither we are drifting. I am not a prophet nor the son of a prophet and therefore it is not incumbent upon me to predict what is going to happen within the next few months or the next year. My only purpose in coming before you tonight is to bring to your attention some facts, as facts, and from these I trust that it may be possible for you to draw your own conclusions, because a realization of the knowledge of these facts is in my judgment fundamentally necessary for you to have to know how to adjust your affairs for the next year or so. At the outset I think it is necessary for us to distinguish between the conditions which will obtain in Europe this coming year and those which probably will obtain in the years later, for conditions are so abnormal in the world today and especially so in Europe that what may obtain this coming season may not be that which will obtain for the years to come.

We are now undergoing a period of inflation in which values have been greatly increased, in which they have been inflated, undoubtedly, and just as surely as we are now passing through a period of inflation, must come the consequence of that which is a period of deflation, for that which goes up must come down. Just as surely as the trough of the wave follows the crest, sooner or later we are in for the shrinking of conditions which will put the dairy industry, as all other phases of industry, on a materially different basis from that which now exists. Now, when this will come is an exceedingly difficult thing to say; whether that period of deflation is already setting in and is going to be marked this coming season, it will be impossible to fully predict. Undoubtedly there will be shrinking but whether that shrinking will come down during this coming season to the pre-war basis of 1914 or 1915, is too difficult a question to answer at the present time.

In order that you may have a background with reference to the general situation, I want to give you the essence of a cablegram from Mr. Hoover which was sent to this country a few weeks ago. Mr. Hoover, speaking of the food condition in Europe, says that this coming season will see the necessity of furnishing at least \$350,000,000 worth of food to those devastated countries which are not our enemies.

If he were to include in that those countries such as Poland, Russia, the Ukraine, Finland, and those Slavic countries lying to the east of the Central Empires and north to Russia, which at the present time are undergoing a period of starvation which we in this country little appreciate—for instance, in Finland, the cable says, the food is practically exhausted in the cities, while the absence of fat, sugar, and bread in other sections is immense,—a billion and a half dollars' worth of food is what will be required, says Mr. Hoover, before the first of July. Now, gentlemen, if we are not to allow that condition of affairs to obtain in Europe today it means that the treasuries of America have to be taxed in order to supply that food, and if they are taxed there may not be such a surplusage of food here in this country as there is today during this entire season.

Now to come more particularly to the part that interests you, for I take it that you are not so much interested in the general food situation as you are in the dairy situation, let us turn our attention to the dairy situation as obtains in Europe today. Great Britain which is the home of many of our dairy breeds of cattle has been able so far to maintain her dairy herds largely unimpaired. While she has lost a considerable percentage of her other meat-producing animals she has at all hazards maintained her dairy cattle. She is short on milk fat at the present time, not so much on account of the maintenance of dairy cattle as on account of lack of concentrates. When one goes over into France, however, one finds there a different situation.

France has been overrun by the enemy and that enemy has practically stripped her of every solitary animal in the invaded section so that northern France is substantially despoiled of all of its live stock. France today has lost about two and one-half million head of dairy cattle. In a considerable measure that condition was brought about also by the reduction in labor owing to the fact that the French have been drained of their man power to the lowest possible limit. When you realize that



in France the farms have no fences, that the handling of cattle is by the tethering process, or herding, and therefore the amount of man labor is much larger for the handling of animals of this sort than would obtain here in this country, you realize that the shortage of man power is one of the factors which has very seriously reduced the dairy cattle of that section. In spite of the fact, however, that France has lost largely of her matured animals, this country has made every possible effort to retain her young stock for the reason that she realized when this war was over it was only by virtue of this young material which she could save, that it would be possible for her to rebuild her herds.

In Italy the loss has been substantially as large owing to the fact that the foe has overrun that portion of the northern part of Italy which is most usually given over to dairy stock. Belgium is absolutely cleaned up, as is northeastern France, the Germans having swept every solitary herd that it was possible to obtain from this stricken country. When you come to consider the situation in the neutral countries you will find a substantial diminution. In Denmark there has been a loss of one-sixth of all of her dairy animals. It is true that Denmark is not a large country and numerically speaking this number may be small, but when you realize how important a factor it is in supplying the British with butter you will realize that a diminution in the dairy market of Denmark will be a material loss in the future as far as England is concerned. In a large measure this loss of Denmark has been brought about through the inability of this country to supply the necessaries for feeding purposes, and at the present time in Denmark the heather and herbage that grow upon the moors and downs are being ground up and mixed with the blood of slaughtered animals and used for concentrates. In Sweden, which was an exporting nation before the war began, butter is practically no longer accessible.

So you see, the situation with reference to the dairy output, not only in the stricken regions but in the neutral regions in Europe, is such that for some time to come it does not appear probable that this country can recuperate their loss. The great difficulty which exists is on account of the lack of concentrates. Concentrates from America, from China, and other portions of the Orient have been so largely used, and these countries in Europe have come to rely so largely upon them, that the loss of concentrates on account of the inability to secure shipping



facilities has made serious inroads on the maintenance of these herds. It is therefore entirely probable that dairy products will be needed in Europe, especially this summer, for it is only by securing dairy products from the outside that it is going to be possible for them to maintain their young stock which they are now attempting to do at all hazards.

Right here in this connection may I say a word with reference to the possibility of the shipment of stock? A great many of the farmers in this country have looked upon this decline in dairy stock in European countries as offering opportunity for American markets to supply these European markets with dairy stock. It does not seem to me that such a condition is likely to obtain and the reason for that is this,—in a good many of the countries in Europe, especially in France and Belgium where these losses at the present time are the largest, the cow is used as a work animal as well as a food-producing animal and therefore if cattle were to be sent from this country abroad it would be necessary to have a large-sized animal that might possibly be used for this purpose. These countries have developed their cows along different lines from those which we have followed in developing our cattle. The types of animals here in this country which have been developed into dairy animals are not to be found in large numbers in these devastated regions. Therefore, in so far as the movement of live stock from this country to Europe is concerned I do not think there is very much likelihood of any great development occurring in this direction. The market situation which we find today in Europe is deplorable.

In England, even today and months after the armistice has been signed, milk is so scarce an article that the adult population is deprived of its use. Only two or three weeks ago persons returning from the other side reported that practically the only milk supply available to them is that which is given the children. The adult population was cut off, even to the present time, from the use of fluid milk. Two ounces of butter is the present ration in England, and Mr. Kellogg of the Food Administration, reported that he traveled for weeks and never saw butter except once. At the present time condensed milk is sold in England at about one-half of the price of whole milk, if it were possible to secure whole milk. So you see the situation with reference to the use of fluid milk, even in the coun-

tries of the victorious allies, is such that it shows there is an extreme shortage of this indispensable food.

There are two conditions, it seems to me, that we have to consider before we will be in a position to know whether there is much likelihood of a continued demand on the part of Europe which we can satisfy by export trade. In the first place we may say that that question revolves around the problem of price. Is the price which we will ask for dairy products in this country of Europe such as will enable Europe to buy these products from us? During the continuance of the war it was of course absolutely necessary for England, and France and Italy for that matter, to buy her dairy products wherever she could get them; next, it was not a question of selection on her part but it was a question of where she could possibly secure them, and, with the exceedingly great shortage in shipping, America and Canada were practically the only points which could supply dairy products in any large quantities. With the cessation of war, however, that condition has entirely changed and it is possible now, with the continuance of shipping, for these nations to go to the cheaper markets of the world if they cannot secure dairy products from this country. So it does not at all follow, gentlemen, that because we have the products and Europe needs the products, Europe will buy these products from us, unless she can get them at a price which she feels she can afford to pay; and if it is possible for her to get them cheaper in other portions of the world than America, why should the English pay us more than she would pay for the products from her own dominion?

Another factor the transporters will have to consider is the character of the government with which they are dealing. Now so far as England, France, and perhaps Italy are concerned, these governments are on such a stable foundation that we do not have to give consideration to the question, but how about the devastated portions of Russia, Finland and Poland, and even Serbia, and those regions lying to the east of the Central Empires, where there exists at the present time no responsible government? Is it to be supposed that American exporters will start a ship load to Europe containing milk, butter or cheese, without consigning it to some particular party or to some responsible authority, such as a government from whom they can expect payment? But if these governments do not exist at the

present time under conditions that would insure stability of commerce, it is hardly to be expected that we will send our products abroad so far as commerce is concerned.

Of course if it becomes necessary from the standpoint of humanitarian treatment of these starving people the problem assumes a different aspect. If from a philanthropic point of view it is deemed necessary to send these food supplies to these stricken peoples it will then have to be done through governmental channels, and in all probability this will be supplied, as has been supplied this last week, in the sum of one hundred million dollars for the transfer of food to these stricken peoples. But these problems are altogether too large to be handled by private auspices and therefore it will of necessity require government financing before anything can be done in this direction. Europe will undoubtedly recover from the stricken situation in which she now finds herself with reference to her grain fields very much more quickly than she will with reference to her live stock for it is possible of course in a short period of time to rebuild her fields and reseed them, and to rebuild her resources, so far as bread grains are concerned, but even there I think it is a mistaken notion if we conceive of the idea that this year Europe will be able to rebuild those resources so far as bread grains are concerned. You must remember that Russia is the granary of Europe, and Russia is the country out of which a large part of Europe's normal wheat supplies come. Now Russia is in such a state of chaos at this time that it is wholly impossible for her to resume her normal grain planting and therefore, so far as the Russian supply is concerned, it does not look at all probable that there will be more than at least one-fourth in grain—one-quarter of the normal crop secured from this territory. This is a factor of no small moment to us. It was principally presented as a problem of no small dimensions to the whole people of this country for if there is a shortage in European conditions a considerable portion of this surplus will undoubtedly be required abroad to satisfy that need.

The difficulties which confront these peoples are primarily those of labor, lack of machinery, and lack of fertilizer. Only a few weeks ago Italy cabled that she would rather have a ship load of phosphates than fifteen shiploads of food, as bad off as she is with reference to her food supply at the present time.

One shipload of phosphates which could be applied to her fields and which would double their fertility, she felt was of more value than fifteen times as much food at the present time. The destruction of machinery which has occurred in the war-starved portions of Europe has been such that it is practically impossible to secure normal acreage and normal returns because this machinery cannot possibly be replaced this year; so that while a restoration of the bread grains can occur in Europe much more readily than can the live stock and dairy returns, even this coming season it is highly improbable that there will be anything like a normal crop in Europe.

In this connection I do not think we want to allow the European situation to beguile our eyes. We hear so much and see so much in the papers in regard to this condition that we are inclined to consider that our outlet, so far as our food products are concerned, lies in the direction of exports. I feel, gentlemen, you should realize how small a proportion of our total trade is made up of our foreign exports. It occurred to me the other day to look into these figures and I myself was very much surprised. Under pre-war conditions, that is going back as far as 1913, I find that the ratio of our foreign to the domestic trade was about one to eight; about eleven or twelve per cent of our total commerce was comprised of foreign trade. During the war, of course, this naturally has been very greatly increased but even in 1916 and 1917, when our export trade reached the largest amounts that it has ever reached, the percentage was about one-sixth—sixteen or seventeen per cent. In other words, gentlemen, five-sixths or seven-eighths, normally, of our entire commerce is our own domestic, inside commerce among our own states and not outside of the United States of America. Only the surplus goes outside and that is comparatively small, so you see that under normal conditions the ratio of the foreign to the domestic commerce is a comparatively small amount. How much that is with reference to the particular dairy products in which you are interested I did not have time to ascertain but I am giving you the ratio with reference to all commerce of all kinds, and that percentage is very much lower than I supposed it was before I looked into the situation more carefully.

Now let us take up for consideration some of the leading dairy operations and note if we can some of the conditions

which surround them so that we may be able to more intelligently predict for ourselves respectively what is going to occur in the future. Let us take the condensed milk situation, of which you saw such an outgrowth last year. There has been, of course, an enormous increase in the number of condenseries which have been constructed for manufacturing purposes in the United States within the last year or two. I have here a map on a small scale which shows you the condition of the United States with reference to condenseries, and these figures show three hundred forty condenseries, the greater bulk of which are located in the Great Lakes basin. Very few are in the southern, and a few in the western states. Many of these condenseries have sprung up on account of the fact that during the early years of the war there was an opportunity to secure the European outlet with a firm or a British contract, and, therefore, these small concerns were practically built on the basis of a single customer, the most dangerous position in which any manufacturing industry could find itself, where its output goes to one customer or one kind of a customer.

One of the great difficulties which confronts us here in America today with reference to our condensing industry is the fact that we have so large a number of concerns which practically have no home trade. That is not true with reference to the older, more established concerns, but it is particularly true with reference to these new concerns that have sprung up by virtue of this war stimulus. The old concerns that were in existence before the war had their well-established domestic trade which they have maintained and kept up as far as it was possible for them to do. Thus after the war is over, when this export trade declines, they can go back and continue to handle their own business in a way in which these newer concerns which were built up on the basis of a single customer cannot possibly do. During the last three or four years the increase in the output of our exports of condensed milk has increased almost unbelievably. In 1914 we had an export of only sixteen million pounds; in 1917, it was two hundred fifty-nine million pounds, last year it was over double that—five hundred and twenty-nine millions, and the first five months of this year the output of condensed milk was thirty-eight per cent over that of the same months of the preceding year.



During the period of war it has been impossible, wholly impossible, for Europe herself to produce the supplies of condensed milk that normally obtain. Switzerland and Holland have been in a large measure the sources from which she has obtained her supplies under pre-war conditions, but with the embargo on business from the outside it has been impossible to maintain this industry, so that from the standard of export trade England, France and Italy have not been able to secure their trade back from these channels. England is a large consumer of condensed milk; France on the other hand is not; no one knows what is going to happen after the French soldiers come back from the trenches where they have been used to this condensed product during the period they have been in the war, but it is reasonable to presume that there will be a material increase in the consumption of condensed milk by virtue of the fact that millions upon millions of soldiers have become accustomed to the use of this product during the time that they were in the war. This is the situation that has confronted the countries in the case of previous wars. The time of the Spanish American war marks the rise of the evaporated milk industry in this country. In the years immediately following this war evaporated milk took a sudden spurt where this product was so largely used in Cuba and Porto Rico. Unquestionably the present situation is going to cause an increase in the extension of the use of condensed milk in this country as it doubtless will in Europe.

A problem of very vital importance to us here in Wisconsin is how are we going to stand the deflation which comes with reference to this condensed industry? Wisconsin is in a peculiar position, in my judgment, with reference to this particular industry. If you were to take this map and it were possible for you to see the details of it you would see that these condenseries are in a large measure in New York, Pennsylvania, Ohio, Michigan, the Great Lakes Basin, and as I say, in the far west. Now, a great portion of the older condenseries were located in or near the large cities in New York and Pennsylvania and in the Elgin district around Chicago. As these cities have grown larger and larger and have reached out and have gathered in more territory we find that the necessity for drawing the milk supplies of these cities has extended beyond the limits of where the condenseries were originally located so that it is

embracing more and more of the shore country. This is exerting a very marked influence on the condensing business.

Here I have a map of Wisconsin showing in red the location of all of the condenseries of the state of which we have fifty-four, and in the map is also shown the regions where the fluid milk supplies of our large cities like Chicago and Milwaukee meet. You will see at once that a considerable number of these condenseries are within this fluid milk section, and it also happens that a considerable fraction is without this zone. If you draw a line from the southwest corner of the state, say to the bottom of Lake Winnebago, south and east of that is what you might call the fluid milk or market milk zone of Wisconsin. The price that is paid for raw milk in that territory is controlled by what the city market milk brings in these cities. The highest price which milk brings under any condition is that which is paid for it where it is used as a fluid milk supply. It naturally follows that these condenseries that are located in the fluid regions of our larger cities, whether it is in Wisconsin or whether it is in Pennsylvania or New York, are paying a higher price for their raw material than are the condenseries outside of that region.

I gathered the other day at the Food Administration some interesting figures along that line. For instance, eleven condenseries outside of what you might call the market milk zone paid on the average during the month of February \$3.34 a hundred for  $3\frac{1}{2}$  per cent milk. Fourteen condenseries within that zone paid \$3.59, when the Chicago market price was \$3.68. When you compare, for instance, the discrepancy of New York on one hand and the far west on the other you find even a more striking difference. Twenty-four condenseries in New York and Pennsylvania were paying \$3.90 a hundred while twenty-four in Oregon, Washington, Utah, and Colorado paid \$3.15, or a difference of seventy-five cents a hundred for their milk supplies. It takes only ten cents to equalize the difference in freight between the middle west and the seaboard and therefore when the raw material cannot be purchased in a section where it will exceed a difference of ten cents between the price paid for it in the west and that which obtains in the east or in the vicinity of our large cities like Chicago, you see what an advantage condenseries have that are located out in the butter and cheese zones. Here in Wisconsin not quite one-half of our condenseries are outside



of this fluid milk zone. See the significance of this when the unavoidable deflation occurs, when it becomes necessary to reduce the price of condensed milk. That region in which the raw material can be purchased is the region that can best stand that competition and in that the condenseries in northern and eastern Wisconsin, say north or on a line with Lake Winnebago, are in a far better position, as are the condenseries in the Pacific far west, than those which are located in the vicinities of our large cities where the price of fluid milk is relatively so high.

In this connection let me call your attention in passing, to the place which Wisconsin holds so far as the condensing business is concerned. This picture of blocks at the farther side shows you the total condensed milk output aggregating in the year 1917, 1,350,000,000 pounds.

Wisconsin leads all states in the union with reference to that subject, producing 277,000,000 pounds of condensed milk that year or twenty per cent of the total output. If it were possible to secure the data we would doubtless find that that figure would be materially increased for Wisconsin's output last year was nearer 400,000,000 pounds of condensed milk.

Take the matter of cheese. With cheese we have a product which is not uniform, constant, and regular but it is one which is subject to tastes and tones of a very considerable variation. It was only at the beginning of the war that we had any export of cheese to amount to anything. Prior to the war, say down as late as 1914, the exports of our American cheese ran somewhere in the neighborhood of two to three million pounds; since the war has come on, however, there has been of course a tremendous increase so far as exports are concerned. In 1915 it was fifty-five million, in 1916, forty-four million, last year it was sixty-six million, in 1918 it fell to forty-four million again, and there has been a tremendous drop so far as the export is concerned since the month of September in 1918. Now the reasons for that, of course, are very obvious, if we hark back to the days of last spring when the submarine menace was as severe as it was. When shipping was at such a premium, it was an impossibility to ship the cheese abroad even had the foreign population demanded it, but the high prices here in the United States are largely the discriminating factor in the matter of exports. A year ago England was paying twenty-two cents a pound for Canadian cheese, and at the same time cheese they were offered twenty-four

cents for later fell to twenty-three cents. But when the price of cheese was in a normal condition in this country, say several cents higher than that, it is not to be expected that our dealers would ship cheese to England in competition with them.

At that time the Food Administration and the Department of Agriculture made special efforts to create a demand for American Cheese here in this country. It was done primarily as a substitute product, as was most of the propaganda work of the Food Administration, to supply a product which was abundant in order to take the place of one which was scarce. Every possible effort was made to increase the consumption of American cheese as a substitution product. The sense of that effort is indicated by the fact that in the first six months of 1918, from January to July, compared with the same six months of the preceding year, the increased consumption of cheese here in America aggregated 41,628,000, almost as much as the entire foreign export for that same year. In that respect, gentlemen, we have a good indication, I think, of the power of publicity—the fact that if we take a product which is a good food product and give it the right kind or proper amount of advertising, it is possible to very largely stimulate its use. This is a matter which the Wisconsin Dairy Council can well consider at the present time in their campaign for the coming year. The fact is that if there is put on the right kind of a campaign with reference to the use of cheese as a food rather than a side dish or a condiment, it will be possible to very materially increase its use. Of course, one factor which entered in very largely last year no doubt was the enormous prosperity of the south where so large a fraction of our cheese is sent. When cotton is worth thirty cents a pound it is to be expected that the cotton grower and all people associated with that industry will be much more liberal than when they are begging us to tie a deal to pull them through. The domestic trade in the south will be likely to be as much as it was when cotton was so high a year ago. This year's make has materially declined so far as the total amount is concerned. Stocks on September 1 of this year compared with a year ago are almost thirty-five or forty million pounds less, so that as far as the supply is concerned there is not that excessive cheese which the market found a year ago. The advance in price here in this country to a figure so much higher than the English market is paying, it seems to me to preclude

the possibility of enabling us to export any considerable quantity of cheese to Europe until these cheaper supplies are entirely consumed. At the present time Britain is paying for the Canadian product twenty-three and one-half to twenty-four cents and is offering for the Australian product of this year's crop twenty-one and one-half cents. Last year she paid twenty cents a pound from Australia. When you have such prices as that, it is not to be expected that England will turn from her own domain and come to this country and buy cheese as long as our figures are so relatively much higher than those of her own domain. Of course the type of cheese which is made here in America is not the type of cheese that stands up best in the English market; therefore, much of her cheese is not suitable for the export trade.

Just a word in regard to the Swiss cheese situation, for the Swiss cheese industry in Wisconsin is in a peculiar condition. Wisconsin possesses the unique advantage of being by far the largest producer of Swiss cheese of any state in the union. I have labeled this chart, "Wisconsin lacks the Alps but she makes over seventy per cent of the Swiss cheese of America," and if we were to place all of the Swiss cheese in America in the form of a block we would find that the Wisconsin product would make almost three-fourths of that amount. Of fifteen and one-half million pounds made in America, Wisconsin last year made over eleven million pounds.

Now her situation last year was peculiar. The only competition which we here in Wisconsin have had to suffer so far as Swiss cheese is concerned is that which came from the imported product. A large amount of cheese has been imported each year from Switzerland but with the embargoes being laid upon the continued importation of that material last year it was no longer possible to secure from Europe the imported Swiss cheese, so that the product in Wisconsin rose very high and with that has come in Wisconsin a situation which unquestionably has been detrimental. The high prices lead the buyers to go nearer and nearer the hoop in purchasing from the factories. In the case of the Swiss cheese where the curing is so important and so vital in determining the quality, the nearer one gets to the top the less the cheese is cured and the more chance there is for deterioration in cold storage or in the hands of the dealer; so that the quality of our Wisconsin cheese in place of being improved has deteriorated without question. The situation which will con-

front us when war is over we cannot anticipate. Switzerland will again attempt to find its outlet here in America, and in place of our having a better quality of product to compete with the imported product, this impaired quality which has come about through the practice of being closer and closer to the hoop has deteriorated the quality so that we unquestionably will be handicapped so far as Swiss cheese is concerned.

With reference to butter, little was normally exported on pre-war conditions, the total quantity of our exports of butter were small normally; three to four or six million pounds. During the war they have increased, ranging from thirteen to twenty-six million pounds. It is true that in Europe there exists the greatest possible shortage with reference to butter, with reference to all kinds of fats we may say. In Denmark, which prior to the war exported as high as two hundred twenty-five million pounds of butter to Europe, this trade has been in a very large measure cut off, for two reasons; one is on account of the shortage of concentrates I have spoken of as decreasing the output of the herds, and another is the high export duty which has been placed upon the exporting of butter out of Denmark, particularly to England where the price has been very greatly increased over and above what it used to be.

Siberia is one of the larger factors, a growing factor so far as the European supply is concerned. The daily business has increased tremendously in the western portion of Siberia; during the progress of the war this has not been disturbed, and the difficulties which obtain with reference to the Siberian butter crop are on account of her inability to secure shipping. The Siberian product will not cut our influence in the English trade through the European market that it customarily does, so that these supplies of butter which natively come from Europe, are in a considerable measure to be interfered with on account of the disturbing condition which now obtains. What the butter exports from New Zealand and in Denmark are it is difficult to ascertain, I have not been able to secure up-to-date data of this record but this fact has been determined; the British government has made an offer to the Australian government at the present time for the entire output for this year on the basis of thirty-nine cents a pound; she paid thirty-four cents a pound for her product last year. Australian factorymen are holding their product for forty-two cents a pound so that the Australian

output with the resumption of shipping will not be far from forty cents a pound.

Butter, of course last year was relatively much lower than it ought to have been in comparison with other dairy products. The exports of the allies will be established in dairying during the early spring by the United States government with a certain portion of our dairying, and had it not been for the restrictive legislation made by the Food Administration with reference to the participation of extraordinary profits it is difficult to surmise what the price of butter would have been this year. I fully believe that had not the speculation tendency been cut out of the market of America by this regulation, butter would have sold for a dollar a pound this winter on account of that situation.

Butter differs from all of the other dairy products in that it has to compete with a substitute and therefore it does not wholly depend upon the price, or upon how much of a supply we have, but depends very largely upon the price at which butter is sold. The higher the price of butter the larger the use of substitutes, and yet it is interesting to note that during this last winter, in spite of the fact that the price of butter has been so tremendously high as it has within recent months, it is true that there has not been the increase in the use of animal oleos that one might naturally expect. During the first ten months of 1918 the use of oleo increased from 231 million to 286 million pounds but of that increase practically all was due to the increase in nut oleo or vegetable margarines. Here again I have a good illustration that may be taken by the dairymen with reference to the power of advertising. The substitute advertisement which was first carried out by the nut margarine manufacturers where they capitalized the use of margarine for patriotic reasons, has been supplanted of late by the use of more carefully worded advertisements which show the customer the value and worth of nut margarine compared with any other product, and this unquestionably has stimulated the public very largely in the use of nut margarine as opposed to the animal oleo—a lesson which can be attempted with reference to the advertising of the value of butter and can be driven home in a most effective way. When we realize that we have in butter, as in no other food products, certain constituents, growth-stimulating in character, that have been placed there by nature, and which are not possessed by any of the ani-



mal or the vegetable oleos used in the manufacture of butter substitutes, we have an advertisement of such importance that it should not be overlooked and should be driven home upon the house wife in no uncertain terms.

The ice cream situation is one in which, while the percentage is small, rapid development takes place, and right here I think we may predict that the growth of prohibition sentiment which has swept over this country in the last few years is going to be accompanied by the use of soft drinks and ice cream. Whenever I have talked with people interested in this business, invariably they say the use of these drinks in the prohibition quarters is very, very largely increased.

Now what of the future—of the dairy future? Dairying is so important here in this state where it has been the main span of the bridge that has carried us across from the time when we were in the throes of wheat farming where our yields had been reduced to a scant return, that it seems highly improbable that it would be in any way a wise thing for us to forsake this bridge that has carried us over this stream in the past. It is true that quality in dairy products will probably mean more in the future than it did in the past. If we make a better quality of product we will be able to get a good customer for that product. Even with the price of butter as it has been during the past months a fine quality of butter has been scarce and people were willing to pay the price of sixty or seventy cents a pound for a good quality of butter if they could get it. Therefore, the quality state of our business is a matter which we can continue to prize in the future as much or even stronger than we have in the past.

It will be necessary, in the competition which is going forward today in this after-the-war condition, for us to practice better methods in the future than we have in the past. It will be necessary for us to use better animals; and you, as butter-makers and as cheesemakers in your community, must not think that your work is done when you handle merely the factory end of your business. It is quite as essential that you know up in your respective communities the necessity of the introduction of better soils and the introduction of pure bred animals into your community in order that the production of your herds, of your butter may be increased. It has become necessary to feed these animals more intelligibly for with the consequent decline which eventually will occur, just when, it is dif-

ficult to say, but sooner or later the trough of the wave must come. It is necessary for us to reduce the cost of production and the only way that this can be done is to have lower feeding costs or to more intelligibly use the feed that is put into the animal, and to that extent the development of a cow testing association which weeds out the undesirable animal is just as important a part of butter making and cheese making as it is for the dairyman himself.

So I believe that there is a future for us to continue in Wisconsin where we are already the leading dairy state of the union, where we are recognized not only as the great producing state of the union so far as butter, cheese and the condensing milk are concerned, but in a matter which is of more consequence perhaps to dairymen than it is to the dairy manufacturer we are going to be one of the great breeding states of the union.

In connection with our County Agent System at the University it has been possible to connect the wires on pure bred and high grade cattle from other states with Wisconsin herds where they can secure any type of animals that they desire and within the last eight months over a million dollars' worth of business has come into this state through the development of this County Agent System where these men have come all the way from Wisconsin on the east, California on the west and as far south as the Gulf. The sale of pure bred and high grade dairy stock has come to be a very important part of our Wisconsin dairy procedure so that not only do we have the production of our herds to consider but we have the turning of our surplus stock to these other channels which afford an outlet for this class of stock.

I believe the future is bright. It is, however, a time when one must use caution and must sail rather close to the shore, because it is absolutely impossible in these days of restriction and reorganization, when things are as unsettled as they are, to throw caution to the winds. When the question of the export demand is subject to the vicissitudes of so many other factors that cannot be foretold with any degree of safety, it is a time for one to use caution, but unquestionably the continuance of the use of dairy products in our own country will undoubtedly expand, and when we realize that our country itself is by far the best market that we have, when we realize the importance of quality in meeting that market, I believe Wisconsin will continue to go along on dairy lines for the next few years and will



succeed as thoroughly in this direction as she would if she turned her attention to any other phase of agriculture.

---

H. O. STROZINSKY: I sincerely believe that the Honorable Dean has given us very much food for thought, he has brought out some very interesting situations and I am very glad we were able to have him here with us this evening.

It has always been customary for the presiding officer to appoint at this time the committee on resolutions. I am very sorry indeed that our President, Mr. Morrison, could not be with us this evening, owing to his feeling ill, and therefore it was left to me to preside.

On the Resolution Committee I wish to appoint,—

J. G. Moore of Milwaukee.

Robert Carswell of St. Paul.

Carl Wolzein of Phillips;

On the Legislative Committee I wish to appoint:

G. H. Benkendorf of Madison,

C. J. Dodge of Windsor,

Fred Werner of Waterloo.

Meeting adjourned until 10 o'clock, February 5, 1919.

---

## SECOND DAY'S SESSION, WEDNESDAY MORNING.

February 5, 1919

Meeting called to order by Mr. Strozinsky.

MR. STROZINSKY: I am glad to announce we have our president, Mr. Morrison, with us this morning, but he has been feeling quite ill and he asked me to preside for him. I hope we can get along nicely. I hope I can do partly as well as Mr. Morrison has done heretofore. We have several interesting subjects that I feel will no doubt arouse considerable discussion and as you know meetings of this kind are open to discussion. We want you to feel that we come here for enlightenment, the more discussions the more enlightenment, therefore do not be afraid to ask anything that seems to come into your mind pertaining to these subjects.

The first speaker on the program this morning is Mr. H. H. Whiting, Dairy Division, Washington, D. C.

Mr. H. H. WHITING: It has been some little time since I have been to one of the Butter Makers' conventions here in Wisconsin. I believe the last one was the one they held here three years ago and I am glad to be back here again.

My subject this morning is along the line of which a great many of us partake, which we like, and some of us have heard more or less about the past year.

## COTTAGE CHEESE

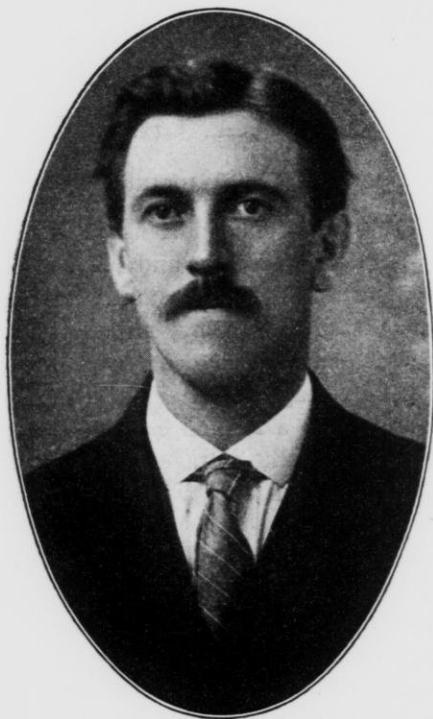
H. H. WHITING

The subject Secretary Benkendorf assigned to me is: "COTTAGE CHEESE, Its Manufacture and Ways of Handling."

With the changes that are continually taking place in the manufacture and handling of dairy products to meet competition, little has been done until recent years in the manufacture and distribution of cottage cheese in a commercial way. In fact there has been only a limited call for this product in the past, due to the fact that the cottage cheese heretofore has been of an inferior quality, with only a limited and variable supply available.

Millions of gallons of skim milk which is available during the flush of the season have been more or less wasted, and could be manufactured into cottage cheese or condensed milk and stored for future use. The manufacture of cottage cheese at many of our creameries will help them to meet the competition that is now confronting them. We must not, however, be so shortsighted as many are and sacrifice the skim milk for this purpose when the grade of our future dairy cow is at stake. We know that to raise a strong and vigorous cow we must feed the best food obtainable, and skim milk being high in protein is one of the best. The situation as I see it at present in many Wisconsin localities is this: the farmers will soon be buying their dairy cows elsewhere unless they feed more skim milk to the calves than they did when delivering milk to the creamery. We know the best calves or cows cannot be raised on grain and slop alone. The newer knowledge of the principles of nutri-

tion, as discovered in the experiments at the University of Wisconsin, prove to us that the vitality of our cows depend a great deal on the proper feeding of milk during the growing period of their lives. We know Wisconsin is looked to for its superior dairy stock and we should all work to keep up its good reputation and skim milk properly fed will help. Since the educational work conducted by the U. S. Department of Agriculture



H. H. WHITING

Dairy Division, Washington, D. C.

the past summer both for the improvement of quality and the many ways cottage cheese can be used in the home, a tremendous increase in the demand has been noticed.

Few of the people of the United States have realized the food value this product has and when used will help to decrease the high cost of living which is an important factor these days.

During the summer of 1917, ten field men were employed and for the spring of 1918, twenty men. In the fiscal year ending

June 30, 1918, the operators of 124 creameries and milk plants, who were either wasting their skim milk or buttermilk or were not using it to the best advantage, were induced to conserve these by-products and convert them into human food. In this way 26,000,000 pounds of skim milk and buttermilk have been utilized. Of this 7,000,000 pounds were made into condensed skim milk and 19,000,000 pounds used in the manufacture of cottage cheese.

At 154 plants already making cottage cheese, assistance was given in improving the quality of the product. These plants during the early summer were using, on a daily average, 384,000 pounds of skim milk in the manufacture of 64,000 pounds of cottage cheese. It is expected that the improved quality will stimulate the demand for the product of these plants and that they will therefore increase their output.

Had the 26,000,000 pounds of skim milk and buttermilk mentioned above been fed to pigs, about 1,000,000 pounds of dressed pork would have been produced (4.8 pounds per 100 pounds of skim milk.)

This 26,000,000 pounds of skim milk and buttermilk, however, was made into 3,000,000 pounds of cottage cheese and 2,000,000 pounds of condensed skim milk. As a human food for supplying protein this equals more than 5,000,000 pounds of pork.

Some of the plants assisted by the Dairy Division Representatives the past year are as follows: the Farmers Creamery, Hutchinson, Minn., where the casein was being manufactured, arrangements were made to manufacture cottage cheese and in a short time the output was 1000 pounds daily; the Watertown Creamery Company, Watertown, Minn., had never made cottage cheese but were induced to engage in its manufacture, and during the summer made about 250 pounds daily; the same is true of the creamery at Rush City, Minn. There is an abundance of skim milk in Minnesota and other states that can be made into cottage cheese.

In Missouri practically all of the cottage cheese found on the market was of poor quality, much time was spent in an effort to improve the quality, in many cases the quality was greatly improved, when the skim milk was pasteurized as requested by the Dairy Division Representative.

In Iowa in the spring of 1918, cottage cheese was not in active demand and in a number of large cities was selling in small

quantities, at from 20 to 35 cents per pound. That price was very high there and one thing we want to bear in mind is to get the price down, people don't look at the high prices, they look at the prices all right but they won't look at the product then. Even at these prices the cheese was of poor quality. The quality has been greatly improved, the quantity increased, and the price to consumer reduced from 20 to 12 cents per pound.

In Des Moines, Iowa, the production was increased from 100 pounds daily to 700 pounds daily. One plant, the Ellingson Dairy Co., when shown how to properly make cottage cheese, increased their make from 60 pounds of poor quality cheese daily to 245 pounds and would have made a larger increase if more raw material were available. Now the creameries in this state at the time that this work was going on were paying around \$2.00 a hundred for milk and the city of Des Moines was paying \$3.60 a hundred for milk and couldn't get enough milk for the trade there at that.

In Wisconsin a number of milk factories desired assistance in the making of cottage cheese because they were entirely inexperienced in this business and were having a greater surplus of milk than they had in previous years. Many creameries in the southwestern part of the state desired to make cottage cheese for the market and assistance was given to a number of them, at which outputs of from 50 to 250 pounds daily were quickly developed. Assistance was given in improving the quality of cheese at the Mount Horeb Creamery, Mount Horeb, Wisconsin, the Gridley Dairy Co., and also the Milk Produce Association Co., Milwaukee, Wis. The total output of the three factories was 5600 pounds daily.

In New York state an unusually large surplus of milk was found in the spring and assistance was given 43 plants in disposing of this surplus in the form of cottage cheese. Eight of these factories manufactured over 1000 pounds daily. Nowhere was cottage cheese given a more hearty reception than in the far west. In Salt Lake City, the production was increased 475 pounds daily. In Spokane 1700 pounds; in Seattle, 460; and in San Francisco, 1200 pounds daily.

Most of us are familiar with what cottage cheese is. Some know it as Dutch cheese, others as smear case, but the American name is plain cottage cheese. The quality of this product in the past has been greatly abused. Many think that any old milk



that is unfit for other purposes can be manufactured into cottage cheese; this, of course, can and is being done. Some of us think we can make cottage cheese out of buttermilk, a good many think that sour buttermilk can be used, but if you use the sour buttermilk nine times out of ten you can tell it. It will not stand up. That has been my experience with it. But let us for a minute see what the results are. It is possible at times to have a fairly good product which the trade will like when made from this inferior milk. Then again, the flavor may be off and a strong foreign flavor has developed, that we know, if placed in the consumers hands will cause them to be dissatisfied and they will not buy any more. It will also make them suspicious of cottage cheese as to the quality, and thus cause them to condemn it all. Another thing, as with other dairy products, if inferior quality milk is used in the manufacture, it can only be expected that the finished products will be likewise, and of poor keeping quality. Where sweet skim milk or sweet buttermilk is available at the creamery or milk plant a fairly good piece of cottage cheese can be manufactured and for immediate consumption it will do very well. When sweet buttermilk is used it is advisable to use one-half sweet skim milk for the purpose of improving the flavor and to make it easier to handle the curd. Buttermilk from pasteurized cream alone will result in a very fine curd which is not easily handled. To make a cheese of good keeping quality all milk should be pasteurized and a good starter used. In other words you should make the whole batch like you would a good starter for butter making. Care should be used however to heat the milk not over 145 degrees for thirty minutes so as to avoid trouble in the handling of the curd. If heated over 145 degrees, the results are similiar to that when sweet pasteurized buttermilk is used with no skim milk added.

In the manufacture of all dairy products pasteurization added but little to the cost and has the following important points in its favor. It insures a sanitary, more uniform, safe food product free from all danger of disease producing bacteria. With cottage cheese it makes it possible to exercise a more perfect control of ripening through the use of a pure culture start, this insuring a formation of an acid curd giving the characteristic mild, sour milk flavor so much desired. In making cottage cheese on a commercial scale and where the milk is to be pasteurized, the



equipment necessary is as follows; pasteurizer, channel bottom cheese vat, drain rack made in size corresponding with the amount of milk to be handled, drain cloths, curd knives, curd pail, and whey strainer. After milk is set and well coagulated with an acidity of from .65% to .80% the curd is cut, regular curd knives being preferred. The heat is then turned on and the temperature raised gradually. A temperature from 90 to 105 will give the desired firmness to the curd. These different temperatures will vary, however, with the length of time the curd is to be held, generally from 25 to 30 minutes is required. The lower temperatures are to be preferred in firming the curd when time is no object. It is rarely necessary to exceed 100 degrees in heating the curd. After the curd is properly firming, it is then run into the draining rack which has a one-fourth inch mesh wire screen bottom, the draining cloth having previously been laid in the rack. The draining cloth, which is the most durable, is a scrim or marquisette commonly used as curtain cloth. When whey is well-drained from curd, the curd can then be salted at the rate of one and one-fourth ounces of salt to 100 pounds of cheese, and care must be used to mix in salt thoroughly and not to over-salt.

When cheese is well-firmed and salted it should be cooled as rapidly as possible to 70 degrees or lower, so as to avoid further firming of the curd. When the cheese is made in large quantities, it can be packed and shipped in 10 gallon cans if used at once; 60 pound butter tubs are the best containers, as in these the cheese can be stored or handled otherwise. Some dealers have worked up a good business by marketing the cheese in the small containers that are available, but as a rule it is not advisable to do this unless you are able to look after this work and keep in close touch with your customers, due to the fact that cottage cheese is so perishable. The better way to market your cheese to the retailer, is to ship in bulk in small quantities and let him sell in the container as the customer calls for it. A good container for the retailer to use is the ice cream or oyster pail. Some use the wooden lard tray that the butchers use for lard, and it is very satisfactory when carried home by the customer.

If the good quality of cottage cheese is assured and a uniform product made, a good business can be developed in your home town. Cottage cheese, like all other cheese, has a very high pro-

tein value and if the public is informed of its value, they will use more.

Creameries located in the smaller towns should take advantage of the opportunities offered in this work and furnish the trade with this valuable product in connection with their other products.

I hope these few words will help to start the ball rolling and that the boys will take advantage of this opportunity and make cottage cheese for their local towns, if not more for shipment.

Anyone wishing assistance along this line should write their state college.

The U. S. Department of Agriculture at Washington has available Bulletin No. 576 on the manufacture of cottage cheese at the creamery or milk plant, and Circular No. 109 on how to prepare cottage cheese into many valuable and attractive dishes. Write for them.

#### DISCUSSION

MR. STROZINSKY: Now undoubtedly there are some of you who would like to ask Mr. Whiting some questions in regard to this. I am sure he will be very glad to answer any questions and we would be glad to have a discussion, if there are any of you that have anything to ask.

MEMBER: Ordinarily about what do they get for cottage cheese?

MR. WHITING: That price varies greatly over the country. I find the price at the present time depends some upon where you are selling but in a wholesale way it is around four to five cents.

MEMBER: What do you recommend as the proper temperature for pasteurized skim milk?

MR. WHITING: Well, 145 degrees for a batch machine is what I have worked mostly with. I have never tried the continuous machine. I don't know just what the results might be with that. If you could heat it to 145 degrees and hold it for a length of time and then cool it I should judge it would be about the same. I would think it possible but I wouldn't want to say without knowing, I have never tried it out.

MR. STORVICK: I have done some of it, I know we started to do that and got pretty fair results.

MR. WHITING: What you have to be afraid of is the curd. High temperatures you know is very apt to give you a very fine curd.

MEMBER: What would you say about using a continuous machine and heating to a higher temperature?

PROF. SAMMIS: I have used a continuous machine for other purposes but I don't believe I have ever made any cottage cheese out of skim milk pasteurized in that way. I wouldn't be afraid to try it, I feel pretty sure it would be all right. I would like to ask Mr. Whiting a question. You said the curd should be cooled down to about seventy degrees as soon as it was firm enough. At the dairy school we have used this method. We get four, five or six cans of well water right along side the vat and turn the water right onto the curd. With one such washing, the flavor is not injured.

MR. WHITING: Worked in that way it is apt to give your curd a flat taste by using too much water, I would rather cool it right in the churning vat. Two or three pails of water would do as much as four or five cans in the vat. You have got to cool your vat as well as your cheese and at the same time you are washing out your flavor. I have noticed a good deal of cheese in the market and you could tell immediately that that curd had been washed in the vat, I would judge the water had been run into the vat and let stand in there.

MR. BENKENDORF: I have just a few announcements that I want to make. In the first place I want to express our appreciation to the many commission men that have contributed to the general fund. I announced in the papers that quite a number of the commission houses have contributed to the fund and since that announcement we have received five dollars from the Creamery Journal, Waterloo, Ia. They claim they sent us an ad but for some reason or other it was lost and they simply showed their good will and sent us five dollars even if we didn't get their ad in our program. Our friend, Mr. McCarthy of Chicago was rather late in getting his ad in. I returned his check and said I was sorry, hated to return the money but he came back and said "I am sending you ten dollars anyway." Yesterday I saw Miss Weeks of the Creamery Journal and Milk Plant Monthly and she contributed ten dollars, which makes twenty-five dollars in addition to what was previously announced.

The Ladies of the Episcopal church are serving dinner today

and supper this evening and also dinner tomorrow. You are all invited to go there and get your dinners.

We have arranged for a smoker in this room this evening. Now, there are no charges for this smoker. Come up here and enjoy yourselves and visit. We will have some refreshments about 8:30 and we will enjoy our smoker until 9:30. Last night quite a number of the boys went to the Elks Club and had a good time. The hospitality of the Elks has never been excelled and they are going to arrange for a sort of entertainment at 9:30 for us.

MR. STROZINSKY: Our next speaker on the program is William White, Dairy Division, U. S. Department of Agriculture, Washington, D. C. I now take great pleasure in introducing Mr. White.

MR. WHITE: Members of the Wisconsin Butter Makers' Association,

Ladies and Gentlemen:

My trip to Wisconsin on this occasion is to me in the nature of a home coming. Ten years ago I was a Wisconsin butter maker, called Wisconsin my home and was a member of its butter makers' association. During my residence in Wisconsin I acquired a life partner so that I have been in a way tied to Wisconsin ever since even though I have been absent from the state. I am mentioning this because I do not want you to look upon me as a stranger coming into your midst, but rather as one who has been absent and has returned to partake of your annual festivities. The subject which your secretary asked me to discuss today is one that is far from new so I won't be able to present any new or startling facts.

---

## THE USE OF ICE BY WISCONSIN CREAMERY PATRONS

WILLIAM WHITE, Dairy Division, Washington, D. C.

In order to eliminate a discussion of the subject of quality of milk and cream delivered to creameries and the desirability of having the patrons keep their product in first-class condition, I will assume that the cooling of milk and cream on the farm is an

important factor in the manufacture of good butter, and is a practice that every creameryman urges his patrons to adopt and to follow faithfully.

It is a commonly accepted fact that the best way to cool milk and cream is by using cold water—the colder the better. I wish to call to your attention the desirability of having ice on the dairy farm so that ice water may be used for cooling purposes and will



WILLIAM WHITE

Dairy Division, Washington D. C.

undertake to show why ice is needed for effective cooling and that the use of ice does not entail any great amount of labor or expense.

The cooling tank is a part of the dairy equipment on many farms and can be credited with doing much toward keeping the milk and cream in good condition. Unfortunately, the cooling tank is subject to considerable abuse and has certain limitations. If sufficient water is used or if the water flows continuously through the cooling tank milk and cream can be cooled to about the same temperature as the water, which on most Wisconsin farms, I believe, is about 50° F.



Let us consider what happens when a can of warm milk or cream is placed in a tank of cold water. The cold water, of course, cools the milk or cream but in doing so it absorbs heat until, finally, the temperature of both the water and the milk or cream are the same. If a 10-gallon can of milk or cream at a temperature of 85° F. is placed in a covered wooden tank containing 30 gallons of water at 50° F. the final temperature of both milk and water, under average summer conditions will be about 60 F. If water is pumped until a fresh 30 gallons of water has replaced the first lot the temperature of this water will rise to 53° in cooling the can of milk to that temperature. Six times as much water as cream is used to cool the cream to within 3° F. of the water, and unless the milk and water are stirred frequently this temperature will not be reached in less than 3 hours. When the water flows continuously so that it does not remain in the tank long enough to absorb all the heat it can, a much larger quantity of water is used to effect the same cooling. By having water flow continuously, however, the cream will ultimately—that is, after about 3 hours,—be cooled to the same temperature as the water and have no opportunity to become warm. I believe relatively few Wisconsin farms can be arranged to have water flow continuously through a cooling tank and in many cases the quantity of water used for cooling purposes is limited to the quantity that the stock drink. In warm weather when water stands in the cooling tank for several hours during the day or through the night it absorbs heat from the atmosphere and frequently reaches a temperature of 60 or 70° F. before it is replaced by a fresh supply.

This great rise in temperature can be prevented by pumping fresh water every hour or so but it requires someone's time and attention to do this. If a wind mill is depended upon there are many days when there is no power. If a gas engine is used some one must take the time to start and stop it. If the water must be pumped by hand there is still less likelihood that frequent changes will be made, especially when the well is deep. On many farms where all the cooling water flows to the stock tank, in order to avoid having it overflow the quantity of water used is not sufficient for effective cooling. So our observations have been that on most farms the temperature of the water and, therefore, of the cream, rises during warm weather to 60° or 70° F., that is, the cooling tank is not as effective as it might be, and, as a



result, cream held in cooling tanks often becomes sour in 48 hours or less.

Cream may however, readily be cooled to a temperature below 50° F. and kept below 50° F. if the effectiveness of the cream cooling tank is increased by the use of ice.

Dairymen in certain parts of New England are delivering practically all their cream sweet, although it is often held on the farm from one to four days in summer and from one to seven days in winter. After it reaches the creamery it is pasteurized and shipped a distance of from 50 to 300 miles, where it is sold in the form of sweet cream. These results are accomplished by the liberal use of ice.

It is true, of course, that these New Englanders are required to deliver their cream sweet or it will not be accepted. If Wisconsin creamery patrons were required to deliver their cream sweet they would soon find a way to do it. The whole-milk creamery can not accept sour milk because of the difficulty of running it through the separator; the cheese factory, condensary and market-milk plant can not use sour milk and must refuse it. In such cases it is easy to show the dairyman what he is losing by not caring for his product. We have a record of one creamery that last year rejected \$2,600 worth of sour milk and cream. This represents a very considerable loss to the farmers of that one community. Unfortunately, sour cream can be accepted by the creamery and made into butter and very few creameries insist that cream be delivered sweet. The losses suffered by the creamery patrons because of sour and under-grade cream can not readily be determined but our observations indicate that they are very large. It is for the purpose of reducing these losses and of improving the quality of the butter manufactured, that I urge the use of ice.

I have already mentioned the difficulties of maintaining cold water in the cooling tank, the time and attention that one must give to it. I wish you would compare this with the labor involved in the use of ice and believe you will decide that the man who honestly tries to keep his cream cold can do so with less mental and physical effort if he uses ice and if he pumps fresh water into the cooling tank often enough to keep the cream at a temperature of not more than 4° F. above the temperature of the well water. And he will accomplish more by his efforts because he will keep his cream several degrees colder.

The use of ice, of course, involves climbing into the ice house every day during the summer and digging out a cake of ice. But that is all there is to it. With a good sized cake of ice floating in the cooling tank—the quantity of ice can be determined by experience,—a man can place his can of cream in, put down the cover and go to his day's work in the field or to his night's rest, knowing that his cream will require no further thought or attention.

The kind of cooling tank and its location are important factors in the cooling of cream and any dairyman who is sufficiently interested to put up ice should see that he has a cooling tank that will conserve the cold so that it will not be dissipated in the atmosphere but will perform its intended function of keeping the cream cold.

On about 80 per cent of the farms that produce market milk in the United States some kind of tank is used for cooling milk. A survey of many thousand dairies showed that about 20 per cent of the cooling tanks were of metal, 25 per cent of wood, and 30 per cent of concrete, the remainder being of miscellaneous materials. Very few tanks in use are insulated, and in very few cases is provision made to minimize the loss of cooling due to radiation. Where running water or plenty of ice are available it may be unnecessary to insulate the tank. Usually, however, the saving of ice and the greater cooling effect obtained by means of insulation justify the additional expense.

The relative loss of cooling effect in different kinds of tanks expressed in pounds of ice melted is shown in the following table.

LOSS OF COOLING EFFECT IN 9 HOURS AT AN AVERAGE AIR TEMPERATURE OF 84.2° F. IN EACH OF 4 TYPES OF MILK-COOLING TANKS UNDER VARIOUS CONDITIONS OF EXPOSURE.

Type of Tank	Tanks with- out covers exposed to sun	Tanks covered exposed to sun	Tanks with- out covers in milk house	Tanks covered in milk house
	Pounds	Pounds	Pounds	Pounds
Galvanized-iron tank.....	163	111	107	84
Plain concrete tank.....	137	88	80	61
Wooden tank.....	107	38	50	30.5
Cork-insulated wooden tank.....	80	12	30	7.6

Size of tank—60x30x25 inches.

The economy of an insulated tank and the importance of covering and shelter are very evident. The galvanized-iron

tank, without cover and exposed to the sun, showed a loss of 168 pounds of ice compared with only 7.6 pounds for the cork insulated wooden tank properly covered and placed in the milk house. These figures show that whether ice is used or not the cooling tank will keep the cream colder, (1) if it is equipped with a cover (2) if it is situated in the milk house away from the sun and hot wind and (3) if the tank is insulated.

The insulation of cooling tanks is especially important and should be given more attention. If it is desired to insulate a tank at the lowest possible cost, six inches of dry excelsior, shavings or sawdust tightly packed on the sides, bottom and cover will answer the purpose very well if kept dry.

A more desirable tank though can be made of concrete, insulated with 2 inches of cork or other good insulating material. The total thickness of the walls should be 8 inches, divided into an outside wall of 2 inches, then 2 inches of good insulation and the inside wall 4 inches thick. The concrete mix should consist of 1 part Portland cement, 2 parts clean, sharp sand, and 4 parts broken stone or gravel. For the purpose of waterproofing, hydrated lime equal to 10 per cent by weight of the cement should be added to the mixture. The insulation used should be coated with and set in hot asphalt which should be allowed to become thoroughly dry before the inner walls of the tank are put up. The inside walls should be very carefully troweled so as to insure a smooth surface without projecting particles. The insulated tank is the ideal place to keep cream during the winter as the cream can be kept just above the freezing point by running just enough water in the tank to prevent freezing.

Having considered the necessity of using ice and the way to use it, let us now turn our attention to matters bearing directly on obtaining and storing it.

The cost of ice on the farm varies between wide limits because of the difference in local conditions. Ice can be cut at a cost of two to four cents a cake weighing 220 pounds, which is at the rate of 18 to 36c a ton. To this the cost of hauling and packing must be added which makes the cost when packed in the ice house about \$2 a ton, or more than this if there is a long haul. This is what ice costs if men and teams are hired to do the work, and from one point of view this is the proper way to consider the cost. From another point of view ice is a free gift that one

may have by going out and getting it. The time for harvesting ice is the time when there is the least work to do on the farm, the time when horses are standing in the barn getting soft from lack of exercise. Many farmers who put up ice, therefore, consider the only cost to be the ice house and sawdust or other packing material. No matter how we look at it it is a cheap crop. On farms where there is no body of water nearby from which ice can be obtained it is often possible to form an artificial pond by building a dam and thus have the ice produced right at home. The quantity of ice needed for cooling a given amount of cream on the farm varies with the season of the year, the size and construction of the tank and its location.

An investigation conducted several years ago showed that, on a large number of farms using ice effectively, an average of 1.16 pounds of ice were used for each pound of cream produced.

In an examination of more than 100 farmers' ice houses the shrinkage was found to vary from 20 to 50 per cent with an average of 27 per cent.

If cows on an average produce about 3,500 pounds of 3.7% milk in a year—which would yield 431 pounds of 30% cream—it requires, according to the above figures 431 times 1.16 pounds, or approximately 500 pounds of ice to cool the cream produced by one cow and hold it cold and sweet until delivered to the creamery. In order to allow for waste and to have ice for household use it is best to allow 1,000 pounds of ice per cow. On this basis a 20-cow dairy will require 10 tons of ice. These figures are for cooling cream; if whole milk is cooled  $2\frac{1}{2}$  to 3 times this quantity of ice will be needed.

It is not advisable to put up less than 10 tons of ice because, when the quantity of ice is so small the percentage of meltage is very great. Ten tons is not too much for one farm even with less than 20 cows. When available ice can be used for keeping perishable foods during warm weather; it is sometimes a very desirable thing to have in case of sickness and may be a factor in solving the farm labor problem. The dairy interests have posted widespread the slogan "Eat a plate of ice cream every day." Why not try it on the hired man? A plate of ice cream for dinner would send him back to his work whistling; a can of iced tea or iced buttermilk in the hay field would keep him in good humor and a piece of ice cold watermelon or cantaloupe in the evening would send him to bed happy.



For 10 tons of ice about 500 cubic feet of space is necessary. As the amount of meltage is to a certain extent proportional to the exposed surface, it is best to have the ice house about cubical in shape. Ten tons of ice occupies a space 8 feet x 8 feet x 8 feet. In constructing an ice house, in addition to this space, at least one foot should be allowed for insulating material on all sides and at the bottom of the ice also about four feet on top to allow space to work in when packing and also for ventilation as well as insulation. Consequently a ten ton ice house should be built 10 feet square and 10 feet high, that is from the floor to the eaves.

The location of the ice house is a matter of no little importance. It should be close to the dairy house in order to minimize the labor transferring the ice to the cooling tank and when possible should be so placed that it is not exposed to the warm winds or direct rays of the sun in the middle of the day.

In determining the kind of ice house to build it is advisable to consider the ease of obtaining ice, or its cheapness. Where the cost of ice is high it is advisable to spend enough money in building and insulating the ice house to protect the ice as much as possible from melting. But where the cost of ice is small a man is justified in building a cheaper storage which will result in a greater loss of ice from meltage. In selecting the type of ice house most suitable for his requirements the dairyman should, therefore, consider both the cost of construction and the cost of ice.

Some farmers store their ice in roughly constructed bins but aside from the fact that the meltage is likely to amount to 30 or 50 per cent these are unsightly and can not be recommended for Wisconsin where the dairy farms are noted for their fine buildings. From a business standpoint the more costly the ice the better the ice house should be provided. The saving in the melting of ice offsets the cost of repairs and depreciation on the building and interest on the money invested.

It is the insulation of the ice house that enables the building to perform its function of preventing the outside heat from passing into the interior and melting the ice.

There is no material known that will entirely prevent the passage of heat, there are, however, materials which offer a high resistance and are termed nonconductors or insulators. The best insulators appear to be those that contain the greatest amount of entrapped air confined in the smallest possible spaces.

Formerly it was the practice in constructing a building for the storage of ice or for cold storage purposes to provide a series of air spaces, some of which were as much as 12 inches wide; the supposition being that they were dead air spaces. As a matter of fact, however, as the air in contact with the warmer surface falls while that in contact with the warmer surface rises, it produces a circulation tending to equalize the temperature of the sides of the air space. The term dead air space is, therefore, a misnomer. Air circulation is valuable, however, between the insulation on top of the ice and the roof of the ice house in order to break up the heat radiation through the roof.

To the average individual when insulation for ice is mentioned sawdust is the one material thought of. This, of course, is the material most widely used for packing ice and usually is the cheapest obtainable. A foot of sawdust on all sides of the ice preserves it fairly well. More efficient insulation is provided by constructing a double wall filled with 12 inches of dry mill shavings. Still more efficient insulation, though of course more expensive, is provided by four inches of cork. When insulated walls are used an insulated ceiling is also provided and no sawdust or other material is put directly on the ice, which adds greatly to the ease of removing it. When the door is opened the ice is ready to be removed without having to shovel a quantity of sawdust off of it. An insulated floor or a foot of sawdust should always be provided in the ice house so the ice will not come in contact with the ground which is a good conductor of cold and, therefore, causes a large meltage. Provision should be made for thorough drainage because an accumulation of moisture under the ice causes it to melt rapidly. If the soil is porous no artificial drainage is necessary but in a clay soil it is desirable to excavate a foot or two and fill in with cinders or gravel and to have a ditch across the middle, also filled with cinders or gravel. The floor, of course, should drain to the ditch and the ditch should be led out with sufficient fall to carry away the water.

This cut shows the simplest type of ice house and the type that is usually advisable to recommend. I wish to call your attention to the provisions for drainage at the bottom and ventilation at the top.

The other cut illustrates the combined ice house and mill-room, the ice house in this case being well insulated. The meltage in the ice house drains into the cooling tank, instead of be-



ing lost as in the simpler type. The advantages of a combined ice house and milk room are so obvious and I believe will appeal to the progressive Wisconsin dairyman who is not already equipped with similar facilities.

"Ice Houses and the Use of Ice on the Dairy Farm" is the subject of a Dairy Division publication, known as Farmers' Bulletin No. 623, which gives further information on this subject. The cooling of milk and cream on the farm, the building and use of cooling tanks, the use of surface coolers and keeping milk and cream cold during shipment are discussed in Farmers' Bulletin No. 976. Both these publications may be obtained free upon request from the Dairy Division at Washington. There is also available for free distribution a small leaflet suitable to be inclosed with the patrons' checks. One is entitled "Turn Cold Into Gold;" the front page of the other reads as follows: "Harvest a crop in midwinter. No seed or fertilizer needed. Ice. Do you have it on your farm?" I thank you.

CHAIRMAN: Gentlemen the secretary instructed me to announce that this is the hour for the sale of the butter and I think it will be well to get right after that now.

MR. WEIGLE: Mr. Chairman I have just a little matter to be brought before this convention before we adjourn. I would like to talk to you about the Hoard Memorial Committee. This is a committee organized for the purpose of erecting a monument in memorial to this great man W. D. Hoard. We want to build a bronze statue placed on the grounds of the University. We have our site and everything picked out. This monument will cost about from thirty to fifty thousand dollars. It needs no words of mine to tell you of the wonderful work of this great man. He was the first man to take up the fight for purer products. I have here a subscription blank. I am going to ask you to contribute one dollar to this fund. It is not very much and I am sure you will all be willing to give that. It is simply for the purpose of providing a memorial to this wonderful man who is the father of modern dairying and I am sure that every butter maker and man interested in dairying will give their little mite towards this memorial.

MR. STROZINSKY: I appreciate very highly what our commissioner said and I think that a memorial of that kind placed to his credit would be very fitting.

It is getting late and the sale of the butter will now be on, and

the convention will be adjourned for this morning until two o'clock sharp this afternoon.

Mr. C. J. Dodge, the Superintendent of the Butter Exhibit, acted as auctioneer and sold the butter to Mr. McCarthy of Chicago for 42 cents a pound.

---

### WEDNESDAY AFTERNOON SESSION

Meeting called to order by Chairman Strozinsky.

Meeting opened with vocal solo by Mr. Barrett.

CHAIRMAN: Our first speaker this afternoon is R. C. Hastings, Marshfield, The Branding of Whey Butter, which it seems to me is a very important subject.

R. C. HASTINGS: Mr. Chairman, Butter Makers, Ladies and Gentlemen:

As your chairman has stated this is one of the vital questions it appears to me on this program. I am not going to take a great deal of your time for I think we can possibly accomplish more thorough discussion. Some of you may have ideas that I have not and those of you who were at the Wisconsin Cheese Makers' Convention heard my paper at that time and there will be some points in that that I omitted and some in this that I did not bring forth at that time. The first time I remember this subject being discussed was here in this very room in 1916. At that time I was back in the audience and had nothing to say when they brought up the question and the resolution was passed here in regard to the branding of whey butter. At that time it did appear to me that whey cream was not of a suitable character to make extras but since that time I have changed my mind, I think a good many of us have found that out. There is no reason, in my belief, that we should brand it.

---

### THE BRANDING OF WHEY BUTTER

By R. C. HASTINGS.

The first time that I recall this subject being discussed was at our Butter Makers' Convention held in this city in 1916. At that time it was not discussed at any great length, but at that meeting a resolution was passed in favor of a law requiring

that butter made from whey cream, or which contained such cream be branded. It did seem that such butter was poorer, and I am convinced at that time it was, for we had at that time had very little opportunity to work with such cream, and know how it should be handled, etc.

Later the agitation became stronger, and a bill was introduced and passed by our law making machine at Madison. Meanwhile we began to learn we had made a mistake. This reminds me of a story which I think illustrates our case exactly. A certain young lady who was on a trip through the West, had become very much interested in gathering bugs, and other insects, and she had been having the pleasure of a young man's assistance named Jack. One day this young lady came across a certain species of caterpillar, and while trying to chloroform it she found her efforts were not successful, and so she called for Jack. After watching her efforts for a short time he exclaimed: "It's no wonder, you're applying the chloroform to the wrong end." That's just what we have been doing, and just what we did when we passed this resolution back in 1916. The trouble was not with the whey cream, it was in the method of handling, we were applying the remedy at the wrong end. By applying a little different methods we were able to produce extras, and we found this out even before the branding law was passed, but the seed sown earlier had taken such root that when we had discovered our mistake, and endeavored to stop the law from being passed, we were unable to do so.

Almost every day we are gathering evidence of our mistake, and right now I see before me plenty of makers who are, I think, willing to testify. Proof that such butter should not be branded it would seem to me has been so plentiful during the last season as to convince the most skeptical. At the Wisconsin State Fair last fall, three exhibits from one concern making whey butter had an average score of 95.16, while the average score of all butter at the Fair was 93.83; there were at this fair 83 entries. In October we received a letter requesting us to send a tub of whey butter to the National Dairy Show at Columbus, Ohio. This letter was sent out by the U. S. Department of Agriculture. We forwarded a 20 lb. tub from our next churning, marked it whey butter, and on this tub a score of 91 was placed by J. C. Joslin.

In reporting this to the papers I note we were placed in the gathered cream class, and a goodly number of the scores pub-

lished were under ours; how many were so low that they were not published I never learned. No special effort was made, and represented our average make. I say this represented our average make because the butter we have been selling in Chicago on the open market has been sold on market prices for that score more often than above or below. We butter makers were probably more to blame for starting the trouble we are now in than anyone else. We were jealous of the cheese makers because we were losing our patrons to the cheese factories; they could of course pay more for milk than we could for the simple reasons that this new means of revenue was to their advantage. We saw our business shrinking with these things staring us in the face; naturally we wanted to protest, and we did. Now we repent at leisure.

The state of Wisconsin is the only state having such a law on its statute books. This being the case and the fact that no other state is likely to pass such a law, makes it all the more necessary that we repeal ours, for there is nothing now to prevent the butter dealers from other states of buying Wisconsin whey cream butter at a reduced price, removing the label, and re-shipping it back into our state again, without the brand. The same applies to the creameries outside the state, they come into our territory, buy our cream, mix it with other cream, and nothing can be done to prevent it. Still another reason more convincing than all the rest, after the butter has been made not having any different composition, cannot be detected even by chemical analysis. Butter can be tested for the per cent of butterfat, salt, moisture, caseine, ash, etc., and all of this is contained in the so-called "whey butter," in exactly the same proportion except perhaps the per cent of casein is a little lower which has a tendency to increase the per cent of butterfat, and increase its food value.

With these conditions confronting us there is no way by which such a law as our present one can be enforced without an inspector at every creamery in the state to watch every can of cream received, and even then he cannot tell whether the can came from the farm or the cheese factory. I wrote the U. S. Research Laboratory, at Washington, D. C., asking them if they had any method by which "whey butter" could be told from other butter, and their reply was that they had not, so far chemists had found none.

There really seems to be no end of reasons why this law should not be repealed. There has already been a bill presented at Madison for its repeal. Let us all get busy, and let our Assemblymen and Senators know how we stand on this subject; if we say nothing, it's more than likely they will say it's a law now, and if there are no objections why change? We can liken ourselves somewhat to what is now going on in Europe. In 1871 the peace terms of the Franco-Prussian war were signed at Versailles, France, with Germany the victor; today, preparation is being made for the treaty to be signed in the same Versailles, France, but this time with the forces of justice dictating the terms.

Three years ago we met here in Eau Claire, and dictated what we thought at that time was to our interests, but let it be said of us that instead of being beaten to the terms by our enemy, that we admit our mistake, let our resolution committee draw a new one in favor of justice. Let a copy of these resolutions be sent to our legislature, and at once.

An Irishman went swimming one day, and while he was enjoying himself, a couple of friends thought it would be a good joke to draw the picture of a donkey's face on the back of his coat. When our Irish friend came out of the water to dress he saw the donkey's face staring at him from the back of his coat. Looking around to where his friends were he said, "And which one of yeas wiped your face on me coat?" Like the two friends who drew the picture, I think the joke was on us.

J. L. SAMMIS, Secretary of the Wisconsin Cheese Makers' Association made the following announcement:

Just as I was leaving Madison I was told that a joint hearing on the bill before the legislature to repeal the whey butter law would be held in the State Capitol by the Senate and Assembly on February 19th, at 2 o'clock P. M.

MR. CHAIRMAN, I would like to read a few extracts from letters from Wisconsin creameries giving their views on the keeping quality and price of whey cream and whey butter and also their opinions as to the desirability of repealing the law; may I read them, Mr. Chairman?

CHAIRMAN: You surely may.

MR. SAMMIS: A Green Bay creamery writes, "There is from one to two cents per pound difference on butter fat under the present law in the price of sweet cream and whey cream. We



have several cheese factories and before that law was passed they made whey butter, packed it in prints, shipped it to Chicago and secured full Chicago market, and their score ranged from 94 to 96 and immediately as soon as they branded the same butter, "whey butter" the score fell to 90 and 92. They were paid two to three cents a pound under the Chicago market.

A Chicago creamery says: "During the past year we handled regularly each week shipments from a creamery making whey butter in Wisconsin, at least we understand that part of the cream in this butter was whey cream. In regard to the keeping quality of this butter in storage will say that we believe it keeps equally as good as creamery butter."

Another Chicago firm says: "We are of the opinion that the quality of whey butter in cold storage would stand up as well as regular creamery butter."

Another Chicago creamery writes: "We believe whey butter will keep as well in storage as the same grade of creamery butter. We don't think mixing whey cream and farm separated cream injures the quality of the butter."

A Mt. Horeb creamery says: "Once we marked some of our creamery butter "whey butter" and the whey butter we didn't mark. The butter that had the whey stamp on was cut three cents while the whey butter that was not marked brought top price, so you see that they cut the mark not the quality of the butter."

A Platteville creamery says: "We use anywhere from 25 to 50 per cent whey cream in a churning with a large amount of good whole milk starter and in this way we were able to make a very good quality of butter. Butter was practically all shipped to Boston where most of it graded extras and as far as using whey cream we never had a kick on this. In fact there is plenty of whole milk cream delivered that is worse than the whey cream. The law stopped us from using whey cream and of course this decreased our output considerably. We have always considered this a very poor law and trust that it will be repealed promptly. We believe the present law is detrimental to cheese factories and creameries inasmuch as the local creameries cannot very well use the cream. When butter is branded "whey butter" it will not sell for what it should regardless of how good the quality. Concerns from other states can use whey cream in manufacturing butter and we have no doubt a large amount

of butter containing whey cream comes back into this state without any brand and it is practically impossible to detect good butter containing whey cream from other butter containing only whole milk cream."

A Milwaukee firm writes: "I fail to see where the law is of any particular advantage for the reason that there is no deception, or in other words, the fat from whey cream is cow fat."

A Ripon Creamery says: "We are neutral on the whey butter branding law although we believe the law is unjust and works to a disadvantage of the dairy interests in this state. We do not think it has been harmful to our business as we have branches outside of the state where branding is not required, consequently we can dispose of this grade of butter to a very good advantage."

Another creamery writes, "As far as we are concerned we rather think the law the way it stands would help us instead of hurting us for the reason that we will put the butter up in tubs and brand it 'whey butter' and ship it to our own houses in other states who can then put the butter in one pound prints or any package that they desire and it can be sold to the trade without branding. As I understand it Wisconsin is the only state in the union that has a law of this kind. It certainly looks to the writer as though this was an injustice to the farmers for it was proven at the butter scoring contests at the Wisconsin State Fair last summer that whey butter will score as high and is impossible to be told by experts from the regular creamery butter."

MR. LEE: There are always two sides to a question and I want to present the other side of the question in favor of the present law. Pardon me for taking a lot of your time on this subject. You know where I stand on this subject, I stand on this subject from the standpoint of the purchaser and consumer. The consumer has a right to know what he is buying, you have a right to know what you are buying. Eight years ago 63% of all the milk used in this state by the creameries, cheese factories and dairies was manufactured into butter.

In 1917 there was produced in Wisconsin, a by-product of the cheese factories, \$1,921,000 worth of whey cream. That is according to the reports furnished our office by the cheese factory producers in the state of Wisconsin, they give us that information. \$1,921,000 is the total value, \$1,052,000 worth of whey

cream came from six counties in the State of Wisconsin, over half of the whey cream produced in this state came from six counties, Dodge, Fond du Lac, Green, LaFayette, Sheboygan and Manitowoc, these six counties produced over one-half of the whey cream in this state. It is the duty of the Dairy & Food Commission to protect the interest of Wisconsin, to get at the bottom of these facts. The average score of whey butter made in the State of Wisconsin is 88 to 90 with the exception of two or three plants, there are certain individuals making a fairly good grade of whey cream. The quality of whey cream produced in this state has increased remarkably, wonderfully since the law went into effect. This law would bring about this that the cheese makers of the State of Wisconsin would be in a position to produce an article that they need not be ashamed of and ask the butter makers in the State of Wisconsin to sell as their product. The leading man of the state dealing in whey cream was a man in favor of the law. Two years ago he told me that it meant he would get more business and he has gotten more business, now I want the law repealed because we have gotten control of the business and we want to sell this product in Wisconsin and in our cities on the local markets. Since five per cent of the total value of creamery butter made in Wisconsin is whey cream I believe the time has come in Wisconsin when the creamery men of the state who have the quality of the creamery butter at heart and the future of the industry at stake, the only thing to do is to see that this law is not repealed. That is the only way to handle the situation. I have yet to find a single cheese maker that is opposed to the branding of whey butter (Laughter). They had lost so little money on account of the branding law that it is not worth mentioning.

Now the creamerymen agree with me in this and fair minded men dealing in whey cream agree with me in this,—the only way to get whey butter where it belongs is to have the law as it now stands because if any one man here in the audience today should go to the Dairy and Food Commission and be there for a month and listen to the complaints that have come in and our investigation shows that a great deal of that butter comes from concerns dealing in whey cream, they would realize the only thing is to have the law stand as it now is. One man came into the commissioner's office a short time ago and that was the fourth complaint on the same grade of butter in less than a month and

he said something should be done to this company, they ought to be prosecuted.

I was in a creamery last September and there was in that plant twenty-eight 10 gallon cans of whey cream ready to be shipped out of the state, the man in charge said it was impossible to make butter out of that cream which will score 88 but we have a standing offer that buys this kind of cream and will take all that we can get and will give us two cents a pound more.

Mitchell & Mitchell of Dodgeville, men who have been in the creamery business for years, said when the whey cream came into our factory years ago we kept mixing it and before the law went into effect we could not sell a pound of butter in the City of Dodgeville and when the law was enacted I cut out the mixing of whey cream and I have the trade back in Dodgeville and I am giving satisfaction to the trade that I have been selling to for years.

I am not here as an officer of any association, I am here to protect the good creamery butter of the state of Wisconsin and the honest commission men in Chicago or elsewhere that depend upon the state of Wisconsin for a fair honest article.

A man was in the office the other day, I could give you his name, and he said we want some more of that good butter from Wisconsin. I mentioned a certain firm, they do make good butter and have made good butter, but he said, yes, but they are buying whey cream, I said yes but they are keeping it separate. Unless you are working for quality in that article of food the industry is at stake. I had a conference yesterday with a concern that cut out the handling of whey cream when they found out the actual facts with reference to it, how it was handled they said the law should stand as it now stands and the cheese makers should get behind them and produce an article they could be proud of.

I have here a summary that I would like to read:

WHEY BUTTER MADE FROM WHEY CREAM SHOULD BE BRANDED  
"WHEY BUTTER"

The law pertaining to the branding of whey butter was placed on the Wisconsin Statutes for the reason that the consumers of butter in a cheese producing county made such a demand.



The consumer of butter has a right to be informed as to what he is buying.

The quality of whey butter is not equal to that of Wisconsin's creamery butter. One big factor which should not be overlooked, is that whey butter has not the same keeping qualities as creamery butter.

The average score of Wisconsin creamery butter is approximately 92 and whey butter 88 to 90. The average Chicago price for 92 scoring butter for November and December was  $21\frac{1}{4}c$  higher than for 90 scoring butter. It therefore follows that if whey cream were mixed with regular cream received at all of the butter factories of the state, the income to the dairymen who patronize the creameries would be reduced fully \$2,000,000 annually. The total income from all of the whey cream produced in 1917 amounted to \$1,923,383.40 or approximately 5,000,000 pounds of butter, while the income received from creamery butter amounted to approximately \$37,000,000.

The average price paid for butter fat regardless of whether it was whey cream or regular cream during the month of October by the creamery operators dealing largely in whey cream was 57c to 59c per pound, and the price paid by the leading creameries in the state not dealing in whey cream was  $64\frac{1}{2}c$  to  $68\frac{1}{2}c$ . This indicates that a product produced from cream obtained by skimming milk is of higher quality and receives a higher price on the market. Wisconsin's creamery butter has a nation-wide reputation for quality and the creamery patrons have a right to demand that their product be protected against an inferior product, otherwise there would be no incentive for the producers of high quality cream.

Farmers who are patrons of cheese factories and a very large per cent of the cheese makers have no objection to the present law. The demand for the repeal of the law comes largely from a few of the creamery operators who are catering largely to whey cream as a cheaper source for raw material.

Whey cream production in Wisconsin will continue to increase because cheese production has increased. It is therefore the duty of every cheese maker and creamery operator dealing in this product to build up a reputation on a product sold on its merits and not under the pretense of its being creamery butter.



If whey butter of good quality is produced, the words "whey butter" on the package of such butter will not interfere with its sale. This branding is a way of informing the public what it is buying. In conclusion it is to be remembered that by the branding of butter manufactured from whey cream a protection is offered to the consumers, to the people producing cream obtained by the skimming of milk and is a protection to a high quality creamery butter.

#### DISCUSSION.

MR. SAMMIS: I have some information here on one or two points which I think might interest both Mr. Lee and you. The one argument advanced in favor of the whey butter law that seemed unanswerable was that the consumer is entitled to know what he is buying. Of course the consumer is entitled to know anything he wants to know. Nobody would question that at all. But the question is, what does he want to know, and does the label tell him what he wants to know. The consumer wants to know whether the butter is clean and good and fit to eat. The label is put on all whey butter whether it scores 95 and above or the poorest quality and for that reason the label tells the consumer nothing. The consumers differ somewhat and by considering the point of view of the consumer you can understand some of the situations that arise. We are told that many consumers pay the full market price for whey cream butter. That is true. It is a certain class of consumers that do this. They are in the cheese factory district and they know perfectly well that the butter they buy and eat is whey butter. You are not telling them anything when you put the label on. They like the butter and are willing to pay for it. There is no difficulty in selling whey butter in that district for full price. We don't need a label for that class of people. The second class of people know practically nothing about whey butter. They are the people living in the cities to a great extent and they know nothing of the dairy industry. They probably don't know what whey is, don't know how whey is made, or how cheese is made. When they see the label on it they don't know what it means and if they like the taste of the butter they buy it and eat it. There is a third class of people who illustrate the old saying that a little knowledge is a dangerous thing. They have traveled a little and they have seen a whey tank and cheese fac-

tory once or twice, possibly ten years ago before the Dairy & Food Commission got in their good work. The words "whey butter" on the label recall the old time foul smelling whey tank, and they think that whey butter is made out of the contents of the whey tank. Here the label is unfair, for it excites false prejudice and injures the sale of the goods. You can put the consumers into three classes, those who know all about it; those who know nothing about it and those who know a little about it but not enough to do them any good. Does the label do any consumer any good? That is the question.

MR. GLOVER: Renovated butter is made from butter fat; whey fat is butter fat there is no doubt about that and if there is some poor whey butter made there is also some poor country butter made all over the state. Isn't workmanship an essential feature in producing a good butter. You know very well a cheese maker is no butter maker. There is no use of comparing the quality of whey butter made in a cheese factory with creamery butter made in a first class creamery. We should compare the whey butter made in creameries with regular creamery butter. The quality of the butter produced depends upon one or two things, either the raw material or else the workmanship. If whey fat is butter fat the thing turns very largely upon workmanship and upon the sanitary quality, not the real material itself but upon the sanitary quality of the raw material.

MR. SAMMIS: The law does not do the consumer any good, It is an injury to the cheese maker and particularly to the farmer because it cuts his price. The law invites violation by butter makers it invites criminality. It cannot be enforced it has been pointed out. At present there is no chemical test that will distinguish whey butter from the ordinary butter. On the whole the label is useless and to a considerable extent is misleading. It causes a considerable injury to the creamery industry through the loss of business. Here is the situation you creamery men are losing because of the label law, that is the whole reason you are interested in its repeal. What is the cause of your losing business?

Is it the whey cream or is it the label? When was it that you commenced losing this business? It was when the label went on. It is the label and not the whey cream that is causing this trouble.

MR. WEIGLE: I have listened with a great deal of interest; I am not only surprised but ashamed to think that an instructor of our great dairy school instead of preaching quality, tramps down the laws which have been on our statute books so long. This state is known all over the United States for its constructive dairy laws, for its quality, and here a man from the University of Wisconsin comes and tells you not to label a product, that you thought took the place of poor creamery butter. The law was not introduced by the Dairy and Food Commission nor by anybody who is interested in the butter industry, it was introduced in behalf of the consumer because owing to the fact that it was one evil that we should legislate against. Here is one evil that tears down the quality of our butter supply. I want to say to Professor Sammis, his students were in my office the other day and they said they had made some whey butter. I asked them if they thought it should be labeled creamery butter and they answered it should be labeled whey butter.

They talk about the analysis, that chemists couldn't detect the difference, it has the same food value, well so has the difference between a fresh egg and a cold storage egg got the food value but you wouldn't want to pay the same price for the fresh egg as the cold storage egg, would you? Well, I say the consumer is entitled to know just as much of what he is buying as you do when you are buying a fresh egg.

I know this law has been petitioned. We have been petitioned by some of the creameries, what does petition mean, I can get a petition up here today and get a hundred signatures, it doesn't mean anything because the man who signs it doesn't know, that is the trouble. You say you can't detect it, but we hope soon to detect it by analysis. Our chemists are going to work it out in a short time. We are working on it now. I had a conference with a chemist and he said he thinks we are going to have it. In 1910 the government issued a bulletin on whey cream, on whey butter, April 1910, in which they said this, that whey butter contains about 35/1000 per cent whey and produced an off flavor which cannot be described. The government advocated the labeling of whey cream at that time and they brought out those facts about whey cream.

I want to say in conclusion, are the butter makers of Wisconsin going on record now by resolution whether or not they want pure creamery butter labeled as pure creamery butter or whether

they will allow whey butter labeled as creamery butter, do we want to tear down our constructive laws?

---

J. G. Moore then presented a resolution by request and signed by the resolution committee as follows:

Whereas, there is now on the statute books of Wisconsin a law which requires the branding of butter made wholly or in part from whey cream, and

WHEREAS, there is nothing in the manufacture of butter from whey cream which in any way conflicts with the definition of butter, and

WHEREAS, the law during the past year has been found to be a hardship to creameries and their patrons as well as to the cheese factories and their patrons and has resulted in no benefits to the consumers, therefore be it

RESOLVED, that the Wisconsin Butter Makers' Association in Convention at Eau Claire, Feb. 5th, 1919, respectfully request and urge the Legislature to repeal the whey butter law, and the Secretary is hereby instructed to send a copy of this resolution to the Governor and each member of the Legislature.

(Signed) Resolution Committee:

J. G. MOORE.

C. F. WOLZIEN.

R. CARSWELL.

#### DISCUSSION.

MR. COLWELL: I feel that you as butter makers and creamery men are the ones to vote on this resolution. There are a lot of creameries that come in competition with cheese factories that are making whey cream. They are selling their cream somewhere. Perhaps if you enforce this branding of whey butter you can compel them to sell their cream outside of the state, they will get rid of it. Up in this country cheese factories do not get milk enough to make enough whey cream to churn it and where you come in competition with them you can tell them to ship it outside of the state, consequently you will benefit that much by it.

MR. SPEIRS: We do not make whey butter, I have always been prejudiced against it, I never could make good butter and cheese in the same factory, never had success in making good butter and good cheese in the same factory. One reason was I never could get a cheese maker and a butter maker to work together any more than you could a cow boy and a sheep herder. I say I am neutral because if I was making whey butter I could brand it whey butter and it would go to my market and the brand would be scratched off if I wanted it to and it would sell for what it was worth. This last year I became connected as



president of quite a large concern in a near-by state and in going over the books, checking up, I found they got a large amount of whey cream, as high as ten or twelve thousand pounds of whey fat every month. Now that butter was churned with the other cream that came in and it was put in tubs and shipped to Boston and brought one cent under New York track shipping points, I am telling you that for what it is worth. In looking up I found the most of that whey cream, practically all of it, came from northern Wisconsin.

MR. CARSWELL: As a member of the Resolutions Committee, I am saying right here, as a traveling man I have no business on that Resolutions Committee. If the resolution was to come up today I would put myself on record that the traveling men be suspended from even voting on the business of the Wisconsin Butter Makers' Association.

MR. STROZINSKY: I think most of us appreciate the fact that the traveling men are with us. We feel as though it is necessary to have them with us and I think they also feel that it is necessary for them to be with us and therefore I think that as a member, as long as they pay their dollar to the association they ought to have a voice in the meeting.

MR. DRISCOLL: As a traveling salesman I do not agree with you at all. I have good reasons for this. I have been attending the Butter Makers' conventions all over the country for years and I consider every butter maker in the country my friend. I hope I am not mistaken but I do not consider myself their friend to such an extent that I want to interfere with their business. They should run their business and run it alone and if they are not capable of running their business they should get out of it.

MR. STROZINSKY: I am pleased that we are having this sort of a discussion. It shows the spirit and I assure you if matters of this kind were not brought up what good would a meeting of this kind be? I am sure a discussion of this kind is for the best interests of us all.

MR. BLASCHKE: makes the following motion; that the butter makers in this society vote as a body of butter makers to run a Butter Makers' Convention, not a Traveling Men's Convention. Motion was seconded.

MR. BLASCHKE: They are just as welcome but as butter makers to think that we should ask traveling men to come in and



run our little convention, I make a motion that we vote right now on this question.

MR. STROZINSKY: We have a motion before the house, it is out of order.

MR. KEPPEL: May I ask why the cheese makers come into the butter makers' convention and ask them to run their business to suit the cheese makers?

MR. HASTINGS: I was asked to come before the cheese makers and also asked to come here.

MR. SAMMIS: I first took the floor to announce the legislative hearing in Madison which the butter makers were all interested in and then I read extracts from letters written by the creamery men, finally in response to questions asked by Mr. Lee who had presented some facts about the price received by cheese factory patrons in Green County during the flush of the season of 1918, which averaged  $2\frac{1}{2}$  cents below the Chicago butter fat price, but it was not with the slightest intention of imposing those facts upon you.

MR. KEPPEL: This is the first year of the operation of the law and you will always find that the adjustment of past conditions is going to cause some little trouble, but they want to cut this thing off while it is in the course of introduction. The theory that a thing should be labeled what it is, is right in the eyes of any man. It does not change the inside or value of the article. That is not the question whether the article is worth more or less, but the article is there and if a man wants to buy that article that is his privilege and if he reads that word "whey" it does not spell anything to him if it is palatable. I say, let it stand on its merit, if they have a good article, may be they have, I hope they will produce more of it.

MR. DODGE: I had perhaps three thousand pounds of milk that I skimmed the whey off and I put it right in with my cream that I gathered and really I don't think I could tell the difference. I believe it is all right. I believe every man that buys butter has a right to know whether it is creamery butter or whey butter. I will say this I believe the proper thing to do is to stand right by our creamery butter. If we want to make whey butter stand by that.

MR. MOORE: Again read the resolution before the convention in regard to the retention of the branding law.

The motion was made and seconded and after putting the motion three times it was declared carried.

Mr. Lee then moved that the resolution committee be instructed to bring in a resolution to the effect that the butter makers were opposed to the repeal of the law, which was carried.

MR. BLASCHKE: I made a motion that we ask the butter makers to run their convention as a butter makers' convention and not a traveling man's convention and I think there was a second to that, so the motion is made that we eliminate traveling men from our resolution committee and from voting. I don't mean creamery managers, I think our creamery managers are entitled to come into our convention.

MR. LEE: Do you mean that the butter makers should run their own association, the officers and everything?

MR. BLASCHKE: Yes sir.

MR. MOORE: I don't think there are but one or two men at this convention who have been members of the association longer than I and I have been a butter maker and I am perfectly agreeable to this one proposition that the vote of the affairs of the association be left to the butter makers alone and make the others associate members.

MR. KEPPEL: I make a motion that the rest of this business be taken up tomorrow morning.

MR. STROZINSKY: Motion made, seconded and passed unanimously that the business be taken up tomorrow morning. We will now go on with our program.

MR. STROZINSKY: I take great pleasure in introducing to you at this time, Professor E. H. Farrington of Madison, who will address us on the Opportunities for Disabled Soldiers and Sailors in the Dairy Industry.

MR. FARRINGTON: Mr. Chairman, Ladies and Gentlemen: I had a number of preliminary remarks that I had planned to make but you have been having so much fun this afternoon I think I will confine myself entirely to the subjects that I have planned to talk about. Now the title under which I am supposed to speak as it is given in the program is somewhat of a patriotic one and I made that rather short. I have written something on that subject but I feel something like congressmen that you read about in the papers sometimes. They give a good deal of time to preparing an address and some members of the house or senate will say, "we make a motion that the member be allowed to read

and not to speak." I don't know but what the audience would prefer to have me read what I have to say than to listen to me speak it. However, I will not try to read all of it, I will give it to the secretary and it can be printed in the proceedings of the convention. I would like to say this that my plan was to speak about three things, one was the subject that is given on the program, the other was "Leaky Butter" and the third was "A Plan for Economically Standardizing the Manufacture and the quality of Butter and Cheese."

## OPPORTUNITIES FOR DISABLED SOLDIERS AND SAILORS IN THE DAIRY INDUSTRY

E. H. FARRINGTON

A little over a year and a half ago we were saying "Good Bye, and God bless you" to students who were leaving our classes one by one for the military and naval training camps of our country.

Today, these soldiers and sailors are coming back home and, as we welcome them to the peaceful civilization which they have helped us to re-establish, we are impressed by their healthy appearance and their eagerness to get a job.

The majority of our returning men have doubtless been benefited by the discipline of the training camps and of the battle fields. Some of them however, are coming home more or less disabled, and it is this small, but interesting group of war veterans that I wish to talk about briefly.

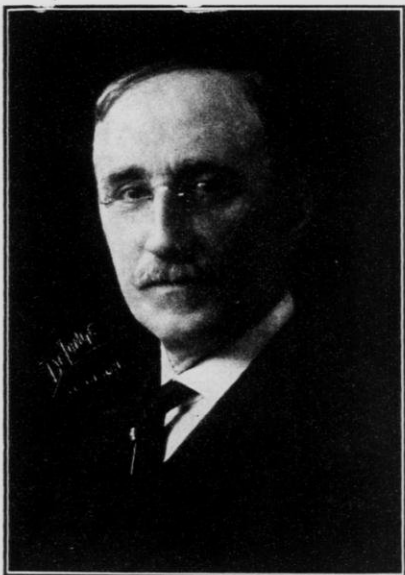
At the present time it is evidently impossible to accurately estimate the number of these disabled men. Our casualty lists are not all published yet, but before long we will be informed as to the approximate number of wounded men who are able to begin some kind of work or some kind of training that will help to make them self-supporting. It is our duty therefore to consider the possibility of giving them such training as will help to make them more contented than would be the case if they are left to spend the remainder of their days in idleness.

Knowing full well the loyalty of Wisconsin citizens and the great interest they have taken in the welfare of all our soldiers both during and since the close of the war, I have made a number of inquiries in regard to the possibility of our disabled soldiers and sailors finding employment in some branch of the dairy in-

dustry at the present time. From among the many replies I have received the following quotations will illustrate the attitude taken by this class of employers to the soldiers who are coming back home and are looking for employment:

\* \* \* \* \*

"This creamery gave all its men to understand that they could have their old jobs back when they returned from the war, and we must wait until all our own boys come back before we can agree to take any other men, either sound or disabled."



E. H. FARRINGTON  
Madison, Wisconsin

"I have two brothers in France now and may have to help them to get work on their return."

\* \* \* \* \*

"We now have seven men in the service and expect to take them back into our employ regardless of their condition."

"Former employes are rapidly returning and we are of course taking care of them."

\* \* \* \* \*

"We have promised to take back four of our men who are in the army and if they return we will not need any additional help."

\* \* \* \* \*

"At present we have nothing open for disabled soldiers and sailors but about the first of April we will have several positions in which we could use such men provided they are not too badly handicapped."

"A great number of our employes went into army service. We expect to put forth every effort possible to give these men their old places when they return."

\* \* \* \* \*

"Only one of our employes was called into service. This young man is now in France. We expect to re-employ him just as soon as he returns."

\* \* \* \* \*

"I will keep the disabled soldiers and sailors in mind and find a place for them whenever possible. In a number of factories the Mrs. helps the Mr. and this furnishes about all the help the factories need."

\* \* \* \* \*

"We have just hired a cheese maker who has been in the army since last August. We are also holding a place for our nephew who has been in the army for eighteen months."

\* \* \* \* \*

"We will be glad to give our returning soldiers the first opportunity for employment and hope they will not be too badly disabled. It is our duty to help the boys all we can."

\* \* \* \* \*

"We are not able to give you any definite information as to what we can do, but can assure you that our interest will be to protect these boys whenever possible."

\* \* \* \* \*

"I think there are a great many branches of the dairy industry where partially disabled men can be successfully employed. I lost my right leg and am making American cheese every day in the summer, handling about four-thousand pounds of milk in the flush. I have a wife and two children and we are making a good living and saving a little money. I own a Maxwell car and am able to drive anywhere any body can. I therefore think that a disabled soldier or sailor who has lost a leg and will get a good artificial limb, then take a course in cheese making, can make good if he has the staying quality in him, and I guess any of the boys that went over across and helped lick the Hun sure have the quality. I think they will make good in the cheese making industry if they will try."

\* \* \* \* \*

"I have been studying recently the possibilities of employing our disabled soldiers and sailors and conclude that the possibility of helping them will depend of course on the way in which each man is disabled."

\* \* \* \* \*

"The regular work of the creamery business, around machinery etc., it seems to me takes all the faculties a man has to keep him up to his job, but there are of course some things a disabled man can learn to do. One with an artificial leg might make a truck driver, also an office man, or even a man with one arm might drive a truck—it will depend much on the man himself—some men with an arm or a leg off would be better than others I know who have four of these attachments, and as regards to the pay they will receive, I see no reason why a disabled man who can do the work should not have as much pay as an able-bodied man doing the same work. I think a manufacturer who will discriminate and try to hire a man cheaper because he is short of a hand or a foot and is yet able to fill a position as well as one who is not disabled is making a sad mistake."



These responses show that Wisconsin men are planning to do every thing possible for the returning soldiers and while it will doubtless be some time before the disabled soldiers and sailors will have completely recovered their health and strength and become accustomed to the disability, whatever it is, there is no doubt but the dairy industry of the state of Wisconsin will do its full share towards training and employing these men.

The particular field of work in which the members of this association are interested is the manufacturing of dairy products and I therefore venture to suggest that we consider briefly the opportunities for disabled soldiers and sailors in this line of work.

The kind of disability which will not too seriously handicap men for work in the manufacturing of dairy products are 1st. the loss of hearing; 2nd. the loss of one eye; 3rd. the loss of one arm or of one leg.

During the past 25 years we have had men with each one of these disabilities as students in our three months winter dairy course for butter makers and cheese makers. These men have demonstrated that some parts of this work may be done successfully by them and if we consider this work in detail we will find the following is adapted to the partially disabled man.

a. *The operation of the Babcock milk test.* This, as many people familiar with the dairy industry well know, is used for determining the percentage of butter fat in all kinds of dairy products such as milk, cream, skim milk, buttermilk, and cheese. Every creamery, cheese factory, city milk and ice cream plant uses this test and all condenseries use either this test or one a little more complicated, the Majonnier test.

b. *The testing of both butter and cheese for the per cent of water contained in each lot manufactured.* There is a law at the present time which requires that both butter and cheese shall not exceed a certain percentage of water and this necessitates a test of each churning and of each lot of cheese made in our factories.

c. *The testing of milk and cream for acidity and the testing of milk by the sediment test.* This latter is used more extensively in city milk plants and by state and city milk inspectors than by any other group of men connected with the dairy industry.

d. *The propagating of "starters" used in developing flavor in the manufacture of both butter and cheese.*

e. *Keeping the records and the simple bookkeeping of the dairy industry* are important parts of this work and a person capable of writing neatly and making simple calculations rapidly and correctly could assist a great deal in keeping the daily records and the books of the establishment. A great deal of the work connected with the dairy industry requires a knowledge of addition, multiplication, and what is ordinarily called "common arithmetic," as the buying and selling of dairy products and also the buying of the raw materials from which these are made requires the accurate recording of weights and figures.

f. *The printing of butter* i. e. cutting butter into one pound bricks and wrapping these with parchment paper as well as weighing each one to be sure it contains sixteen ounces, no more and no less. This is another piece of work which might be done by disabled men provided they had two hands.

g. *The operation of steam engines, ice machines, gasoline engines and electric motors* in some of the larger dairy manufacturing plants may possibly be watched by a disabled soldier or sailor having one leg and one eye. He ought, of course, in this line of work to have his hands.

h. *The cheese factory work.* There are over two thousand cheese factories in the state of Wisconsin and some of these are already operated by women. Some parts of the every day work of cheese making may be done by a disabled man, but in most of it he will need two hands. The weighing, sampling, and testing of each lot of milk brought by the farmers as well as the making of rennet tests, cutting the curd and making the acid tests are things that a man partially disabled can easily do after he has had the necessary training.

In the manufacture of cheese, especially that of fancy cheese done up in small packages, there is a great deal of work connected with the filling and wrapping of these packages that is also possible for these men to do.

i. *In the city milk plant* the bottling, the testing and the checking up of drivers are lines of work available for disabled men in this branch of industry.

In the milk condenseries there is considerable work that is adaptable to certain kinds of disabled men; such as the daily testing of samples of milk brought by the many farmers as well as the tests made through the day of the milk in the vacuum pans. Further the making of small tin cans, as well as the operation of

can fillers and the inspection which each of these cans must be given after it is filled. Throughout the entire dairy manufacturing industry there are many things which the disabled soldier and sailor can do.

The agricultural colleges of this country will doubtless open wide their doors to these men and willingly provide special courses for training them if necessary. These special courses, however, in my opinion, can be given in a way most profitable to the students and most economical to the institutions, by dividing the colleges of the country into groups and then giving certain lines of instruction in these groups, instead of trying to give all the courses, appropriate for this purpose at each one of the many colleges.

The dairy department of the University of Wisconsin has already trained over three thousand men and women in this kind of work in its dairy course of three months beginning early in November each year, and stands ready to do its full share in the future.

In France, it has been stated, schools for training soldiers in butter and cheese making have been established at four different places and fifty students have already been turned out. Our own government has taken due notice and action on this matter and placed it in charge of a Federal Board for Vocational Education.

No state in the union is better equipped than Wisconsin to give the education and the training these men may need, and no state is more willing to recognize the sacrifice these men have made in the past, or more eager to extend to them a helping hand in the future.

---

## THE CAUSE AND PREVENTION OF "LEAKY" BUTTER

E. H. FARRINGTON

The University creamery, as many of you know, is operated during the entire year. We get milk and cream from about 150 farms and churn from 200 to 2,000 pounds of butter daily, depending on the season of the year. Our creamery furnishes us a place, not only for instructing students, but for making many practical observations concerning the manufacture of butter.

The butter we make each day is sold to three classes of customers; first, at retail over the counter; second, in one pound prints to grocery stores; and third, in 60 pound tubs to commission men or it is placed in cold storage.

The first two methods of selling butter have given us an opportunity to make observations on the losses that occur in printing butter and in retailing it.

By examining our records for a year on these two points, I find that our losses in weight of butter when we sell to customers by filling jars and small packages amounts to 3.3 per cent, that is to say in retailing 42,186 pounds of butter during the year there was a difference of 3.3 per cent between the amount recorded on the sales slips given to customers and the amount handed to our salesman by the butter maker from the churn. This loss in weight of course comes from the filling of small jars by pressing out a certain amount of brine and by giving over weights.

#### LOSSES IN PRINTING BUTTER

The loss in cutting butter into one pound bricks or prints which are wrapped in parchment paper is found by counting the number of prints, each one of which is placed on the scales to be sure that it weighs at least sixteen ounces, and comparing the number obtained with the weight of butter received from the churn. Our butter is printed by packing it directly from the churn into ninety pound boxes and then cutting these blocks into one pound prints with the Challenge or Friday printer. The butter maker records the exact weight of the butter placed in the ninety pound boxes and then weighs the scraps to find out how much is lost by the printing. Our records show that in making 123,008 one-pound prints last year there was a loss in weight of 1.5 per cent. The daily losses show a fluctuation between about .8 per cent and 2.9 per cent.

I do not know how these losses compare with the observations made at other places, but the records we keep on these points give us some idea of the carefulness of the work done by the men in the creamery and also the condition of the butter.

The losses of weight in either packing butter into jars or cutting it into prints will naturally depend somewhat on the way in which the brine is incorporated in the butter. Occasionally a churning is made in which there is an excessive loss of brine

when the butter is packed into sixty pound tubs or filled into ninety pound printing boxes. This condition of an occasional churning of butter is something that nearly every butter maker is acquainted with and the buyers of butter also receive some butter of this kind.

I suppose there are not many creameries in the state where such "leaky" butter is continuously made, but doubtless nearly all creameries have an occasional churning of "leaky" butter.

#### OUTLINE OF EXPERIMENTS

Some two years ago we began a study of this kind of butter in order to find out if possible whether we could produce "leaky" butter whenever we chose to do so, knowing that if this was possible, we could also determine what conditions of manufacture would prevent the occurrence of "leaky" butter.

At the beginning of these experiments we had no way of measuring the "leakiness" of butter, but after continuing the work for some time, it was suggested by Mr. A. C. Dahlberg who made the observations recorded in this experiment, that the amount of brine which would leak out of butter might be measured by attaching a glass tube to the bottom of a butter tub. We therefore made a number of tin packages about the size of a thirty pound butter tub. Each package had a funnel-shape bottom which terminated in a glass tube about one-half inch in diameter and three feet long. These tin tubs we then used for measuring the amount of brine that would leak from butter filled into them.

The glass tube was graduated in order to measure the brine as it leaked out of the butter from day to day. A daily record was made of the amount of brine collected during a period of seven days. This showed the rapidity with which the brine leaked from the butter and also the total amount of brine collected during this time.

#### TWO CHURNINGS PER VAT OF CREAM

Each trial was made by dividing one vat of cream into two churnings; one of which was made by our standard method and the other by introducing some variation of the method to note the effect of such variation on the "leakiness" of the butter.

The finished butter from each churning was packed into the



tin tubs, two of which were filled from each churning. This gave us duplicate packages from each churning. Our observations covered ninety-five churnings in which we made 38,880 pounds of butter and studied the effect which each one of the following points might have on the "leakiness" of the butter.

1. Amount of butter in the churn.
2. Length of time the cream is held at a cold temperature after pasteurizing.
3. Churning temperature.
4. Temperature of wash water.
5. Amount of working the butter received.
6. Amount of water in churn during working.
7. Temperature at which butter is held.
8. Salt content of butter.
9. Water content of butter.

The experimental data from one set of observations will illustrate the way in which this data was recorded.

**A COMPARISON OF THE AMOUNT OF BRINE LEAKING FROM BUTTER WASHED WITH WATER AT 54° F. WITH THAT WASHED AT 65° F.**

Time in Refrigerator	Temperature of wash water			
	54° F.		65° F.	
	Tub 1	Tub 2	Tub 3	Tub 4
	Brine c. c.	Brine c. c.	Brine c. c.	Brine c. c.
1st day .....	3.0	1.5	2.0	0.2
2nd day .....	33.1	0.3	4.5	11.8
3rd day .....	28.5	7.2	8.0	1.3
4th day .....	23.5	5.2	3.8	22.7
5th day .....	22.5	47.8	3.2	0.6
6th day .....	24.0	28.5	5.9	2.0
7th day .....	25.8	23.5	2.1	0.2
Total .....	160.4	114.0	29.0	28.8
	Average 137.2		Average 28.9	

This shows the amount of brine collected from each tub daily and the total amount for seven days. It will be noted that duplicate tubs from the same churning do not agree exactly in the amount of brine leaking from them. This could not be expected as the loose brine is held in pockets through the butter and there can be no exact uniformity in the size or the number of these pockets, but the average of the two tubs from each churning is a figure which may be used as an indication of the effect which a certain treatment of the butter has on the amount of brine that leaks from it.

A summary of the many observations made by Mr. Dahlburg in these trials shows by this method of measuring the "leakiness" of butter:

1. That the amount of butter in the churn has some influence on the "leakiness" of the butter. Three churnings averaging 250 pounds butter each gave 100 c. c. brine, as compared with 145 c. c. brine from churnings of 435 pounds each.
2. A difference of five degrees in the temperature of churning (50° F and 55° F.) had practically no effect on the amount of brine leaking from the butter. Three churnings at 54° F. gave butter that leaked 21 c. c. of brine while three at 48° gave 27 c. c. brine.
3. The hardening of the butter fat by holding the cream 20 hours after pasteurizing as compared with 2 hours, gave 85 c. c. brine as compared with 78 c. c. brine.
4. Working the butter with 30 pounds of water in the churn compared with no added water gave butter leaking 111 c. c. brine and 41 c. c. brine, respectively, as the average of three trials.
5. Holding the butter after making in a refrigerator at 45° F. compared with holding at 65° F. gave 45 c. c. and 3 c. c. brine respectively.
6. Butter containing 4.2 per cent salt leaked 269 c. c. brine compared with 127 c. c. brine from butter containing 2.3 per cent salt.
7. "Leaky" butter is not necessarily high in water content. One lot of butter containing 13.2 per cent was very leaky, while another with 15.8 per cent held the water without leaking.
8. When the butter was washed with water at a temperature of 55° F. it leaked 137 c. c. brine compared with 29 c. c. brine from butter washed with water at 65° F.
9. The amount of working the butter is given seems to have more effect on its leakiness than any other point studied. 113 c. c. brine leaked from butter worked 20 revolutions and only 1 c. c. brine was obtained from butter worked 33 revolutions. These are average figures taken from six churnings and twelve packages of butter.

The practical points which this work suggests to creamery butter makers are that butter may be made "leaky" by under-working, by high salting, by working in water, by churning too much butter at one time and by too cold wash water.

Wet appearing butter is not necessarily "leaky" but that having an open texture is most likely to lose weight from an excessive amount of brine leaking from it.

The amount of working given to butter seems to have a greater influence on the way it holds its brine than any other part of the butter maker's work, and I think these observations show that losses in weight from "leaky" butter are entirely within the control of the butter maker.

I only wish to mention one more point at this time and that is the losses from shrinkage of butter in cold storage. We usually store about 300 tubs of our summer make of butter and this year when most of these observations were made, we placed several

hundred sixty-pound tubs of butter in cold storage in May and June and took them out during the fall and winter.

Some of the butter was made by methods which we had found would produce "leaky" butter and tubs of this butter as well as the duplicate churnings from the same vats of cream in which the butter was made "dry" were packed into 63 pound paraffined tubs and placed in cold storage. The butter in each tub was weighed to one-tenth of a pound at the churn and then again about five months later when taken out of storage. This gave us a comparison of the loss by shrinkage during storage of both "leaky" and of "non-leaky" butter. The following figures were obtained from these weighings:

LOSSES IN WEIGHT OF "LEAKY" AND "NON-LEAKY" BUTTER HELD ABOUT FIVE MONTHS IN COLD STORAGE.

Method of making butter	Butter, pounds		Loss in weight	Loss, per cent
	Before storage	After storage		
Temperature of wash water—				
Normal.....	9,577.4	9,447.8	129.6	1.35
Cold.....	831.4	795.9	35.5	4.27
Warm.....	1,425.1	1,414.5	11.2	.78
Amount of working—				
Normal.....	1,440.5	1,411.5	29.0	2.01
Ten revolutions excess.....	1,389.4	1,365.8	14.6	1.05
Average of 234 tubs.....	14,655.4	13,435.5	219.9	1.50

These observations point in the same direction as those made with fresh butter. They show in one case that the "leaky" butter lost about 3 per cent more in weight than the butter made by the normal process.

The extent to which "leaky" butter is noticed by butter buyers is shown by the following replies I have received from a number of butter merchants doing business in the principal markets of the country, Chicago, New York, and Philadelphia:

\* \* \* \* \*

"There is one point about "leaky" butter which should not be overlooked, i. e. such butter has not been overworked and if the flavor is right the only loss will come from loss in weight from the leaking of the brine one or two pounds per tub."

\* \* \* \* \*

"We do not have to make any extensive reduction in the price of butter on account of its being "leaky." We can sell it according to its grade, based principally on its flavor and its general qualities. There are exceptions to this but we do not generally find it necessary to reduce our asking price of butter because it is "leaky."

"We have had butter lose from one to three pounds per tub, that is, shrink this much in weight between the gross and the net weight, after the brine has run off. The greatest objection we have to "leaky" butter is the loss in weight."

"Our experience in "leaky" shows a loss of one to three pounds per tub, and from one to three cents per pound in selling price. "Extras," when "leaky" sell from one to three cents below the market price."

"We print a great deal of butter, but never attempt to reprint "leaky" butter. The dealer who does his own printing would likewise refuse to buy this butter, unless he received a sufficient concession in price to cover his loss."

"There is no way to tell the exact loss of "leaky" butter as it varies with different shipments. We have had shipments that lost from two to four pounds and occasionally as high as eight pounds per tub when "leaky" butter is printed."

"It is very difficult to estimate the percentage of "leaky" butter on the market, but the defect is one that should be taken up and remedied at once."

"We consider "leakiness" as one of the minor defects in butter although it is of enough importance to warrant its correction as soon as possible."

"Shrinkage may run as high as a pound and a half to the tub more than the loss from tubs where the moisture is practically all incorporated. The chief objection of buyers to "leaky" butter comes from those buying butter for printing, when the loss is excessive. A small per cent of the butter we receive shows this fault although we occasionally find it in the market and avoid buying "leaky" butter whenever possible. The loss, we think, is more from shrinkage than on account of a reduction in price because of a defective quality."

"A few days ago we received a shipment of butter showing a "leaky" tub. We immediately made a moisture test and found the butter to contain 12.2 per cent moisture. We do not know what percentage of moisture the butter contained when freshly churned, but we imagine from the weights the creamery had placed on the tubs when compared with our actual weights at the time the butter was received, that it must have contained about 15½ per cent of moisture when churned. There was therefore, a loss of about three per cent in weight from leakage during transportation. This makes the actual loss to the creamery of about three cents per pound. If you have any information on this subject we shall be glad to get it."

"As we do not print butter but simply sell it in tubs, our judgment in regard to butter comes from the wet, dirty appearance of the outside of the tubs. These tubs usually show a loss in weight but there is seldom any reduction in price on account of the quality of the butter."

"Since market conditions influence very much the selling of butter, we are inclined to think, that on a weak market, "leaky" butter will

be difficult to move and is an expensive butter to have on hand. When, however, butter is scarce, the "leaky" defect is overlooked somewhat, but under any circumstances we think that "leaky" butter represents a loss of about one and one-half cents a pound to the creameries making it, and the loss in weight runs from one to three pounds per sixty pound tub."

\* \* \* \* \*

"We have sold butter for over thirty years and estimate that the loss from "leaky" butter amounts to about two pounds per tub, although we have had comparatively little trouble with this kind of butter. In some cases it seems that the butter makers' zeal and ambition is to make a showing that his creamery leads, and he oversteps the bounds of wisdom and has incorporated too much moisture in the butter. Under such circumstances, he has to suffer the consequences."

\* \* \* \* \*

"In our experience, there is not much loss in price on "leaky" butter, but the loss in weight from shrinkage amounts to two pounds per sixty pound tub. When this "leaky" butter is stripped here, water frequently runs off onto the scales and onto the floor. The butter is very wet. On the other hand, where water is properly incorporated there will not be any moisture visible. In that case the butter usually holds out in weight. We think this loss from shrinkage may easily be overcome at the creamery and that it will be a great help to the butter makers if each one of them knows how to prevent this loss."

## A PLAN FOR ECONOMICALLY STANDARDIZ- ING THE MANUFACTURE AND THE QUALITY OF BUTTER AND CHEESE

E. H. FARRINGTON

For several years we have been discussing in Wisconsin a plan of forming mutual benefit organizations among the cooperative creameries, and cheese factories in a given territory.

This is not the exact title given these organizations already started, but it may help to explain their purpose.

The names of two organizations now formed on this plan are:

- (1) The Associated Cooperative Creameries of La Crosse River Valley, now two years old, and includes eight creameries.
- (2) The Chippewa Falls Cooperative Creamery Association, started May 3, 1918, and includes twelve creameries.

Briefly, the objects of these associations are:

1. The prevention of duplication of milk and cream routes.
2. An economical buying of supplies.
3. Cooperative selling of the product.



4. Employing the services of a field man who will visit all the farms supplying either milk or cream to the factories belonging to the organization.
5. The production of a large amount of butter and cheese of a uniform quality.

The first one of these associations, (La Crosse), was organized by calling together the directors of eight different creameries following a general discussion of the subject at a public meeting attended by both officers and patrons of the creameries in that territory.

In discussing the work of this association Mr. J. F. Moran, of West Salem, one of the managers, has stated that he feels highly encouraged with the work their field man has done so far; that an improvement in the richness of the cream delivered to the factories has already been noticed; that the patrons now agree the plan is a good one; and that the creameries are working together harmoniously, although at first there was some fault-finding on the ground that this was another salary-paid job, which the farmers must support.

The La Crosse organization voted two thousand dollars for the services of a field man for one year, and collected this amount from the creameries by apportioning it according to the butter fat received at each factory. This apportionment amounted to one cent for each  $15\frac{1}{2}$  pounds of butter fat.

It has been suggested that the expenses of the field man and other funds needed for general promotion of the enterprise, may be raised by a contribution from each creamery of a tenth-of-a-cent for each pound of butter fat received by them.

One of the important agreements among the members of the organization is that no creamery will accept the cream which has been rejected by another creamery on account of poor quality.

It is a little early, to record the benefits that have already been derived from this plan by the organization at Chippewa Falls, but a field man has been employed, and he is now at work.

A great deal could be said in an illustrative way of the benefits to be obtained both by the producer and the consumer of dairy products from such organizations as these. Each of the five points mentioned as the object of these associations could be easily elaborated, and the possibilities of making this plan of mutual benefit to a large number of farmers is great; it seems like an

effective method of improving the quality of the butter and cheese made in the state.

It will also reduce the waste caused by excessive competition for milk and cream by a large number of small factories in a given territory, but the plan is so new that the full benefits of its operation have not yet fully been realized.

The success of the plan, when applied to any locality, depends, first, on the creation of a desire on the part of the farmers and operators of a number of factories, for such an organization in order that they may obtain the advantages afforded by it, and, second, success depends on the ability and the adaptability of the field man to the duties of his position.

---

MR. STROZINSKY: Our next speaker on the program is Mr. A. J. GLOVER.

MR. A. J. GLOVER: Mr. Chairman, Ladies and Gentlemen: I think that you all feel a good deal like the little fellow weighing about eighty pounds who called upon his girl weighing three hundred pounds and held her all evening and finally she turned and said to him, "dear, are you tired," and he said, "no, I'm paralyzed." I feel that you are paralyzed. You have been here long enough and you have had enough for one day and I would like to get out of making this speech. I rather think that they put me on at this time on purpose. This reminds me of the story of the Irishman who was crossing a pasture and the bull took for him and Mike started for the fence and as he reached it the bull helped him over and Mike picked himself up and turned around and there was the bull on the other side of the fence pawing and bowing and scraping and Mike said, "to hell with your bowing and apologies, damn your soul, you did it on purpose."

## THE PURPOSE AND OBJECT OF THE WISCONSIN DAIRY COUNCIL

A. J. GLOVER, Editor *Hoard's Dairyman*, Ft. Atkinson, Wis.

The Wisconsin Dairy Council was organized to unite the efforts of all organizations interested in the promotion of the dairy industry in order that more effective work could be done in educating the consumer regarding the food value and importance of milk and its products. The prices of dairy products in times

of peace have been relatively cheaper than other food products. This condition brought about discontent among the producers and led them to organize in many communities for the purpose of securing a higher price for milk.



A. J. GLOVER  
Ft. Atkinson, Wis.

It is not the purpose of the Wisconsin Dairy Council to absorb any of the activities of the dairy and agricultural organizations already in existence, and which have done splendid work in their respective endeavors. The Wisconsin Dairymen's Association, the oldest of our organizations, is devoting its energy to the increased and more economical production of dairy products; the Cheese Makers' and Butter Makers' Associations are endeavoring to improve the workmanship of their members and to improve the quality of butter and cheese. Then, we have breeders' associations organized for the purpose of assisting them in advancing our several breeds of dairy cattle. There are also marketing associations and various other organizations which are engaged in special fields for the purpose of advancing the dairy and agricultural interests of Wisconsin. The Wisconsin Dairy Council is, of course, interested in the welfare of each one of these associations, but its field is to unite these many organizations for

the purpose of creating a larger demand for dairy products. It proposes to carry the message to the consumer regarding the food value of milk, the food value of skim milk, the food value of cheese, and the food value of butter as compared with other foods. It is not its purpose to interfere in any way with the activities of other organizations engaged in several fields of endeavor for the promotion of dairy industry.

In the early years the Wisconsin Dairymen's Association represented every branch of the dairy industry. Every dairy activity worked through this association. It set the pace and was instrumental in establishing the Wisconsin Dairy School,—the first school of this character in the United States,—the Dairy and Food Commission, and the Wisconsin Farmers' Institute. The first job it tackled, after organization in 1872, was to secure a market for Wisconsin cheese.

At this time it sent a representative, none other than W. D. Hoard, later Governor of the state of Wisconsin, to Chicago for the purpose of securing refrigerator cars in which Wisconsin cheese might be shipped to market. The railroad officials rather made fun of this idea and asked if Pullman cars would not be more desirable. But, the refrigerator cars came and a market was opened for the cheese of Wisconsin. The Wisconsin Dairymen's Association did not stop here, but sent exhibits of butter and cheese to various national exhibitions. The high quality of dairy products selected for these exhibitions led to a demand for Wisconsin dairy products. This was effective advertising. The dairy industry at that time amounted to about \$1,000,000 per year and now it is about \$190,235,000.

The Wisconsin Dairymen's Association also sent instructors to creameries and cheeseries for the purpose of improving the quality of our butter and cheese. It encouraged farmers to keep a better class of dairy cattle and to improve the character of crops for live stock. To the regret of the early organizers of the Wisconsin Dairymen's Association, several branches of the dairy industry have left the parent organization and formed associations to deal especially with some particular phase of the industry. The hive became so large that its members swarmed. We now have the Wisconsin State Butter Makers' Association, the Wisconsin State Cheese Makers' Association, and the Wisconsin State Breeders' Association. They again have been divided into smaller units and we have county butter makers' as-

sociations, sectional cheese associations and many other organizations; in fact, too numerous to mention. Under the wing of the Wisconsin Dairymen's Association we have 115 cow testing associations, which have become the important work of that association.

Those responsible for the organization of the Wisconsin Dairymen's Association, and among them was former Governor Hoard, saw tremendous advantages to the dairy industry of Wisconsin to have all dairy activities remain under its jurisdiction. This would give opportunity for unity of action which cannot be accomplished when each branch of the industry is separately organized. We now see that these men had a clear conception as to how organization could protect and further an industry. We have come here for the purpose of bringing the many dairy and agricultural organizations together that they may again cooperate as was planned by the man who organized the Wisconsin Dairymen's Association.

In making up the Board of Directors, an attempt was made to select representatives from the milk producers, breeders of pure-bred cattle, manufacturers of butter, manufacturers of cheese, condensed milk, barn equipment, milk distributors, Dairy & Food Commission, College of Agriculture, Department of Agriculture, Department of Public Instruction, the press, the consumer, and all our agricultural organizations. We did not know how we could secure the unity of effort desired without interesting every organized effort in the advancement of the Wisconsin Dairy Council.

The producer can never expect to receive more for his milk than the consumer is willing to pay, or what is commonly termed the market price. There are tremendous opportunities for educating the consumer regarding the necessity of milk and its relation to the health and welfare of our people. It can also be shown that milk at its present price is the cheapest animal food offered to the consumer. Here is our foundation. Milk is absolutely essential to health, growth, reproduction, and is the cheapest animal food on the market. It is the purpose of the Wisconsin Dairy Council to carry this message to every man, woman, and child in Wisconsin. It proposes also to point out the food value of cheese and the necessity of butter. Butter substitutes have been vigorously advertised the past few years and they are claiming a large market, which rightfully belongs



to the dairymen of this country. The progress which the substitutes for butter have made has been largely due to ignorance which the consumer has regarding the importance of butter and its superior qualities to any substitute. An organization without funds or prestige must of necessity start slow. Not much can be accomplished without money. A few generous members have made some contributions, which has permitted us to start our work. A week after we organized, the power was given to those selected to guide the destinies of the Council to publish a leaflet regarding the food value of milk. This was distributed at the Wisconsin State Fair and at several county fairs. We also had a small but effective exhibit at the Wisconsin State Fair, showing the value of milk, butter, and cheese as compared to other foods.

It has been decided that we devote our efforts to educating the children of our schools as to the necessity of milk and its effect upon their growth and development. We desire also to carry this message to the mother who does not know that milk is so highly desirable for her growing children. The work that has already been done in one of the Milwaukee schools shows conclusively that milk not only improves the physical condition of the child, but also improves him mentally. One glass of milk is given daily to every child in the schools mentioned, but this is enough to produce marked effects. We must also inform all consumers that cheese is more nutritious than meat and at the present price is a cheaper food. We must also point out that butter is not only desirable as a relish but it contains properties essential to life and development.

The success of any enterprise depends upon its purpose, its necessity, and its integrity. The cow is the foster mother of the human race. She has a high purpose. She is necessary and she is honest. Proceeding upon this basis and that our children are the most sacred assets of our nation, our message to the schools of the state and to the mothers of these children must be accurate and clear. In view of all these things, we have enlisted our educators and they have responded to our call. C. P. Cary, Superintendent of Public Instruction, and Milton C. Potter, Superintendent of Schools, Milwaukee, are giving their assistance in selecting suitable material to be placed in the hands of the teachers and school children of our state. We already have under way four small pamphlets discussing from various

angles the nutritive properties of milk. We hope that we can have a sufficient number of these pamphlets published that one may be placed in the hands of every student below the high school, and in the hands of our teachers. There are in all, something like 400,000 students below high school age in our state, and there are about 14,000 teachers. About 425,000 of these pamphlets will be required to reach all these people; the cost will vary from \$3000 to \$4000. The pamphlets are the outcome of the work of C. P. Cary and our Department of Agriculture in the University of Wisconsin. The officers and directors of the Wisconsin Dairy Council hold the opinion that we could not do a larger service to the dairy industry, or serve humanity better, than to advise clearly the teachers of our school children regarding the nourishing properties of dairy products. This is one of the things we have planned for the coming year. We are not unmindful of the necessity of laying plans for a larger work as soon as time and our finances will permit, nor are we unmindful of placing ourselves in readiness to serve the dairy industry in various phases. It is our purpose now to inform the people of the real value of our dairy products, which we believe will help the producer to secure a fair price for them when normal peace conditions return. It is our desire and hope to have the whole dairy industry in Wisconsin so organized that we shall be in position to secure the necessary funds to inaugurate a conservative and useful campaign in behalf of dairy products. This will take patience, time, effort, and money.

Securing the support of the manufacturers of dairy products, dairy farm machinery, and supplies may be done comparatively easy, but to reach the farm producers in large numbers requires tremendous effort and large expense unless we have the cooperation of every butter maker and creamery manager in the state. We believe the schools offer the most effective way of carrying our information to all people and especially to those who need it most. This method does not have the "dress parade" effect, but in the end educating the child and teacher regarding dairy products will substantially increase the consumption.

If sufficient funds can be secured, it is our plan to present to the public through moving picture theatres information regarding dairy products. A film has been made through the cooperation of the Wisconsin Dairy School and the International Milk Producers' Association, showing how milk is cared for on the

farm, how it is handled in transit, how it is bottled, and the effects of milk upon growth and development. The picture was designed to educate the consumers regarding the necessity of milk and lead them to understand how much work it is to get a quart of wholesome milk delivered to their homes. It has taken a great deal of time to create this picture, as well as considerable money. Duplicates may be obtained at a reasonable cost. It is such an excellent story of milk that many moving picture theatres would gladly run it provided we supplied it to them. This picture offers splendid opportunity to educate the consumers if sufficient funds can be obtained, and this depends upon those interested in our work. We must first secure money for carrying out our work as outlined in the schools and provide for other expenses which naturally follow in the development of a new organization.

The city of Milwaukee, which consumes so much milk, butter, and cheese produced in Wisconsin, offers opportunity for several months' work. One milk company has taken it upon itself to have a series of lectures delivered before the various women's clubs of that city, and it is paying a speaker \$200 a month to carry out its program.

It is impossible in a short discussion to mention the experiments which have been conducted to show the difference between milk fat and vegetable and animal fats. It is, undoubtedly, sufficient for this audience to call attention to the importance of bringing before the consumer the splendid growth-producing properties of our products and to suggest to them that it requires some funds to do this work. I feel that every butter maker and creamery manager, when he fully understands the purpose and object of the Wisconsin Dairy Council, will be ever ready to offer his undivided support. It depends upon us interested in the dairy industry to carry the message to the consumer regarding the value of our products, and I trust that you who are attending this annual meeting will be ready to render your co-operation to this splendid enterprise.

---

MR. STROZINSKY: I take great pleasure in introducing to you at this time the Hon. G. J. Weigle.

MR. WEIGLE: Mr. Chairman, Ladies and Gentlemen: I feel a good deal like Mr. Glover about the bull.

## TIMELY HINTS TO WISCONSIN BUTTER MAKERS—ARE YOU EQUAL TO THE TASK?

GEORGE J. WEIGLE, Dairy and Food Commissioner of Wisconsin.

Mr. Chairman, Gentlemen: The year that is past has proved a great many things to us: We have seen true patriotism on the battle fields of Europe, we have seen it in the industrial plants



GEORGE J. WEIGLE,  
Dairy and Food Commissioner of  
Wisconsin

throughout our country—and we have seen it in the butter and cheese factories of our state. True patriotism has as much been demonstrated in the every day routine of our lives as on the battle fields across the water;—in being careful to cut down waste to a minimum; in looking after the details of manufacture more carefully so that every ounce of available food material is profitably used, so that our production could be as large as possible, and right here I want to pay my tribute to Wisconsin butter makers who have stayed faithfully by the churn though

they would much rather have been on the other side in the fighting line. You have done your part and you have done it well; and I wish to assure you that you have my greatest respect and esteem.

We have produced a good quality of butter and a great quantity, and we have been able to furnish our Army and Navy with huge amounts of our product for the sustenance of our young men. Before the armistice was signed, we were told of the enormous amounts of butter and other dairy products to be furnished the allies; but, with the signing of the armistice we were advised that we had 200,000,000 *additional* mouths to feed, and that with all that we can do, there will still be thousands and millions of starving people in Europe. To give you an idea of the tremendous amount of dairy products being exported, let me say that in the last fiscal year 295,000 tons were sent to the allies,—295,000 tons. France is now producing one gallon of milk where two and one-half were produced before the war, and the milk that can be had is selling at 32c per quart, and its use is limited principally to the children and the sick. And France is not the only country that is having this experience; this is the condition that obtains in most of the allied countries.

When we think of those 200,000,000 additional mouths to feed, we realize that it is up to us to keep up our production. We cannot rest upon our laurels, upon what has been done during the past few years. We must continue to exert ourselves until Europe is again on her feet—until the countries of Europe can supply themselves with dairy products. As I told the cheese makers of Wisconsin whom I addressed a few weeks ago, the period that is before us is one of great opportunity—for our butter makers as well as for our cheese makers. There is a dearth of dairy cows across the water—they have been slaughtered for food to feed the starving, and until the herds of the countries of France, Belgium, Russia, and of little Serbia and Poland are restocked, we will have a tremendous demand for our product. This is an opportunity for us not only to help others but also to help ourselves. Here is an added opportunity for us to advertise our product throughout the world. But in meeting this demand, let us always keep before us the ideal of “highest quality.” Let us follow the example of Denmark and other countries that export butter. Only the best—the very cream of their product is shipped out; they are very proud of their superior quality, and



we would do well to imitate them in this respect, to manufacture butter of the highest quality which, when it reaches the markets of the world, will bring back an added demand for Wisconsin butter. We must see to it that our product is not eclipsed by that of the countries of New Zealand, Austria, Siberia and Denmark, the most renowned butter-producing country of all. We must have a high quality article, and a high quality article can only be made by using sweet, fresh, good cream, produced under clean and sanitary conditions. The quality of the raw material is the index to the flavor of the finished product. *Quality* should be the watchword, and *quantity* should be the next consideration.

When those of our young butter makers who have been in the war return to their churns, they will have new ideas on many things; they will want up-to-date factories; they will want up-to-date methods of manufacture; they will want clean, sanitary factories; and best of all they will come back with a different spirit, with renewed ambition and energy.

A test of the quality of an individual is the spirit in which he does his work. If he goes to it grudgingly, like a slave under a lash; if he feels the drudgery in it; if his enthusiasm and love for it do not lift it out of the commonplace and make it a delight instead of a bore, he will never make a very great place for himself in the world.

Multitudes of people do not half respect their work. They look upon it as a disagreeable necessity for providing bread and butter, clothing and shelter—as unavoidable drudgery. Put the right spirit into your work; if the thing itself be not important the spirit in which you take hold of it makes all the difference in the world. You cannot afford grumbling service, or botched work in your life's record. You cannot afford to form a habit of half-doing things, or of doing them in the spirit of a drudge, for this will drag its slimy trail through all your subsequent career, always humiliating you at the most unexpected times. Let other people do the poor jobs, the botched work, if they will. Keep your standard up, your ideals high.

No one can respect himself when he puts mean, half-hearted, slipshod service into what he does. He cannot get his highest self-approval until he does his *level best*. No man can do his best, or call out the highest thing in him, while he regards his occupation as drudgery or a bore. The trouble with us is we

drop into a humdrum existence, and do our work mechanically, with no heart, no vim and no purpose. We do not learn the fine art of living for growth, for mind and soul expansion. We just exist.

It was not intended that any necessary employment should be merely commonplace. There is a great deep meaning in it all—a glory in it.

Why is it people think the glory of life does not belong to the ordinary vocations—that this belongs to the artist, to the musician, to the writer, to some one of what they call the “dignified” professions. There is as much dignity and grandeur in dairying as there is in statesmanship or authorship.

It is only when we do our best, when we put joy, energy, enthusiasm and zest into our work that we really grow; and this is the only way we can keep our highest self-respect. We cannot think much of ourselves when we are not honest in our work, when we are not doing our level best. Your sense of right must guide you; the demand within you to do your level best; to develop the highest in you; to do the square thing—to be a man. Put your heart in your work and you will find a great blessing in it.

And while you are doing your work do not forget that most vital of the principles of progress—cooperation.

You cannot do anything alone. Man is dependent upon his fellows—he cannot say that he does not need the assistance of his fellow-men. He does. A butter maker is dependent upon the farmers for his raw material; he is dependent upon his helper for aid in the manufacturing; he is dependent upon the dealers to market his finished product. Thus cooperation is a very important consideration in butter making as it is in every line of business. Through cooperation problems deemed almost impossible of solution are brought to settlement; difficulties that seem almost insurmountable are met and overcome; new ideas are received. Without cooperation progress is retarded and interest wanes. And further than the consideration of the progress of your business is the added personal happiness that results from the pleasant intercourse with men who are interested in the things in which you are interested. Such relationships are very profitable to you and you have the knowledge that you are aiding others to solve their problems at the same time that they are helping you to solve yours.

We occasionally find, through correspondence and conference, that people in the state do not understand our laws, and not seeing any good in them hold back their cooperation in enforcing them. If you do not see what the good in a law is write to the Dairy and Food Department. We will then give you our viewpoint and the intent of the legislature in passing it. I am sure you will find that our laws are just and reasonable and worthy of your cooperation. We need your cooperation in enforcing them; it is only through your help that they can be successfully enforced for the best interests of the dairy industry.

I think we can justly be proud of our dairy laws. They have been built up little by little as evils arose needing supervision and restraint and are for the ultimate best interests of the industry. We all know that laws are not made for individuals, or for small groups of people, but for large communities, and it is hardly to be expected that laws can be enacted which will please all the people in the same degree. But we must, as law-abiding citizens, obey the laws because they have been made for the interests of the greatest number of people. Many states in the union have copied our dairy and food laws, almost verbatim, in whole or in part, and within the last month I received requests from six different states for our dairy and food laws, saying that they intended to introduce similar bills in their next legislature. A few days ago I received a letter from a neighboring commissioner in which he paid us a high compliment. He said: "I believe you have by far the best laws covering the dairy industry in the country." And he asked me to assist him to pass such laws in his state. Certainly we can be proud of them, but gentlemen, do we want to weaken those laws or take them off our statute books? It has taken Wisconsin twenty-five years to build up these splendid statutes and they stand today a credit to the men who fathered them and to the dairy industry of the state.

The Wisconsin legislature is now in session, and one of the first pieces of legislation that has been mentioned is the repeal of the whey butter law, which requires that all butter made in whole or in part of whey cream shall be stamped "whey butter." There is a great deal of merit in this law; it is of great importance in the protection of our best creamery butter. We all admit that whey butter is a very good article if made under sanitary conditions and it should find a ready sale, but we also

know that it is not as superior a product as our best creamery butter, and it therefore seems only just that it should be sold as whey butter and not as creamery butter. I believe if you will consider the future of the butter industry and not the immediate slight inconvenience or loss of revenue, you will come to the conclusion that the law has real merit and should remain on the statutes of our state. Cooperation again,—cooperation for the best interests of the industry.

I said earlier that cooperation is a vital principal of progress, and so it is; and I believe one of the greatest incentives towards progress is a convention of this kind, where men engaged in the same line of work may exchange ideas and experiences, where they may seek help to solve difficult problems which they have encountered in their own factories, and I trust that no one in this convention will go away with an unexpressed need for assistance, or with information that he thinks may be of benefit to his fellow-workers. Make this annual convention a clearing-house for all matters relating to butter making, and I hope you will all go back from this meeting with new ideas, renewed ambition and a determination to make the next year your most successful year as butter makers. You have an important task before you—to assist in the feeding of the millions across the seas, some of whom will surely want if you fail to do your utmost. Upon the cheese maker, upon the butter maker, upon each one of us rests the responsibility of rehabilitation and future peace.

I thank you.

---

MR. STROZINSKY: The convention is adjourned until 10 o'clock tomorrow morning.

---

### THIRD DAY'S SESSION, THURSDAY MORNING

February 6th.

Session convened and called to order by Chairman Strozinsky.

MR. STROZINSKY: We have with us again this morning, Mr. White, who will speak to us on "Sweet Cream Butter for the Navy."

## SWEET CREAM BUTTER FOR THE NAVY

WILLIAM WHITE, Dairy Division, Washington, D. C.

Up to the present time the manufacture of sweet-cream butter in this country has been limited largely to creameries having contracts with the Navy Department requiring that kind of butter and, therefore, is frequently spoken of as Navy butter. Before speaking specifically of the manufacture of sweet-cream butter for the Navy I ask you to give some consideration to the past history of butter and what lead up to the manufacture of butter from unripened, pasteurized, sweet cream.

In the days when our grandparents were young, winter dairying was practiced to a much smaller extent than today so that the people depended upon the summer season to produce butter for the entire year and during the winter fresh butter was very scarce. In those days very little was known about the factors that influence the keeping properties of butter. Pasteurization had not been adopted by the dairy industry; refrigeration at temperature as low as zero F. was practically unknown, and the modern creamery was an institution that had not yet come into existence. Butter, therefore, was made on the farm and was put down in brine to preserve it from summer to winter. Needless to say, when this butter was removed from the brine in winter it had a pronounced strong flavor. This, however, was not considered very objectionable because it was so prevalent and because there was very little butter without this flavor. In fact, this strong or rancid flavor, found in the stored butter, was commonly known as winter flavor. With the development of the creamery industry, however, butter became a more important article of commerce and was given greater attention by business men. At the same time agricultural investigations of all kinds were rapidly being extended. It is natural, therefore, that the preserving of butter from the period of great production to the time of small production should receive the attention of these investigators. The chemist and the bacteriologist set to work to find out what caused the development of undesirable flavors in butter, so that steps might be taken to remove these causes and thereby improve the butter's keeping properties. During the final decade of the last Century investigations of this subject



were especially numerous, but it was not until the early years of the present Century that these investigations were very fruitful of results. The conclusions of the early investigators were conflicting, but pointed to the importance of light, moisture, heat, oxygen in the air and micro-organisms as factors in causing the undesirable changes in butter. Because of its great economic importance, this problem was one of the first to be studied by the Federal Dairy Division.

There were received in the laboratories at that time some cans of butter that had been packed for use in the Tropics. On these cans were labels bearing the remarkable statement that as these cans were hermetically sealed the butter would keep sweet and fresh indefinitely. It was, of course, soon learned that, in spite of being hermetically sealed, the butter did not keep very long, and it was, therefore, quite evident that protecting butter from light and from the oxygen of the air was not sufficient to preserve its good flavor. In the experimental work that was done with butter packed in cans it was found that although bacteria were present in large numbers when the butter was fresh, the numbers decreased rapidly until at the end of about 100 days very few organisms, except the sport forming varieties were present, and that even after this time the butter continued to deteriorate; the conclusion was, therefore, that the development of the undesirable flavors could not have been brought about by the direct action of bacteria. It was found, however, that one of the factors responsible for increasing acidity in butter and producing rancidity was the action of enzymes. As enzymes can be destroyed by heat this factor is removed when cream is pasteurized.

One of the most objectionable flavors that was found to develop in storage butter was that commonly known as fishy flavor and this developed in pasteurized as well as unpasteurized cream. The investigations of the cause of this brought out the fact that the presence of acid in the cream is a big factor in the production of fishy flavor. It was found possible to produce fishy flavor at will by overripening cream both raw and pasteurized and overworking the butter. By overworking the butter additional quantities of air were incorporated in tiny particles so that there was a greater surface exposed to air, which permitted of more rapid oxidation. A relatively high acidity in the cream, however, was found essential to the development of this peculiar flavor. Butter made from high acid cream, how-

ever, does not always become fishy. This investigation disclosed the fact that butter does not during the usual storage period become fishy when made from pasteurized sweet cream. The investigations of the influence of acidity on flavor of butter were continued. Changes in flavor of butter made from high acid cream were not prevented by pasteurizing the ripened cream. Additional evidence pointing to acid as the agent causing changes was obtained by adding to pasteurized sweet cream various commercial acids such as hydrochloric, lactic and acetic. When cream acidified in this way was churned, the butter contained practically no products of fermentation nor enzymes. During storage, however, changes of an undesirable nature took place. These changes were of a progressive nature, very similar to those noted when butter was made from cream in which the acidity had been developed by ripening. It appears then that acid brings about or assists in bringing about a decomposition of one or more of the constituents of butter and that the decomposition products are of undesirable flavor. Just what the changes are that take place in butter, that is just what undergoes decomposition and the nature of this decomposition is a problem that has not yet been fully solved, but from the standpoint of the creameryman this is immaterial.

During two successive summers a total of 128 churnings of butter were made at three Minnesota creameries receiving a fine quality of whole milk and sweet farm skimmed cream. Butter was made from ripened raw cream, ripened pasteurized cream and unripened pasteurized sweet cream, and was all stored for a period of 8 months being scored before and after storage by judges of recognized ability. The following table shows the results.

AVERAGE DETERIORATION IN SCORE OF BUTTER AFTER STORAGE FOR  
8 MONTHS AT VARIOUS TEMPERATURES

Kind of Butter	No. of churnings	Average score of fresh butter	Points lost during storage		
			Stored at		
			0°F	10°F	20°F
Ripened raw cream .....	39	92.99	3.2	4.6	4.8
Ripened pasteurized cream ..	53	93.42	2.0	3.3	4.6
Unripened pasteurized sweet cream.....	36	93.82	.5	1.0	1.6

In this series of churnings the sweet-cream butter proved to have keeping properties markedly superior to those of the other kinds of butter used.

The fact has been established and has been demonstrated by ten years of experience that the butter that can always be depended upon to come out of storage retaining its high quality is that made from unripened pasteurized sweet cream.

As long ago as 1902 the Navy Department called upon the Department of Agriculture for assistance in obtaining a good quality of butter for storage, the Navy Department having found it expedient to procure and store a year's supply of butter during the period of heavy production. That was before we had any knowledge of sweet cream butter and the requirements of the Navy were merely that the butter must score at least 93 points. In spite of our careful selection of butter and rigid scoring, much of it when removed from storage was of inferior quality. But in 1909 the Navy adopted specifications prepared in the Dairy Division, requiring butter to be made from unripened pasteurized sweet cream, and these specifications, with only minor changes have been followed ever since. Following are the main points of these specifications:

## TINNED AND TUB OR CUBE BUTTER

### I QUALITY.

Shall be fresh butter, made from fresh pasteurized cream (held at a temperature of 145° F. for 25 minutes, or at 176° F. for an instant), none of which shall at any time contain more than 0.27 per cent of acid, calculated as lactic acid, for butter scoring 94, or 0.234 per cent for butter scoring 95; nor shall the cream contain more than 35 per cent butter fat.

Shall be strictly of the highest grade of creamery butter, at least two-thirds of which must score not less than 95 and the rest not less than 94 when made.

Moisture in the finished product at time of packing must not exceed 13½ per cent for tinned butter and 14 per cent for tub or cube butter. There must be no preservative used other than common salt, and that shall be at a rate giving not less than 2½ per cent or more than 3¼ per cent salt in the finished product at time of packing.

## II INSPECTION AND TESTS.

The ingredients, manufacture, sanitation, packing, boxing, marking, and shipping of the butter shall be subject to inspection by Government inspectors, who shall have full authority to reject any package or lot of milk, cream, or finished butter, and to enforce compliance with the requirements of these specifications as well as to demand first-class work in every particular.

The Government inspector shall make all the necessary tests to determine that the acid in the milk or cream and the salt and moisture contents in the butter are within the limits specified.

The specifications, of course, can not be met by every creamery, and the limit on the acidity of the cream automatically excludes a great many. The statement:—"cream, none of which shall at any time contain more than .27% of acid," means that no single can or lot of cream shall contain more than that percentage. As a matter-of-fact most cream of an acidity approaching the higher limit—.27%—is rejected because, in developing this much acid, undesirable flavors have also developed. Vat tests, therefore, are nearly always below .2% acid.

To the butter maker not experienced in close control of the composition of butter the salt and moisture requirements may appear formidable. Our experience with several creameries over a period of ten years and with more than a hundred plants last year have taught us that regardless of where the creamery may be located and regardless of the season of the year, it is a simple matter to make butter containing not to exceed 13½% moisture. Maintaining the salt content between 2½ and 3¼% is just as easily done. Many men learned to make butter by methods that insure a high moisture and have followed this practice so long they do not know how to modify the method in order to get butter with a low moisture. About two days instruction and demonstration at each of some seventy-five creameries last summer was sufficient to enable the butter makers to make consistently butter with not to exceed 14% moisture. This low moisture is obtained not by working the moisture out but by controlling churning conditions. All that is necessary is to use such a churning temperature as will prolong the churning period to about *one hour*, to stop the churn when the granules are the size of wheat kernels, wash with water that will keep the butter firm, usually 2 to 4° F. colder than the buttermilk, drain

thoroughly and work merely enough to properly incorporate the salt. In most styles of churns it is necessary to drain through the doors in order to remove the excess moisture completely.

The per cent of butter fat in buttermilk from sweet cream is greater than that from sour cream when other conditions are equal. But I have already mentioned that when making sweet-cream butter a lower churning temperature is used. This factor results in lowering the per cent of fat in the buttermilk so there is no greater loss than when sour cream is churned. Records of one creamery for 3 years show the average per cent of fat in the sweet-cream buttermilk as determined by the Babcock test to be approximately .1 of one per cent. When comparing fat losses in percentages, however, it should be borne in mind that when starter is used in cream the quantity of buttermilk is materially increased so that a loss of .1% from starter ripened cream usually means a loss of more pounds of fat than a .1% loss from sweet cream. I am assuming that skim milk used for starter always contains much less than .1% fat. To the creamery receiving whole milk or sweet cream there is no great difficulty in complying with Navy specifications and the objectionable features and extra expenses are very slight. The Navy Department wants sweet-cream butter of a certain composition and is willing to pay a price that will amply repay the creamery for the extra care that must be exercised and for the loss in overrun due to the low moisture content of the butter. To the creamery receiving first-class raw material, making Navy butter is a good business proposition as the net receipts usually are equivalent to at least one cent a pound above the price obtainable from other outlets.

Each spring the Navy Department sends to creameries that may be interested copies of these specifications together with a form on which a bid may be submitted for a certain number of pounds of butter, 50,000 pounds usually being the minimum, to be made in accordance with requirements and within a certain period of time. Those who are awarded contracts are required to furnish a bond to guarantee the fulfillment of their obligations.

The manufacture and packing of the butter is supervised by the Dairy Division. An inspector is sent to each creamery and a careful inspection is maintained of all factors affecting the quality of the butter. Acidity tests of the cream and moisture and salt tests of each churning of butter are made. The cream



is carefully examined as to flavor and a score is placed upon the butter. The inspector is required to reject every can or vat of cream or churning of butter that does not fully come up to specifications.

Last summer of 16,479 churnings offered only 853 or 5.2% were rejected, just half of these were on account of high acid. This is a very creditable showing for the creameries, the butter makers and the patrons of creameries making Navy butter.

During each packing season from 1909 to the present time sample cans, tubs or cubes of butter have been taken, sometimes from each churning and at other times daily or weekly. These samples have been handled and stored in the same way as the other butter and kept in storage for a period of about 8 months, at the end of which time they have been examined to determine the quality and the amount of deterioration that has taken place. The following table summarizes these data:

NAVY BUTTER, QUANTITY AND QUALITY

Year Made	Number of creameries	Total pounds	Average score when made	Average score after storage	Average points lost
1919.....	5	770,022	94.92	90.90	4.02
1910.....	7	702,000	94.78	91.75	2.98
1911.....	5	612,000	94.75	92.37	2.38
1912.....	6	612,008	94.54	91.77	2.77
1913.....	5	580,000	94.83	92.25	2.58
1914.....	6	990,784	94.90	92.74	2.16
1915.....	5	815,125	94.91	91.64	3.27
1916.....	3	700,270	94.92	93.88	1.04
1917.....	17	3,100,763	samples not scored		
1918.....	119	9,326,204			
		18,209,176	94.81	92.16	2.65

For the 8 years that samples were scored the average score after 8 months of storage was 92.16 points; that is, it was still in the grade "Extras." Is there any other class of butter that can be depended upon to equal this record?

On one occasion a case of sample tins having been in cold storage about 5 months was by mistake removed and kept in a ware room at a temperature of about 60° F. for 3 months. These and other samples of Navy butter were scored at the same time and the average score of this case of samples was 92.5 or only a half point less than the average for the samples taken at the same creamery and held in cold storage until scored.

The commercial advantages of a product with such keeping properties are being recognized and characteristics that were considered to be commercial disadvantages are found under proper marketing conditions to be no disadvantage at all. I refer mainly to the lack of aroma and to the low flavor and absence of acid flavor that are characteristic of sweet cream butter. From our experience in selling sweet cream butter directly to the consumer we have concluded that the nose aroma, which is given so much consideration by the butter judge and dealer is an inconsiderable factor to the consumer. Also that this mild butter with its fresh, rich, sweet, creamy flavor meets the flavor requirements of most people who demand high grade butter.

One of the large creamery companies on the West Coast that sells butter through the Southwest where high temperatures prevail through most of the year, is using sweet-cream butter for that trade because, in spite of exposure to high temperatures in the local stores and in the homes it retains its fine delicate flavor.

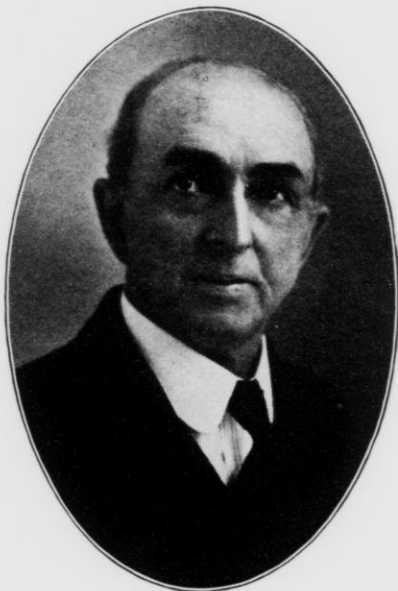
A few dealers and distributors in the East are also handling sweet-cream butter and report that the retailers who once try it almost invariably continue to use it because its quality satisfies the most critical customers, it is perfectly uniform from day to day and from season to season and does not get strong or go off flavor before the consumer uses the last of the package.

Ten years ago the Dairy Division of the United States Department of Agriculture first recommended the manufacture of butter for storage from unripened pasteurized sweet cream because investigations had shown that such butter during the normal storage period underwent but little change. This attracted but slight attention in the commercial world and for a number of years very little of it was made except a half million to a million pounds annually for the Navy Department. Those who have had an opportunity to see this butter, however, have been impressed with its desirable characteristics and commercial possibilities with the result that during the past three years, it has been used in the regular channels of trade in increasing quantities. The indications are that, in the near future, a grade known as "sweet-cream butter" will be recognized officially. Creameries that can obtain whole milk or sweet cream have an opportunity to place their product upon the market in the form of sweet-cream butter—a product of outstanding merit that at present is very limited in quantity because the quantity of raw

material available for it forms perhaps only 5% of all the raw material used for butter making. The opportunity is great for these relatively few creameries that are so fortunate as to be in this class and I recommend to their careful consideration the manufacture of sweet-cream butter.

---

MR. MORRISON: Before the next speaker is called I would like to produce a letter that I received a few days ago from Chas.



E. J. MORRISON, President  
Chetek, Wisconsin

H. Liehe, Secretary of the Northern Wisconsin State Fair. Will the Secretary please read it?

(Mr. Benkendorf read the following letter.)

E. J. Morrison,  
Chetek, Wis.

Dear Sir—At the meeting in Eau Claire next week—I wish your association would select some one who would and could act as Superintendent of the Dairy department for the Northern Wisconsin State Fair next September. If you select more than one I will present the names to the board of Directors and they will choose one of that number. In making your selection I wish you would choose some one that is also a cheese man because the cheese exhibit is growing larger, and my aim is to work the Butter and Cheese exhibit up to where the Fair

Association would have to build a dairy building and with the help of your association I think this could be accomplished in a few years.

Yours Truly

CHAS. H. LIEHE

MR. BENKENDORF: I have been requested to make an announcement. In other states they have what are called Butter Makers' Associations, Creamery Managers Associations, Creamery Owners Association. I have been requested by two or three members to see whether or not several owners and managers in our state want to form a similar organization. It has been suggested that all of those who are interested in the formation of such an organization meet in this hall at one o'clock this afternoon. Please remember one o'clock this afternoon. I have been requested to make this announcement. All managers that are present and owners of factories are respectfully invited to be present.

MR. MORRISON: The next on our program is the "The Butter Makers' Responsibilities During the Years of the War." by a gentleman who hardly needs an introduction to the Butter Makers of Wisconsin—Ex-President of the Association, Mr. Allan Carswell of Clear Lake.

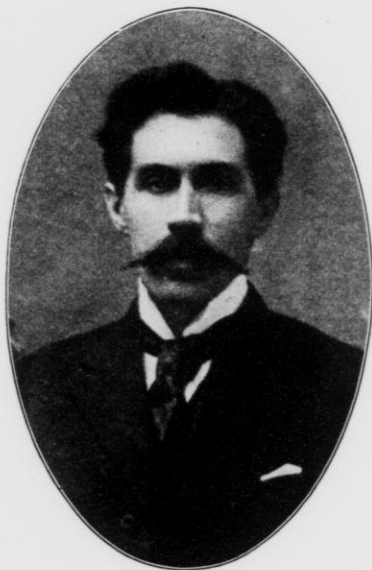
MR. CARSWELL: I assure you it is a great pleasure to come before you. After twenty years in the creamery business I have come to the conclusion, quite recently, I would have to sever my connection with the creamery business as a butter maker owing to the expense that I have in keeping up. I have an average American family and it is impossible for me to stay in my present position any longer, consider my family and bring them up and give them the education they are entitled to. It is my lot to make that decision either in the creamery business for myself or some other line of business. What it will be I have not decided as yet.

I hope you will bear with me for a few minutes. The size of the paper I am going to read has nothing to do with the length of the speech for I assure you most of it is copy.

## THE BUTTER MAKERS' RESPONSIBILITIES DURING THE YEARS OF THE WAR

ALLAN CARSWELL

"The responsibilities placed upon the butter makers during the years of the Great World War have been almost without number and they have carried them successfully through the long dreary years, the younger men, by a large percentage of



ALLAN CARSWELL  
Clear Lake, Wisconsin

them joining the Army and Navy, crossing the seas and doing their bit to make this old world a better place to live in.

"The calling of the younger men to the service of their country worked considerable hardship for it has been almost impossible to procure experienced helpers during the last two years and unskilled help commanded wages that were equal to what many butter makers were receiving in many of the smaller creameries of the State.

"What the above condition meant to men who were operating creameries for a fixed salary, they to furnish all necessary help



is well illustrated by the case of a creamery in the Northern part of the State, this creamery makes about 250,000 lbs. of butter a year and pays a salary of \$1800 per year, this butter maker had a helper for six months at \$75.00 per month and in September on his helper being called to the army he commenced to do all the work alone, making 75 tubs of butter a week, receiving cream daily, also testing same daily, and pasteurizing same. That it is possible for a man to do justice either to himself or employers under such circumstances is impossible yet he was forced to get along without any assistance if he was to have a living wage left for himself and family.

"The need of an immense amount of butter for the Navy, the personnel of which had more than quadrupled in the first few months after we entered the war, made it necessary in the Spring of 1918 to call on the creameries to volunteer to make butter that would comply with the rigid specifications required by the Navy. In the Middle West, Minnesota made the best showing in the amount of butter furnished but we have a small creamery section up in Polk County that furnished some 463,000 pounds and the butter makers who made this butter are as follows: Peter Kristensen, Cushing Creamery, B. J. Lindvig, Milltown Creamery, Chris. Back, Luck Creamery, Elmer Erickson, Bone Lake, Creamery, I. S. Larson of the Eureka Creamery, Wood River Creamery and the Atlas Creamery. These men demonstrated that it is possible, (where farmers have the real cooperative spirit) to make butter from hand separator cream that will come up to the most exacting requirements, and the experience and profit they and their creameries have gained cannot be measured in mere dollars and cents.

"The question might be asked why it is that only five creameries in the great Dairy State of Wisconsin answered the call to make butter for the Navy and at the conclusion of this short address we should like to have a little discussion on this question.

"The high cost of all creamery supplies and the difficulty of obtaining many of them at any price, the Government regulations on coal ammonia, together with the demoralized conditions of the service rendered by the railroads in carrying the butter to the large distributing centers and delivering much needed supplies to the creameries were all contributing causes for much extra work and worry.

"Competition with cheese and condensed milk have caused the closing of many small creameries and have also kept a good many butter makers awake nights figuring how they were going to meet the prices and keep their patrons in the face of this new competition, however, the creamery business in line with every other industry is fast getting back to a pre war basis and I am confident that it will in the future as in the past more than hold its own against all competitors.

"The last but most important responsibility of the butter maker personnel has been that of feeding and clothing his family during three years of war prices, during which time food products have been 50% to 85% above normal prices and clothing has been up to 100% higher, and he has had to do this on a salary that with very few exceptions has not been increased and we have been practically the only class of men in the dairy industry that failed to get their wages increased. The fact that the butter makers stuck by their creameries when they could have made more money by entering other lines of war work showed that they were loyal to the industry, it also illustrates the fact our organization is not fitted as organized at present to be of any particular benefit and the sooner it is remodeled into a real working association that will protect its members and place the trade of creamery operating on the plane where it belongs the better it will be for the whole creamery industry."

MR. CARSWELL: My object in reading this paper, if I were going to continue in my present position I probably would not have said something already said and may not something that I might say, because as you all know, it is natural in men to be more or less selfish and we are all more or less selfish. I want to thank you at this time for the honor that you have given me in the past. There are very few conventions that I have missed since it started in Milwaukee and you all know years ago I tried to start something along this same line. That is one reason today, gentlemen, that Minnesota was able to come across when the time came and the country needed the butter for the Navy. They were there with the goods and had the butter to deliver. They also had the men in their business that are loyal to their country. Now somebody will say, here Carswell is knocking Wisconsin. Wisconsin is the state where I have made my bread and butter for the last eight years and brought up my family and I have lots of respect for the good old State of Wisconsin, but

don't let us be too selfish and just think that Wisconsin is all, and Minnesota and these other states don't amount to anything, just because we make more butter and cheese in Wisconsin. If we can learn anything from these other states, if they have pointed out the way right over there in Minnesota that the butter makers must form an association that will be a real association let us do so. We have all got to work together to a common end. My interests will not be quite with you any more, my interest to a certain point will be identical but there are certain conditions there that my interests and your interests as men working in the creamery will not be identical if I should buy a little creamery of my own.

They have good things they want to talk over and have an organization to protect them in every particular section of this creamery business and the cooperative men have their organization and they are all working to a common end but you have got to have your own organization. We can all meet together but the sooner we come to the idea that each organization works for itself because we have ideas and interests that are common to one. But what is beneficial to the one section in the creamery industry may not be so to the other section and there are conflicting ideas there that you can work out. But if each section of this industry gets together to work out their own salvation we will all come out a good deal better in the end for it. I want to say in conclusion, I did this to start something and I am not going to have much more to say.

#### DISCUSSION.

MR. COLWELL: I think Mr. Carswell's idea is that the butter makers haven't received an increase in salary in proportion to what the farmer has received for his cream, I think that is the idea of Mr. Carswell.

MR. CARSWELL: That is my idea, Mr. Colwell. The increase in the price of cream that the farmer has received before the war and now has been around fifty per cent. For instance, five years ago the average creamery report shows the average price for butter fat was from thirty-two to thirty-five cents a pound. This year many reports show that they are running from fifty to fifty-five cents a pound and that is about fifty per cent. I think I can agree with Mr. Colwell that the

butter makers have not had an increase in wages for the last four years, while the farmer has.

MR. LEE: A young man in Wisconsin walked in my office about Christmas time and he said: "My salary as a butter maker in a cooperative creamery in Wisconsin for the month of November paid \$232.00, and some cents."

MEMBER: He has nothing to kick about. That man, Mr. Lee, spoke of receiving \$200.00, is an exception, there are some men in some professions that are made to rise clear above their fellows. You have got to work out your own salvation; the farmers aren't going to work it out for you. You have to study your own condition and you have got to be the salesman and sell your own services at the highest price, the same as butter.

MR. SPIERS: Mr. Carswell has started something that I think is along the right line. I think I know what I am talking about and the trouble with the butter makers is with themselves. You all know you get located in a creamery. You get to doing good work and you will get a fair salary. There is some new man who wants your job at less money and the butter maker asks for more salary from his board of directors and somebody there thinks the helper can do the job and do it for less money. Now I would like to see a close knit organization of the butter makers, formed in this state. I am an employer of butter makers, it would be of benefit to me. I have long contended that the butter making industry should have such an organization. I have thought and I believe I helped start the licensing in this state because I thought it would give us better butter makers. It would protect the old experienced butter makers against the help that they think can make butter. I would like to see the creamery business and butter makers graded as school-teachers are and paid according to their grade, and I think Mr. Carswell has started something right along the right line.

MR. MORRISON: I am sorry that I could not take in all of Mr. Carswell's paper, it is not Mr. Carswell's fault, but my head is in such condition that I couldn't hear. I am satisfied it is along the right line because we have talked these things over a number of times and I have always contended that this should be a butter makers' convention more in the true sense of the word more than in just simply in name only.

I want to take up a few minutes more of your time, I want to take this opportunity of expressing my thanks as Mr. Cars-

well did to the members of the Wisconsin Butter Makers' Association for the confidence they have reposed in me to elect me three successive years to the office of president. I want to say further that I can't any more class myself as a butter maker. I am in the same condition as Mr. Carswell, as a citizen of the State of Wisconsin, the greatest dairy state in the union, I shall always have a deep interest in the creamery as well as the welfare of the butter makers and I shall always consider it a pleasure to be at your meetings. If you should organize so as to exclude me from membership I should like to come certainly as an interested spectator.

MR. BENKENDORF: Since Mr. Glover spoke yesterday there has been considerable interest in the Wisconsin Dairy Council. We are informed that Mr. McCarthy of Chicago, who purchased the exhibition butter for 42c a pound has resold the butter to Mr. Speirs of the Eau Claire Creamery Co., for 43c, and that he will not take any profit personally but will allow the Butter Makers' Association to profit to that extent. I understand that Mr. Keppel has a motion that he would like to present at this time.

MR. KEPPEL: I have been very much interested in the Wisconsin Dairy Council and believe that it is a good thing to push along. After consulting several members of the association I am ready to make the following motion: "That the amount of the proceeds received from the sale of this exhibition butter to the Eau Claire Creamery Company at the rate of 43c per pound be turned over or donated to the Wisconsin Dairy Council and that the creamery managers or creamery companies of the members exhibiting the butter be asked to donate the \$10 due them from the premium fund; it being understood that if the creamery company does not care to do so and will ask the butter maker to pay for the tub of butter then the butter maker be given the \$10 as per agreement announced in the program.

This motion was seconded.

MR. SPEIRS: "I may say that it will be a pleasure for me to help the Wisconsin Dairy Council along in every way possible. I also want to say that if I make any money on the sale of the butter above the 43c that I will cheerfully donate this amount to the Wisconsin Dairy Council."

MR. BENKENDORF: "There is just one point that I want to speak about and that is that there ought to be a time limit placed



on the time that we expect the butter makers to notify us in case the creamery companies do not care to contribute or are not able to contribute. If a time limit is not placed some member, next July, will come along and say he wants that \$10 and we may have turned it over to the Council. I therefore think that we ought to place a time limit at March 1st so that if any butter maker cannot convince his manager that he ought to contribute the butter to the Wisconsin Dairy Council that the butter maker will get the \$10 which he is entitled to."

MR. KEPPEL: "I will modify my motion to that extent because I feel that it ought to have a time limit."

The motion was then restated and carried unanimously.

MR. MORRISON: We have a little more business, if the committee is ready to report we will hear the Resolution Committee.

(Mr. Robert Carswell on the Resolution Committee read the following resolution.)

RESOLVED, that we appreciate highly the many courtesies extended to us by the Civic & Commerce Association, and the citizens of Eau Claire in their efforts to make our stay during this convention agreeable, and the thanks of this association is hereby tendered to them in recognition of their efforts.

We appreciate the hospitality of the Elks in opening to us their club house and in giving us an entertainment, and we hereby tender our thanks to them for their good fellowship and hospitality.

WHEREAS, the Eau Claire Creamery Company has given the use of their cold storage facilities for the care of the butter exhibit, and in many other ways, have done what they could to make this convention a success. Therefore, be it resolved that the thanks of this association are due and are hereby tendered to the Eau Claire Creamery Company.

WHEREAS, it is a matter of regret, that our president, Mr. Morrison, has been unable to be with us during the sessions so far, and it is the hope of the association that he will speedily recover his health, and that his presence with us this morning, will not endanger the same; as an association, we appreciate his services as president.

The Wisconsin Butter Makers' Association has a reputation for holding successful conventions, and the present convention is no exception to the rule. We hereby tender our thanks to the

officers for their efforts, and to the speakers who have without exception been present to take their allotted parts.

WHEREAS, God in His Providence, has seen fit to remove from the scene of his earthly labors, the Honorable W. D. Hoard, Wisconsin's foremost citizen and the world's greatest exponent of better dairying, therefore, be it resolved, that in the passing away of Hon. W. D. Hoard, we have sustained a distinct loss and we hereby tender his family our sincere sympathy; be it further resolved that a copy of this resolution be forwarded to his family.

WHEREAS, for many years, the Wisconsin Butter Makers' Association had a strong and steadfast friend in the person of Honorable S. A. Cook, who never failed to show by word and deed his sympathy with the butter makers in their search for better and higher things, and a tangible expression of his sympathy with the butter makers, was the presentation each year of four handsome chairs for the prize winners at the convention; we desire to express our sincere regrets at his passing away, feeling that in him we have lost one of our best friends, and we hereby tender to his family our sympathies in their bereavement.

WHEREAS, there has been a great deal of discussion, pro and con, on the benefits of the law requiring the branding of the butter made from whey cream, and believing that the best interests of the butter makers will be served by the retention of said law; therefore, be it resolved, the secretary be instructed to inform the legislature that this association as a body, does not favor the repeal of the said branding law.

WHEREAS, there is in this state, a new organization named the Wisconsin Dairy Council, organized for the purpose of promoting a knowledge of the benefits to be derived from the use of dairy products, and whereas, the recent discourses as to the value of dairy products in the promotion of growth and health, needs to be disseminated to the public through some agency; therefore, be it

RESOLVED, that this association heartily favors the work proposed to be done by the Wisconsin Dairy Council, and pledges its support in promoting the work of the Council.

WHEREAS, the Standards Committee has issued a tentative standard of 82% for butter, and whereas at the meetings called by this said committee, all the evidence presented was in favor of an eighty per cent standard, and believing that the best interests of the dairy industry will be served by fixing an 80%

standard, which is in harmony with the standard of most foreign countries, with whom we hope to do an export business, and whereas, the incorporation of 2% more fat in the butter, will only serve to extenuate the world scarcity of fats, be it resolved that this association protest against the fixing of an absolute eighty-two per cent for a standard, and urges the fixing of a standard at eighty per cent.

WHEREAS, the exhibition butter at this convention was sold to the firm of J. V. McCarthy & Company of Chicago, and whereas the said firm has resold the butter to the Eau Claire Creamery Company at an advance of one cent per pound, and donated this advance in price to the association; therefore, be it

RESOLVED, that our thanks are tendered to Mr. McCarthy for his very generous act.

We hereby tender our thanks to the delegation of commission men from Chicago and Boston, who so generously helped to make the entertainment of last evening at the Elks Club a success.

WHEREAS, the work of the Dairy and Food Commission has been steadily increasing without any increase on the force of the commission, and whereas we believe the best interests of the dairy business in the State of Wisconsin would be served in the increase of the force of inspectors; thereby be it

RESOLVED, that we hereby request the legislature to increase the appropriation received by the Dairy and Food Commission, by the sum of Fifty thousand dollars.

Motion made, seconded and passed unanimously for the adoption of the above resolution.

---

MR. MORRISON: We will now hear the report of the Secretary and Treasurer.

MR. BENKENDORF: I have here a typewritten report which will be printed. I will read the summary.

# SECRETARY'S REPORT

## STATE FUND

1917		Dr.	
Oct. 29	Reported at Milwaukee .....		\$ 768.17
1918			
July 1	By State Bounty .....		600.00
			<hr/>
			\$1,368.17
		Cr.	
1917			
Oct. 16	G. H. Benkendorf, salary as secretary .....		\$ 275.00
16	Fred M. Werner, salary as treasurer .....		25.00
	Wolff, Kubly & Hirsig, Madison,		
	8 sets Community silver \$64.80		
	1 clock 8.50		
			<hr/>
			73.39
Dec. 19	Miss E. M. Henwood, Clerical help .....		2.45
1918			
Jan. 3	State Printer—Pig Poster. Cuts .....		20.83
	Printing and material .....		18.19
	Tinning .....		4.50
	Stamps for mailing poster .....		20.00
Apr. 3	Printing 1000 envelopes .....		1.29
	L. W. Brown, photographer, enlarging two pictures for Pig Poster .....		3.50
Nov. 30	Victor Mauerseith, Madison,		
	4 watches .....\$98.00		
	8 sets knives and forks ... 82.00.....		180.00
	G. H. Benkendorf, expenses attending Dairy Council meeting at Oconomowoc .....		22.85
1919			
Jan. 11	Whitehead & Hoag, Newark N. J., Badges ....		70.65
			<hr/>
			\$717.56
Feb. 1	Balance on hand .....		650.61
			<hr/>
			\$1,368.17

## GENERAL FUND

### Receipts

1917			
Oct. 9	Balance reported at Nat'l convention, Milwaukee....	\$525.93	
29	Interest on money in bank .....	27.78	
29	Sold, 1 thermos bottle .....	2.00	
1918			
Mar. 29	Sold, 3 Pig Posters Fairmont Cry. Co., Buffalo, N. Y.	1.00	
Apr. 3	Sold 3 Pig Posters .....	1.00	
Oct. 30	Sold 75 Pig Posters .....	15.00	
Nov. 21	Marschall Dairy Laboratory, 1 page advertising .....	10.00	
Dec. 20	H. C. Christians Co., Contribution to Butter maker Fund .....	15.00	
20	North Star Chem. Works, 1 page adv. ....	10.00	
Nov. 21	Menasha Printing & Carbon Co., Contribution to Butter maker Fund .....	20.00	
21	Menasha Printing & Carbon Co., 1 page adv. ....	10.00	

1919

Jan.	11	Diamond Crystal Salt Co., Contribution .....	\$10.00
	20	John Bahan Mgr., Patch Grove, Wis., Contribution .....	5.00
	25	Clifford L. Niles Co., Anamosa, Ia., 1 page adv. ....	10.00
	25	Lesserman Bros., Chicago ½ page adv. ....	5.00
	25	Butter, Cheese & Egg Journ., 1 page adv. ....	10.00
	25	Elgin Butter Tub Co., Elgin, Ill., 1 page adv. ....	10.00
	25	Northey Mfg. Co., Waterloo, Ia. ½ page adv. ....	5.00
	25	Gallagher Bros., Chicago, 1 page adv. ....	10.00
	25	Gallagher Bros., Contribution .....	10.00
	25	H. C. Christians Co., Johnson Creek, 1 page adv. ....	10.00
	25	Dairy Supply Co. Minneapolis, ½ page adv. ....	5.00
	25	Galloway Hotel, Eau Claire, 1 page adv. ....	10.00
	25	Wells, Richardson Co., Burlington, 1 page adv. ....	10.00
	25	Atlantic & Pacific Tea Co., Chicago, 1 page adv. ....	10.00
	25	Picken, Ullman Co., New York, 1 page adv. ....	10.00
	25	Vilter Mfg. Co., Milwaukee, 1 page adv. ....	10.00
	25	Bowman Dairy Co., Chicago, 1 page adv. ....	10.00
	25	Wis. Dairy Sup. Co., Whitewater, 1 page adv. ....	10.00
	25	Fitch, Cornell Co., New York, 1 page adv. ....	10.00
	25	Waskow Butter Co., Chicago, 1 page adv. ....	10.00
	25	Creamery Journal, Waterloo, Ia. Contribution ....	5 00
	28	Preservaline Mfg. Co., Brooklyn, N. Y., ½ page adv. ....	5.00
	28	De Laval Sep. Co., back page adv. ....	15.00
	28	George C. Mansfield Co., Milwaukee, ½ page adv. ..	5.00
	28	Sturgis, Burns Mfg., Chicago, 1 page adv. ....	10.00
	28	J. G. Cherry Co., Cedar Rapids, Ia., 1 page adv. ....	10.00
	28	Fox River Butter Co., Chicago, 1 page adv. ....	10.00
	28	Geo. P. McCabe & Son, New York, 1 page adv. ....	10.00
	28	C. G. Heyd & Co., Philadelphia, ½ page adv. ....	5.00
	28	Dilliman & Co., Chicago, ½ page adv. ....	5.00
	31	Interest on money in bank .....	20.45

---

\$918.16*Disbursements*

1917

Oct.	16	G. H. Benkendorf, office expenses .....	\$49.74
		Tracy & Kilgore, Printing .....	8.75
	22	H. E. Griffin, Mt. Horeb, Expenses Executive meeting .....	2.00
	31	J. A. Ford, Rent of typewriter for Sparta convention .....	2.00

1918

Jan.	13	Louis Otto, Neenah, Flowers for S. A. Cook .....	4.25
Apr.	18	Butter, Cheese & Egg Journal, Milwaukee, 300 reprints—Value of Skim Milk as Food .....	12.00
	19	Prof. E. H. Farrington, Expenses attending Dairy Conference, Chicago .....	11.49
May	1	Louis Otto, Neenah, Flowers for S. A. Cook funeral .....	3.00
			8.23
June	29	G. H. Benkendorf, office expenses .....	31.82
	29	J. G. Moore, transfer from state fund to general fund .....	
July	21	G. H. Benkendorf, expenses attending hearing before legislative committee, Milwaukee .....	11.82
Oct.	30	Grimm Book Bindery, binding 2 volumes of annual reports .....	2.50

Feb. 1, 1919, Balance on hand ..... \$ 147.60  
770.56

---

\$918.16



# PREMIUM FUND

## Dr.

1918		
Oct. 9	Balance reported at Milwaukee Nat'l convention...	\$ 607.47
Nov. 20	Interest on Liberty Bonds .....	20.00
20	Donation, Chris Hansen Laboratory .....	10.00
		<hr/>
		\$637.47

## Cr.

1917		
Oct. 9	F. M. Werner, Treas. 5 Liberty Bonds.....	\$500.00
Feb. 1, 1919,	Balance on hand .....	137.47
		<hr/>
		\$637.47

## Summary of Cash on Hand

Feb. 1, 1919.		
	On Hand, State Fund .....	\$650.61
	On Hand, General Fund .....	770.56
	On Hand, Premium Fund .....	137.47
		<hr/>
	Total on hand .....	\$1,558.64

MR. MORRISON: You have heard the report of the Secretary, what is your pleasure?

MR. BENKENDORF: Mr. Werner has a report to make and these two are usually acted upon as one report.

MR. MORRISON: The treasurer will then read his report.

# TREASURER'S REPORT

MR. WERNER: I have the following report to make.

## GENERAL FUND

Balance Milwaukee Convention .....	\$525.93
Interest .....	48.23
Thermos Bottle .....	2.00
Posters .....	17.00
Donations .....	55.00
Advertising Eau Claire Convention .....	270.00
	<hr/>
Total .....	\$918.16

## Disbursements

Orders drawn by Secretary .....	\$147.60
Balance .....	<hr/>
	\$770.56

**PREMIUM FUND**

Balance Milwaukee Convention .....	\$607.47
Donation .....	10.00
Interest Liberty Bonds .....	20.00
Total .....	<u>\$637.47</u>

*Disbursements*

Liberty Bonds .....	500.00
Balance .....	<u>137.47</u>

**STATE FUND**

Balance Milwaukee Convention .....	\$768.17
Allowed by State .....	600.00
Total .....	<u>\$1,368.17</u>

*Disbursements*

Orders drawn by State .....	717.56
Balance .....	<u>\$650.61</u>

**RECAPITULATION**

General Fund Balance .....	\$770.56
Premium Fund Balance .....	137.47
State Fund Balance .....	650.61
Liberty Bonds .....	500.00
Balance in Treasury .....	<u>\$2,058.64</u>

MR. CORNISH: The executive committee examined the books last night and found them correct. We signed the books accordingly.

Motion made and seconded and passed unanimously that the report of the secretary and treasurer be adopted.

MR. MORRISON: I have asked Mr. James G. Moore to occupy the chair as our friend Mr. Shilling is not with us and he has acted in that capacity.

MR. MOORE: I would like to say this, owing to the fact that Mr. Shilling's health is very bad at the present time, he is unable to be present here and I think it is no more than Mr. Shilling's due that we include him in some form of resolution and show him we have appreciated him in the past and regret his absence now.

I want to read you a resolution we have prepared.

WHEREAS, for many years we have had the pleasure, at our conventions, of the presence of our old friend, Sam Shilling,

one of the first, if not the first, creamery butter maker in the United States; and,

WHEREAS, Mr. Shilling is now in Florida on account of his health, therefore be it

Resolved, that this Association regrets the absence of Mr. Shilling at this Convention, and the Secretary is hereby instructed to forward a copy of this resolution to Mr. Shilling.

Motion made, seconded and passed unanimously for the adoption of the above resolution.

MR. MOORE: The first business we have to follow today is who will you have to succeed Mr. Morrison?

Motion made, seconded and carried unanimously for the election of Mr. J. H. Moran.

J. H. MORAN: Ladies and Gentlemen: It has been my experience that the Wisconsin Butter Makers are rather a persistent bunch and I may as well appear on the scene without a more pressing invitation. I can promise you that what I have to say at present will be but a very few words but I wish to let you know I appreciate your action in this matter and I hope that you will not regret it. The Wisconsin Butter Makers have had a very enviable reputation in the past and while you may no doubt, as has been said, hear some matters discouraging, I think the only thing for us to do is to have the continued faith in our industry and I am sure it will come out all right, during the first period of reconstruction I think we ought to go to our work with renewed vim. All the world is looking to the United States at the present time on account of the tremendous things that our country has done in the two years past. I can think of no greater responsibility and a greater part of this work falls upon the Wisconsin Butter Makers. You people here who represent this great industry of the State of Wisconsin, to be tendered this position of honor by your association, is a matter that cannot be passed on lightly, and I can accept it only with considerable misgiving and regret as I realize my inability to serve you as I think the Butter Makers of Wisconsin are entitled to be served. I have nothing to promise you further than that I will extend my best efforts, giving each one of you a square deal. With this purpose in view and a good liberal amount of indulgence on your part I think we can get through in some shape, I assure you I appreciate the action of my friends and the confidence you have expressed, and I thank you gentlemen.

MR. MOORE: The next officer to be elected is the Vice President:

Motion made, seconded and carried unanimously for the election of Mr. T. B. Towle of Baraboo.

MR. T. B. TOWLE: My name is Towle and I am sure he is your tool. You will be just as unexpectedly pleased with my short address. I thank you.

MR. MOORE: The next to be elected is Secretary; who will you have in the place of Prof. Benkendorf?

Motion made, seconded and carried unanimously that Prof. Benkendorf is to succeed himself. We now declare Secretary Benkendorf reelected.

MR. BENKENDORF: I appreciate the honor very much, this is the tenth time you have elected me secretary. I remember several years ago Mr. Moore was secretary for five years and I thought that a wonderfully long time. I had hoped when I was first elected that I would be able to meet Mr. Moore's record. I thank you for the honor.

I am well satisfied with this convention. I felt confident that we would have a good convention in the northwest. We appreciate the hotel facilities are not as good as they might be. I thank you all for the support that you have given me. I always try to have a slogan in my newspaper articles and I always ended my little articles, "You will be sorry that you missed Eau Claire." I hope you will go back with that message and tell the boys at home.

Motion made, seconded and carried unanimously that Mr. Benkendorf act as representative of this Association to the Wisconsin Dairy Council.

MR. MOORE: Who will you have as treasurer?

Motion made, seconded and carried unanimously electing Mr. Fred Werner as treasurer.

FRED WERNER: I wish to thank the Association for the honor. Go ahead with your program, it is dinner time.

(Mr. Benkendorf at this time awarded the prizes to the winners. The names of the prize winners are given in the back of this report.)

MR. MORRISON: We will adjourn until two o'clock.

## THURSDAY AFTERNOON SESSION

2:00 o'clock

Meeting called to order by President Morrison.

Vocal solo by Mr. Barrett, also singing by the Convention lead by Mr. Barrett.

MR. MORRISON: Gentlemen, we have a subject this afternoon that you will hear discussed from both standpoints, on the use of neutralizer in cream. Two speakers as I understand speaking for and two against. The first paper, "Is Neutralization a Factor in the Making of Good Butter," by Mr. C. E. Lee, of Madison.

MR. LEE: Mr. Chairman, ladies and gentlemen: When your secretary, some two months ago was getting ready for this program, he came down to my office several times to talk the matter over in order that we might have a program up here at Eau Claire that was worth while. We discussed this subject and he made the suggestion that I be the one to take the affirmative because he said the boys in Wisconsin know where I stand. I felt like saying this to him—because I have during the past few years had the opportunity of going before several judges in the state of Wisconsin, and I have had the opportunity of getting before several juries and when we had our splendid case at Madison, it took us four days to decide, a case where oleo was sold in imitation of yellow butter, I wish it would have been possible for every man here to have been present at that trial. Naturally the attorney on the side of the defendant, when it came my turn to answer questions, immediately raised the objection, "not qualified." Therefore the state attorney who was handling our side of the case, the side of the state, immediately qualified me, the objection still was raised and the judge said, "he may answer." I felt when Professor Benkendorf asked me to take this side, somebody might say I was incompetent, but I leave it to you men who are on the jury to judge whether or not I have had the experience to handle this subject. I want to say this at the outset that I feel like a young man who came home with his bride and at the banquet prepared for the young couple, as the young man was called upon to speak he said: "I am proud of the fact that I had this thing thrust upon me."

In order that I won't take too much time I will read the paper I have prepared.



## NEUTRALIZATION CANNOT PRODUCE QUALITY BUTTER

C. E. LEE, Asst. Dairy and Food Commissioner of Wisconsin.

It is an honor to be called upon to defend the already recognized reputation of Wisconsin's creamery butter against the practice of neutralization. The worst enemy of the local creamery regardless of its ownership, whether cooperative or individ-



C. E. LEE  
Asst. Dairy and Food Commissioner  
of Wisconsin

ually owned, is the possibility of marketing cream that contains a high per cent of acidity, is tainted, and that neutralization can be resorted to before such cream is manufactured into butter. The best butter is made in those sections where the marketing of tainted, high-acid cream has been reduced to a minimum. Local plants are handling the product and all of the patrons are more than anxious to aid in making good butter.

Good clean-flavored butter, the product that has aided in the agricultural development of the state, can only be manufactured from butter fat delivered to the creameries in milk or cream that

is free from taints and objectionable flavors. Generally speaking, cream high in acidity when received at the churning plants is more or less tainted and cannot be made into strictly high grade butter. Wisconsin creamery men agree that cream that is high in acid is usually tainted. In other words, when a patron delivers cream three times per week, and the product is high in acid, the resulting butter is apt to be tainted, not because of the acid that was present but because of the taints that were present and that affected the butter fat. It is also a well-known fact that when the cream is delivered sweet, even if it has age, it is generally clean in flavor. Acidity and taints are closely associated and are usually found in the same can or ripener of cream.

In the butter producing counties of the state, it is possible for every dairyman to produce and deliver cream that will make good butter. This is possible in the cheese and milk producing sections as well, providing there is a limit of acidity and flavor permissible in cream when it is offered for sale. The names of several creameries in this state that demand a high quality cream can be mentioned. The two factories in Waupaca County with an output of 873,205 pounds in 1918 are examples of what can be done in demanding cream of high quality. Many Polk County factories are in this class, and others in the central, eastern and southern sections are splendid examples.

In a certain section of Wisconsin there is located a large creamery company which for more than 20 years has aided in the development of the dairy industry. High quality butter has been their aim, although at times they have fallen short because of competition. During the past season, as in former years, I inspected two of their plants, making a special study of the quality of the butter manufactured. In discussing creamery problems with the manager it was brought out that it was exceedingly difficult to maintain the former standard against the buyers of cream who apparently had no consideration for quality.

The manager had been approached by the field agent of the creamery company asking that he ship to them all cream that was too tainted to be used in the grade of butter demanded by their trade. The agent had said they could use this cream and would allow him two cents per pound butter fat in excess of cost.

In order that I might obtain more definite information I visited a cream buying station. The person in charge stated that in the three years that he had acted as a cream buyer not a *single can* of cream had been rejected, nor had he ever advised his patrons regarding the quality of their product or how it should be cared for. The same day another station was visited, and I found 28 ten gallon cans ready for shipment. The quality of this cream was such that butter scoring only 88 to 90 would have resulted. All of the cream seen that day was going to churning plants where neutralization of all of the cream received during the summer months is practiced.

#### DAIRYING IS A DEPENDABLE INDUSTRY

It is a well-known fact that dairying has been one of the greatest factors in placing the state in the lead in many agricultural activities. It has aided in the development of the northern cut overlands, transferring them from an area of wilderness to one of many well-tilled farms. It has made the balance of the state rich in splendid homes and people, well-tilled farms, dotted with herds that are admired by prospective buyers from other states. It matters not if they are the lovers of the black and white or of those from the islands to the north of England, they soon become satisfied that Wisconsin's many signs of prosperity may be directly attributed to the income from the dairy.

When men come to the state to learn of our methods, they soon become impressed with the local creamery, cheese factory, or condensery established as a permanent institution to handle the product of the community.

#### METHODS HAVE CHANGED

With the general progress of agriculture general methods of handling the products of the farm have changed. This is equally true of dairy products. Some 15 years ago it was very common to find a large amount of milk being hauled to the butter factory for the purpose of being skimmed, the cream churned, and the skimmed milk taken back to the farm. Today the milk is skimmed at the farm and cream taken to the nearby creamery or placed in the cream hauler's wagon or shipped.

The reason for this is well-known to all, and need not be discussed at this time. When these changes came, methods of factory operation had to be changed as this was a new problem.

At the farm a milk house or some other suitable place for the separator had to be provided. At first the cream was not cared for so as to result in a good product. As time went on there was a marked improvement; today there are factories making butter from cream skimmed on the farm that is equal in quality to the so-called "whole milk butter," and this has all been accomplished by education and cooperation.

#### QUALITY OF RAW MATERIAL

High quality raw material is necessary to make a superior finished article. Even the well-known Limburger cheese must have its beginning in milk that is near perfection. Evaporated or condensed milk will not possess recognized quality unless the milk is low in acid and free from taints when it enters the hot wells.

It is not possible for the operators of condenseries to even attempt to build up reputations when they accept milk that must be neutralized. If the milk received must be corrected by neutralization, the finished product will not be of standard quality.

Our men who have spent years in Wisconsin's factories realize that high acid-tainted cream cannot be made into butter that will win the gold medal or please the critical buyer.

Bulletin #210, issued in June 1911 by the Wisconsin Experiment Station, has this to say in the influence of the quality of the cream on the butter industry:

"At one time Wisconsin was considered a state where a large proportion of the butter was manufactured in factories where nothing but whole milk was received. Only a few years ago some of the commission men on South Water Street, Chicago, were heard to remark: 'A large proportion of the good butter which reaches the market comes from Wisconsin. This is accounted for by the large number of the creameries in that state receiving whole milk.'

"Whole milk factories receive the milk daily during the summer months and three to four times per week during the winter. This insures milk of such quality that good butter can be manufactured. With the system of using farm separators came less frequent deliveries; factory men paid more attention to quantity than to quality. There was no system of cream grading. Butter fat in tainted off-flavored cream and that delivered in whole milk or clean-flavored cream was paid for at the same price. All

of this has had its effect upon the quality of butter. In order to make good butter, the butter fat in the milk or cream must be free from taints. There is a direct relation between the two.

"There must be a change in the general method of factory operation with reference to quality of cream received before a marked improvement in the quality of the butter will be noticeable. Good butter can be made from farm-skimmed cream of clean flavor. In the future the ability of the product of the creamery industry of Wisconsin to compete upon the central markets will be determined largely by the quality of the butter manufactured. The butter merchants are beginning to recognize that there is now a wider range in the quality of creamery butter than formerly, and that in the future each consignment of butter must be paid for according to quality.

"Good butter will always be in demand but the under grades do not move readily; hence, the manufacturers or the patrons must suffer. The public will continue to demand good butter and unless it can be purchased many will buy substitutes. It is therefore of concern to the creamery industry of any state to give attention first of all to quality."

In the same bulletin a table is presented giving the average score placed upon the butter entered in the scoring exhibitions conducted by the Dairy Department of this station. This has furnished valuable data with reference to the influence the kind and quality of the raw material upon the quality of the butter manufactured therefrom.

Butter that was made from whole milk scored 93.40, 92.15, 92.73 and 93.68 for four years, and butter made from farm-skimmed cream scored 92.45, 91.72, 91.24 and 91.78 for the same four years.

#### FACTORY SYSTEM FAVORS QUALITY

The factory system of the state in its organization is such that cream of fairly good quality is received. In many plants it may be classed as having excellent quality. Factories are in charge of men who favor the manufacture of butter from high grade cream only. Nearly all of the men who in the past have at times resorted to neutralization now prefer to receive cream that has not lost its original flavor. Not long ago a well-known creameryman made the statement: "We neutralize but we would rather receive the product that is free from taints and high



acid." Professor G. L. McKay on December 4 addressed a letter to the Dairy and Food Commissioner of Wisconsin. This statement appeared among many others: "Everybody, I think, must realize that the quality of the cream has an important bearing on the finished product. It is true that possibly neutralization will be continued from year to year, as there will always be some who will neglect the care of their cream." A mighty clear statement of why neutralization is resorted to. Many butter makers when asking for help to secure positions specify: "I would like to get a position in a creamery receiving a good grade of cream."

The 850 butter factories now in operation are in charge of men who, at one time or another, have had training at the Wisconsin Dairy School, an institution of recognized standing, or have come indirectly under its influence. Very few of these men have received any training in the use of neutralizers, mainly because neutralization of cream is not considered a factor in the production of good butter. One of the main arguments set forth by those men who favor neutralization is that it is an economic necessity to save a valuable food product. Such an argument has no place when dealing with the cream produced by Wisconsin dairymen. There is no excuse for high-acid tainted cream for we have an abundance of cold water to use in keeping the cream cool and sweet. Cold springs are found everywhere. Furthermore, our dairymen, even if located somewhere in the northern woods, can and do place upon the market clean-flavored, sweet cream. As an example of what can be accomplished under adverse conditions, let me tell you what happened a few years ago. At the close of a talk before a group of dairymen in Burnett County in August, a dairyman asked me to examine a can of cream that contained his entire output for one week. This cream had been hauled for ten miles and the month was August. Yet, that cream was good and could have been used for table purposes. Why? Because the cream was cold and had been properly cared for. The can was covered with freshly cut grass and two blankets. Contrast this treatment of cream with what I have seen in some cream buying stations where cans of cream received after 3 P. M. would not leave for its destination until 3 P. M. the next day, no ice in sight, no cold water, covers wired down to prevent them from being raised by the swelling of the

cream, and a 15 hour railroad journey to follow. Which butter would you prefer?

At the dairy department of the Wisconsin College of Agriculture where a large amount of butter is made from various grades of cream, none of it aside from class demonstration is neutralized before being churned into butter. This in itself should convince Wisconsin men that it is not necessary to add to cream before it is churned a substance entirely foreign to butter. Very few of the largest and best organized factories of the state have in the past resorted to neutralization of cream before it is made into butter. The highest price for butter fat to cream producers of the state for the year 1918 was paid by the operators of factories receiving cream that was not neutralized. According to reports from the Bureau of Markets, Chicago, the highest quotations are made on butter in the whole milk class.

UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF MARKETS

Date	Whole Milk Score 90	Centralized Score 90	Whole Milk Score 92
Nov. 1 .....	57.5	57.75	58½
2 .....	57.5	57.75	58½
4 .....	58	58	58.75
5 .....	58	58	59
6 .....	58	58.25	59½
7 .....	58	58.5	59½
8 .....	58½	58.25	59½
9 .....	58½	58	59.5
11 .....	Holiday		
12 .....	58.5	58	59.5
13 .....	59.5	58.25	60.5
14 .....	60	58.50	61
15 .....	60	59	61
16 .....	60.5	59.5	61.5
18 .....	61	60	62
19 .....	61.5	60.25	63
20 .....	62	60.25	63.5
21 .....	62	60.5	63.5
22 .....	63	60.5	64.5
23 .....	63	60.5	64.5
25 .....	62	61	65
26 .....	63	61	65.5
27 .....	63	61	65.5
29 .....	63	61	66
30 .....	64	61¼	66.5
	<hr/> 60.4	<hr/> 58.5	<hr/> 61.7

UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF MARKETS

Date	Whole Milk Score 90	Centralized Score 90	92 Score
Dec. 2 .....	65	62	67
3 .....	65	62	67½
4 .....	65	62¾	67½
5 .....	65	62¾	67½
6 .....	65	62¾	67½
7 .....	65	62¾	67½
9 .....	65	63¼	67½
10 .....	65	63½	67½
11 .....	65	63½	67½
12 .....	65	63½	68
13 .....	64	63½	68
14 .....	64	63½	68
16 .....	64½	64	68
17 .....	64½	63¾	67½
18 .....	64½	63¾	67½
19 .....	64½	63¾	67½
20 .....	64½	63½	67½
21 .....	64½	63¾	67½
23 .....	64	62	67½
24 .....	64	62	67½
25 .....	Holiday		
26 .....	63½	61¾	67½
27 .....	63	62¼	66½
28 .....	63½	62½	66½
30 .....	64.0	64.0	67.0
31 .....	64.0	64.0	67.0
	64.4	63.0	67.4

The above facts show that if Wisconsin butter were made from neutralized cream it would be placed outside of the whole milk goods.

During the past year a great deal of Wisconsin high-grade butter was manufactured to supply the demands of the Navy. This was made possible for the reason that in some Wisconsin factories clean-flavored raw material was received and no neutralizers were used. The credit for the high standard in Navy butter belongs to the Dairy Division, U. S. Department of Agriculture. The Navy butter is made from sweet cream and the raw material cannot contain beyond a specified maximum of acidity when received at the factory. A great deal of this butter is made in Wisconsin for a special trade and the firm dealing in that product received a very flattering compliment from the government inspector who made inspection of the product held in cold storage and commandeered by the federal government. A prominent resident of Chicago, who is an expert on butter,

wrote me on October 22, 1918, as follows: "This letter relates to butter yet is purely personal. I have had to eat butter of the common or garden variety. I would like to arrange for my family to get regularly each week five pounds of good, freshly churned, sweet cream, unlimed butter. I wonder if you can help me out on this matter."

A representative of a firm buying a great deal of our high grade butter made the statement in the office a few weeks ago: "No neutralizer is ever, to our knowledge, used in the manufacture of the butter demanded by our trade. In fact, we would not permit of its use." All of the butter bought by this firm is made from pasteurized cream.

The development of the dairy industry of the state would be retarded if neutralization were resorted to in the manufacture of the bulk of its creamery butter for the reason that the value of all of this product in the state would be reduced fully \$2,000,000 annually as the result of the lowering of the grade. There would then be no market, no distinction between whole milk and centralized butter.

The work of the Dairy and Food inspectors has not only aided in securing better factory conditions; they have visited many dairy farms where milk and cream are produced, thus securing better dairy conditions in general. The problems of housing the cows, proper feeding and the erection of dairy houses have been discussed freely by our state men. They have also made suggestions regarding the importance of producing good clean-flavored cream. In this they have met with a marked degree of success. They have had to contend with a few dairymen who have argued that the cream buyer has never said a single word regarding the quality of his product.

This work will be continued but its value will be greatly impaired when it becomes generally known by the dairymen that their product, produced under ideal conditions, must meet upon the open market a product that is made from an inferior raw material.

#### THE FUTURE OF THE INDUSTRY IS AT STAKE

The dairy industry of the state is not in its infancy, but it is still making progress. Each year many new factories are built in order that the equipment and facilities for handling may be the best. There is a general feeling of stability and coopera-

tion between the patrons and the local plant. Hence it would not be a wise policy for the factory operators and makers to adopt a method in the manufacture of butter which is used by those who are not in position to aid the industry.

Our product has stood the test of years. It has made good; the consumers have not been deceived. It would therefore not be well to even consider the advisability of a free use of neutralizers in cream handling. The consumer of butter has a right to be informed of what he is buying. The butter made from neutralized cream has not the quality found in butter made from the unneutralized product.

---

PRESIDENT MORRISON: The next paper, "Acidity and Quality," by F. W. Bouska, of Chicago.

MR. BOUSKA: Gentlemen: While I live in Iowa I was for three years a student at your excellent university. The privilege that I have now of speaking to you so exceeds my debt of gratitude that I am not able to express my appreciation for the privileges I enjoyed in this state being an outsider.

## ACIDITY AND QUALITY

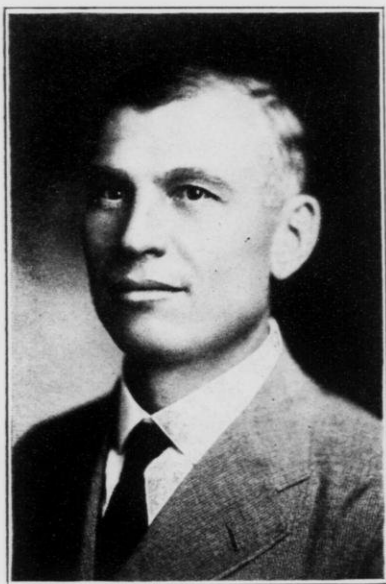
F. W. BOUSKA, Chicago

Methods of making butter are the result of ideals and conditions. Originally butter was made on the farm. As enough cream to make a churning was being accumulated it soured spontaneously. About one half of our butter supply comes from cream soured and churned on the farm. The other half is made in creameries and also from sour cream. The majority of this cream is also soured on the farm.

Butter making is the pioneer dairy industry. Concentration of population in large cities forces the butter territory farther and farther away. The vicinity of Elgin no longer produces butter. Its dairy product is sold as market milk. New York City reaches 400 miles for market milk and cream and many a so-called "creamery" in New York state is only a milk and cream shipping establishment. Cheese factories, condenseries, and milk powder plants crowd the butter maker farther and farther from the large consuming centers. Since these dairy plants can pay a better price they choose the best developed territory



with the best volume. Thus the creamery is always the vanguard of dairy manufactures. Early writers on American dairying regarded it confined to a "Dairy Belt" lying between the fortieth and forty-fifth parallels and the Atlantic Ocean and Missouri river. This strip is north of Columbus, Ohio, and south



F. W. BOUSKA  
Chicago

of St. Paul, Minn. In the last ten years the relative increase in production of creamery butter has been much greater outside of this "Dairy Belt" than within it. Inability of production of butter to keep up with increase in population has crowded butter making into less favorable territory and into hands of farmers who never before were creamery patrons.

Not only was the butter produced near the points of consumption but our grandmothers brought it directly home as purchased. It did not have to make a round trip of the city in a delivery wagon. More of it went directly from the farm to the consumer. Now wholesalers of butter and the rapidly growing chain stores prefer butter whose uniformity and keeping quality are dependable.

A generation ago there was a surfeit of butter in the summer and a butter famine in the winter. Now cold storage tends to equalize these extremes.

In the meantime the cost of farm labor has risen to such a figure that the farmer carefully considers where to apply his labor and whether to employ outside labor.

The foundation of a creamery is an economic one. It persuades the farmer that it can make better butter and cheaper than he can. The creameries have convinced the farmers furnishing the butter fat for the 600,000,000 pounds that this is true. Creameries are going into the remotest corners of the land and striving to convince the farmers making 900,000,000 pounds of farm butter that it would be better for them to shunt this work upon the creameries.

Hence, the following facts stand out prominently:

1. Marketing at long range and cold storage created a new requirement for butter: keeping quality. This is appreciated more and more.
2. Taking possession of the best dairy territory by more intensive dairy manufactures and the increasing cost of farm labor have made it more difficult to purchase cream, more difficult to have it cared for, and more difficult to have it delivered frequently.
3. Increasing scarcity and the rising price of butter have caused creameries to solicit cream wherever it may be found. Creameries propagandize for more cows, better cows, better fed cows, and better quality of cream.

High cost of labor is rapidly forcing whole milk creameries to give way to cream creameries. Even in Minnesota, the field of the whole milk creameries, they are a small minority. Cream produced on farms furnishes practically all of our butter supply. A large part of this cream is received sour. All creameries want good cream. They would rather have the cream sweet. They make great efforts to improve the quality of cream. Education, persuasion, and price are available as means for bringing about improvement. Good sour cream makes ninety point butter. If the bulk of sweet-cream butter scored 93, it would be doing better than it is doing. This improvement in quality usually brings two cents a pound more for the butter and sometimes three. Assuming that a cow produces one-half pound of butter fat daily the extra pay for better care and for going to town before the cream sours, say every day or every other day, is

4 cents a day for four cows,  
40 cents a day for ten cows,  
80 cents a day for twenty cows.

It is obvious that the question whether the increase in price is a sufficient inducement depends on the size of the herd. Many states average less than four cows per farm. Clubbing or the operation of routes in those localities where it is feasible greatly increases the premium available for sweet cream.

A small volume of dairy butter sells at fancy prices, say a dollar a pound, and some creamery butter is reported to bring premiums as high as ten cents a pound. Every creamery that can sell its butter at this advantage should do so and we are told that the supply of this butter is not equal to the demand. I believe that the number of consumers who will pay ten cents more than the prevailing price is very small. Indeed, the rich people who have been eating oleomargarine for patriotic reasons or to help bring down the price of butter are much more conspicuous. I have never seen any fancy priced butter on sale in Chicago. I have eaten at most of the public eating places in America. I have never been served with fancy butter. It is usually good ordinary butter.

Butter possessing good keeping quality is preferred by buyers. If it does not have keeping quality its flavor is uncertain and cannot be uniform. Butter that remains eatable for two weeks at approximately 65° or for four to six months in cold storage is a good keeper. If it becomes inedible or drops to a score of 88 in three days at 65° or one month in cold storage it is a poor keeper. The following are requisites for good keeping:

1. Low acidity,
2. Pasteurization,
3. Elimination of curd,
4. Proper working.

Butter from the freshest and sweetest cream does not keep well unless pasteurized. Even if sweet and pasteurized it does not keep well if overworked or if the buttermilk is not well eliminated. Thus in spite of supposedly good material much butter keeps poorly. The economic and hygienic need of pasteurization is obvious.

If sour cream is pasteurized the butter has a scorched flavor, a high curd content, the loss of fat in churning is heavy (often three per cent) and often the cream curdles or becomesropy. In fact, heating sour cream makes cottage cheese out of it but the curd is usually so finely divided that it is not visible. This curd adheres to the soft butter granules thus giving the butter a

high curd content. Fat globules are imprisoned in this cottage cheese and thus a large loss of fat in the buttermilk occurs.

The pasteurization of sour cream causes so much difficulty and loss that it is impractical as a general program. Reducing the acidity with lime water alleviates these difficulties. As the acidity is depressed lower and lower these difficulties lessen. They are practically eliminated when the acidity is lowered to 0.25% to 0.35% ( $14^{\circ}$  to  $20^{\circ}$  Manns'). Reducing the acidity lower gives more and more limey taste when the cream is very sour.

Cream is neutralized before pasteurizing. Limewater is added gradually in small streams well distributed over the cream and well stirred. This requires good judgment and patience. More lime water is added only after thorough stirring and careful waiting to ascertain what the acidity is. The sense of taste is very helpful but it cannot be depended upon when the cream is quite sour. Only the acid test is reliable. Properly neutralized cream is almost sweet and has only a very faint acid taste. Forewarming the cream greatly facilitates the process.

A few creameries neutralize only the sourest cream directly in the cans. This gives very good results. Where the dumping and pasteurizing are continuous, a small stream of neutralizer is run in out of a faucet. The best results are obtained in suitable vats, first filling, then neutralizing and forewarming, and pasteurizing.

Seventeen pounds of water and three pounds of lime give a lime water containing 15% lime. Any multiple of these quantities may be prepared, e. g., 170 pounds of water and thirty pounds of lime. Some use only 10% mixture and others a 25% mixture. The results are good if the mixture is smooth. A good clean caustic powdered lime or a caustic lump lime make the smoothest mixture.

Hydrated lime is weaker and can be made up at the rate of nine pounds of cold water and two pounds of lime. It is more convenient to make up but in smoothness of mixture it is quite inferior to quicklime.

We find that 0.3114 lbs. of quicklime neutralizes one pound of lactic acid; it should reduce the acidity 0.1% in 1,000 lbs. of cream; 2.07426 lbs. of 15% limewater should reduce the acidity 0.1% in 1,000 lbs. of cream. Theoretically, it is simple to construct a table showing at a glance how much limewater is

needed to reduce any acidity in any quantity of cream to say 0.3% acid. Such a table is given here.

## TO REDUCE ACIDITY TO 0.3%.

*Initial Acidity of Cream*

L b. Cream	.35	.40	.45	.50	.55	.6	.65	.7	.8	.9	1.0
	Pounds of 15% Limewater Needed										
50	.05	.1	.15	.20	.26	.31	.37	.41	.50	.62	.7
100	.10	.2	.31	.41	.52	.62	.73	.83	1.03	1.24	1.45
500	.51	1.03	1.55	2.07	2.59	3.11	3.62	4.14	5.18	6.22	7.21
1,000	1.03	2.07	3.11	4.14	5.18	6.22	7.25	8.29	10.37	12.44	14.57
1,500	1.54	3.10	4.66	6.21	7.77	9.33	10.88	12.43	15.55	18.66	21.74
2,000	2.07	4.14	6.22	8.3	10.37	12.45	14.51	16.58	20.72	24.89	29.09
2,500	2.57	5.17	7.77	10.35	12.95	15.55	18.14	20.72	25.92	31.10	36.26
3,000	3.11	6.21	9.33	12.42	15.54	18.66	21.77	24.89	31.11	37.33	43.51
3,500	3.61	7.24	10.88	14.51	18.14	21.78	25.39	29.01	36.29	43.55	50.87
4,000	4.15	8.28	12.44	16.59	20.74	24.89	29.03	33.19	41.48	49.78	58.03
4,500	4.64	9.31	13.99	18.65	23.32	28.00	32.65	37.30	46.66	55.99	65.39
5,000	5.18	10.37	15.55	20.74	25.92	31.11	36.29	41.48	51.85	62.22	72.51
6,000	6.22	12.44	18.66	24.89	31.11	37.33	43.55	49.78	62.22	74.67	87.11
7,000	7.25	14.51	21.77	29.03	36.29	43.55	50.81	58.08	72.59	87.11	101.63

Although the best limes do not contain 100% calcium oxide, they usually contain enough magnesium oxide to make up for this and their neutralizing power is close to 100%. If the lime has say 90% neutralizing power as shown by a practical trial in cream, the mixture can be made 10% stronger to fit the table. The greatest obstacle to the use of table is the drop in acidity caused by pasteurization. This varies with cream, lime, and locality. A user may offset this in the makeup of his limewater. This is always easier to do than to construct a new table. By changing the strength of the limewater this same table can be used to reduce to other acidities, e. g., 0.25% or 0.35%.

When sour cream containing 0.7% of lactic acid is neutralized to 0.4% one is surprised to find that after pasteurization the acidity is only 0.3% or perhaps as low as 0.2%. The sourer and more gassy the cream, the more granular the lime, or the more carbonic acid in the sodium carbonate used the greater the drop in acidity produced by pasteurization. It is impossible to foretell in North Dakota what the drop will be in Oklahoma and vice versa. The extent of the decrease can be ascertained only in the creamery in question.

The loss in acidity brought about by the heating is caused by expulsion of volatile acids, by a more intimate union of limewater and lactic acid, and by expulsion of carbonic acid. Carbonic acid cripples the sensitiveness of the indicator (phenol-



phtalien). Hence a determination of acidity in raw sour cream is only approximate and reads too high.

Because of this unknown drop in acidity, explained in the previous article, a neutralizing table may not always be practical. One trying this table better do so with the consideration that it may not be dependable in his case until verified by actual trial; this notwithstanding that the table is chemically and mathematically correct as far as it goes.

Another fairly accurate procedure is as follows: The quantity of cream and strength of limewater are not known. The acidity is tested and found to be say 0.65%. A measure of lime-water is added and reduces the acidity 0.04% or down to 0.61%. Then the total excess acidity is  $0.61\% - 0.3\% = 0.31\%$ . The quantity of lime required to reduce from 0.61% to 0.3% will be  $0.31 \times \text{measure} = 7\frac{3}{4}$  measures. Of course measures also

0.04

mean pounds.

Butter from unneutralized sour cream homogenized with sweet milk yields sweet cream. The lactic acid is in the buttermilk. Indeed, the majority of bad flavors are in the buttermilk and not the butter fat. It is very important to wash the butter quite freely from buttermilk. The more thoroughly this is done the less neutralizer flavor and off flavor the butter will have. The butter is churned quite cold into granules the size of wheat up to small peas. If larger, or if soft, the buttermilk is sealed in the granules. When the buttermilk is draining a stream the size of the thumb the granules and churn are well rinsed with the hose or a shower bath sprinkler. This crowds out the buttermilk. Then the bung-hole is closed and the butter washed in the usual way. Starters or sweet milk added to neutralized cream absorb some of the neutralizer flavor and carry it off with the buttermilk, thus reducing this trouble. The saltier the butter the more conspicuous the neutralizer flavor. It can hardly be tasted in unsalted butter. A little neutralizer flavor causes less complaint from consumers than a cheesy or fishy flavor. The neutralizer flavor blends with the flavor of bread while the cheesy flavor is inharmonious and becomes conspicuous upon hot biscuit or hot pancakes. Neutralizer flavors occur only in very hot weather. Butter is free from these flavors practically the whole year.

Sour cream not neutralized produces cheesy, poor-keeping butter scoring about 88; neutralized butter scores 90. But the commercial improvement is greater than the two points because the 88-point butter is poor butter and the 90-point butter is good butter. In Canada the difference between our 88-point and 90-point quality is about five points. In the States the difference between 88-point quality and 90-point quality is about as great commercially as between 90-point quality and 95-point quality.

Lactic acid has a much stronger affinity for lime than any other cream constituent. Under these circumstances lime does not act on the butter fat nor any other constituent. It is all taken up by the lactic acid and 0.3% of the lactic acid remains unsatisfied. In the draining of the buttermilk and the washing of the butter the great majority of the lime is eliminated. This is a good reason why butter from neutralized cream often contains less lime than country butter. The cause of this is that buttermilk has not been well eliminated out of the country butter. Lime is a natural constituent of milk and cream being combined with the casein. Butter from neutralized cream usually contains from .04% to .07% lime. Unneutralized creamery butter has about the same percentage. In country butter the lime content is sometimes just as low, but in high casein butter the percentage of lime is sometimes 0.11%.

A portion of neutralized butter contains 0.05% or 0.007 grams of lime; a teaspoonful of limewater contains 0.019 grams of lime; a quart of water from a limestone country 0.100 grams; a quart of milk 1.36 grams. A baby often gets a teaspoonful of lime water in a feed of milk. Our mothers gave it and physicians recommend it. An adult would have to eat 1.46 pounds of neutralized butter to ingest as much lime as the baby consumes in one feed of milk.

Lime is an essential constituent of foods. Lack of it causes "lime starvation" and physiological disorders. Two investigators not only recommend but insistently urge the addition of lime to the daily diet. (Calcium Salts as Body Builders page 372 Review of Reviews, Sept. 1912.)

On page 78 of his "Food Products," Dr. Sherman of Columbia University thus states the need of lime:

"Calcium is present in still greater relative abundance. Milk contains slightly more calcium, volume for volume than does lime water. As a rule the calcium content of the diet depends

mainly upon the amount of milk consumed. In family dietaries where ordinary quantities of milk are used, the milk is apt to furnish about two-thirds of the total calcium of the diet. Without milk it is unlikely that the diet will be as rich in calcium as is desirable either for the child or for the adult."

Hence, neutralizing cream is not injurious to health.

Neutralization does not abstract any constituent of cream or butter; it does not cheapen its composition or manufacture; it does not lessen its food value. On the contrary, it improves the flavor and keeping quality.

If it is right to increase the acidity of cream by adding a starter containing lactic acid, which was not a constituent of the original cream, it can not be wrong to reduce the acidity of the cream by adding lime which is a natural constituent of the original cream.

Some believe that butter from neutralized cream should be branded as such. If the uneconomic wilderness were to be complete there would be brands declaring Neutralized Butter, Sour Cream Butter, Sweet Cream Butter, Unsalted Butter, Salted Butter, Uncolored Butter, Colored Butter, Starter Butter, pasteurized Butter, Whole Milk Butter, Centralized Butter, Gathered Cream Butter, Country Butter, Dairy Butter, Packing Stock, Ladles, Process Butter, Renovated Butter, Certified Butter, Minnesota Brand, Michigan Brand, et al, Specials, Extras, Firsts, Seconds, Fresh, Held, Storage, Peanut Butter, Nut Butter, Cocoa Butter, ad infinitum! Then the consumer can make an intelligent choice (if he knows).

On page 49 of the March, 1918, Ladies' Home Journal is this statement: "The principle of butter making has not been changed, but the multiplicity of trade names confuses the housewife's mind."

If foods that were not ideal were to be branded then many of our large cities would have their water taps labeled "Chlorinated water." Many fruits and vegetables would be branded "Sprayed with poisons."

The United States Department of Agriculture in its bulletins gives instructions how to neutralize the acid in cider with lime carbonate for making syrup and how to neutralize cottage cheese with soda for cooking. (Circ. 109.) I understand that in condensing milk the addition of an alkali is necessary to prevent curdling.

If the cream from which the butter otherwise would have to be labeled is not neutralized and not pasteurized, the resulting raw butter is of inferior hygienic and economic quality. But, the absence of a label would give the impression that it is a better butter.

Presence of pathogenic germs, or of toxic products, would be a logical basis of labeling to denote hygienic quality.

Labeling on the basis of lime or acid content would not be satisfactory to the advocates of labeling. Personal opinion appears to be the only criterion for deciding which butter should be labeled.

Deception is also a basis of labeling. Every method of labeling centralized or neutralized butter that has yet been proposed leaves unlabeled an equally important quantity of other butter possessing the same intrinsic characters. Hence, if a person does not centralize and does not pasteurize, he need not label and still furnish the consumer with butter which is unrestricted in its lack of hygienic and commercial quality.

Such commercial features as flavor, body, and keeping quality are a basis for commercial or governmental grading, but not labeling. Grading is done by an actual inspection of quality in each case.

In summary, how do farm butter, local creamery butter, and centralized butter compare in hygienic quality? The cream from which they are made is subject to the same contamination and contains the same types of germs. While some local creameries receive sweet cream, there are some that receive cream that has undergone as much fermentation as the cream received by centralizers. Again, some centralized cream is sweeter than local cream. Latitude and temperature of air and well water greatly affect acidity. Farm butter never is pasteurized; local creamery butter is seldom pasteurized; centralized butter is always pasteurized and is the safest butter from a hygienic standpoint. The advent of centralizing has not created defects of cream, and butter that did not exist before centralizing and that do not now exist outside of centralizers. Considering the centralizing territory as a whole, it is now furnishing the consumer butter of much better hygienic and commercial quality than it did before the advent of centralizers.

I do not aim to give the impression that all cream offered to centralizers is faultless. I frankly say that a small fraction is contaminated with foreign materials or stale. Such cream is

condemned by the butter makers or by the local food authorities. I strive to make clear the fact that these defects occurred upon the farm and such cream is offered to creameries operating under every system. I maintain that it is not fair to pillory the whole industry because of the poor condition of one can of cream out of thousands of cans of good cream. Farmers offer or ship their cream to the creameries and the creameries do not know the quality of this cream until it is inspected at the creamery. Centralizers welcome honest constructive efforts to improve butter.

A list of questions was sent out to different well-known butter dealers with this result:

"Dillon & Douglas,  
New Haven, Conn.

Do you handle centralized butter? Yes.  
Has this butter satisfied your trade? Yes.  
Has the flavor been satisfactory? Yes.  
Have you found the body satisfactory? Yes.  
Has the general workmanship been good? Yes.  
Has the keeping quality been equal to the general unpasteurized butter found in the trade? Yes, much better.  
Do you find a variation in the quality of centralized butter the same as butter made in local creameries? No.

The following letter was received from Dillon & Douglas, Inc., New Haven, Conn:

"New Haven, Conn., Sept. 7, '18.

Prof. George McKay,  
American Association Creamery Butter Mfrs.  
Chicago, Ill.

Dear Sir:

We had a short time ago a questionnaire to fill out for the American Association of Creamery butter Manufacturers, and, while we did this, still we do not think that we gave the matter at that time due consideration, and therefore wish to supplement our remarks of that particular date.

The corporation of Dillon & Douglas has for a great many years used centralized butter in large quantities. Practically our entire output of butter has been centralized, and we have found that it gives absolutely the very best of satisfaction. It runs more uniform in quality, texture, salt and in color than any whole-milk butter which we can buy on the market, and gives better satisfaction in every way to the trade.

This we find general all over our territory. We cover Massachusetts, Rhode Island, Connecticut and also go into New York State.

Our output of butter for the year will average close to five million pounds, this in a distributing way among the grocers, butchers and hotels, and if there should arise a question of quality it would come from this class of trade. We have built up a trade here in southern New England under our brand of Gold Medal, and it is known far and wide.

We certainly would not be able to meet the demands of the trade in this territory unless we had centralized butter."

Very truly yours,

DILLON & DOUGLAS, INC.  
(Signed) J. W. Lanigan, Vice Pres.



The same questions were sent to Kennedy & Company, Boston, Mass.

Do you handle centralized butter? Yes.

Has this butter satisfied your trade? It has.

Has the flavor been satisfactory? Yes.

Have you found the body satisfactory? Yes.

Has the general workmanship been good? Yes.

Has the keeping quality been equal to the general unpasteurized butter found in the trade? Not only equal, but, in our opinion, better.

Do you find a variation in the quality of centralized butter the same as butter made in local creameries? Some variation, but not so much as in whole milk.

This firm also wrote a letter.

"Boston, August 15, 1918.

North American Creamery Co.,  
Alexandria, Minn.

Gentlemen: Herewith we enclose answers to the questions sent you by Prof. McKay, which are necessarily brief. We think it only fair to amplify them, as we feel that our experience with both whole milk and centralized has been very much larger than the average retailer and might therefore be of more value.

Up to three or four years ago we handled the product of whole milk creameries almost entirely and tried to select only those which made high scoring butter. The results were good, but since the improvement in the manufacture of centralized, dating back perhaps three years, we have practically dropped whole milks in favor of the centralized product. We find our trade is better satisfied, because of the greater uniformity in both quality and salt, while the variations in quality which are bound to occur are distinctly much less than in the same quantity from whole milk creameries. We also find the keeping qualities better over a long storage season, having met instances where they came out in excellent shape after eight to ten months in the warehouse.

We were very strong adherents of whole milk until the hard facts and practical experience mentioned above obliged us to change to centralized.

Very truly yours,

KENNEDY & COMPANY."

MR. MORRISON: The next address, "The Neutralization of Cream at Creameries," by Hon. James Sorenson, St. Paul, Minn.

MR. SORENSON: Fellow butter makers: When I came to town I was told I had better equip myself with a pair of boxing gloves and brass knuckles because there was such a hot time here yesterday and they expected it to develop into a real fight, and I told them that was just what I liked and I am not saying whether or not I have the knuckles in my pocket. I feel perfectly at home here boys because it is only a little ways. We live across the Mississippi, you fellows may look a little bit different from our Minnesota bunch but the spirit is very much the same. I want to congratulate you on the splendid meeting you are having. I have not a great deal to brag about and I don't know

whether I should but I like to brag about Minnesota. Mr. Lee read a paper with which I agree heartily and I am glad I didn't spend a great deal of time in preparing a paper because if I had I would have said very much the same as Mr. Lee did. When you were singing here I made a remark to a man that I believe it would be much better to continue the singing. He said, you are not getting cold feet, are you and I said, no, when I get cold feet a lot of you fellows would be freezing to death. It was mentioned here today that Minnesota furnished nearly half of the Navy butter, I am proud of Minnesota. Sweet-cream butter, the kind of butter that you could walk up to the old cow and look her square in the eye and not be ashamed of. I didn't intend to come and speak or start any revival meeting over here because it is no use trying to revive heathens anyway. I made my paper short boys, I think the chairman will like that, and there are many reasons why I made it short. Any of you who have had a chance to be Dairy and Food Commissioner in this state will know the Dairy Food Commissioner is a pretty busy man and I have at the present time a lot of commissioners over in the State Capitol that I have got to keep on good terms with, otherwise they wont raise my salary and of course I have got to keep on good terms with the Governor or he will turn me out of office. Also I have got to keep on good terms with my wife and come home often enough so that my children will know I am their father.

## THE NEUTRALIZATION OF CREAM AT CREAMERIES

Address by JAMES SORENSON

When I received an invitation from your secretary to address this convention on the subject of the Neutralization of Cream at Creameries, my first thought was to decline, as I felt that my opinion in this respect was already known to the men who make up these meetings; again, I felt that a discussion of the subject might prove of interest to some who have given the matter but little thought in the past.

In discussing the neutralization of cream for butter making, it may be of interest to briefly review the reasons why this method was introduced and why some people attempt to justify its continuance on the present basis.

There was a time in the history of dairying in Minnesota, and I believe this is also true in Wisconsin, when there was no need of neutralizing cream before using it for butter making, but the hand separator came into use and, as a result, the centralizing creamery and cream buyer came into existence. No effort



JAMES SORENSON  
Dairy and Food Commissioner, St. Paul, Minn.

was made by these agencies to keep the quality of the cream up to a high standard, but the farmer was encouraged to ship his cream in any condition he saw fit, and the natural consequence was that the quality of the cream received by centralizers deteriorated to a point where something had to be done to save the business. The system of neutralizing cream then came into use, and has been continued up to the present time.

I expect many of you know when they first started to neutralize it was done kind of on the quiet. Of course finally it leaked out, they were kind of ashamed of it, well they are yet. That reminds me of a story of a young man, some eastern man, I don't know whether he was from New York or where, but he made a trip up in Montana and ran across a young man he had known in earlier years, and he was asked, what are you doing out here, he says, "I am selling oleomargarine but don't tell my mother, she thinks I am tending bar."

There is no doubt that it would have been for the best interests of the whole dairy industry if the demand for good cream had continued, but the long distance buyer of cream would have found it most difficult to compete with the local creameries and the best argument used to induce farmers to ship their cream would have been removed.

It soon became evident, at least in the State of Minnesota, that neutralization of cream was directly responsible for the tremendous deterioration in the quality of creamery butter. The unwholesome competition of centralizers, in buying cream regardless of quality, forced many local creameries to take cream of poor quality, and the result was that dairymen, and others who believed in high quality dairy products, were instrumental in having a law passed which forbade the use of neutralizers. While this law is still on our statute books, it has been of little value in putting a stop to the use of neutralizers because, in order to convict anyone under this law, it has been necessary to station inspectors in the creameries to prove that the law was violated. Such procedure is entirely impractical when hundreds of creameries are operated within a state, and the creameries receiving low grade cream have continued to violate the law.

The State Dairy & Food Department recently secured a conviction in District Court against a creamery that had violated the neutralizer law, which at least indicates that the law has merit and that the Legislature was perfectly within its rights in passing such legislation. If it were possible to prohibit the use of neutralizers in Minnesota, it would result in a much better average quality of butter, because the centralizing creameries would be compelled to demand better cream, which would result in the delivery of higher grade cream at all the creameries in the state.

The real reason why so much poor cream is produced is that somebody stands ready to buy it, while if the market for poor cream was removed the production of this class of cream would immediately cease. Poor cream is generally the result of neglect and carelessness on the part of the producer, and if he found no market for his poor cream he would at once produce the kind of cream the market demands. The argument sometimes advanced that demanding a higher grade cream would discourage the farmer and force him out of the dairy business is not worthy of much consideration. If such an argument would ap-

ply to cream, why would it not also apply to other farm products?

It is generally agreed that it is quite possible to make a salable quality of butter from very poor raw material, if the cream is treated with some kind of neutralizer, and there has been no argument on the question of the healthfulness of the small amount of additional lime remaining in butter made from neutralized cream.

The greatest objection to neutralization is that a neutralizer deodorizes and removes undesirable odors which are often found in old and stale cream, and this is what makes the practice a most dangerous one unless the finished product is plainly labeled to indicate to the consumer the true nature of the raw material used in the manufacture of the product.

The practice of neutralizing and renovating cream used in butter making, without so stating on the label of the finished product, is extremely unfair to the producer of good cream and the manufacturer of high grade butter, and continued unfair competition of this kind can result only in still further damage to the whole dairy industry.

I realize that it is of little use to argue this matter with the man who is in the business of buying old, stale cream and who, by the use of neutralizers, manufactures such cream into a salable product, because he cannot refrain from viewing the subject from his own personal standpoint, and beyond this he is not vitally interested. It is simply another case of the almighty dollar obscuring the view and destroying the good judgment and fairness of the man. However, I am of the opinion that some one else beside those who are reaping the benefits of the present unfair practices will decide whether or not the neutralization of cream shall continue and, if continued, what conditions are to be observed in the labeling of the finished product.

While I believe it would be for the best interest of the dairy industry to absolutely prohibit the use of any and all kinds of neutralizers, I am not spending any time convincing the Joint Committee on Definitions and Standards that neutralization should be prohibited at this time. But I have made an effort to show this committee that, in justice to all concerned, some provision must be made for labeling butter made from neutralized and renovated cream. If the man who manufactures butter from neutralized cream was inclined to be fair, he would never object to such a labeling provision. He insists that neutralization is merely a step in the legitimate process of butter manufacture, so



why should he object to the consumer being fully informed regarding this legitimate process. The manufacturer of high grade butter, who employs such methods as pasteurization and starters, would have no objection to so stating on the label of the finished product; in fact, many makers of butter are making a practice of advertising that they employ these methods. If neutralization of cream is in the same class as pasteurization, for instance, why should the manufacturer object to making a true statement on the label of his product for the benefit of the consumer?

It is interesting to note that the same men who advocate neutralization as an economical necessity are in the main responsible for the condition which brought about the economical necessity they so often refer to. Those who have bought cream of all ages and quality, and urged the farmers to send more of it, are responsible for the kind of cream that cannot be made into a marketable product without first being neutralized.

In conclusion, let me suggest that efficient federal inspection of cream is necessary to prevent the manufacture of unwholesome cream into butter, and if neutralization of old, stale cream is continued, the federal government should enforce a labeling provision for butter which will give due encouragement to the production of a fancy article.

It is my opinion that buying old, stale cream and neutralizing and renovating it, as many are now doing, and then palming the finished product off on the unsuspecting public as fancy creamery butter, is the basest kind of fraud, and it is high time that some kind of laws or rules should be put into effect which will place the renovating cream business in the same category as the renovated butter business, where it belongs, and thus give the producer and manufacturer of pure butter the square deal to which they are justly entitled.

---

PRESIDENT MORRISON: "The Economic End of the Neutralization of Cream, by H. J. Credicott, Freeport, Ill."

MR. H. J. CREDICOTT: There was just one line of evidence I wanted to present on this and I have reduced this to writing in very brief form so I could present it just as I wanted to and wouldn't tire you with a lot of useless talk. This is the first time in twelve years I have read a paper.

One of my friends down in Illinois noticed the program and he says, well, I rather admire your nerve to talk neutralizer. I want to tell you gentlemen, it is not taking as much nerve to

come up and talk neutralizer as it did for me to come down thirteen years ago in the state of Wisconsin at your annual convention and advocate the churning of sweet cream. I had some high scores in Minnesota on butter made from sweet cream. I had sent sweet cream into the Chicago market and for nearly a year previous to that time I hadn't turned out a churning of cream in the creamery which I operated which was not made from sweet cream. Mr. Moore was secretary of that association at that time and he invited me down to tell the butter makers about sweet cream churning and I got a red hot reception. I believe every creamery inspector and instructor in the state of Wisconsin was opposed to me. I am simply bringing this up to show you how times have changed. In this paper I have tried to bring one point out, the farmers' end of it, and we have got to consider his part of it.

## THE ECONOMIC END OF THE NEUTRALIZATION OF CREAM

H. J. CREDICOTT, Freeport, Ill.

The word "economic" is generally used in reference to the principles of successful business.

The three eminent gentlemen preceding me on this program have discussed the question of neutralizer, from the standpoint of the idealist with his rosy dreams, and of the scientist with his cold logic.

I will try to discuss it from the standpoint of successful prosecution of the dairy business. I count a business successful which proves profitable to those engaged in it and which is of benefit and renders a service to the State and Nation.

That the dairy business is rendering a distinct service to the State and Nation through soil conservation and the production of the most important of all foods is too well known and recognized to need any discussion.

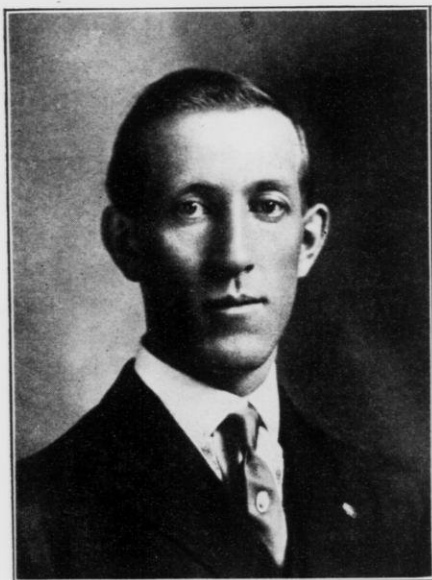
That the dairy business is always profitable to those engaged in it is a mooted question.

The profit of a business depends to a great extent on the amount of labor involved.

It is this question of labor which has caused the use of neutralizers in cream.

To illustrate this point let us go back to the day of the whole milk creamery where the producer hauled his milk to the creamery and waited while it was separated so he could haul the skim milk back to the farm.

There never was a system better than this for the production of high grade butter, but it had to give way to the hand separator system where the producer separates his milk at home, having



H. J. CREDICOTT  
Freeport, Ill.

the skim milk to feed to his calves and pigs, while it is fresh and warm and having only a small amount of cream to haul to market instead of the large load of milk.

The idealist (and we were many) said to him: "We can not make as fine butter from your hand separator cream and if you insist on bringing this stuff to us you will not only destroy the reputation of our creamery and of our State, for the production of fine butter, but it will cause us to receive less for our butter and you will be the loser."

Gentlemen, I was one of those men who opposed the hand separator and I have said many times as I have watched the evolution of this business,—I was a Minnesota butter maker at that time,—that we set the creamery business back quite a num-

ber of years in its development by its opposition because we held that thing down to a whole milk proposition.

This and many other arguments with less foundation of fact did we use, with the producer and at times we were able to confuse him and halt, for a time, the introduction of the hand separator, but the farmer is a better economist than he is given credit for.

He considered the labor and waste of time involved in cooling and caring for the larger bulk of milk and hauling it to the factory, waiting while it was separated, hauling the skim milk home and last but not least heating this skim milk to a proper temperature to feed his calves.

His answer was a stubborn insistence on buying and using a hand separator.

He did not believe the loss of quality and value, would be sufficient to warrant the extra labor of the old system and time has proven him right. You are probably wondering what this ancient history has to do with neutralizer.

Let us remember that it was a question of labor, which brought about this evolution in the business and as we follow up our history we shall see the connection.

The farmer after adopting the hand separator soon woke up to the fact that it was quite possible for the creamery to receive his cream in a sour condition and make butter out of it.

This opened up new possibilities in the saving of labor and he refused to deliver his cream daily as he had done in the past and turned a deaf ear to our frantic pleadings that this was the last step in the demoralization of the dairy and creamery business.

This new departure made it possible for many thousands of farmers to engage in the dairy business, who were located too far from a market or were too short of help to engage in it under the old system and this brought about a great development in the dairy business.

The creameries were presented with a new and serious problem. The farmer would take no heed of our protests and seemed content to accept a lower price if need be, rather than put in the extra labor necessary to the delivery of sweet cream.

Competitive conditions as well as our duty to the producer and the consumer to make the best grade of butter possible lead us to experiment and change our methods of manufacture to meet the new conditions.

We found that pasteurization improved the flavor and keeping quality of our butter as well as having the further advantage of making it a safe food from a bacteriological standpoint.

We found however that there were difficulties in the way of pasteurizing cream which was much above four tenths of one per cent acidity. It would curdle when heated. The butter was inclined to be mealy and crumbly in texture and the loss of fat in the butter milk was excessive.

It was found that by neutralizing the acidity with some harmless agent such as lime or bicarbonate of soda it was possible to get satisfactory results and thus we made another great step in the economical production and manufacture of butter.

This step was forced upon us by the pressure of economic necessity.

It is upon the farmer that the labor and expense of delivering sweet cream falls and only the farmer making dairying his business can afford it. The farmer who milks from three to eight cows will receive too little for the extra labor and will quit the business if we try to force him to it.

As the greater part of the cream used for butter making is produced by this kind of farmer it is plain that we must be prepared to handle the kind of cream he produces, and make the best possible grade of butter from it or we shall be woefully short of butter in a short time.

It is going to be the farmer who will decide the neutralizer question for us and it will be decided on an economic basis just as the hand separator question was decided.

Gentlemen, that is the point that I want to make and is the only point that I care to make in connection with this discussion, is that the farmer is the man who is going to decide this thing. If the creameries that are taking in sweet cream can get higher prices to pay that farmer more, then that farmer will produce sweet cream. You have had an example in the creameries, this summer in the churning and the production of sweet cream for the navy. Part of that, gentlemen, was a patriotic proposition. The government went to them and said we must have that butter for our navy and they naturally wanted to help and produced it. At the same time they were paid an extra price for it. But my experience is that it takes a pretty large premium to get the farmer to produce that kind of cream. When the public is willing to pay for this kind of butter then the farmer is going to produce it.



I have not made mention of the farmer who lives so far from his market that it is practically impossible for him to deliver sweet cream, even if he so desired, for such a farmer is usually a patron of a Centralizing Creamery and the opponents of neutralizer would seize this chance to bring up the old fight between the two systems of butter making.

While that question has no interest particularly for Wisconsin it does have a vital interest for a large part of the United States. Did you ever stop to think, gentlemen, that most of the state of Illinois, Indiana, parts of Iowa, Kansas, Nebraska, Oklahoma and all of the south, Tennessee and Oklahoma, have these small dairymen who are located a long ways from a plant? There is hardly any community in this territory that has enough cream to support a decent local creamery. It is absolutely impossible for these men to get this cream to the creamery in a sweet condition, and if you stop the use of neutralizer these men are absolutely deprived of the market. They are shipping their stuff to some central plant. If you shut down on the centralizing plant so they can't handle it successfully, then you are depriving them of their market.

I believe the neutralizer question is a broad one and should not be confused by arguments between rival systems.

A very big percentage of local creameries would make better butter and render better service to their patrons if they would properly neutralize and pasteurize their cream.

The use of neutralizing agents in the preparation of food products is not confined to the manufacture of butter.

The manufacturer of condensed milk has found that a little neutralizer will reduce the acidity of his milk and make possible the condensing of a batch of milk which would otherwise have to be run in the sewer.

Cocoanut oil which is the main ingredient of vegetable oleomargarines is pressed from copra, which is the trade name of the dried meat of the cocoanut.

These nuts are dried under the hot tropical sun and brought to this country in the holds of ships and by the time it is crushed and pressed the oil is in a more or less rancid state and contains large amounts of fatty acids.

It is not palatable for human consumption in this condition so a neutralizing process is used to get rid of the fatty acids.

A caustic is added which unites with the fatty acids in the form of soap and settles to the bottom of the vat.

If some of our friends who oppose the use of neutralizer in cream are sincere then let them also wage war upon the use of neutralizing process in one of the strong competitors of butter.

I have tried to outline very briefly my opinion of the fundamental economic reason for neutralizer and have made no attempt to treat it from any other viewpoint for I firmly believe that if the actual operation and the burden of success or failure of a creamery business which received its cream from small dairymen, was placed on the shoulders of some of the gentlemen who condemn neutralizer you would find them using a neutralizer shortly after the hot weather commenced.

#### DISCUSSION.

MR. SORENSEN: I want to ask Mr. Credicott a question; we agree pretty much, I am wondering what we are quarreling about, if we are quarreling. I am not trying to convince any one that we should condemn neutralizer. I want to ask Mr. Credicott if he don't think it would be fair to the men who produce good cream, the men who manufacture good butter, to the consumer who should know what he buys and have a right to know what he buys, if he don't think it would be fair to label this butter made from this good pure cream.

MR. CREDICOTT: I was asked that same question before a hearing of the Standards Committee in Chicago a few weeks ago. At the time I was acting as spokesman for many of the Allied Creamery Associations who had been discussing the matter of butter fat standard for butter, I replied that I would answer in my individual capacity, my own opinion in regard to that matter, that I didn't want to go on record as voicing the opinions of the other members of the Allied Creamery Association for that matter had not been under discussion by them, consequently I was not authorized to answer for them. But individually as a man who neutralized a portion of his make of butter I had no particular objection to it except the only thing that from a long experience with the butter markets of the country I failed to see how such a thing could be logically followed out. I made the statement that I didn't believe that it was fair to classify butter according to the process of manufacture, but if you are going to so classify it that it opened up an endless amount of trouble. I could see where every butter dealer in the United States would be put in a position where he would have to have different car-

tons for his butter, one labeled "sweet-cream butter," perhaps, or "old-cream butter," and another one labeled "neutralized butter." Now, I as a manufacturer of butter in Illinois, am only marketing in a jobbing way a small portion of my butter, the larger part of it is sold in earload lots to wholesale dealers. That butter is bought by men all over the country who want to put that butter perhaps into a brand of their own. Many of these eastern dealers have their own brands which they have used for years. They buy butter from any source where they can get satisfactory goods and put it under their brand and sell it. Now that man unless he was to cut out absolutely the butter on one side of the fence and stick only to that on the other side of the fence would have to have cartons with two distinct labels on them. Can't you see what an endless ramification this matter would run into. Now my personal opinion of the matter is this, the public knows and cares nothing about the manufacturing process under which the butter is made as long as that butter is of a satisfactory quality when it gets on the table. You can tack on all the wording and descriptive matter you want to, as long as that butter is satisfactory to the public they are going to buy it.

The point is this that the centralized butter is clearing a place for itself in the markets of this country, I don't care whether you brand it neutralized or not, that butter is going to sell just the same. The only thing is you are going to make a lot of trouble by branding it to those who handle it and those who use it.

I went to the Chicago market a number of years ago as butter inspector for the Department of Agriculture. It was my privilege there to inspect butter from pretty nearly every state in the Union that ships into Chicago. During the four years I was butter inspector I was sent nearly every year to the eastern markets to check up on the methods they were using and make a report to the division so that I had a chance to observe the branding of the butter business in all of the large centers which handled butter in this country outside of the Pacific coast. At the time I went into the market it was before the centralizers commenced using neutralizers, the butter was not very good and there was a general protest against it. But as time went on and the neutralizers were used to bring about a uniform grade of butter, that condition changed.

MR. GLOVER: I want to say to those who favor good butter and I am with them, that the consumer can have just as good

butter as he wants if he is willing to pay the price for it. The trouble with the consumer is that he wants to buy this extra fine butter for a very low cost. He doesn't want to pay any more for it than the butter that has to be neutralized. The farmer who takes good care of his cream and brings it sweet and wholesome and in fine shape for making this high grade of butter has not been recognized. And if you are getting poor cream today from the farmer it is because you have not been willing to meet the service and pay for it. Now when these people produce a fancy grade of butter they are asking no more than right to protect it. The creamery that is treating this cream with neutralizer, it should be marked with neutralizer. That is fair treatment. Now we are going to have good butter when the cooperative creameries and local creameries get their heads together. We are going to cooperate, we are not going to pull apart. We are going in the cities and find out where we can get a market to take the butter. And that butter is going to be advertised in the cities so that every person, every man, woman and child that wants a strictly fancy butter can go and buy it, but at the same time they will have to pay the price that it costs to produce it.

MR. COLWELL: I also used to think that if you paid enough more for cream you would get the farmer to deliver good sweet cream but I have to change my views about it. It doesn't always work out. I have a large creamery down there. There are two creameries, I don't fight with them or quarrel with them but they are buying some cream; they probably get enough cream to make fifteen hundred pounds of butter a week. I demanded that all my cream be delivered twice a week in the winter time, they have cream delivered once a week. Now the average difference in price for the past ten weeks was twelve cents, I have gone to some of those farmers and asked them why don't you bring me my cream, and they said they couldn't afford to come down, I said, isn't twelve cents a pound enough, and they said, no, it isn't. I am not going to deliver my cream twice a week for that difference.

MR. CREDICOTT: Just another proof of the economic side of that. While making butter we manufactured ice cream. We started in buying sweet cream from the farmer for our ice cream department. We found that ten to twelve cents a pound more for cream delivered sweet to the factory wouldn't get us a supply of sweet cream. It was one of the things that opened my eyes to the economic side of the question. I got the same answer

that this gentleman, that the difference of ten or twelve cents wasn't enough to cover the labor to deliver that cream.

I want to tell you of a little thing that happened to me a few weeks ago, it was on a business trip, in the first part of December. I was in Washington, D. C., I had an hour's time or two to kill and I drifted into the big market place, there on Pennsylvania Avenue where the groceries and the meat markets flourish, and the creameries and everything are fixed up in nice shape. William Oyster who was one of the large market dealers in Washington had a stand in that market and I got in conversation with the fellow that was running the stand. Customers kept coming in and they would say, give me a pound of butter, and he would ask, which kind of butter do you want, sixty, seventy or seventy-eight cents a pound. I think there were five customers that came up in an hour and all took the seventy-eight cents per pound butter; they wanted the best butter they could buy. I asked the man in charge finally what butter is this that you are asking sixty, seventy and seventy-eight cents for?

Well, he says, this seventy-eight cent butter is the Hudson Produce Company of Hudson, Minnesota. We buy it on the basis of the New York quotations. In selling it at seventy-eight cents today we are selling it for less than the Food Administration allows. The sixty cent is also Hudson storage butter made in June last year. We have had it in storage; the government regulates our profit and consequently we have to sell it for sixty cents a pound. Well, I said, would you just as soon let me see a sample of this butter and he got out a print of the seventy-eight and sixty cent. From long experience in the market I am familiar with the cold storage flavor, the average consumer wouldn't know it and so far as I was concerned I wouldn't give one cent difference but the public decided because that butter was sold for sixty cents to take the seventy-eight cent butter. The public will pay it. There were two butters that didn't have more than one cent difference in value and yet there was eighteen cents difference.

MR. BOUSKA: It appears that the present market is inflated with a much larger quantity of poor butter than usual. It is unfortunate that we can't get statistics on the quality of butter that has been offered to the customer like we can on the volume.

You men here clap when you are told how good your butter is and you think you are winning the battle. You make your but-



ter here, it goes to Chicago and New York and it is lost there just like you are when you go there, hardly anyone will notice you. We don't get it in Chicago where I live as Wisconsin butter. The butter that is sold there, your poorest Wisconsin butter, may be bought and it is sold in some attractive name in these stores in Chicago that make a specialty of gathering it. People of small means advertise in the big dailies and you ought to look them over, butter at forty cents a pound. I bought a pound a few days ago, I wonder how they can offer butter at the figure that sometimes is lower than any quotations that I see on the market. That is some of your butter. It is attractive butter. They advertise it as Elgin Clover Leaf Creamery butter or any other attractive name. If it were labeled, as you say, they could say Fancy Neutralized Creamery butter. You could call it the Peerless Brand; they do, you can't prevent them from doing that and you still have to rely upon the consumer's judgment and appreciation. Now if your butter is as good as you say it is and sells as well as you say it sells you don't need to pay any attention to these men who make mistakes and make the wrong kind of butter, he is going to come to the end of his rope. If you feel that down in your heart you wouldn't be doing this, you are afraid he is going to run a pretty good race but the only way that this thing can be won is on the actual intrinsic quality of the butter. That is the way to win and I appreciate the good butter. I think that is the finest thing to do in making butter but we are influenced and infested by ideals more than any other industry that I know of. We have created this ideal that the consumer cannot be happy unless he is getting the uttermost limit of quality regardless of everything else. Now how many consumers are there in the United States that get the uttermost of quality in everything else? How many people are there here in this room that get the uttermost of quality regardless of price and regardless of everything else? How many are there who drive Super Sixes and get the best of clothing and live in the best of houses? There is no reason why it should not be as good as the very best. There is a way of grading wheat, there is a No. 1 and a No. 2 wheat and the purchasers in the country get a difference in price. And the same with your bread, none of you know whether it was made of No. 1 or No. 2 wheat, none of us in Chicago know. It is a condition that affects the purchaser and the same way with these other things. It

is very difficult to go to the consumer and tell him he doesn't know what he ought to be buying.

MR. SORENSON: I was interested in one statement that was made by Mr. Bouska. He said in all his travels all over the United States he had never tasted fancy butter, is that correct?

MR. BOUSKA: At these public eating places, Mr. Sorenson, if there is such a large quantity of this fine butter who is it that eats it? We don't get it at these eating places where they charge us the limit of prices, one, two, three and five dollars for a meal; you can spend five dollars on a meal in Chicago.

MR. SORENSON: I take it from what you said, you being connected with centralizing, you don't make this fancy butter?

MR. BOUSKA: No, we don't. We make about a ninety point butter and we don't sell it for ninety-six point butter.

MR. LEE: Do you think it is unfair to put the word "fancy" on it, on a ninety point butter?

MR. BOUSKA: I am not defending what an individual centralizer might have done at some time, Mr. Lee, they are just like other people and some do things they ought not to do. I am not defending if he did, that he will naturally sell his goods under some kind of a name, if not "fancy." It is done with your own butter here. You buy your other things they are all the same, many things which have different grades and they are all under an attractive trade name. You really have to be a judge of some of these things to know. In the suburb where I live the grocer doesn't handle centralized butter, he handles different brands. One of them is a well-known Chicago firm. They more than any other that I know of cater to the fancy butter or whole milk butter and the butter is not uniform. In fact all the butter we get there is a regular vaudeville, sometimes it is very fine it will jump so high that you really admire it and I would feel proud to have you eat with me and taste some of this butter and sometimes I would be ashamed of this butter that comes out under this good brand, it is so irregular.

I know of no place in Chicago that sells a special brand of fancy butter. The consumption of these special butters at higher than current prices is limited to a few special consumers and I do not want you to be encouraged beyond possibilities into thinking that unlimited quantities of this fine butter can be made. There is not as much being made as there should be and God's speed to you men who are trying to make it.

MR. MORRISON: I think this question of neutralizer has been pretty well threshed out this afternoon. Before I forget it I want to bring up the question of the letter from the Secretary of the Northern Wisconsin State Fair that was read before dinner. What will you do with his request as to the appointment of a man to take charge of the Dairy Department at the Fair there next Fall.

C. J. DODGE: I think it a very important matter and perhaps at this time we have not given it enough thought so that we would select the proper man and I would suggest that you appoint a committee of three good substantial judges of butter to suggest who this man shall be. I make that a motion.

PRESIDENT MORRISON: Motion made, seconded and passed unanimously that the Chair appoint a committee of three to take under consideration the appointment of a man to take charge of the Dairy Department at the Wisconsin State Fair at Chippewa Falls this coming September.

PRESIDENT MORRISON: I will appoint as that committee the Executive Committee of the Wisconsin Association and they to act in conjunction with the secretary in that. I believe Mr. Dodge is the chairman of that Executive Committee.

---

MR. MORRISON: Anything further. If not a motion to adjourn will be in order.

MR. GRIFFIN: I move that we adjourn.

Motion made, seconded and passed unanimously that we adjourn sine die.



S. G. GUSTAVSON



O. A. STORVICK

## JUDGES' SCORES

## DISTRICT NO. 1.

Name and Address	Score
Martin Van Liere, Jr., East Troy .....	91.50
John Schield, Oconomowoc .....	91.16
Louis Schauwitzer, Whitewater, R. 4 .....	93.00
Oscar A. Miller, Cedarburg .....	93.83
R. J. Else, Johnson Creek .....	92.16
D. F. Wallace, Thiensville .....	95.00
F. M. Werner, Waterloo .....	95.50
Charles Heller, Grafton .....	91.16
United Dairy Co., Mukwonago .....	92.83

## DISTRICT NO. 2

A. G. Cross, Marshall .....	93.50
W. R. Meier, Cambridge .....	93.66
W. A. Moyes, Ironton .....	93.33
A. J. Schildt, Cambridge .....	93.66
Amos Hayes, Baraboo .....	92.33
E. Soltwedel, Loganville, R. 2 .....	90.33
G. E. Mayenschein, La Valle .....	91.33
Leslie Collins, Rio .....	91.50
H. E. Griffin, Mt. Horeb .....	93.00
Albert Hoeffke, Marshall .....	94.00
Lorenz Tarnutzer, Plain .....	91.66

H. M. De Golier, London .....	91.50
John Mogenson, Wyocena .....	94.50

## DISTRICT NO. 3.

H. B. Hoiberg, Coon Valley .....	93.66
Wm. Sieger, Chaseburg .....	92.50
E. G. Rasmussen, Melvina .....	93.50
N. C. Mayenschein, Hillsboro .....	92.00
J. H. Bogert, Stoddard .....	91.50
J. A. Betthausen, Oakdale .....	92.33
G. M. Marvin, Black River Falls .....	92.83
S. J. Edge, Patch Grove .....	92.83
Ole Johnson, Oakdale, R. 1 .....	92.00
Harold Peterson, Cazenovia .....	94.00
Oscar O. Larson, Northfield .....	92.50
N. A. Galstad, Genoa .....	92.16
M. Mickelson, Westby .....	95.75
John H. Lieurance, Sparta .....	90.00
Val Droessler, Louisburg .....	90.16
Wm. Mehleis, Bangor, R. 7 .....	91.83

## DISTRICT NO. 4.

H. E. Jahnke, Green Bay, R. 3 .....	91.16
Jos. J. Bartel, Peebles, R. 1 .....	92.50
Hod Doolan, Brandon .....	92.16

C. G. Siepert, West De Pere, R.	
1 .....	93.16
Art Wendlandt, Plymouth .....	93.83
Walter P. Schmidt, Manitowoc .....	92.00
M. Christopherson, New Frank-	
en .....	92.16
H. F. Recknagel, Seymour .....	94.00
Earl Longteau, Green Bay, R. 1 .....	91.83
Hubert Bartel, New Holstein,	
R. 2 .....	94.16
Hebert E. Lemke,	
311 Otter St., Oshkosh .....	90.50

#### DISTRICT NO. 5.

E. E. Halliday, Mauston .....	91.66
Wm. F. Hansen, Camp Douglas .....	91.16
R. C. Cleaves, Iola .....	92.16
R. S. Anderson, Northland .....	92.00
L. A. Olson, Waupaca .....	91.83
John Rasmussen, Wautoma .....	94.00
Odin Christensen, Nelsonville .....	92.33
C. G. Fostvedt, Stockton .....	93.66

#### DISTRICT NO. 6.

Thomas Jacobson, Colfax .....	91.50
A. E. Blaschke, Fall Creek, R.	
D. ....	92.16
Edgar E. Thompson, Rusk .....	93.00
A. O. Garlid, Roberts .....	93.66
H. O. Strozinsky, Menomonie .....	91.00
H. K. Hansen, Caryville .....	90.83
R. P. Colwell, River Falls .....	93.16
Roscoe Mays, Bloomer .....	93.16
Robert H. Banks, Spring Valley .....	91.33
A. J. Rivard, Emerald .....	91.83
F. L. Stolt, Prescott .....	91.16
R. E. Butler, Mondovi .....	91.16
Albert Forester, Durand .....	92.50
L. H. Winter, Eau Claire .....	94.50
A. B. Melgaard, Meridian .....	92.50
Frank Meisner, Boyceville .....	93.66
A. J. Wooldridge, Wilson .....	91.66
H. H. Sanders, Fall Creek .....	91.50
Sigert Erlandson, Ellsworth .....	91.83
H. J. Halverson, Eleva .....	92.00
N. C. Ashley, Albertville .....	91.83
Leo. J. Hebert, Chippewa Falls .....	90.50

H. F. Bibby, Galesville, R. D. ....	91.33
Ervin Steinkraus, Galesville,	
Box 372 .....	91.16
F. W. M. Thym, Bloomer, R. 5 .....	92.33
Gunder Scott, Blair, Box 186. ....	91.83
Olaf Mathison, Woodville .....	91.66
Arthur C. Schultz, Arcadia .....	94.00
J. W. Sullivan, Chippewa Falls .....	93.16

#### DISTRICT NO. 7.

J. E. Minton, Mellen .....	93.16
Otto H. Zick, Prentice .....	90.00
Albert W. Long, Medford .....	92.00
Max Klaff, Ogema R. 1 .....	91.00
G. H. Ehrmann, Tomahawk .....	92.83
Grant Winner, Humbird .....	92.50
Robert Long, Westboro .....	92.16

#### DISTRICT NO. 8.

B. J. Lindvig, Milltown .....	92.83
Chris. J. Back, Luck, Box 192 .....	93.83
Elmer F. Erickson, Luck, R. 2 .....	92.16
L. E. Kreinbring, Mason .....	92.16
Alfred B. Thorson, Grantsburg .....	93.83
John Vigen, Frederic .....	91.00
A. L. Larson, Star Route, St	
Croix Falls .....	94.75
A. M. Newman, Chetek .....	93.00
N. Geo. Nelson, Luck .....	93.00
Geo. N. Hanson, Cameron .....	93.66
J. H. Grady, Barronett .....	91.16
E. C. Schultz, Bruce .....	90.83
J. C. Christopherson, Chetek .....	95.25
Fred Jorgenson, Comstock .....	90.83
E. A. Danielson, Grantsburg .....	92.83
Peter R. Kristensen, Cushing .....	93.16
W. L. Karker, Brill .....	93.66
Ole Esker, Turtle Lake .....	92.83
S. E. Enockson, Falun .....	91.50
Wm. Nichols, Centuria .....	92.83
Maurice Hanson, Iron River .....	91.50
Hoie D. Harrison, Frederic .....	94.50

#### COMPLIMENTARY.

Conrad A. Limp, Waukegan, Ill. ....	94.00
A. Rasmussen, Hutchinson,	
Minn. ....	93.50
Eugene Guertin, Emerald .....	91.66



**STATE PRIZES.**

For many years the Wisconsin Butter Makers' Association was indeed fortunate in having as a friend the Hon. S. A. Cook of Neenah, Wisconsin. Regularly each year he offered four handsome leather chairs as prizes to exhibitors scoring high at the convention. Some forty chairs grace the homes of present and former members of the association. Surely we revere his memory for the kindly interest he always took in our welfare. We miss his timely counsel, his generosity and his presence at our meetings.

The executive committee after fully discussing the question of state prizes, decided that the association offer this year as prizes four handsome gold watches, gentlemen's size, Waltham make, with hunting cases, guaranteed for twenty years. They are all of equal value and were given to the butter makers' exhibiting butter receiving first, second, third and fourth highest scores.

**STATE PRIZE WINNERS.**

First—M. Mickelson, Westby, Score .....	95.75
Second—J. C. Christopherson, Chetek, Score .....	95.25
Third—D. F. Wallace, Thiensville, Score .....	95.00
Fourth—A. L. Larson, St. Croix Falls, Score .....	94.75

**HONOR PRIZE FOR HONOR CLASS.**

F. H. Werner, Waterloo, Score .....	95.50
-------------------------------------	-------

**DISTRICT PRIZES.**

District prizes were offered this year under the same rules as governed this contest at previous conventions.

As there were eight districts twenty-four prizes were offered in all. They are as follows:

First Prize—A twelve piece set silver knives and forks, best Community silver, Georgian pattern.

Second Prize—A set of solid gold cuff buttons, well made with splendid pattern.

Third Prize—A fine silk umbrella, ebony handle, Sterling silver mountings—offered by J. B. Ford Co., Manufacturers of Dairymen's Cleaner and Cleanser, Wyandotte, Mich.

**DISTRICT PRIZE WINNERS**

First District:

First prize—Louis Schauwitzer.

Second District:

First prize—John Mogenson

Second prize—W. A. Moyes

Third District:

First prize—Harold Peterson

Second prize—G. N. Marvin

Third prize—S. J. Edge

Third prize—J. A. Betthausen

Fourth District:

First prize—H. F. Recknagel

Second prize—Arthur Wendlandt

Fifth District:

First prize—John Rasmussen

Second prize—R. S. Anderson

Sixth District:

First prize—L. H. Winter

Second prize—A. C. Schultz

Second prize—Frank Meisner

Third prize—A. O. Garlid

Third prize—R. P. Colwell

Third prize—J. W. Sullivan

Seventh District:

First prize—J. E. Minton

Second prize—Geo. H. Ehrmann

Eighth District:

First prize—A. B. Thoreson

Second prize—W. S. Karker

Third prize—Geo. W. Hanson

Third prize—A. M. Newman

### HONOR PRIZE

The Honor prize this year was won by Fred M. Werner, Waterloo, Wisconsin. It consisted of a handsome mahogany eight-day mantle piece clock.



89 03053307 9

# INDEX

	Page
List of Officers .....	3
List of Members .....	5
Address of Welcome, Mayor John E. Barron, Eau Claire.....	10
Response to Address of Welcome, H. O. Strozinsky, Menomonie....	13
The Dairy Situation, Dean H. L. Russell, Madison .....	16
Cottage Cheese, H. H. Whiting, Washington, D. C. ....	35
The Use of Ice by Wisconsin Creamery Patrons, William White, Washington, D. C. ....	43
The Branding of Whey Butter, R. C. Hastings, Marshfield.....	53
Opportunities for Disabled Soldiers and Sailors in the Dairy In- dustry, Professor E. H. Farrington, Madison .....	69
The Cause and Prevention of Leaky Butter, Professor E. H. Farring- ton, Madison .....	74
A Plan for Economically Standardizing the Manufacture and the Quality of Butter and Cheese, Professor E. H. Farrington, Madison .....	81
The Purpose and Object of the Wisconsin Dairy Council, A. J. Glover, Ft. Atkinson .....	83
Timely Hints to Wisconsin Buttermakers—Are You Equal to the Task? George J. Weigle, Dairy and Food Commissioner, Madison .....	90
Sweet Cream Butter for the Navy, William White, Washington, D. C.	96
The Butter Makers Responsibilities During the Years of the War, Allan Carswell, Clear Lake .....	106
Report of Committee on Resolutions .....	112
Secretary's Report .....	115
Treasurer's Report .....	117
Election of Officers .....	119
Neutralization Cannot Produce Quality Butter, C. E. Lee, Assistant Dairy and Food Commissioner, Madison .....	122
Acidity and Quality, F. W. Bouska, Chicago .....	131
The Neutralization of Cream at Creameries, James Sorenson, St. Paul .....	143
The Economic End of the Neutralization of Cream, H. J. Credicott, Freeport, Illinois .....	148
Judges' Scores .....	160

WISCONSIN  
BUTTERMAKERS  
ASSOCIATION  
19TH ANNUAL  
MEETING

RBW7

B98

1919

DOCUMENTS  
COLLECTION



89 03053307 9