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Proceedings of the twenty-fourth annual convention of the Southern Wisconsin Cheesemakers' and Dairymen's Association held at Monroe, Wisconsin, Thursday and Friday, January 17 and 18, 1924. 1924

Southern Wisconsin Cheesemakers' and Dairymen's Association
Monroe, Wisconsin: Monroe Evening Times Print, 1924

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LIBRARY
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PROCEEDINGS

OF THE

TWENTY-FOURTH

ANNUAL CONVENTION

OF THE

Southern Wisconsin

Cheesemakers' and Dairymen's

Association

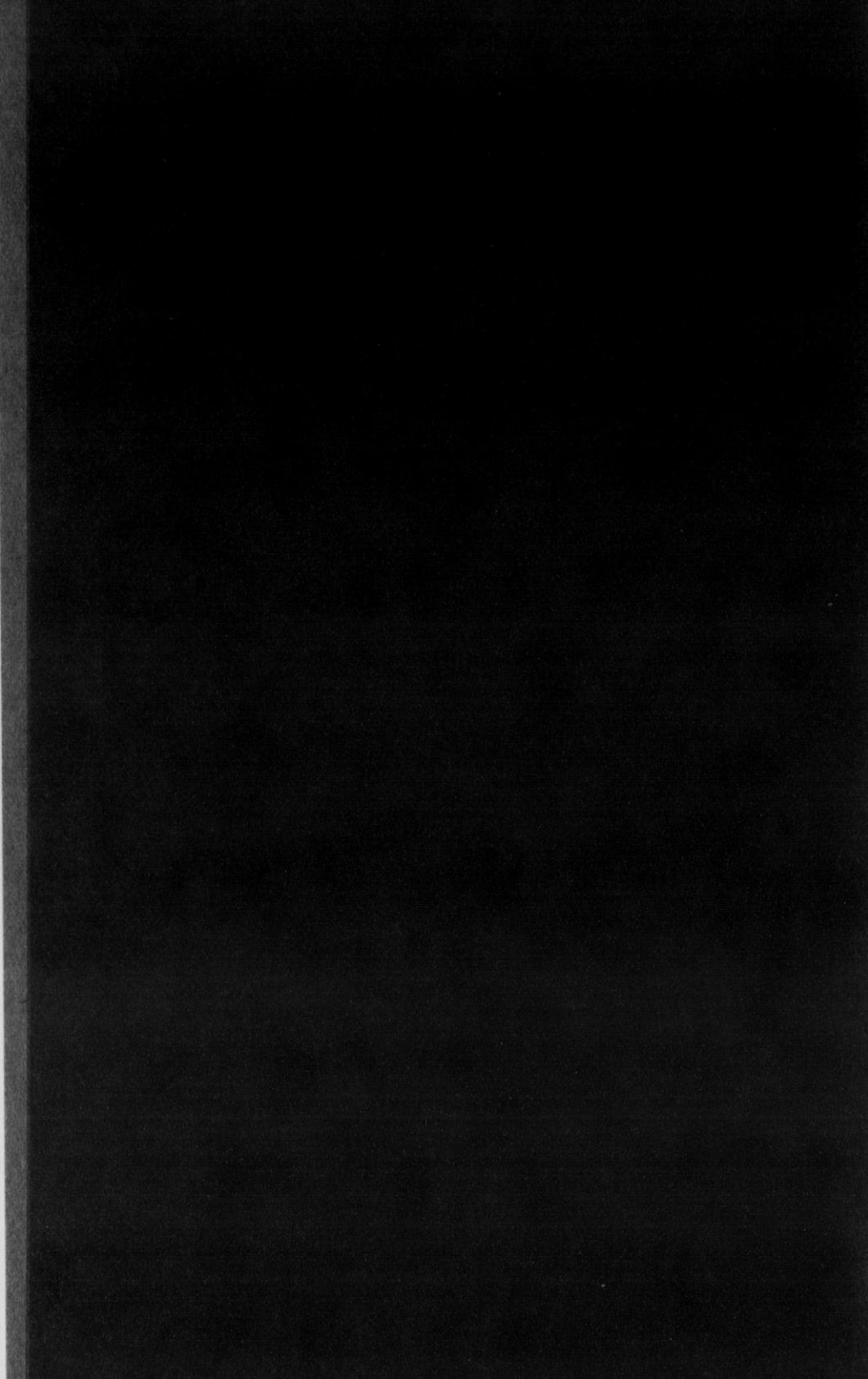
HELD AT

MONROE, WISCONSIN

THURSDAY and FRIDAY, JANUARY 17 and 18

1924

MONROE EVENING TIMES PRINT



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OF THE
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MEMBERSHIP LIST 1924

A

Aplanalp, Alex	Juda, Wis.
Arn & Zweifel	Monticello, Wis.
Aplanalp, Adolph	Monroe, Wis.
Alder, Louis	Monroe, Wis.
Ault, L. D.	Monroe, Wis.
Aeschlimann, Jac.	Argyle, Wis.
Aeschlimann, John J.	Monroe, Wis.
Augsburger, Rudy	Monroe, Wis.
Acherman, Joseph	Monroe, Wis.
Augsburger, Gottfried	Monroe, Wis.
Anderson Style Shop	Monroe, Wis.

B

Brodhead Cheese & Cold Storage Co.	Brodhead, Wis.
Burns, Miss Ethel	Brodhead, Wis.
Blanchardville Blade	Blanchardville, Wis.
Burkhalter, Gottlieb	Monroe, Wis.
Babler, Albert, Jr.	Monroe, Wis.
Buholzer, Emil, Route 3	Juda, Wis.
Bennett, E. W.	Milwaukee, Wis.
Benkert, Fred	Monroe, Wis.
Babler, Henry B.	Monroe, Wis.
Burgy, Jacob	Monticello, Wis.
Bush, G. W., care A. R. T. Co.	Milwaukee, Wis.
Brown, Wm. A., Route 2	Monroe, Wis.
Brand, Franz	Monroe, Wis.
Bruni, Edward	Monroe, Wis.
Blickenstorfer, John, Route 1	Gratiot, Wis.
Bartell, G. C.	Monroe, Wis.
Bernet, Peter	Monticello, Wis.
Baer, Hans	Calamine, Wis.
Blum, Sam	Monroe, Wis.

Buri, Miss Mathilda	Monroe, Wis.
Becker, Dave	Monroe, Wis.
Bear, Dr. W. G.	Monroe, Wis.
Bolender, J. Dry Goods Co.....	Monroe, Wis.
Bleiler, George	Monroe, Wis.
Buholzer, Xaver B.	Monroe, Wis.
Bast, Ray T.	Monroe, Wis.
Babler, J. L.	Monroe, Wis.
Blumer Products Co.	Monroe, Wis.
Bayrhofer, Ed.	Monroe, Wis.
Bennett, Dr. C. W.	Monroe, Wis.
Baltzer, M. E.	Monroe, Wis.
Buhler, Chas. H.	Monroe, Wis.
Boss, Fred	Monroe, Wis.
Becker, Wm. A., & Co.....	Monroe, Wis.
Benkert, F. E.	Monroe, Wis.
Becker, J. M.	Monroe, Wis.
Bennett, Dr. Byron R.	Monroe, Wis.
Benkert, Jacob	Monroe, Wis.
Barlow, C. L.	Monroe, Wis.
Benkert & Stauffacher	Monroe, Wis.
Bauman Hardware & Implement Co.....	Monroe, Wis.
Buri, Louis E.	Monroe, Wis.
Booth, Max G.	Monroe, Wis.
Blumer, Robert W.	Monroe, Wis.
Burkhard, John J.	Monroe, Wis.
Bowen, Miss Mazie V.....	Monroe, Wis.
Ball, Henry	Monroe, Wis.
Bailie, Samuel R.	Monroe, Wis.

C

Combs, Fred	Brodhead, Wis.
Casanova, John	Monroe, Wis.
Carr, George J.	Monroe, Wis.
Chadwick, Howard W.	Monroe, Wis.
Caradine, Dr. Harold B.....	Monroe, Wis.
Chambers, Chas. L.	Monroe, Wis.

Carroll, Edward	Monroe, Wis.
Collentine, Frank	Monroe, Wis.
Clark Drug Store	Monroe, Wis.
Clark, M. Earl	Monroe, Wis.
Connors & Niles	Monroe, Wis.
Caradine, H. N. B.	Monroe, Wis.
Campbell, Emery L.	Monroe, Wis.
Cunningham, Dr. H. F.	Monroe, Wis.

D

Denzler, John	Monroe, Wis.
Dahler, Mike, Route 1	Darlington, Wis.
Drake, Frank, Route 1	Monroe, Wis.
Dettwyler, John	Monroe, Wis.
Derendinger, Chas.	Monroe, Wis.
Dallenbach, Gottfried	Monroe, Wis.
Dahler, Ernest, Route 2	Monroe, Wis.
Dodge, Laroy	Monroe, Wis.
Duebendorfer & Tschudy	Monroe, Wis.
Durst, J. H.	Monroe, Wis.
Dempsey, P. J.	Monroe, Wis.
Dodge, G. Clarke	Monroe, Wis.
Dodge, Chas. S.	Monroe, Wis.
Davis, Frank P.	Monroe, Wis.
Discher & Schneider	Monroe, Wis.
Deiningler, John	Monroe, Wis.
Day Brothers	Monroe, Wis.
Durst, M. C.	Monroe, Wis.
Dunwiddie, William	Monroe, Wis.
Dunwiddie, J. D.	Monroe, Wis.
Dunwiddie, Brooks	Monroe, Wis.

E.

Emminger, Elmer	Brodhead, Wis.
Elmer, Jacob B.	Monroe, Wis.
Eaton, Geo. W.	Monroe, Wis.
Elmer, Henry C.	Monticello, Wis.

Escher, Emil, Route 1	Monroe, Wis.
Elmer, Alvin A.	Monroe, Wis.
Emmenegger, Fred	Monroe, Wis.
Emmenegger, John	Monroe, Wis.
Emmenegger, Robert	Monroe, Wis.
Evenson, Roy	Monroe, Wis.
Elmer, John H.	Monroe, Wis.
Elmer, Henry	Monroe, Wis.
Etter, John T.	Monroe, Wis.
Einbeck Bros.	Monroe, Wis.

F

Fritsch, John D.	Monroe, Wis.
Farrell, J. H., care Marshall D. L.....	Madison, Wis.
Fritsch, John F.	Clarno, Wis.
Feldt, Harvey	Monroe, Wis.
Faeser, Fred	Monroe, Wis.
Frautschy, Arthur C.	Monroe, Wis.
Feldt, John, & Sons	Monroe, Wis.
Flower & Gift Shop.....	Monroe, Wis.
Frautschy, E. D.	Monroe, Wis.
Fitzgibbons Bros.	Monroe, Wis.
Fritz, Dave	Monroe, Wis.

G

Glauser, Fred, Route 5.....	Monroe, Wis.
Gempeler, Jacob, Jr.	Monroe, Wis.
Grossenbacher, Fred	Monroe, Wis.
Geigel, Will	Monroe, Wis.
Geigel, John	Monroe, Wis.
Galle, F. W.	Monroe, Wis.
Gempeler, Wm. D., Route 4	Monroe, Wis.
Guedel, Arnold, Route 7.....	Monroe, Wis.
Gurtner, Adolph, Route 1.....	Rubicon, Wis.
Geiger, W. J.	Monroe, Wis.
Gillum, J. C.	Monroe, Wis.
Galusha, H. B.	Monroe, Wis.

Gifford, R. B.	Monroe, Wis.
Gettings, John	Monroe, Wis.
Gordon, Harold	Monroe, Wis.
Gnagi, Dr. W. B.	Monroe, Wis.
Geiger, J. H.	Monroe, Wis.
Greenwald, Sam	Monroe, Wis.
Geigel Hardware Co.	Monroe, Wis.
Geigel, Matt	Monroe, Wis.
Geigel, Jacob	Monroe, Wis.

H

Haessig, Jacob, Route 4.....	Monroe, Wis
Haldimann, Math.	Darlington, Wis
Henn, William	Monroe, Wis
Haldimann, Fred, Route 3.....	Monroe, Wis.
Hauser, John, care Badger Cheese Co.....	Monroe, Wis.
Hartwig, Geo. F.....	Monroe, Wis.
Hanson, John	Monroe, Wis.
Hoffman, F. L.	Monroe, Wis.
Holsinger, C. A.	Monroe, Wis.
Hefty-Jones Co.	Monroe, Wis.
Hartnett, J. J.	Monroe, Wis.
Heer's Meat Market	Monroe, Wis.
Hoffman, W. D.	Monroe, Wis.
Hauser, John T.	Monroe, Wis.
Hall, C. H.	Monroe, Wis.
Hodges, Dr. F. L.....	Monroe, Wis.
Haren, D. H.	Monroe, Wis
Huffman & Burgy	Monroe, Wis
Heeren, J. B.	Monroe, Wis

I

Industrial Cooperative Union	Monroe, Wis
Ingold, Ferdinand	Monroe, Wis

J

Jackson, E. R.	Blanchardville, Wis
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Janke, L. F.	Madison, Wis.
Jaggi, Casper	Albany, Wis.
Jaberg, Roy	Monroe, Wis.

K

Kunz, Fred, Jr.	Brodhead, Wis.
Koller, Oswald	Brodhead, Wis.
Kuster, Joe, Route 3.....	Monroe, Wis.
Kuenzi, Fred A.	Browntown, Wis.
Kruegger, B. V., care D. & F. Kusel Co..	Watertown, Wis.
Karlen, G. A.	Monroe, Wis.
Kubly, John U.	Monroe, Wis.
Kaegi, Albert	Woodford, Wis.
Knobel, Albert	Monticello, Wis.
Kundert, Leon	Monroe, Wis.
Knight, W. J.	Monroe, Wis.
Kundert Bros.	Monroe, Wis.
Knoll, Paul	Monroe, Wis.
Kundert, Henry, Shoe Shop.....	Monroe, Wis.
Kohli, Fred	Monroe, Wis.
Knipschild Bros.	Monroe, Wis.
Knight, M. J.	Monroe, Wis.
Keel, Everett	Monroe, Wis.
Knipschild, John H.....	Monroe, Wis.
Kohli, Louis H.	Monroe, Wis.
Kohli, Charles	Monroe, Wis.

L

Lichtenwalner, J. P.....	Monroe, Wis.
Legler, Wm. G., 1001 S. Main St.....	Monroe, Wis.
Lichtenwalner, Farmer	Monroe, Wis.
Liechte, Laura, 703 W. Russell St.....	Monroe, Wis.
Lengacher, Fred	Monroe, Wis.
Lauber, Joe	Blanchardville, Wis.
Langacher, Rudy	Monticello, Wis.
Leiser, Gottfried, Route 6.....	Monroe, Wis.
Lamboley, F. E.	Monroe, Wis.

Langacher, John	Monroe, Wis.
Lanz, Fred	Monroe, Wis.
Luchsinger, Frank B.....	Monroe, Wis.
Lynch & Lynch	Monroe, Wis.
Leuenberger, Henry	Monroe, Wis.
Lanz Bros.	Monroe, Wis.
Lenherr, Jacob	Monroe, Wis.
Loveland, Wm. A.	Monroe, Wis.
Ludlow, Edwin	Monroe, Wis.
Ludlow, Willis	Monroe, Wis.

M

Meyer, John, Route 3.....	Brodhead, Wis.
Moser, John, Route 7.....	Monroe, Wis.
Michels, Matt, Department of Markets.....	Madison, Wis.
Marty, Gottlieb	Monroe, Wis.
Merryfield, F. V.	Wild Rose, Wis.
Moe. H. H.	Monroe, Wis.
Marty, Jacob, Sr.	Brodhead, Wis.
Marty, Carl, Jr.	Chicago, Ill.
Meythaler, Wm.	Monroe, Wis.
Musselman, Edith	Monroe, Wis.
Minnig, John	Monticello, Wis.
Meier, John, Route 4.....	Monticello, Wis.
Motz, Anton, Route 8.....	Monroe, Wis.
Martini, August, Route 8.....	Monroe, Wis.
Monroe Dairy Products	Monroe, Wis.
Miller & Burgy	Monroe, Wis.
Meythaler Bros.	Monroe, Wis.
Monroe Bakery	Monroe, Wis.
Monroe Laundry Co.	Monroe, Wis.
Marty, Adam	Monroe, Wis.
Musselman, Fred	Monroe, Wis.
Marty Company	Monroe, Wis.
Metropolitan Store	Monroe, Wis.
Marty, Fred	Monroe, Wis.
Monroe Light & Fuel Co.....	Monroe, Wis.

Meythaler, Frank W.	Monroe, Wis.
Maurer, Rudy	Monroe, Wis.
Moore, Dr. L. A.	Monroe, Wis.
Miller, Walter A.	Monroe, Wis.
Morton, Earl	Monroe, Wis.
McPhillips, Thomas	Monroe, Wis.
Miller & Weaver	Monroe, Wis.

N

Naef, John, Route 4.....	Argyle, Wis.
Niederberger, Alois, Wells Factory.....	Darlington, Wis.
Niffenegger, Jacob	Darlington, Wis.
Norton, Geo. W.	Monroe, Wis.
Noble, B. M.	Monroe, Wis.

O

Olson, O. R.	Blanchardville, Wis.
Ostrum, Harold	Blanchardville, Wis.
O'Brien, James P., care J. B. Ford Co.....	Milwaukee, Wis.
Oertig, Albert, Route No. 1.....	South-Wayne, Wis.
Odell, Emery A.....	Monroe, Wis.
Olson, William	Monroe, Wis.

P

Pagel, William	Monroe, Wis.
Prisk, William	Monroe, Wis.
Pick, W. R., 421 N. Madison St.....	Monroe, Wis.
Pfeiffer, George	Monroe, Wis.
Pietzsch, George	Monroe, Wis.
Priewe, William	Monroe, Wis.
Phenix Cheese Co.	Monroe, Wis.
Patterson, Edgar	Monroe, Wis.

R

Rutsch, Nic	Brodhead, Wis.
Regez, Ernest, & Sons.....	Blanchardville, Wis.

Ridley, L. E., & Co.....	Madison, Wis.
Ruprecht, O. H.	Dubuque, Iowa,
Roelli, Adolph	Darlington, Wis.
Rufenacht, Paul	Monroe, Wis.
Reusser, Adolph, Route 3.....	Monroe, Wis.
Roethlisberger, John, Route 6.....	Janesville, Wis.
Robbins, Chas. H., with De Laval Sep. Co.....	Chicago, Ill.
Rogers, G. J., care Nason Coal Co.....	Chicago, Ill.
Roth, Fred	Monroe, Wis.
Rohrer, Arnold	Monroe, Wis.
Regez, Jacob	Monroe, Wis.
Rote Lumber Yard	Monroe, Wis.
Roub, Drs. J. F. & Son.....	Monroe, Wis.
Roth, H. C.	Monroe, Wis.
Rottler, R. G.	Monroe, Wis.
Roth, Paulus A.	Monroe, Wis.
Regez, Herman	Monroe, Wis.
Regez, Rudy	Monroe, Wis.
Roderick, Claude A.....	Monroe, Wis.
Reck, E. D.	Monroe, Wis.

S

Schwebs, H. J.	Madison, Wis.
Stauffacher, M. H.	Monroe, Wis.
Stauffacher, Geo. L.	Monroe, Wis.
Schepley, C. R.	Monroe, Wis.
Schmid, E. L.	Argyle, Wis.
Schuepbach, Jacob, Beloit St.....	Monroe, Wis.
Schumway, C. G., with N. Y. C. R. R.....	Milwaukee, Wis.
Selek, George	Monroe, Wis.
Saeger, R. V., Route 2.....	South Wayne, Wis.
Stauffacher, John	Calamine, Wis.
Schmersy, Herman, Jr., Route 3.....	Monroe, Wis.
Sammis, J. L., College of Agriculture.....	Madison, Wis.
Staempfli, Fred	Monroe, Wis.
Soliva, Hans	Basco, Wis.
Stauffacher, D. D.	Monroe, Wis.

Sery, Ed.	Monroe, Wis.
Stettler, Christ, Route 1.....	Monroe, Wis.
Schuetz, John, Route 3.....	Monroe, Wis.
Strauss, Christ, Route 8.....	Monroe, Wis.
Saucerman, W. T.	Monroe, Wis.
Schwartzlow, C. J.	Monroe, Wis.
Schuetz, Gottfried	Monroe, Wis.
Siegenthaler, Mrs. Fred	Monroe, Wis.
Stauffacher, Fred J.	Monroe, Wis.
Stauffacher, Glen	Monroe, Wis.
Stuart, George W.	Monroe, Wis.
Schuetze, Wm. A.	Monroe, Wis.
Schaad, Emil	Monroe, Wis.
Sun Prairie Cheese Co.....	Monroe, Wis.
South Side Market	Monroe, Wis.
Shefford Cheese Co.	Monroe, Wis.
Schmid, Adolph	Monroe, Wis.
Strahm, John	Monroe, Wis.
Schindler, Dr. A. J.	Monroe, Wis.
Shriner Bros.	Monroe, Wis.
Stauffacher, W. J., Co.	Monroe, Wis.
Schneider, Max	Monroe, Wis.
Solomon, Henry, Coal & Iron Co.....	Monroe, Wis.
Scheidegger, Ernest	Monroe, Wis.
Scott, G. A.	Monroe, Wis.
Stoldt & Grimm Co.	Monroe, Wis.
Schmidt, Leon	Monroe, Wis.
Stauffacher, I. M.	Monroe, Wis.
Smith, Charles J.	Monroe, Wis.
Service Garage	Monroe, Wis.
Schneider, George	Monroe, Wis.
Speck, Nick	Monroe, Wis.
Schindler, Chas. A.	Monroe, Wis.
Stillman, C. L.	Monroe, Wis.

T

Trickle, Jesse	Monroe, Wis.
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Trumpy, Henry	Monroe, Wis.
Trickle, Joe	Monroe, Wis.
Trumpy, Fred	Monroe, Wis.
Trumpy, Russell	Monroe, Wis.
Thomen, August, Route 1.....	Blanchardville, Wis.
Times Printing Co.	Monroe, Wis.
Times Printery	Monroe, Wis.
Tuttle, Harold W.	Monroe, Wis.
Treat, Frank A.	Monroe, Wis.
Tschanz, John	Monroe, Wis.
Theobold, Joseph	Monroe, Wis.
Triangle Cheese Co.	Monroe, Wis.
Thorp, Ed. M.	Monroe, Wis.
Trukenbrod, W. F.	Monroe, Wis.
Trukenbrod, William	Monroe, Wis.
Trumpy, Joseph	Monroe, Wis.
Treat, B. G.	Monroe, Wis.
Tyler, Frank N.	Monroe, Wis.
Thorp, George	Monroe, Wis.

U

Ula, Chris.	Blanchadville, Wis.
Union State Bank	Blanchardville, Wis.
Ubert, Christ, Route 9.....	Monroe, Wis.
Universal Grocery Co.....	Monroe, Wis.

V

Vogel, Gottfried, Route 2.....	Brodhead, Wis.
Voelkli, Henry	Monroe, Wis.
Van Wagenen, Henry G.....	Monroe, Wis.

W

Wittwer, Gottfried	Brodhead, Wis.
Winder, Wm., Asst. Dairy and Food Com....	Madison, Wis.
Wuethrich, Gottfried	Clarno, Wis.
Wirz, Eugene	Darlington, Wis.
Weirich, P. J.	Monroe, Wis.

Wenger, Sam	Monroe, Wis.
Wenger, Ralph H.	Monroe, Wis.
Wenger, Wm. E.	Monroe, Wis.
Wisconsin Utilities Co.	Monroe, Wis.
Wilmet, Leon J.	Monroe, Wis.
Waelti, Gottfried	Monroe, Wis.
Woodle, L. A., & Son.....	Monroe, Wis.
White, Leland C.	Monroe, Wis.
Whalen, George	Monroe, Wis.
Waldecker, Carl	Monroe, Wis.
Wenger, Rudy	Monroe, Wis.
Wettengel, Fred W.	Monroe, Wis.
Wier, Dr. M. R.	Monroe, Wis.
Wilkinson, G. W.	Monroe, Wis.

Y

Young, Ray A.	Monroe, Wis.
Young & Company	Monroe, Wis.

Z

Zuercher, Chas., Jr.	Brodhead, Wis.
Zibung, Valentine, Route 4	Argyle, Wis.
Zumbach, Arnold	Calamine, Wis.
Zeller, Conrad	Monroe, Wis.
Zilmer, A. W.	Monroe, Wis.

HONORARY MEMBERS

Luchsinger, Thomas	Chicago, Ill.
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OFFICERS FOR 1924

President—Fred Marty	Monroe, Wis.
Vice President—John Deininger	Monroe, Wis.
Secretary—Henry Elmer	Monroe, Wis.
Treasurer—Joseph Trumpy	Monroe, Wis.

Directors

Fred E. Benkert (for three years).....	Monroe, Wis.
Gottfried Waelti (for two years).....	Monroe, Wis.
Jacob Lenherr (for one year).....	Monroe, Wis.

Judges on Checks

Fred Emmenegger	Monroe, Wis.
Gottlieb Marty	Monroe, Wis.
Rudy Regez	Monroe, Wis.

Committee on Resolutions

Chas. R. Schepley	Monroe, Wis.
H. H. Moe	Monroe, Wis.
Russell Trumpy	Monroe, Wis.

Auditing Committee

Fred Kuenzi	Browntown, Wis.
Adolph Aplanalp	Monroe, Wis.
M. H. Stauffacher	Monroe, Wis.

ADDRESS OF WELCOME

Fred Kohli, City Mayor, Monroe, Wisconsin

I am present at the opening session of the Southern Wisconsin Cheesemakers' and Dairymen's Association convention at the request of your secretary. As mayor of the City of Monroe, I have the privilege of greeting you and extending to all those attending this convention a hearty welcome. Monroe has long been known for its hospitality. We citizens and business men of Monroe realize that the dairy industry means much to the prosperity of the city and the community and this interest is reflected in the various activities sponsored by the people of Monroe and supported by them financially, which spread the good word "Cheese" far and wide, in this country and abroad. I refer to such activities as Cheese Day and other similar events.

It is not my task or is it within my power to enlighten you on the many technical phases of the dairy industry—that is left to men who have become proficient in this line. We are each supposed to be good in our own line. A minister called in a doctor to treat his wife. When the minister's wife recovered he asked for his bill, but the doctor did not want to charge his pastor anything and so replied, "I'll tell you what we'll do, we are each supposed to be good in our own line. Now I will keep your wife out of heaven just as long as I can if you will keep me out of hell just as long as you can."

Cheesemaking was formerly carried on by rule-of-thumb methods, but the processes have been thoroughly worked out by experiment stations of late, so that the underlying principles and the conditions affecting the operations are well understood. It is this kind of work that

the officers of this association are encouraging and their efforts should have the co-operation of everyone interested in the dairying industry.

Cheese is a healthy and nutritious article of diet, worthy of wider use than it is now commonly given in this country. And this fact brings to my mind something that I believe should be given a great deal of consideration by the people of this community.

This brings to my mind an incident which occurred in Los Angeles, where a large delegation of visitors was received at the Chamber of Commerce building and each one presented with a large orange, bearing the mark of a particular grade of orange which Los Angeles County boasts of as the best ever. The orange appeared to be a fine specimen, but upon opening it, found it to be lacking in juiciness, in fact, a poor specimen to be distributed for advertising purposes.

This same condition is said to exist in Monroe, the metropolis of the foreign cheese industry in Wisconsin. Strangers visiting our city are being served with an inferior product in many instances and often it is difficult to get a good grade of cheese right here in Monroe. Visitors to our city, if impressed with the quality of our product, can do much to advertise Green County Cheese.

Another opportunity to impress visitors to our county with the magnitude of our industry would be to erect a fac-simile of a loaf of Swiss cheese in a conspicuous place in the heart of our business district, not the size of an average loaf, but an enormous reproduction, ten or twenty times as large. Visitors would never leave our community without finding out more about our industry.

An analysis of the growth of the cheese industry of the United States shows that in 1890 Wisconsin produced but 21.3% of the cheese manufactured. New York state produced 48.3%. Twenty years later Wisconsin's percentage increased to 46.5%, while New York dropped down to 32.9%. In 1922, Wisconsin's output had increased to 66.76%, while New York was still sliding, its

production being only 17.98% of the country's total. Someone has said: "The ladder of life is full of splinters, but we fail to realize it until we begin to slide down." The moral of this is: Keep climbing.

It therefore behooves those interested in the welfare of our cheese industry to do all that we can to keep apace with the rest of the world and keep climbing. Our lack of interest may bring us into direct contact with the splinters which are going to bring us to a realization of the importance of keeping the industry climbing.

REPLY TO ADDRESS OF WELCOME

Prepared By **E. W. Carter**, Manager of De Laval Separator Co., Chicago, Ill. Read by **Charles H. Robbins**, Sales Manager.

Mayor Kohli, we appreciate your words of welcome and the spirit of friendliness which you and your citizens have always shown toward the Southern Wisconsin Cheesemakers' and Dairymen's Association, as we have gathered here from year to year in annual convention. We appreciate also the friendly greeting, the hand of fellowship, the kindly interest, the genuine hospitality which we always receive, when, as individuals we visit your beautiful and progressive city. The growth and prosperity of your city has been intimately associated with the growth of the dairy industry and especially the cheese industry.

It is nearly half a century since the first cheese factory was established in Green County. It is nearly a quarter of a century since this association was formed. Much progress has been made since that first factory was built and even more since the first annual convention of this association was held. It is not too much to say we have made greater progress during the last 25 years than in any complete century which preceded this period—progress in science and invention—progress in methods of production and distribution of the necessities and luxuries of life.

We have made wonderful progress in material things. That which was a luxury for the few 25 years ago is a necessity for all of us today. Human life has become pleasanter and the average span has become longer.

We have made great strides in the production, manufacture and distribution of dairy products. The scrub

cow has given place to the purebred animal producing in greater quantity at lower cost. The flimsy creamery and cheese factory building of the early days with its primitive equipment and wasteful methods is rapidly disappearing and in its place we are erecting substantial modern buildings equipped with the best that science and invention can supply to prepare and conserve our dairy products which we now know are the most valuable and necessary of all the food products which an all wise Creator has given us.

Cheesemaking is no longer a trade. It has become a science. The successful cheesemaker of today must know something of chemistry and even more of bacteriology. The old open fire kettle has been replaced with one heated by steam and the modern cheesemaker must know how to handle and care for a steam boiler.

No longer does the cheesemaker skim by hand a small amount of fat from a tank of sour whey and make an inferior article of whey butter. No, he runs a centrifugal separator which recovers all of the fat and sells a superior article of whey cream at top prices thus saving a valuable food for mankind and also increasing the returns to the man who milks the cows. And he must be something of a mechanic to operate and take proper care of that machine.

In fact, Mr. Mayor, there is no class of men in your community or in this great dairy state of which we are all so proud who need a broader knowledge than our cheesemakers. And there is no class of men in your community who are individually doing more to add to the wealth of your county and its neighboring counties than the faithful, conscientious and progressive cheesemakers of this association. I know that you appreciate the good work of our cheesemakers. We have had your encouragement and support in the past and are confident we shall have it in the future.

With you as our advocate as mayor of this city—as a progressive leader of your progressive citizens—with

your position and prestige as an editor I feel confident that our cheesemakers will receive the recognition and the reward which their service to this community entitles them.

In all of this progress which we have made in dairying and in dairy manufactures our Dairy School at Madison has had a leading part. Much honor is due to those men who have devoted their lives to research work, to the development of that scientific knowledge and its practical application which has made progress so rapid.

Our state Dairy and Food Department is also entitled to credit for its part in this great work. And more recently the Dairy Division of our United States Department of Agriculture has given us valuable assistance in the solution of some of our difficult problems. We acknowledge our indebtedness to all who have aided us in greater production and in better methods of manufacture.

In all of this progress the good people of Monroe have had a vital interest. Your city is the metropolis of Green County, the center of the cheese industry in this section of our great dairy state. We are pleased to acknowledge and we thank you for the service you have rendered and the encouragement you have given to dairying in the past. We know you have done it unselfishly, but at the same time you recognize that the prosperity of your city is most intimately connected with the prosperity of the dairymen and cheesemakers of this community.

Your city is fortunate to have had in recent years this stable industry as its support. While general agriculture has been going through a period of depression from which we are now happily emerging, dairying has been less affected than any other branch of agriculture. While banks have been failing in the grain raising sections of the northwest and in the cotton raising sections of the south, your banks and your merchants have gone along doing a safe and profitable business. Your professional men have had no unusual difficulty in collecting

their bills. You have had no hard times.

I am confident that you and your progressive citizens will continue to boost for further advancement in dairying and improved methods of manufacture. It may be by offering convention prizes as some of your citizens have so generously contributed for this meeting. It may be by helping some cheesemaker to attend the Short Course at Madison. It may be by simply speaking a word of appreciation and encouragement to some dairyman or cheesemaker. It may be in any one of a dozen other ways, but whatever you do for the advancement of dairying and for more adequate returns to the dairyman and cheesemaker will prove a good investment, bringing large and increasing returns to your city and all of its people.

To the officers and fellow members of this association I must express my thanks for the honor of representing you on this occasion. I hope this may be the most successful meeting we have ever held. With our worthy President to guide us, with such able speakers as your program committee has secured, with the discussions which will be just as valuable as we make them, there is no reason why we should not go away from this convention well repaid for the time we spend here.

To your program committee which invited me to respond for this association I extend the thanks of all manufacturers and dealers in cheesemaking machinery and supplies. I do not consider it a personal compliment but rather a recognition of our part in the upbuilding of this association and our support of every movement for the advancement of dairying. It has been a pleasure to work for you and with you. We are proud of our membership in this association. We are proud to have had a part in the progress of the greatest business of this great state—the business of dairying. We shall strive to serve you even better in the future.

To you, Mayor Kohli, and all the good people of Monroe, I again extend the sincere thanks of this association for your hospitality.

SECRETARY'S REPORT

Henry Elmer, Monroe, Wisconsin

Mr. President and Members of the Association:—
Ladies and Gentlemen:

Again it is my pleasure to submit the report of our last year's activities. Speaking in general we can be well satisfied with the results, as it is always the aim of our association to guard and advance the interest of our great cheese industry and to let other people know what Southern Wisconsin is doing.

Your Secretary, in the name of the association, extended to the family and relatives of the deceased John Luchsinger of Monroe, Wis., our sympathies. Regarding the other resolutions passed at our last annual convention, wish to state that with the help of the wholesale cheese dealers they were almost adjusted. The Block, Brick and Limburger boxes used in Southern Wisconsin are of a nearly uniform size and the nuisance of using second handed boxes is pretty well abolished. The cheesemakers are also making a more uniform size of Brick and Limburger cheese, so that the regular size foil and paper covers the cheese entirely. In regard to the Process Cheese, your secretary appeared before the House Committee at Madison. His plea to have the Process Cheese branded as such was in vain, but let us hope for the future that the factory salesman will instruct the cheesemaker to make no more grinders, but No. 1 goods instead.

Our President, Mr. Marty, and myself appeared twice before the finance committee at Madison in order to have our usual annual state appropriation of One Thousand Dollars continued, and we are glad that with the help of our assemblyman, Mr. F. K. Hefty, we succeeded.

From February 5 to 17, 1923, a course of instruction for Swiss cheesemakers, under the direction of Professor J. L. Sammis, Mr. C. M. Gere and Mr. Fred Marty, was given at the Dairy Building of the University at Madison and the following 36 Swiss cheesemakers took part:

Emil Dubach, Lamont Central Factory, Darlington, Wisconsin.

Paul Brog, Lawver Factory, Browntown, Wis.

Alfred Beyeler, Route No. 2, Blanchardville, Wis.

H. J. Ramseier, Town Line Factory, Blanchardville, Wisconsin.

Gottlieb Werren, Box 64, Blue Mounds, Wis.

Casper Durtschi, Barneveld, Wis.

Gottfried Kohler, West Valley, N. Y.

Simon Furrer, Route No. 1, Barneveld, Wis.

John Zbaren, Route No. 2, Barneveld, Wis.

Ernest Thalmann, Route No. 1, Albany, Wis.

John Schmid, Route No. 19, Evansville, Wis.

John Stadelmann, Woodford, Wis.

Alfred Hoerburger, Duncan Hill Factory, Argyle, Wisconsin.

John Hirsbrunner, Route No. 1, Clarno, Wis.

William Walder, Route No. 2, Monroe, Wis.

Arnold Zumbach, Route No. 3, Darlington, Wis.

John Aeschlimann, Dill Factory, Browntown, Wis.

Arnold Sutter, Route No. 3, Monroe, Wis.

Fred Ammon, Box 35, Hollandale, Wis.

Robert Menet, High Crossing Factory, Ridgeway, Wisconsin.

Urban Kaegi, Woodford, Wis.

Joseph Kuster, Route No. 3, Monroe, Wis.

Wm. E. Becker, care Dairy Records Office, Madison, Wisconsin.

Alex Hoerburger, Route No. 1, Argyle, Wis.

John Blickenstorfer, Route No. 1, Gratiot, Wis.

Jacob Lenherr, 223 W. Mechanic Street, Monroe, Wisconsin.

Jake Erb, Cream Ridge Factory, Browntown, Wis.
Fred Baehler, Route No. 4, Brodhead, Wis.
John Poschung, Route No. 2, Winslow, Ill.
August Bænziger, Route No. 1, Gratiot, Wis.
Fred Schwarz, Route No. 1, Darlington, Wis.
Herman Mader, W. Summit Street, Monroe, Wis.
Fred Scheidegger, Mt. Horeb, Wis.
Adolph Schneider, Route No. 2, Barneveld, Wis.
Emil Brand, Hillside Factory, Mt. Horeb, Wis.
Albert Ryser, Route No. 6, Monroe, Wis.

No charges of any kind were made, only that all those that had no copy of the Peter and Held Instruction Book had to buy one at \$1.25 per copy. Everyone of the boys were highly benefited and made good in cheese-making at the different factories. One of them took first premium at the Wisconsin Cheesemakers Convention held in Milwaukee this month.

On account of the dates for the Wisconsin Products 1923 Exposition following the Cheese Day celebration so close, the wholesale cheese dealers felt that the advertising of our foreign cheese industry here at home would well replace the Milwaukee exposition.

In 1922 we had three fully paid up cheese factories on our membership list, but in 1923 we had not a single factory application for membership.

Mr. Chas. A. Eckberg, Field Instructor, under the direction of Mr. C. M. Gere, visited over 60 factories and interviewed 428 people in connection with the work. In 20 factories or more, Mr. Eckberg with Mr. Gere made cheese personally, and in many cases stayed a whole week, and worked with the cheesemaker and helped him to come back on the smooth road again. Mr. Eckberg's report will fully cover his work.

I sent out nearly 500 pieces of mail during the past year. Sending all the premiums, settling for all the bills, answering all the letters, getting in touch with all the different cheese dealers and supply houses for prem-

iums and extra prizes, mailing the proceeding books to all members, getting the speakers, soliciting memberships, arranging the program and getting ready for the convention, kept me busy most of the time.

Your directors and officers held three meetings during the year to consider the employment of a Field Instructor, to look after necessary legislation and outline the program for our twenty-fourth annual convention.

We hope that the program as a whole, the day's sessions and evening entertainments will give entire satisfaction to every one present, and that all of those present at the opening session will invite all their friends to come for the afternoon session and for all day Friday.

In conclusion I wish to thank all the business and professional men who treated me in such a friendly way while soliciting for membership. Monroe is certainly a faithful supporter of our association, as only a small percentage turned me down.

Be a booster for the convention. Come yourself and have a good time.

TREASURER'S REPORT

Joseph Trumpy, Treasurer, Monroe, Wisconsin

Receipts

Jan. 12—

1923 Balance	\$2,807.21
Henry Elmer, membership	232.00
Miss Benguerel, membership	97.00
Arn Zweifel Co., membership.....	27.00
Ernest Regez & Sons, Blanchardville, mem- bership	3.00
Brodhead Cheese & Cold Storage Co., mem- bership	7.00
Admission Tickets	43.00
The Conley Foil Co., for premiums.....	17.50
Brodhead Cheese & Cold Storage Co., for prizes	5.00
Dill Cheese Factory Co., Browntown, 1922 dues	10.00
Sharples Separator Co.	25.00
23 Copies Peter Held Books.....	27.85
Interest	62.85
From State	1,000.00
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Total	\$4,364.41
Disbursements	1,888.40
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Balance	\$2,476.01

Respectfully submitted,
JOSEPH TRUMPY, Treasurer.

Jan. 15, 1924.

We, the undersigned auditing committee, have examined the treasurer's figures and found them correct.

ADOLPH ABPLANALP,
F. A. KUENZI,
M. H. STAUFFACHER,
Auditing Committee.

Disbursements

C. A. Eckberg, 1923 service.....	\$ 900.00
Henry Elmer, salary \$200, postage \$14.59.....	214.59
Fred Marty, salary	50.00
420—Miss Speck, for music.....	55.00
426—Miss Nellie Pandow, playing during picture show	5.00
424—Badger Cheese Co., Limburger for janitor, \$1.05, Cheese Exhibit 5.00	6.05
422—Movie Inn for moving picture 1923 conven- tion	62.50
423—Miss Benguerel for clerical work.....	5.00
416—W. E. Daly for speech at annual convention	50.00
419—Geo. Schneider, hall rent \$55.00, one man 2 nights \$5.00.....	60.00
446—Anton Motz, prizes on Limburger.....	18.00
425—L. A. Woodle & Son, 2,000 admission tick- ets	6.00
438—Carl Stocker, prizes on Brick Cheese, Assn. \$5.49, Sharples \$5.00	10.49
439—Emil Escher, prize on Brick Cheese.....	5.43
447—John Minnig, prizes on Limburger, Conley	10.43
434—Christ Ubert, prizes on Swiss and Brick....	10.67
433—Fred A. Kuenzi, prize on Swiss Cheese.....	5.22
448—John Meier, prizes on Limburger \$5.37, Conley, \$2.50	7.87
443—Alex Hoerbarger, prize on Brick Cheese....	5.29
440—Mike Dahler, prize on Brick Cheese.....	5.36
429—Jacob Neffenegger, prize on Swiss Cheese	5.40
441—Arnold Zumbach, prize on Brick Cheese..	5.35
449—August Martini, prize on Limburger.....	5.32
437—George Graf, prize on Block Cheese.....	5.40
427—Valentine Zibung, prize on Swiss, Assn., \$5.50, Hanson, \$10.00, Sharples, \$7.00; on Brick, Assn., \$5.27	27.77
435—Alois Niederberger, prize on Swiss Cheese	5.18
418—The Times Printing Co., convention pro- grams	19.00

442—Christ Stettler, prize on Block Cheese.....	5.32
451—Rudy Langacher, prize on Limburger.....	5.29
445—Anton Kohler, prize on Brick.....	5.21
431—Fred Schwartz, prize on Swiss \$5.28, Brick \$5.16	10.44
450—Werner Blum, prize on Limburger.....	5.29
456—Gottfried Waelti, for attending 3 meetings	3.00
458—Fred E. Benkert, for attending 3 meetings	3.00
454—John Deininger, attending 5 meetings.....	5.00
457—Jacob Lenherr, attending 3 meetings.....	3.00
455—Joseph Trumpy, attending 4 meetings.....	4.00
460—Henry Elmer, for trip to Madison account state appropriation	3.00
453—Professor E. G. Hastings, expenses during convention	3.33
417—The Herold Press, 4 large show cards and 1000 membership cards.....	22.50
459—Fred Marty, trip to Madison Dairy School and state appropriation.....	5.88
466—Times Printing Co., 400 copies 1923 conven- tion proceedings	114.00
444—Sebastian Laesser, prize on Brick Cheese....	5.25
467—St. Louis Button Co.....	29.74
430—Robert Emmenegger, prize on Swiss and Brick Cheese	10.48
452—William Gempeler, prize on Limburger....	5.28
436—Joseph Lauber, prizes on Block, Assn.. \$5.50, Hanson, \$2.50.....	8.00
432—Eugene Wirz, prize on Swiss Cheese.....	5.28
421—Miss Viva Jost, M. H. S. Glee Club.....	10.00
461—Shriner Bros., rent and cartage on chairs	4.00
462—Henry Elmer, trip to Madison in regard to process law	4.75
463—The Herold Press for 1923 Cheesemakers' Course cut	5.80
464—Henry Elmer, trip to Madison regarding annual appropriation	3.20

465—Fred Marty, trip to Madison regarding annual appropriation	3.20
428—John Bussman, prizes on Swiss, Assn., \$5.48, Sharples \$3.00.....	8.48
Interest on bond figured in last year's balance at Madison not received	20.36
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	\$1.888.40

ADDRESS BY PRES. FRED MARTY

At the Annual Convention of the Southern Wisconsin Cheesemakers' and Dairymen's Association

As we are assembled in this our 24th annual convention of the Southern Wisconsin Cheesemakers' and Dairymen's Association we can look back nearly a quarter of a century since this association was first organized, prompted to action by the need of advancement and betterment of the cheese industry of those days—so do we find ourselves still struggling on through the medium of this organ to keep pace with the evolution of time.

This organization was first organized by the cheesemakers who after a number of years found that the interest of a cheesemaker and farmer were mutual; so the original name of Southern Wisconsin Cheesemakers Association was changed to Southern Wisconsin Cheesemakers' and Dairymen's Association.

Accomplishment of This Association.

As an incentive to our younger members and new members, I believe it to be in order that we rehearse some of the accomplishments that were brought about by the influence and effort of this organization, which are as follows:

The establishment of a Foreign Cheese Department at the Wisconsin Dairy School in 1901.

A Traveling Cheese Instructor engaged each season since 1901, except for a couple of years during the late war.

The recognition of the United States Department of Agriculture in establishing a post in Green County, represented by the able expert on Swiss Cheese, Mr. C. M.

Gere, for the advancement and betterment of our Domestic Swiss Cheese.

The introduction of the Whey Separator by our Cheese Instructor at the Wisconsin Dairy School in 1904, which today means millions of dollars to the dairymen of Wisconsin.

Inauguration of a Two-Weeks Swiss Cheese Making Course at the University of Wisconsin, in co-operation with the University of Wisconsin and United States Department of Agriculture in 1921.

Besides the many activities in legislative matters such as the Whey Butter Law—which for a time seriously threatened to classify the whey cream from the whole milk cream, for the sole purpose to buy the whey cream at a lower price, so it would have to be shipped out of the state before it could be made into creamery butter. This law is not yet repealed, but stands on our statute books as a dead letter law.

The Net Weight Law, which, as you will remember caused such alarm to the limburger factories, who for a time thought they had to weigh each cheese before they packed it.

The enactment of a state law governing the Butter Fat Standard on Swiss, which was changed from 50% to 43% fat of the water free substances. This change in Fat Standard enables us to manufacture a domestic Swiss cheese in competition with the imported Swiss cheese.

These accomplishments could only be brought about by the united efforts of this association, and with our annual educational convention program for cheesemakers and dairymen, should lead to an increasing support of this association.

Future Problems.

We are constantly confronted with new problems of importance, which will need the united efforts of our organization.

For example, there has just recently developed a con-

troverſy between cheese factory competitors, where the complainant holds that we only have a right to manufacture a Swiss cheese containing 43% fat of the water free ſubſtances, in Wiſconſin, and that we have no right to ſtandardize the milk, or in other words, to remove any part of the cream from the milk for the manufacture of Swiss cheese in Wiſconſin. Thus, it would ſeem that the privilege that has been enjoyed by many makers, in removing part of the cream from the milk, under the 43% fat ſtandard, to obtain a large eyed, open Swiss cheese, are to be denied us by our competitors for milk.

It therefore needs the immediate attention of this aſſociation to appoint a committee to formulate the baſis of a new fat ratio for the manufacture of Swiss cheese; to be preſented to the next legiſlature in ſeſſion in 1925.

Hold Faſt To Old Tradition.

With the poſſible enforcement of the 43% fat ſtandard on Swiss cheese, as the law is written today; and the ſcrupulous market demand for blind Swiss cheese, there has dawned upon us a new era, which will either mean a continued ſucceſs, or the lowering of the art of making Swiss cheese, that will tend to widen and extend the borders of our preſent Swiss cheese ſection from coaſt to coaſt, which to ſome extent has already happened.

Theſe newly developed conditions are certainly not worthy of our ſtate educational inſtitutions, and other activities in our ſtate, as an incentive for the neceſſity of art and ſkill, neceſſary for the manufacture of a high grade, well-eyed, developed Swiss cheese.

If this is no longer neceſſary, then the Green County Swiss cheese ſection has loſt the "hen that laid the golden egg" as a blind Swiss cheese can be made any where a cow is milked, and anyone can make it. So let us hope that the preſent ſhadow which is caſting its ſeriousneſs into our future Swiss cheese induſtry, may only be temporary. As the wiſe will hold on to our old tradition, namely, that

of an open well-eyed Swiss cheese, of which there has never been enough made in this country, as there are annually hundreds of thousands of pounds of large eyed Swiss cheese imported. A factor that has brought live competition to the doors of our cheese factories, and which has kept this section independent and in the lead over any dairy section in the Union.

Quality Our Future Salvation.

That the efforts and accomplishments of this association may not be in vain; then let us take advantage of the splendid results obtained by the method employed in the manufacture of Swiss cheese by our instructor, Mr. C. M. Gere, at a local Swiss cheese factory here in Monroe. Among many who had seen these Swiss cheese was Dr. Buri, a Swiss delegate of the Dairy Council to the National Dairy Show, held last fall at Syracuse, New York, and who also made an inspection tour of Green County and other parts of Wisconsin, and after scoring a number of the Swiss cheese, made by Mr. Gere, stated that they had nothing better in Switzerland.

Swiss Cheese Making Course at Madison.

For the benefit of Swiss cheesemakers, who wish to become acquainted with the use of cultures, preparations of rennet, the ratio of fat and casein, and other tests for the manufacture of Swiss cheese, there will be held our fourth annual two-weeks' course at Madison, Wis., February 4th to 16th, 1924. Your attendance at this course alone will warrant a continuation of this course in the future, and it is hoped that due recognition will be shown by the swiss cheesemakers.

Let Quality Be the Slogan of This Convention.

The consumer is entitled to quality. He is willing to pay for quality. Can we expect to exist and hold our own by making delivery of Swiss cheese from the factory less than three weeks old? Can we afford to lower the quality

standard of our Swiss cheese and help to make the entire dairy sections our competitors and still expect to get from 10 to 15c per pound more than American and Brick cheese factories are receiving for their cheese? Can the cheesemaker afford to see the quality standard lowered without jeopardizing the present scale of wages?

These questions can be answered emphatically with a big "NO." Just as sure as we drift away from that old tradition which dates back to the early history, with the farmer in the proper handling of the milk, the Swiss cheesemaker in knowing how to make it into an open-eyed Swiss Cheese; we then will have lowered our income down to the average income of any cheese factory in the country; just as sure will the wage scale of the Swiss cheesemaker follow downward to the average of any other cheesemaker in the country.

Conclusion

In conclusion, permit me to say: Let us hold fast to our golden tradition of knowing how to make an open-eyed Swiss cheese. Let those less fortunate in knowing how, make the blind Swiss cheese, thus will we live up to our adopted slogan, "Green County's Gold, 'Real' Swiss Cheese."

THE BACTERIOLOGY OF SWISS CHEESE

E. G. Hastings, Dairy School, University of Wisconsin.

It is easy for the ordinary consumer of butter to see how this can be made from milk, since it represents the unchanged fat of the milk to which flavor has been given through the souring of the cream. It is, however, very much more difficult for the consumer of cheese to see how this product can be made from milk, since it is so different from milk, especially in its taste. It is also noticeable that the different varieties of cheese vary widely in flavor. The cheese consumer might well ask the question as to how so many different types of cheese can be made from the same raw materials, milk, rennet and salt.

If the cheese consumer should investigate the problem of the making of cheese from milk, he would find that the transformation by which the milk with its mild, sweet taste is changed into the different kinds of cheese with their characteristic flavors could be carried out only through the agency of bacteria, microscopic forms of life. It would be evident to the cheese consumer that the bacteria responsible for the flavor of one kind of cheese must be different from those causing the flavor of other types of cheese. He would conclude that not only must bacteria be present but that a particular kind or kinds must be present in order to make any one of the many types of cheese.

It is, therefore, the duty of the cheesemaker to see that the proper bacteria are present in the materials from which he is to make his cheese. In other words, every cheesemaker must be something of a bacteriologist, and the more he knows of the kind of bacteria which he must

use in his process, the more likely he is to be successful in his work.

Either one of two conditions may present itself, the bacteria necessary for the making of the desired type of cheese may be present in the milk as it is delivered to the cheese factory by the farmer. The making will then consist in the adding of the rennet to curdle the milk, and of insuring conditions that shall favor the growth of the desired kind of bacteria in the cheese itself. Again, the desired type of bacteria may not be present in the milk. In this case the making will demand, first, the adding of the proper kind of bacteria to the milk, and this will involve, of course, some method of growing these bacteria. The second step in the making of this kind of cheese will be the same as is the case when the bacteria are in the milk itself; namely, to insure favorable conditions for their development in the cheese as it undergoes the ripening process.

The first condition obtains in the making of American cheese. The acid-forming bacteria used in the making of this cheese are those which are concerned in the ordinary souring of milk. They grow very favorably at ordinary temperatures, those ranging from 70 degrees to 90 degrees F. They are also to be found in the milk as it is delivered at the cheese factory. The second condition is that which exists in the making of Swiss cheese. The acid-forming bacteria necessary for the preparation of this type of cheese are found in milk only in very small numbers, if at all. The conditions which permit their growth are quite unlike those which favor the development of the acid-forming bacteria used in the making of American cheese; they demand much higher temperatures for their development.

It is also necessary that another kind of bacteria be present in the milk from which Swiss cheese is to be made. These are the bacteria that are responsible for the development of the eyes, and which are also concerned in the production of the typical flavor of Swiss cheese. Again,

this kind of bacteria is not to be found in the milk as it reaches the factory. Therefore, both the acid-forming bacteria and the eye-forming bacteria must be grown by the Swiss cheesemaker and added to the milk in the proper numbers before the making process is begun.

There are certain factors which must always be considered in the use of any living thing. These can be well illustrated by one of our ordinary crops, corn, for example. It is necessary that the farmer have the right kind of seed, the kind that is adapted to the conditions under which he must work; for instance, he must have a kind of corn that will ripen in the growing season which his location affords. Second, the farmer must establish as far as he can favorable conditions for the growth of the crop. He must provide it with sufficient food material, and it is necessary that the temperature conditions be favorable for it. Otherwise, the crop will be delayed and hampered in its development. The farmer must also safeguard his crop from becoming mixed with other varieties of corn, which may be growing in the near vicinity, a necessary precaution if he wishes to insure the purity of his seed. In the handling of other types of crops, it is also necessary to protect the seed from contamination with harmful types of weeds.

The grower of bacteria has exactly the same problem to face. He must know that the bacteria with which he begins his work are of the proper kind for the material he wishes to produce. He must also insure favorable conditions for their growth for only as they grow can they do anything for him. He must also constantly guard against the entrance of other kinds of bacteria which would injure his crop for his purpose.

The methods which are used in the making of any kind of cheese are the result of hundreds of years of experience by the practical cheesemakers. The success of these methods is well shown by the success which the cheese industry has had in earlier years. However, as the knowledge concerning the relation of bacteria to cheese

making and cheese ripening has increased, it has become evident that improvements which can be introduced in the making of every kind of cheese will tend toward a greater degree of certainty in securing a high quality of cheese. The improvements which will be introduced in the making of any kind of cheese are, therefore, not in the making process proper, but only in methods that shall insure the presence of the proper kind of bacteria, that shall insure favorable conditions for their development, and that shall exclude as far as possible harmful types, and thus raise the average quality of the cheese.

The maker of Swiss cheese grows two crops of bacteria, one in the material ordinarily called the "Sauer," the other in his home-made, or whey-rennet. The common method for the preparation of the "Sauer" is to take some whey and place it in a warm place. It is almost certain to contain some of the proper kind of acid-forming bacteria, those to which we commonly give the name, the Bulgarian bacilli. If the temperature conditions under which the Sauer is kept are favorable for them, they will develop. If a small quantity of this acid whey is then placed in a fresh quantity of whey, the Swiss maker will have the proper acid-forming bacteria at hand each day so that he may add them to the milk in the kettle. There is, however, a chance for harmful types of bacteria to enter the "Sauer" under this method of preparation. It is also possible that the whey may contain few, if any, of the proper bacteria, and thus the "Sauer," while it develops an acid, may not be favorable for the preparation of Swiss cheese.

A better and more certain method of securing an adequate quantity of the proper bacteria is by taking some whey from the kettle and removing the albumin from it by the method which is familiar to every Swiss cheesemaker. This whey is then heated to the boiling point, sometimes by placing it in a steamer, or by placing the container filled with the whey in water heated by steam or by some other agent. The result of this heating

is to destroy all kinds of acid-forming bacteria that are in the whey. When it has been cooled down to about 113 degrees F., a pure culture of the *Bacillus Bulgaricus* is added to it. Such a culture can be obtained from the College of Agriculture. If this material is then kept constantly at a temperature of 113 degrees F. the *Bacillus Bulgaricus* will grow rapidly, and through the acid which it produces tend to prevent the growth of any other kind of bacteria which may get into the whey.

Each day the maker should take a quantity of whey and treat it as described above, and seed it with a small quantity of the "Sauer" made on the previous day. If he is careful in his work, so as to avoid the introduction of harmful types of bacteria, he will have each day an abundant crop of the proper bacteria in a healthy condition. In working with these microscopic organisms, which we cannot see, we are likely to forget that they may become unhealthy exactly as our cattle may become unhealthy, and that then they cannot do for us the work that they should do.

One method of keeping them in a healthy condition is to provide them with an abundant supply of fresh food in the form of whey each day, and to keep them constantly at a temperature which we know is favorable for them. This means that the cheesemaker must have an incubator which can be maintained at the desired temperature.

In the making of the whey rennet, the method commonly employed has been to add some of the dry rennet to the whey, and place it in a warm location. In this whey the *Bacillus Bulgaricus* would develop and also the eye-forming organism, since both of these are commonly to be found on the dried rennet. The rennets, however, vary widely, and it may be possible that they may carry few or none at all of these bacteria. They are also very likely to carry certain types of harmful bacteria which may develop in the rennet, especially in the absence of the *Bacillus Bulgaricus*.

One can minimize the effect of these bacteria by taking the whey and preparing it as for the making of a "Sauer." The appropriate quantity of the dried rennet is then added and the solution seeded with a little bit of the "Sauer" which carries the *Bacillus Bulgaricus*. If this rennet is then placed at a temperature of about 80 degrees F. the *Bacillus Bulgaricus* will develop slowly, but enough to interfere with the growth of harmful types of bacteria. The eye-forming bacteria will develop in this solution and the curdling material will be well extracted from the dried rennet. The maker will thus be able to secure a rennet which shall be uniform from day to day, and which will provide him with the proper bacteria.

It is possible to supplant the whey rennet with commercial rennet which carries practically no bacteria at all. In this case it is essential that the eye-forming bacteria be added to the milk. This can be done through adding pure cultures of these organisms. The College of Agriculture is prepared to supply a limited number of factories with such cultures. Their use in factories, especially those in which the temperature of the curing rooms can be well controlled, has proven very successful. With them one secures a product which has a flavor very similar to that of the imported cheese.

There is, however, one farther element which must be considered in the making of a high quality of cheese and that is the milk itself. It must be fresh, clean and contain the smallest possible number of bacteria. The fermentation test which is used by the Swiss cheesemakers for determining the quality of milk has certain limitations which are very important. It does not tell the difference between some very good milks and poor milks. The reason for this is that if the milk is produced under very clean conditions and is fresh, it will contain few if any acid-forming bacteria. It will, however, always contain some gas-forming bacteria and some which cause the curd to shrink and for the whey to be expressed from it.

Such milk gives very much the same appearance in the fermentation test as do the milks which are very high in gas-forming bacteria. In order to distinguish this class of good milks from the poor milks, it is necessary for the maker to have some way of determining the number of bacteria. This can easily be done by adding to the milk in the fermentation test a small quantity of a dye called Methylene blue. If the milk contains few bacteria it will retain the blue color for a long time. If it is high in bacteria, it will lose its color quickly.

In general one can establish the following grades of milk: One which gives a poor curd, but which keeps its blue color for a long time. This is to be considered as good milk. Another class will include those milks which give a poor curd, but which lose the color in a short time. These are poor milks. While milk which gives a good curd and loses the color quickly is to be considered as fair milk.

It has been shown by experience that if a milk retains its blue color for four hours or longer at 100 degrees F. one can usually make a high quality of Swiss cheese from it, since it contains so few bacteria that those added to the milk in the "Sauer" and in the rennet will control the fermentation.

The following factors, therefore, seem to be important in the making of high quality Swiss cheese.

First, the maker should be certain that his "Sauer" and his rennet contain the proper kinds of bacteria.

Second, he must give these bacteria conditions in the cheese so that they will develop there and produce a typical ripening.

Third, he should secure high grade milk.

The conditions under which the cheese are kept are especially important with reference to the growth of the eye-forming bacteria, as is well known by every cheese-maker. These bacteria can be controlled by controlling the temperature of the curing room. It is also important that they be allowed to grow before the salt penetrates

the cheese, for otherwise their development will be retarded. The presence of small amounts of salt interferes with the growth and thus the formation of eyes.

It should constantly be kept in mind that together with the eye formation, the eye-forming bacteria are important in developing the typical sweetish flavor of Swiss cheese. If the cheese is kept under such conditions that these bacteria do not develop, it will therefore not only be devoid of eyes, but it is quite certain to be lacking in flavor. The development of the eyes in the ripening process of Swiss is, therefore, just as important in the cheese to be used for the making of process cheese as it is if the cheese are to be sold as cut cheese. The eyes will, of course, disappear in the making of the process cheese, but the flavor which is related to them will remain.

I think it will be clear that in the making of any kind of cheese the maker must constantly keep in mind the fact that only through the agency of the bacteria can he secure the desired type of cheese, and therefore the more he knows about the organism with which he must work, the more likely he is to reach a high degree of success in his work.

PASTEURIZATION OF BY-PRODUCTS AT CREAMERIES AND CHEESE FACTORIES

By **William Winder, Assistant Dairy and Food Commissioner, Madison, Wisconsin**

No doubt there are many in the audience who will recall that I talked to you last year upon the question of pasteurizing the whey at cheese factories. What I have to say to you today will be very much a repetition of what I said last year.

One important change, however, has occurred since that time. The law relating to the pasteurization of by-products at cheese factories and creameries was amended by the last legislature and to give you a clearer understanding of the requirements of the law, I will read it:

“(1) Every operator of a cheese factory, butter factory or receiving station and every owner or manager of any other place or plant where milk or cream is received and skim milk, whey or buttermilk therein produced is distributed as food for man or domestic animals, shall, before said distribution, pasteurize said buttermilk, whey or skim milk at a temperature of at least one hundred and forty-five degrees Fahrenheit and hold at the above temperature for at least twenty-five minutes or when not held at the above temperature for at least twenty-five minutes shall be heated to a temperature of at least one hundred and eighty-five degrees Fahrenheit, or otherwise pasteurized as prescribed by rules or regulations of the state live stock sanitary board. The provisions of this

subsection shall not apply to any cheese factory or butter factory or any of the aforesaid places or establishments that pasteurize in the manner hereinbefore described, the milk or cream prior to manufacture. The dairy and food commissioner shall enforce the provisions of this subsection."

It is not my intention to discuss the merits or demerits of the law. It did not originate in the Dairy and Food Department and at no time have we appeared before any legislative committee relative to this law. I may say, however, that I have been informed that it originated in the State Department of Agriculture as a result of the investigational work carried on by the Live Stock Sanitary Board, and the prevention of the spread of tuberculosis among domestic animals was the primary reason for such legislation. Reliable statistics secured from the packers had shown that the swine from cheese making centers of Wisconsin were badly infected with tuberculosis and the losses due to this prevalence of diseased swine was excessive. The packers to protect themselves threatened to place an embargo upon hogs from cheese making localities. The immensity of the loss that such a move would bring to the dairy farmers is quite apparent to all of you. I believe that this menace is real and in itself sufficient reason for such legislative requirements.

That the pasteurization of whey at cheese factories is well worth doing, for reasons other than the prevention of the spread of disease, is a well established fact. Many of the very best cheesemakers in the state pasteurize the whey because they believe that it enables them to secure a milk not so liable to be contaminated with gas producing and other troublesome bacteria.

Mr. P. H. Kasper, the well known and expert maker of American cheese, located at Bear Creek, Wisconsin, has pasteurized the whey at his factory for over twenty years, and when asked why he does so invariably answers, "Because I get better milk."

My own experience in cheese factory work proved to

me that heating the whey to pasteurizing temperature kept the whey in better condition; lessened the labor in keeping the whey tank clean; made the whey more valued by the farmers, and aided in securing milk free from gas producing bacteria.

A large majority of the factories, probably 75 per cent, are now equipped to pasteurize. The cost of doing the extra heating varies in different factories depending upon the location of tanks and piping for handling the whey. In some factories pasteurizing is accomplished through the medium of the steam jets used for elevating the whey to the different tanks in the process of separating. The temperatures to be attained by the use of steam jets in elevating the whey depends upon the height that the whey is elevated. Where whey is heated to less than pasteurizing temperature when run into the final tank and the heating completed several hours later by direct application of steam from a boiler, the cost will be high because of the lowering of the temperature of the whey once obtained and the necessary use of steam to heat it to the same temperature the second time.

It is impossible for me to tell you what would be the most economical means of applying heat necessary to raise the whey to the pasteurizing temperature in your factories. Just how best to do that is something that must be worked out and decided by those operating the plant.

That an undue amount of steam may not be used it is important that the temperature secured by jetting the whey should be retained and the heating rapidly finished as the whey passes from the separator to the tank. Exhaust steam can be used and various home-made devices are used for doing this. Any arrangement whereby the whey will pass in a thin film over a metal surface heated by the exhaust steam will give good results. If by the use of jets the whey is heated to 120 degrees to 130 degrees F. or higher the heating may be finished by steam direct from the boiler. The steam may be carried into the whey by a small pipe so arranged in the pipe or trough carrying

the whey to the tank that the whey will pass over the heated pipe and the steam into the whey through small holes in the pipe. The amount of steam used for heating the whey in this manner is almost negligible.

No definite figure can be set that would represent with any degree of accuracy the cost of pasteurizing whey at all factories. Where it is necessary to use jets for elevating the whey it will be heated to 115 degrees F. to 160 degrees F. according to the number of jets and the elevation. Where the steam is properly applied to the whey the cost of completing the pasteurization is very small.

In factories not equipped with steam boilers pasteurizing the whey is a problem of increased proportions. While it may be possible to heat the whey without the use of steam the methods that would of necessity have to be employed would be very inconvenient and impractical.

A cheese factory in my opinion is not fully equipped if a steam boiler has not been installed. I do not claim that a cheese factory cannot be kept clean and sanitary without a boiler, but I do say that it is well nigh impossible. Without the use of steam and boiling water for cleaning and sterilizing, the cheesemaker is very much handicapped in his efforts to maintain strict sanitation.

While the first cost of installing a boiler may be considerable, I believe it would be a good investment for every factory, not already so equipped. I think every factory man after working in a factory equipped with a boiler would reluctantly go back to the old way of the fire wagons and self heating vats.

ADVERTISING AND ADVANTAGES OF THE SWISS CHEESEMAKERS COURSE AT MADISON, WIS.

Professor J. L. Sammis, Madison, Wis.—114 Cheesemakers Aided by Courses—Twenty Already Signed For Fifth Year of Swiss Instruction.

One hundred and fourteen Swiss cheesemakers in the past four years have attended the course of instruction for their work given at the dairy school of the University of Wisconsin, according to Prof. J. L. Sammis of the College of Agriculture, who was a speaker here at the convention of cheesemakers and dairymen.

Cheesemakers from Green county who go to the course to be given again this year at Madison Feb. 4 to 16 will be taking advantage of instruction similar to that which has been given here for 33 years.

“For 33 years the dairy school at Madison has been teaching cheesemakers, buttermakers and ice cream makers how to do better work in their factories,” says the professor.

Course Made Longer.

“The Swiss cheesemakers have always had a part in this instruction but about four years ago a request for a special course for Swiss cheesemakers was made by the Southern Wisconsin Cheesemakers' and Dairymen's Association and the College of Agriculture responded at once. Each year for the past four years the school has been held in February. At first it was a one week course, but the makers present asked to have it made longer.

“A two weeks' course is now offered from Feb. 4 to

16, 1924. One hundred fourteen Swiss cheesemakers have attended the school during the past four years. Already this year twenty have registered for the course and if many more than thirty come in it may be necessary to repeat the course for a second two week period during the latter part of February.

“Those farmers who go to their conventions each year go to learn something new about farming, about lime for the soil, about alfalfa and other crops, about better dairy herds, etc.

Learn New Methods.

“The Swiss cheesemaker comes to the school to learn everything that is new in cheesemaking and to bring himself up to date in his work. Every Swiss factory patron should ask his maker whether he has attended the school or not and urge him to go this year or next. Those who want to go should send their names to Henry Elmer, secretary, Monroe. The expense at the school is small. Each student pays about \$2 at Madison to meet the rental on his sleeping cot in the big dormitory room in the dairy building. Here all the makers live together, get their meals nearby and spend their evenings in study or amusement and nobody gets lonesome or homesick.

“Among those who have attended the school are some of the leading prize winners on Swiss cheese at the National Dairy Show, the Milwaukee convention and at the Monroe convention.

Need Occasional Aid.

“Every experienced worker should go back to school for a short course every few years and keep up with the improvements in Swiss cheesemaking. This school is conducted by the College of Agriculture in cooperation with the dairy division at Washington, the Monroe association and with other state departments and thus everybody interested unites in promoting the school and the Swiss cheese industry which is such an important branch of Wisconsin agriculture.

PROGRESS, OBJECT AND PURPOSE OF WISCONSIN CHEESE GRADING LAW

Mathew Michels, Madison, Wisconsin, With the Department of Markets.

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

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

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

I find that in 1878 the per capita consumption of

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

To increase the per capita consumption of cheese we must first guarantee the consumer a uniform quality of well cured cheese and, second, to keep it before the people all of the time and offer it through the retailer at a more reasonable price than is being done at the present time. The present wide spread in the price from wholesale dealer to the consumer is out of all reason and must be narrowed before the maximum amount of cheese is consumed.

Because of the high food and vitamine value cheese will be more eagerly sought in the future than it has been in the past, provided, however, that the retail price is kept within reason.

I predict that by 1930 the consumption of cheese will be more than five pounds per person because a better made and better cured cheese is offered to the consumer than ever before. In addition, the food and vitamine value are just beginning to be appreciated.

There is just one thing wrong at this time and that is the unreasonably high price asked for by the retailer on the small packed and so-called "New York" cheese. The wholesaler seems to think, by allowing the retailer to ask these high prices, that he will be more willing to push cheese. This is all wrong and if the present price of 45c and 50c per pound to the consumer is maintained consumption will again drop instead of continuing to increase.

In the earlier days of cheese making in Wisconsin the cheese was held at the factories until fall and winter when it was divided according to the amount of milk delivered by the patrons instead of the money as is now the

practice. This practice soon produced men who made it a point to look for prospective cheese consumers or buyers early in the season, buy the cheese from their neighbors at an agreed price according to quality. As more buyers came into the field and competition became more keen, the cheese has not only brought better prices but faults have been overlooked and are still being overlooked by a system of paying for cheese on a flat price basis. This system has driven many good cheesemakers out of business and I am glad the day has arrived when the good cheesemaker is being recognized for putting forth his best efforts and I hope that before another twelve months pass a substantial price difference between No. 1 and Fancy cheese will be made. This difference in the price because of the extra work and a loss in yield should be about $1\frac{1}{2}c$ per pound, $\frac{1}{2}c$ going to the cheesemaker and $1c$ to the farmer. If we ever get to this point I am sure 75 per cent of our make of cheese will be Fancy with the balance as a No. 1 with practically no No. 2 cheese being made.

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

I feel that the cheesemaker is the only real factor in the way of bringing about a differential in the price between Fancy and No. 1. Many cheesemakers would rather continue on the old flat basis than to take the extra pains necessary to produce Wisconsin Fancy cheese. The cheesemaker has been willing to accede to the wishes of the dealer thinking that with his co-operation he is helping himself by a saving of time and better yield. This is a delusion as the saving of time, without question, means a lower grade of cheese and a better yield of high quality cheese can only be obtained by setting the milk early enough for slow "cooking" at a temperature of not over 100 degrees. Speed and high temperature are the cause of much loss of cheese in the whey.

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

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

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

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

It may be of interest to you to give you the tabulated results to a questionnaire sent out sometime ago to all

cheesemakers of the state. While answers to these questions are still coming in daily, I will give you the result of the first 267 received.

Questionnaire.

1. Do you believe that cheese of Fancy quality gives more general satisfaction and is worth more money to the consumer than cheese of No. 1 quality?

Ans.—Yes, 231. No, 29.

2. Do you believe that the demand for cheese would be increased and that cheese prices would be higher if a greater percentage of all cheese made were of fancy quality?

Ans.—Yes, 226. No, 30.

3. Do you believe that it is advisable for Wisconsin, as the greatest cheese producing state, to attempt to produce a greater percentage of Fancy quality?

Ans.—Yes, 237. No, 13.

4. Do you at present receive a higher price for Fancy than for No. 1 cheese?

Ans.—Yes, 7. No, 245 (estimated 1/35 or 65 in state).

5. Under such conditions do you make any special effort to produce a high percentage of Fancy cheese?

Ans.—Yes, 67. No, 160.

6. Do you believe that a uniform price differential between Fancy and No. 1 cheese should be established?

Ans.—Yes, 238. No, 12.

7. What price differential per pound would you suggest?

Ans.—Average, 1¾c.

8. With such a price differential established, do you believe farmers would deliver a higher percentage of milk suited for manufacture into Fancy cheese?

Ans.—Yes, 202. No, 35.

9. With such a price differential established, what percentage of your total output during a normal year do you estimate would be of Fancy quality?

Ans.—Average, 76%. (Range from 30 to 100.)

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

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

Canadian Prices.

New Zealand the past year has been crowding Canada in the English markets and we had New Zealand cheese shipped into this state the last year. It was my

good fortune to go through three cars of New Zealand cheese at Plymouth and I want to assure you that the quality was of the best. This cheese was all in the shape of 80 pound Cheddars made from pasteurized milk and was shipped into this state in the face of high freight rates and a duty of 5c per pound. Imported Swiss cheese commands a high price in this country because the home-made cheese lacks in curing, being rushed into the markets before it is fit to offer to the consumers.

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

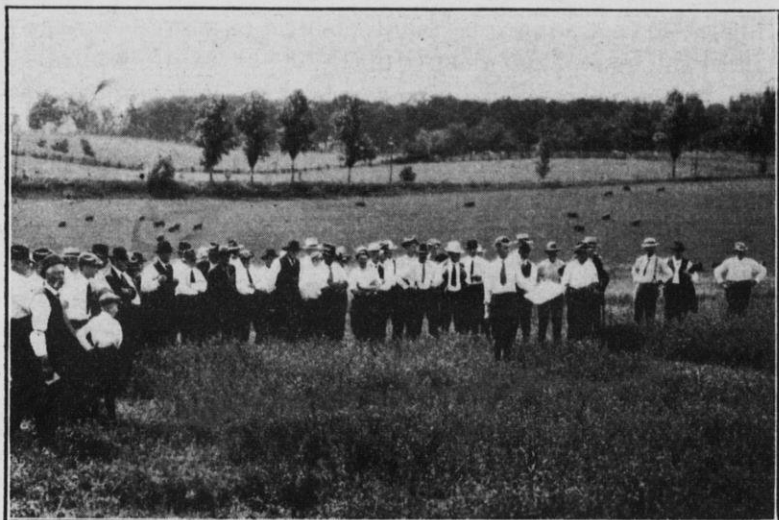
Badger cows produce 10,000,000,000 pounds of milk annually. This is enough to fill 384,000 express cars making a train 3,800 miles long. This train would reach from San Francisco to New York and back to the Missouri river. If the annual production of 350,000,000 pounds of Badger made cheese were put together it would form a block 800 feet square by 100 feet high or more than three times the size of our beautiful \$7,000,000 state capitol.

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

A WEAK LINK IN THE CHAIN OF OUR DAIRY PROGRESS

L. F. Graber, Professor of Agronomy, Madison, Wis.

A chain is no stronger than its weakest link. Wisconsin has made splendid progress in her dairy industry. Today we produce three-fourths of the nation's cheese and more butter and condensed milk than any other state. We lead in the number of dairy cows, but in producing the feed necessary to maintain our livestock we have fallen far behind in this procession of dairy progress. Every year our farmers are taking out of their hard



The Green County Farm Demonstration

Some 75 farmers turned out in 1919 to see what lime would do for alfalfa at the Green County Farm.

earned profits, enormous sums to buy hay and other feeds necessary to keep their cattle.

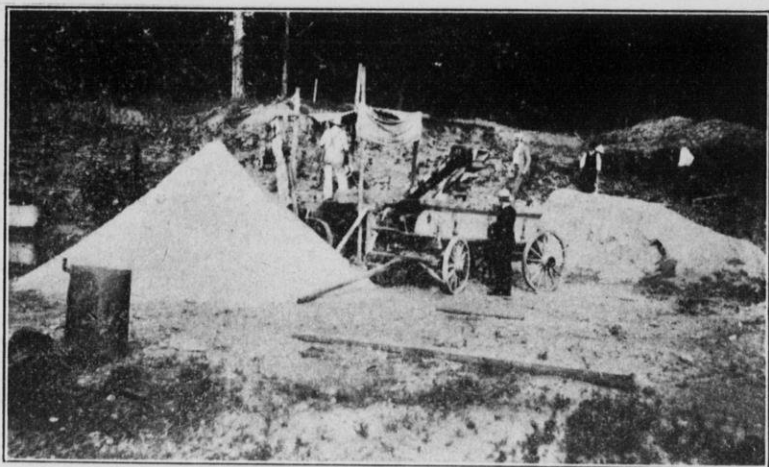
Perhaps there are very few people who realize the benefits which came to the Wisconsin farmer from the agricultural work which was done during the war in Green county. Many will remember the alfalfa lime demonstration which was held on the Green county farm in 1919. Here, within a hundred yards of a limestone quarry, the application of ground limestone to the soil, made just the difference between splendid success and utter failure where the lime was not applied. Largely through this demonstration and the work of County Agent Lacey and Arthur Preston, the lime grinding work was started on a new basis of individual ownership or operation of the lime grinding machinery.



Proves Value of Lime

The above is a view of what lime did on the Green County Farm to make alfalfa succeed. Where no lime was applied the alfalfa was a serious failure.

This plan of grinding limestone was absolutely new at this time and proved so successful that it has spread through the limestone sections of the entire state. At the present time, there are probably 60 or more lime grinders operating in Wisconsin, and during the past few years more than 70,000 tons of lime rock have been ground at local quarries for making possible the growth of more alfalfa. The saving in the cost of home ground limestone may, very conservatively, be estimated at \$2 a ton when the long haul and other inconveniences of the shipped-in product is considered, which in itself is a saving of \$140,000. This is but a small item compared to the benefits which will obtain in the way of home feed production from the use of this lime. All this work has



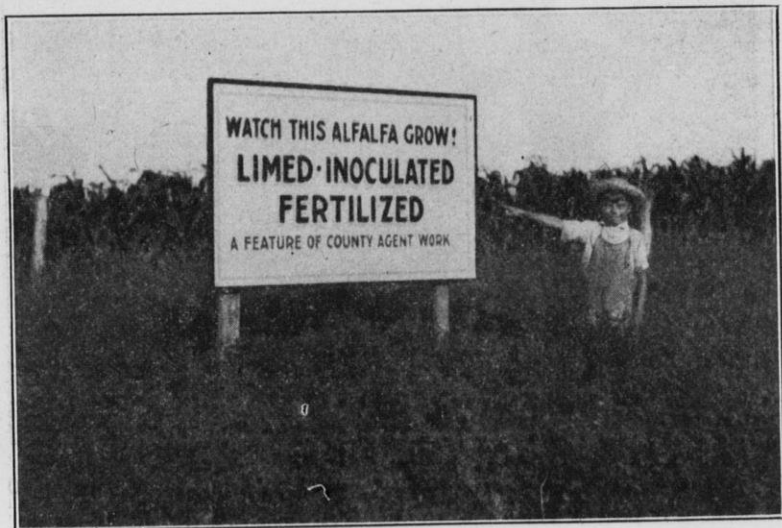
Lime Grinding Work Starts in Green County.

As a result of the work of County Agent Lacey and the lime demonstration on the County Farm, a new plan of lime grinding was started which has resulted in over 70,000 tons of home ground limestone being produced in Wisconsin in local quarries at a saving of more than \$140,000.

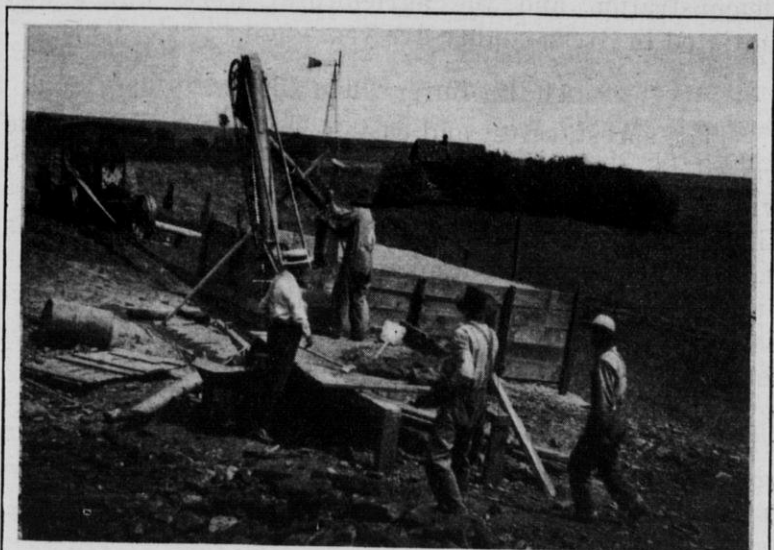
started in Green county and can be tracked back to one demonstration and the agricultural work which was initiated in Green county five years ago.

Alfalfa Surer Than Clover.

The surest, safest and easiest hay crop which can be raised on the average Wisconsin farm is alfalfa, provided we have plenty of lime in the land to sustain this lime hungry crop. It takes from six to ten times as much lime to produce a good season's yield of alfalfa as it does to produce the average yield of timothy, oats, barley or rye. The years of cropping and the annual leaching of 300 or more pounds of lime out of the surface of every acre, has left many of our fields so deficient in lime that neither alfalfa or clover is readily started. Once a good, generous application of lime is applied on top of plowed land and worked in as the seed bed is prepared, alfalfa is a surer crop than clover. Why? Because of its deeper root system which makes it far more resistant to



Lime, Inoculation and Manure Made This Alfalfa Doubly Sure.



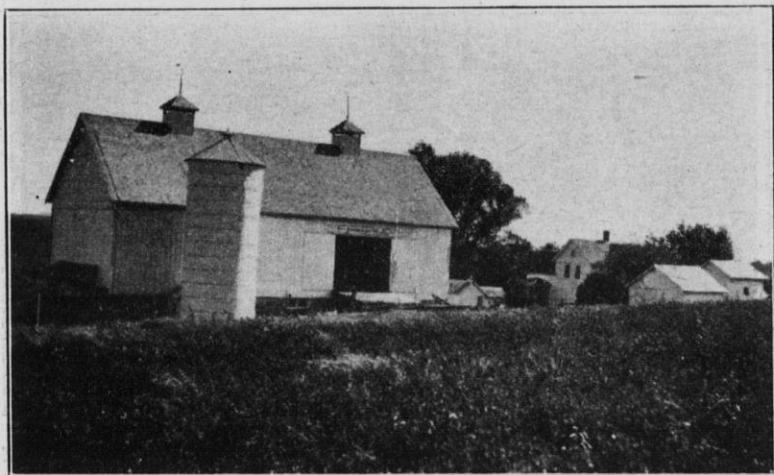
The lime grinding work spread from Green County into Iowa, Rock, Green Lake and several other counties in the state.

the annual siege of summer's drought that takes such a heavy toll on our shallow-rooted timothy and clovers.

Building Acreage on Facts.

Through over 3,000 co-operative trials carried out by the members of Wisconsin's State Alfalfa Growers Association, the alfalfa order, and ten special trial areas, involving over 1,400 alfalfa experimental plots, personally supervised by the writer, we have during the past ten years determined the basic facts which will make alfalfa a success on practically every farm in the state. Facts—not fancies—lead to the highways of alfalfa success

When it comes to the feeds we need most—the hays that put the milk in the pail and the dollars in the bank, that build up the soil and to a large extent take the place of enormous feed bills, we are only producing a mere handful of some 200,000 acres of clover and 150,000 acres of the greatest hay crop in all the world—alfalfa.

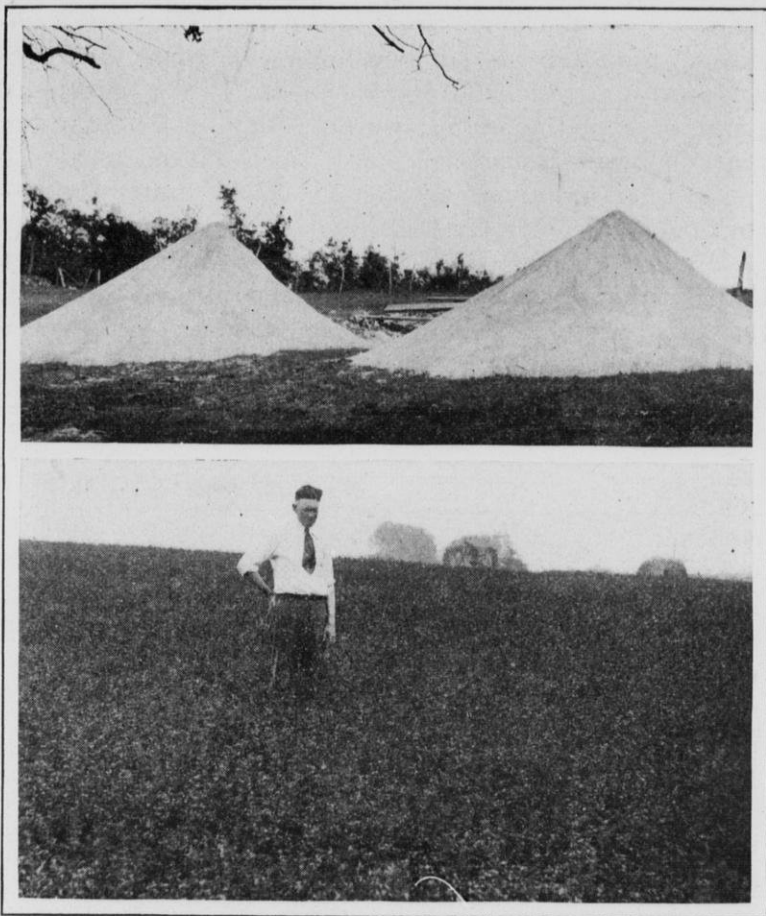


The Best Feed Producing Combination

For growing our own feed nothing beats alfalfa for hay
and corn for the silo.

Too Much Timothy.

The most important feed crops in Wisconsin are corn and hay. The introduction of pure bred varieties of corn,



Lime Grinding Paves the Way For Good Alfalfa Fields

Through the efforts of County Agent Lacey, home ground limestone has made possible the growth of splendid fields of alfalfa in Green Lake County where failure with this crop had previously occurred.

such as the Golden Glow (Wisconsin No. 12), Silver King (Wisconsin No. 7) and others, has brought Wisconsin to the front as a corn state in yields per acre. The weak link in our chain of dairy progress is our hay crop. Of the 2,800,000 acres of tame hay, 2,000,000 acres are devoted to mixed timothy and clover. In the pioneer days clover was a great hay crop. It grew like a weed and failures were few and far between. In more recent years, this old friend of the Wisconsin farmer is fast fading away in lieu of the unfriendly soil conditions which have resulted from the cropping strain of 40 years or more. To see a good field of clover now is becoming a rare sight. We sow timothy and clover mixed, but we harvest timothy, and timothy is one of the poorest hays we can offer to a good dairy cow. And yet, in addition to this 2,000,000 acres of mostly timothy, we produce 5,000 acres of nothing but timothy!

Green County Needs County Agent.

It is to help in such matters as this, that over fifty county agents are employed by various counties in Wisconsin. Green county with its great cheese industry would find a good county agent to be of immense service in bringing about better times and greater prosperity. Space will not permit of a detailed discussion of what might be accomplished by county agent activity, but if nothing were done other than to increase the acreage of alfalfa through the use of more lime, it would far more than pay for the meager costs to the county.

Space will not permit a detailed discussion, but the seven main keys to successful alfalfa culture are herewith presented with as much abbreviation as possible.

Seven Keys to Good Stands of Alfalfa

No. 1. Choose a field that is sloping or one that at least has good top and underdrainage and one that has grown a well cultivated crop the previous year. If your soil is not fertile—put on a good dressing of manure—especially with sandy soils. If quack grass infests the

field badly kill it out as much as possible by cultivation during the dry weather of the preceding year.

No. 2. Growing alfalfa is often a choice between buying feeds for the soil or buying feeds for livestock. Have your soil tested. Find out if it needs lime and how much. A county agent could test it for you or you can send a half pound sample taken from four or five average places in the field to your experiment station. Use lime if your land needs it.

No. 3. There are several ways to sow alfalfa, but one of the surest is to use one bushel of an early grain as a nurse crop and **cut this grain for hay just after it has**



Helps Make Good Seed Bed

The use of a double corrugated roller once before seeding and once after seeding helps make an ideal seed bed for alfalfa and at the same time firms the ground, and packs the soil against the seed to help give the alfalfa a good even start.

headed out. Many a good stand of alfalfa and of clover is ruined by the summer's drought. Grasshoppers are very serious in some years. There is a way to play reasonably safe on this. Sow your alfalfa with one bushel an acre of Kherson (Wisconsin No. 7) oats or pedigree barley. Cut this grain for hay just after it is headed out. This saves soil moisture used up by the ripening of grain, and gives the alfalfa a strong growing start and a good deep root growth to prepare itself for summer drought as well as grasshopper injury. Cutting the nurse crop for hay is not always necessary, but is essential when grain lodges, otherwise alfalfa may smother. Canning peas make an excellent nurse crop because they are cut and hauled off the land early. Other methods can be used, but late summer or fall seeding should be avoided in Wisconsin.

No. 4. Alfalfa wants a firm but well-prepared seed bed. Fall plowing is generally best as it gives the soil time to settle and become firm. Spring plowing should be comparatively shallow. Alfalfa sown on spring plowed land—especially loose sandy soil—is greatly benefited by rolling with a corrugated roller once before and once after seeding.

No. 5. Try this mixture at 15 or 20 pounds an acre on heavy soils:

15 lbs. of alfalfa seed
2 lbs. of alsike
2 lbs of timothy.

Where alfalfa is easy to grow a mixture of other seed is often not desired, but for beginners on all but the light soils, a little alsike and timothy mixed with alfalfa is worthy of trial.

No. 6. While such varieties as Grimm often live through hard winters where the average common kills out, there are farms where common seed grown in the

Dakotas, Montana and other northern states has given fairly good results. The hardy varieties are high priced and caution may well be used to secure the hardiest strains of carefully and officially certified seed.

No. 7. Two crops of alfalfa cut in the full bloom stage have yielded considerably more and have lasted much longer than three crops cut in the early bud or tenth bloom stages. Of course, the later you cut alfalfa the coarser and poorer the quality of hay, but too early cutting weakens and thins out alfalfa, while later cutting strengthens the plants against winter killing, weeds, low yields and blue grass. With favorable weather, alfalfa should be cut for hay as near the full bloom stage as possible without sacrificing too much on the quality of hay. Two cuttings a year is best for permanence and yields.

SUCCESS IN SWISS CHEESE MAKING

C. M. Gere, Dairy Expert, Brodhead, Wis.

Choosing a subject upon which to address this convention was a matter of considerable debate. In my mind at the beginning I was inclined to believe we should discuss in detail the results of this season's field work. However upon later consideration it occurred to me that most of the cheesemakers and dairymen are familiar with what has been accomplished in connection with this work, therefore it would seem desirable to discuss the various factors involving the future of the Swiss cheese industry as a whole.

We must concede that the industry has been stagnant as compared with other educational and agricultural developments. Our rural schools have moved ahead in step with educational progress, and I doubt if there is a farmer in Green county who is not equipped with a full line of modern machinery, and has generally adopted up-to-date methods in handling his crops, breeding and feeding his dairy herd. But our cheese factories, the greatest source of income, has been neglected. We are using the same old buildings, cellars and methods used 20 or even 40 years ago, which at that time with one-half the cheese produced were adequate in size.

There are of course reasons for this lack of development together with certain evils which have crept into the industry.

First—Through competition among dealers, a practice was established of removing the cheese from the cellars before they were sufficiently cured.

Second—Lack of education and training on the part of the cheesemaker.

Third—So-called grinding cheese.

In referring to these various factors held responsible for the lack of development of our domestic cheese, let us discuss the factors in their order. Through this keen competition between dealers the practice of removing the cheese from the curing rooms before it was cured was established. This has brought hardship to both the dealer and the industry and has led to the prevailing idea among many cheesemakers and factory organizations that a cheese must be opened as quickly as possible and have a profusion of large holes. Every effort is strained to force this condition, extreme heat, scanty salting, during the opening process. This results in the fat coming through the surface of the cheese and hinders the salt from permeating into the cheese after it is opened. It should be remembered that a cheese is only partially cured when it leaves the heating room or is opened. Following this step the cheese must break down, develop flavor, take sufficient salt after which time the texture becomes firm and we have a cheese which will retain its sterling qualities. The prevailing practice lowers the quality standard, results in unwarranted fluctuation of prices, because this movement has forced this commodity into a class of perishable goods, instead of a product comparable to the imported Swiss cheese, our quality standard. If the cheese dealer is forced to hold this cheese in storage any length of time the eyes collapse, the flavor does not develop and frequently goes wrong. We must remember that even though this cheese has moved out of the factory, and perhaps on to the customer someone is getting stung on this Swiss cheese, and human nature does not relish this as we know, consequently this evil has done much to curtail the consumption of Swiss cheese and has made the dealing in this commodity more or less of a gamble, resulting finally in a loss to the producer. Through this movement factories have not been enlarged or rebuilt to improve living conditions for the cheesemakers. If our domestic Swiss cheese could be held in the factories for at least three months, or until it is cured, it would find its place

in the trade, compete with the imported, increase the consumption of cheese, and bring greater returns to the producer.

The second and perhaps the greatest step toward substantial development of the Swiss cheese industry is education and training on the part of the cheesemaker. Cheese making is a profession today, not a job. It is like all professions of this age, competition is keen in this line as in all others, and this competition will become keener in the future, as the manufacturing process of Swiss cheese becomes standardized. We realize that the average Swiss cheesemaker has much to learn after coming to America, first the language, then his apprenticeship must be served if he has not served it in Switzerland. As he goes into his field in addition to this he must keep informed on the practical developments in his profession, as well as a doctor or any other professional man who makes a success of his work, and to do this he must have the fundamental training along this particular line. For this training a course has been inaugurated by the University of Wisconsin, which has been a great step in the development of better methods, while this course is inadequate to cover the field of the profession and should be much longer it serves as a foundation for future development. It should be understood that no college course, whether long or short, turns out a full-fledged professional man, in other words you do not learn to make cheese at the university, but you do get an outline of the best methods of cheesemaking and tests of various kinds which should be applied in your work as a cheesemaker and your success will depend upon your ability to apply this information. I do not wish to infer that a cheesemaker should take the Swiss cheese course at Madison for the purpose of learning the use of the cultures. There are a good many successful cheesemakers who do not use the culture method; however there are and will continue to be developments in the manufacture of Swiss cheese which each and every cheesemaker should become fa-

miliar with, for instance I might mention the fat and casein tests to avoid Glasler cheese. If every maker was familiar with these tests trouble of this sort would be only a passing thought. By making these simple tests once a week measures could be taken to assure the maker against this trouble. There is little or no doubt that more standardized methods such as clarification, making once a day and the use of the cultures will eventually supercede the present system so in view of this fact every progressive cheesemaker should fit himself to meet these requirements. A cheesemaker should be a leader in his community, and should be recognized as authority on the type of milk suitable for cheesemaking. He can do this only when he has acquired a thorough knowledge of up-to-date manufacturing methods, milk testing in all branches as it applies to this particular industry. The old saying that "Knowledge is power" holds true in cheesemaking as in other business. If you have the knowledge you will be able to present convincing facts to your patrons and thus avoid any arbitrary feeling between yourself and your farmers.

Third—So-called grinding cheese. This third and probably the most disturbing factor which has come over the Swiss cheese industry is the abuse of Swiss cheese methods in the manufacture of the so-called grinding cheese. It has long been realized that a cheese which is small-eyed or Glasler could be utilized in the manufacture of loaf cheese providing the cheese has a good flavor and is sufficiently cured. There is no doubt that the utilization of this type of cheese in loaf cheese has provided a great outlet for the producer in addition to getting a small, wholesome, convenient package of good cheese to the consumer. During the summer months through the assistance of nature in curing the cheese this abuse was not particularly noticeable, however, after the cool weather began many of the Swiss cheese factories which in former years made brick continued to make Swiss, and many of them applied the most rigid short cut methods

of manufacture, as a result making neither brick or Swiss, simply adding rennet extract, without any kind of a starter to help break the cheese down or give it the characteristic Swiss flavor, cut it coarse, heat it low to incorporate high amount of moisture, and make weight. In further abuse of methods did not heat the cheese in the curing rooms that it might break down, or lose weight. It is doubtful if the cheese so loaded with whey would cure up without developing a bitter flavor. First, it should be remembered that a Swiss cheese will not develop the characteristic Swiss flavor at this time of the year without a sour, Bulgarian milk starter, or homemade rennet. Had the makers continued the use of their homemade rennet and sour, and putting the cheese through the regular heating process, the trouble would not have been so marked. We realize that it is difficult to produce a fancy-eyed cheese from winter milk by the old method, however if the cheese were made, with home made rennet or rennet extract and sour together with being put through the regular curing process even though it overset, the flavor would have been good, making it a salable article which could be utilized in loaf cheese. But if this cheese made by these abused methods can be used at all by the loaf cheese people depends upon their facilities for curing it in their warehouses, which of course is an added expense and will ultimately result in not only the factories making this trash taking a reduced price for their product but injures the market for Swiss cheese generally. I think this fact is being clearly demonstrated at this present time. Therefore let all the Swiss factories profit by the gross error in making this type of cheese this season.

Always bear in mind that the loaf cheese manufacturers must use quality raw material to maintain a high standard of their product, and under no circumstance can an article of this character be better than the raw material from which it is made. Some factories may be fortunate enough to have their cheese contracted this

year but it is not likely that the purchaser can be stung twice at the same place.

I am informed that a number of factories are unable to dispose of this type of cheese at this time at any price. This of course is to be regretted but on the other hand it has magnified the necessity of safe and sound business principles in cheese production as well as any other line of manufacturing. Not only has this evil practice had a tendency to lower the quality standard of Swiss cheese generally, but has also lowered the qualifications of the cheesemaker. The making of this type of cheese is a very simple process, any common laborer can learn in three days to add the rennet to the milk, and turn the cheese, therefore it becomes obvious to the factory owners that a cheap man will answer the purpose as a cheesemaker, and the old cheesemaker is obliged to pass his place along to his helper, regardless of his years of experience or what he knows about the business. We are already familiar with a number of instances of this character. In view of these facts let every cheese maker in southern Wisconsin resolve to use every effort in making good cheese, adopting progressive methods, and thus preserve the great industry which has made Green county famous.

SUMMARIZED REPORT OF THE CHEESE EXTENSION WORK

Carried on by **Mr. C. A. Eckberg** of the **Southern Wisconsin Cheesemakers Association** in **Cooperation With the University of Wisconsin** and the **United States Department of Agriculture.**

By mutual agreement of the three cooperating organizations mentioned above Mr. Eckberg was engaged at a salary of \$225.00 per month for four months to assist in improving the quality of the cheese in Southern Wisconsin, by the use of cultures and up-to-date methods of manufacture and milk control.

Following is a summary of the work conducted in the various factories.

Factory No. 1, Swiss.

To this factory we were called to locate the source of Nissler milk. After three Methylene Blue and Curd tests the trouble was located, being due to unsanitary milking machines. Farms were visited and instruction was given in the cleaning of these machines by the use of hot water bath. (After the machines were rinsed the rubber parts were placed in water which had previously been heated to 160-170 F.). The difficulty was overcome. Prior to this every loaf of cheese developed Nissler. About two months later the same trouble reoccurred, the milk was again tested and the trouble located in an unsanitary machine where a farmer had ceased to give the rubber parts the hot water treatment.

Factory No. 2, Swiss.

Mr. Eckberg assisted in making M. Blue and curd

tests to locate the source of the Nissler milk, which we were successful in doing, but due to a lack of cooperation nothing could be accomplished and the work with this plant was abandoned.

Factory No. 3, Block and Brick.

At the time this factory called for assistance the Block Swiss was bloating and cracking in the brine tank, the condition of the cheese were so bad that the factory could only get an offer of two and one-half cents per pound for the previous month's make for fish bait. The manufacture of either Block Swiss or Brick was abandoned when we arrived at the plant, the milk being separated. After running a test the source of the trouble was located in the whey vat, the outlet to the vat being about four inches from the bottom of the tank, consequently there was whey in the vat which had not been removed since the factory started in the spring. An excessive yeast fermentation was the cause of the whole trouble. The outlet was changed to the bottom of the tank, and the tank, pipes, well cleaned. This together with a good, pure sour wholly eliminated the trouble at once. They began making Brick cheese and no further trouble was experienced.

Factory No. 4, Swiss.

This factory was assisted in the construction and supervision of building a milk house which enabled the maker to clarify all of the milk and make cheese once a day. Assistance was also given in the installation of a clarifier, sanitary pump, and piping. As a result this factory has made better cheese from this time on than was previously made when the milk was delivered twice a day.

Factory No. 5, Limburger.

On two different occasions M. Blue and curt tests were conducted. Trouble located in unsanitary whey vat

and unsanitary milking machines. Two farmers were visited and the quality of the cheese was substantially improved.

Factory No. 6, Swiss.

Was called to this factory to locate source of Nissler milk. Made M. Blue and curd tests, visited two farmers and advised on care of milk.

Factory No. 7, Brick.

The president requested our assistance in locating poor milk which caused bloating of the Brick cheese. M. Blue and curd tests were made and the trouble located. Five farmers were visited and given instruction on the care of milk. The use of a *Bulgaricus* sour was inaugurated with excellent results.

Factory No. 8, Swiss.

Assistance was given in the installation of a clarifier, heater, sanitary piping and other equipment necessary for the clarification of all the milk for Swiss cheesemaking. Instruction was also given in the use of the cultures and standardizing milk as a safeguard against Glas cheese. The results at this plant have been very gratifying, a high percentage of very fancy cheese has been produced, whereas prior to the use of improved methods this plant was making grinding Swiss cheese, all being a very ordinary grade of No. 2 cheese.

Factory No. 9, Swiss.

Serious difficulty was experienced at this plant with Nissler cheese. A series of four Methylene Blue tests were run. Farmers were visited and induced to cool the milk before delivery at the factory. Better methods of manufacture were introduced and the quality of the cheese was very much improved.

Factory No. 10, Swiss

Found a large portion of the June and July Swiss

cheese turned to Glas. Fat and Casein tests were made on the milk and found the same far out of balance. This difficulty was adjusted by standardization to the proper ratio of the fat to the casein and the trouble was overcome at once.

Factory No. 11, Swiss.

At this factory an incubator was installed and the method of preparing sour and lob was introduced. M. Blue and curd tests were conducted and the quality of the milk was generally bad, ratio of the fat and casein badly out of balance. This was adjusted by standardization.

Factory No. 12, Block.

Found the quality of the milk bad, M. Blue and curd tests were conducted, and four farmers were visited and instructed on the care of milk. Use of the Bulgaricus sour introduced with very good results.

Factory No. 13, Swiss.

Conducted M. Blue tests and curd tests; found the Salt Brine too strong, adjusted specific gravity of the same, gave manufacturing instructions.

Factory No. 14, Swiss.

Conducted M. Blue and curd tests on all milk, interviewed one farmer; instructed the maker in the use of Bulgaricus in the preparation of Lob. and Sour. Tested for fat and casein and adjusted the same by standardization.

Factory No. 15, Swiss.

Made curd and M. Blue tests on five occasions. Introduced the use of Bulgaricus in the preparation of Lob. and Sour. Installation of combination incubator and instruction in manufacturing methods. Prior to the introduction of better methods they made all Nissler Swiss

cheese, and as a result of the poor quality of the Swiss cheese turned to making Brick.

Factory No. 16, Swiss.

This factory has had more or less trouble with Nisler and overset cheese this season, M. Blue and curd tests were conducted on two different occasions. An incubator was installed, use of the *Bulgaricus* in the preparation of Lob. and sour was inaugurated, all with good results.

Factory No. 17, Swiss.

Our assistance was requested and the work was begun the week of Sept. 15th. During every month prior to this time stinker cheese had been made at this factory. An incubator was installed and the use of the *Bulgaricus* for the preparation of Lob. and sour was taught the cheesemaker. As a result they have not made a stinker cheese since and the quality of the cheese has been strictly high class.

Factory No. 18, Swiss.

This factory has used *Bulgaricus* the entire season, an incubator has been in use continuously with good results. Nothing could induce this maker to go back to the old system. He has been conducting tests to locate Nisler on four occasions. The first of October he began clarifying and using both cultures. Milk was tested for fat and casein and instruction given in connection with standardizing.

Factory No. 19, Swiss

While this factory has gone over one very successful season, we have rendered what assistance necessary to keep the quality of the cheese up to a high standard. This is the second season this factory has used the *Bulgaricus* in the preparation of the Lob. and sour. Some trouble was experienced with Glas the first part of the

season, this however was overcome by the proper standardization, and getting the proper ratio between the fat and casein. Clarification was begun in August and since that time the percentage of Fancy and No. 1 cheese averaged over 9%, more than 6% being strictly Fancy.

The above report does not include minor visits or return visits to the various factories.

A total of 60 factories were visited and reported upon.

428 people were interviewed in connection with the work.

Four factories were assisted in installing clarifiers, and given instruction in the use of the Cultures in connection with clarification.

Instructed 12 factories in the preparation of Lob. and sour by the use of *Bulgaricus*. Made and instructed 11 makers in the casein test as a preventive measure against Glas. Instructed in and made 20 M. Blue and curd tests for makers to locate infected milk.

SECRETARY'S NOTES

Agreed, that the dates for our annual convention should be changed from the month of January to the latter part of November or the first part of December, the exact date to be fixed by the directors.

President Fred Marty stressed the necessity that every cheese factory should become a member of our association and asked every cheesemaker present to bring this necessity before his patrons.

In order to hasten the time to have uniform or standardized and stronger cheese boxes the following committee was appointed to work to that end: Joseph Acherman, Monroe, Wis.; Jacob Marty, Brodhead, Wis.; L. E. Ridley, Madison, Wis.

All the resolutions were accepted as read:

The following committee was appointed to appear before Dairy and Food Commissioner J. Q. Emery, Madison, Wis., regarding Resolution No. 2:

Jacob Lenherr, Monroe, Wis.; C. M. Gere, Brodhead, Wis.; Adolph Aplanalp, Monroe, Wis.; Fred A. Kuenzi, Browntown, Wis.; John Deninger, Monroe, Wis.; Fred Marty, Monroe, Wis.; Louis Alder, Monroe, Wis.

PREMIUMS AND SPECIAL PRIZES

Received for the Pro Rata Fund

Acherman, Emmeneger & Co., Monroe, Wis.....	\$ 5.00
Badger Cheese Co., Monroe, Wis.	5.00
Brodhead Cheese & Cold Storage Co., Brodhead, Wis.	5.00
Chr. Hansen's Laboratories Inc., Milwaukee, Wis.	25.00
J. S. Hoffman Company, Mt. Horeb, Wis.....	5.00
Marty & Oklhansen, Chicago, Ill.	5.00
Morton Salt Co., Milwaukee, Wis.	5.00
Phenix Cheese Co., Monroe, Wis.	5.00
Sun Prairie Cheese Co., Monroe, Wis.....	5.00
Our Association	85.00

A total of \$150.00 to be divided amongst all the cheese exhibits scoring above 90 points, with the exception of the exhibits scoring 1st, 2nd and 3rd highest.

Other Prizes Donated

- Abbott Laboratories, Chicago, Ill., 6 bottles Sterilac.
- A. H. Barber Creamery Supply Co., Chicago, Ill., one Facile Jr., 4 bottles Babcock Hand Tester.
- The Conley Foil Co., New York, N. Y., \$17.50 cash.
- The Creamery Package Mfg. Co., Chicago, Ill., one White Duck Suit.
- The De Laval Separator Co., Chicago, Ill., 11 gallons Power Separator Oil.
- G. Clarke Dodge, Monroe, Wis., 20 Cheese Boxes.
- The J. B. Ford Co., Wyandotte, Mich., 4 Gillette Safety Razors.
- General Laboratories, Madison, Wis., 6 gallons B. K.
- R. Gerber & Co., Chicago, Ill., one imported Leather Bill Book.
- Lekmaier, Schwartz & Co., New York, N. Y., 550 pounds Tin Foil.
- The Marschall Dairy Laboratories, Madison, Wis., \$15.00 cash.

Jacob Marty Co., Brodhead, Wis., \$60.00 cash.

Monroe Lumber & Fuel Co., Monroe, Wis., 1 barrel
Diamond Crystal Cheese Salt.

Gottfried Schuetz, Monroe, Wis., 20 Cheese Boxes.

The Sharpless Separator Co., Chicago, Ill., \$25.00
cash.

H. B. Stanz Co., Milwaukee, Wis., one imported
Leather Bill Book.

CHEESE EXHIBIT PRIZE WINNERS

Swiss Cheese

- Joe Lauber, Blanchardville, Wis.97.7 points
 \$5.00 cash, donated by the Marshall Dairy Laboratory. \$15.00 cash, donated by the Jacob Marty Company. One 16 ounce bottle Sterilac donated by the Abbott Laboratories. One gallon B. K., donated by the General Laboratories. \$10.00 cash, donated by the Sharples Separator Co.
- Eugene Wirz, Darlington, Wis.97.2 points
 One 10 ounce bottle Sterilac, donated by the Abbott Laboratories. One gallon B. K., donated by the General Laboratories. \$10.00 cash, donated by the Jacob Marty Co. \$6.00 cash, donated by the Sharples Separator Co.
- Christ Stettler, Route 1, Monroe, Wis.96.5 points
 Two one-ounce bottles Sterilac, donated by the Abbott Laboratories. One gallon B. K. donated by the General Laboratories. \$5.00 cash, donated by the Jacob Marty Co. \$5.00 cash, donated by the Sharples Separator Co.
- Jacob Nieffenegger, Darlington, Wis.96.2 points
 \$8.19 cash, from the pro rata Fund. \$4.00 cash, donated by the Sharples Separator Co.
- Valentine Zibung, Woodford, Wis.94.8 points
 \$8.07 cash, from the pro rata Fund.
- G. C. Bartell, Monroe, Wis.94.8 points
 \$8.07 cash, from the pro rata Fund.
- Emil Escher, Route 1, Monroe, Wis.94.2 points
 \$8.01 cash, from the pro rata Fund.
- John Denzler, Monroe, Wis.93.5 points
 \$7.96 cash, from the pro rata Fund.

- Joe Kuster, Route 3, Monroe, Wis.92.3 points
 \$7.85 cash, from the pro rata Fund.
- Casper Jaggi, Albany, Wis.87.3 points
 \$2.41 cash, from the pro rata Fund.

Block Cheese

- G. C. Bartell, Monroe, Wis.93.3 points
 Two 2½ ounce bottles Sterilac, donated by the Abbott Laboratories. One Facile Jr., 4 bottles Babcock Hand Tester, donated by the A. H. Barber Creamery Supply Co. Five Block Boxes donated by G. Clarke Dodge. One Gillette Safety Razor, donated by the J. B. Ford Company, \$5.00 cash, donated by the Jacob Marty Co.
- Joe Kuster, Route 3, Monroe, Wis.92.3 points
 One White Duck Suit, donated by the Creamery Package Mfg. Co. One Gillette Safety Razor, donated by the J. B. Ford Company. \$3.00 cash, donated by the Jacob Marty Co. Five Block Boxes, donated by Gottfried Schultz.
- Emil Escher, Route 1, Monroe, Wis.90.8 points
 One Gillette Safety Razor, donated by the J. B. Ford Company. One gallon B. K., donated by the General Laboratories; one imported leather Bill Book donated by the R. Gerber & Co. \$2.00 cash, donated by the Jacob Marty Co.

Brick Cheese

- Ernest Dahler, Route 2, Monroe, Wis.95.8 points
 Five gallons Power Separator Oil, donated by The De Laval Separator Co. Five Brick Boxes, donated by G. Clarke Dodge. \$5.00 cash, donated by the Marshall Dairy Laboratory. \$5.00 cash, donated by the Jacob Marty Co.
- Arnold Zumbach, Calamine, Wis.94.3 points
 Three gallons Power Separator Oil, donated by The De Laval Separator Co. One gallon B. K. donated by the General Laboratories. \$3.00

cash, donated by the Jacob Marty Co. Five brick boxes, donated by Gottfried Schuetz; one imported leather bill book, donated by H. B. Stanz Co.

- Mike Dahler, Darlington, Wis.94.2 points
Two gallons power separator oil, donated by The De Laval Separator Co.; one Gillette safety razor, donated by the J. B. Ford Co.; one gallon B. K.; donated by the General Laboratories, \$2.00 cash, donated by the Jacob Marty Co.; one barrel Diamond crystal cheese salt, donated by the Monroe Lumber & Fuel Co.
- John Schuetz, Route 3, Monroe, Wis.....93.5 points
\$7.96 cash from the pro rata fund.
- Hans Baer, Calamine, Wis.....92.5 points
One gallon power separator oil, donated by The De Laval Separator Co.; \$7.87 cash from the pro rata fund.
- Albert Oertig, Route 1, South Wayne, Wis.....91.8 points
\$7.81 cash from the pro rata fund.
- Adolph Gurtner, Route 1, Rubicon, Wis.91.3 points
\$7.77 cash from the pro rata fund.
- Arnold Guedel, Route 7, Monroe, Wis.90 points
\$7.70 cash from the pro rata fund.

Limburger Cheese

- Peter Bernet, Monticello, Wis.....96.7 points
\$10.00 cash, donated by The Conley Foil Co.; five Limburger boxes, donated by G. Clarke Dodge; one hundred pounds tin foil, donated by Lehmaier-Schwartz & Co.; \$5.00 cash, donated by the Marschall Dairy Laboratory; \$5.00 cash, donated by the Jacob Marty Company.
- Anton Motz, Route 8, Monroe, Wis.....96 points
\$5.00 cash, donated by The Conley Foil Co.; fifty pounds tin foil, donated by Lehmaier-Schwartz & Co.; \$3.00 cash, donated by the Ja-

- cob Marty Co.; five Limburger boxes, donated by Gottfried Schuetz.
- Jacob Haessig, Route 4, Monroe, Wis.....95.7 points
\$2.50 cash, donated by The Conley Foil Co.; fifty pounds tin foil, donated by Lehmaier, Schwartz & Co.; \$2.00 cash, donated by the Jacob Marty Co.; \$5.00 cash from the pro rata fund.
- Wm. D. Gempeler, Route 4, Monroe, Wis.....94.3 points
Five Limburger boxes, donated by G. Clarke Dodge; fifty pounds tin foil, donated by Lehmaier, Schwartz & Co.; \$8.02 cash from the pro rata fund.
- August Martini, Route 8, Monroe, Wis.....93.7 points
Five Limburger boxes, donated by Gottfried Schuetz; fifty pounds tin foil, donated by Lehmaier, Schwartz & Co.; \$7.97 cash, from the pro rata fund.
- Rudy B. Langacher, Monticello, Wis.....93.5 points
Fifty pounds tin foil, donated by Lehmaier, Schwartz & Co.; \$7.96 cash from the pro rata fund.
- John Minnig, Route 3, Monticello, Wis.....92.7 points
Fifty pounds tin foil, donated by Lehmaier, Schwartz & Co.; \$7.89 cash from the pro rata fund.
- John Moser, Route 7, Monroe, Wis.....92.3 points
Fifty pounds tin foil, donated by Lehmaier, Schwartz & Co.; \$7.85 cash from the pro rata fund.
- John Meier, Route 4, Monticello, Wis.....92 points
Fifty pounds tin foil, donated by Lehmaier, Schwartz & Co.; \$7.82 cash from the pro rata fund.
- August Thomen, Route 1, Blanchardville, Wis. 92 points
Fifty pounds tin foil, donated by Lehmaier, Schwartz & Co.; \$7.82 cash, from the pro rata fund.

REPORT OF COMMITTEE

The Committee on Resolutions makes report as follows:

Effective July 1st, 1917

Section 4607d-3

1. Whereas, We have on our statutes a law compelling the labeling of a pure, wholesome article of food with the label WHEY BUTTER, which label is detrimental to the producer because it arouses curiosity and suspicion among the consuming public, and drives our cream out of the state, to be manufactured into butter, and reshipped into Wisconsin as creamery butter, be it

Resolved, That we instruct our members of the legislature to work for the repeal of this law.

2. Resolved, That we request the Dairy and Food Commissioner of the State of Wisconsin not to interfere with the 43% fat system under which the Swiss Cheese system is now working until such laws can be formulated that will not work an injustice or hardship to our industry. However, we recommend that the President of this Association appoint a committee of three to formulate the basis of a new Fat Ratio for the manufacture of Swiss Cheese, to be presented to the next legislature in session in 1925.

3. Whereas, Divine Providence has removed an able leader and supporter of the dairy industry in Wisconsin in deceased W. C. Thomas of Sheboygan Falls, be it

Resolved, That we deeply regret the loss which we have all sustained, and we extend to the members of his family our sincere and heartfelt sympathy and condolence, and

Resolved, That these resolutions be spread on the minutes of the association, and a copy be sent to the family.

4. Resolved, That the thanks of this association are hereby tendered to the officers and members, to exhibitors and donators of special prizes, speakers on the program, and entertainers who assisted in making the convention successful.

C. R. SCHEPLEY,
H. H. MOE,
RUSSELL TRUMPY,
Resolutions Committee.

Recommended by Box Committee

Cheese boxes should be of the following sizes:

Brick, $31 \times 21 \times 5\frac{1}{2}$, $\frac{3}{4}$ side and end, $\frac{3}{8}$ top and bottom.

One-half Brick, $31 \times 10\frac{1}{2} \times 5\frac{1}{2}$, ends $\frac{3}{4}$, sides $\frac{9}{16}$, top and bottom, $\frac{3}{8}$.

Limburger, $31 \times 22 \times 5\frac{1}{2}$, $\frac{3}{4}$ end and sides, $\frac{3}{8}$ top and bottom.

Block, $30 \times 22 \times 6\frac{1}{2}$, $\frac{3}{4}$ ends and sides, $\frac{3}{8}$ top and bottom.

(Inside measure.)

Give it some publicity in our papers.

All foregoing five resolutions were accepted unanimously.

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