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## **Thirty-first annual report of the Wisconsin Dairymen's Association : held at Fond du Lac, Wis., February 11, 12 and 13, 1903. Report of the proceedings, annual address of the president, and interestin...**

Wisconsin Dairymen's Association

Madison, Wis.: Democrat Printing Co., State Printer, 1903

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THIRTY-FIRST ANNUAL REPORT  
OF THE  
WISCONSIN  
Dairymen's Association

HELD AT  
Fond du Lac, Wis., February 11, 12 and 13, 1903.

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REPORT OF THE PROCEEDINGS, ANNUAL ADDRESS OF THE  
PRESIDENT, AND INTERESTING ESSAYS AND DISCUSSIONS  
RELATING TO THE DAIRY INTERESTS.

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COMPILED BY  
GEO. W. BURCHARD, *Secretary.*

MRS. A. L. KELLY, *Stenographic Reporter.*



MADISON, WIS.  
DEMOCRAT PRINTING CO., STATE PRINTER.  
1903.



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## LETTER OF TRANSMITTAL.

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WISCONSIN DAIRYMEN'S ASSOCIATION,

*Secretary's Office,*

FORT ATKINSON, May 20, 1903.

To His Excellency, ROBERT M. LaFOLLETTE,

*Governor of the State of Wisconsin.*

I have the honor to submit for publication, as provided by law, the thirty-first Annual Report of the Wisconsin Dairymen's Association showing the Receipts and Disbursements the past year, also papers relating to the dairy interests read and discussions had at the annual convention held at Fond du Lac.

Very respectfully,

GEO. W. BURCHARD,

*Secretary.*



## OFFICERS, 1903.

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### PRESIDENT,

J. Q. EMERY,  
DANE COUNTY.

### VICE PRESIDENTS,

HON. A. D. DELAND, SHEBOYGAN, SHEBOYGAN COUNTY,  
President 1877.

HON. STEPHEN FAVILL, MADISON, DANE COUNTY,  
President 1880,

HON. H. C. ADAMS, MADISON, DANE COUNTY,  
President 1837-9.

PROF. W. A. HENRY, MADISON, DANE COUNTY,  
President 1890.

HON. W. D. HOARD, FORT ATKINSON, JEFFERSON COUNTY,  
President 1891-93

HON. C. H. EVERETT, RACINE, RACINE COUNTY,  
President 1894-95.

HON. H. C. TAYLOR, ORFORDVILLE, ROCK COUNTY,  
President 1898-99.

HON. C. P. GOODRICH, FORT ATKINSON, WIS.,  
President 1900-01.

### SECRETARY,

G. W. BURCHARD,  
FORT ATKINSON, JEFFERSON COUNTY.

### TREASURER,

H. K. LOOMIS,  
SHEBOYGAN FALLS, SHEBOYGAN COUNTY.

HON. CHESTER HAZEN, RIPON, FOND DU LAC COUNTY,  
President 1872-74. Died 1900

HON. HIRAM SMITH, SHEBOYGAN COUNTY,  
President 1875-76. Died May 15, 1890.

HON. H. F. DOUSMAN, WAUKESHA COUNTY,  
President 1878.

HON. Z. G. SIMMONS, KENOSHA COUNTY,  
President 1879.

HON. C. R. BEACH, WALWORTH COUNTY,  
President 1881-82. Died September 15, 1896.

HON. W. H. MORRISON, WALWORTH COUNTY,  
President 1883-86. Died December 15, 1893.

## ARTICLES OF ASSOCIATION.

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(Adopted February 15, 1872.)

ARTICLE I. The name of this organization shall be, the Wisconsin Dairymen's Association.

ARTICLE II. The officers of this association shall consist of a president, secretary and treasurer.

ARTICLE III. The vice presidents of the association shall consist of all past presidents.

ARTICLE IV. The president, vice presidents, secretary and treasurer shall constitute the executive board of the association.

ARTICLE V. The officers of the association shall be elected at the annual meeting and shall retain their offices until their successors are chosen.

ARTICLE VI. The regular annual meeting of the association shall be

held each year, at such place as the executive board shall designate.

ARTICLE VII. Any person may become a member of this association and be entitled to all its benefits, by the annual payment of one dollar.

ARTICLE VIII. The executive board shall have power to call special meetings whenever and at such place as in their judgment its interests so demand.

ARTICLE IX. The officers of the association shall perform such other duties as usually devolve upon the officers of like associations.

ARTICLE X. The treasurer shall have the custody of all moneys belonging to the association, and authority to pay out the same whenever an order is presented, signed by the president and secretary.



# MEMBERSHIP, 1903.

Name.	Post Office Address.	Name.	Post Office Address.
Abbott, W. A.	Portage City, 229 Howard St.	Hardison, W. F.	Bellows Falls (Vt).
Adamson, A. B.	Fond du Lac.	Harris, Hon. J. H.	Elkhorn
Adkins, M. V.	Ripon.	Hill, Chas. L.	Rosendale.
Aldrich, Geo. C.	Oak Park, (Ill.) 234 So Grove Ave.	Holbrook, R. F.	Durand.
Allen, Delos.	Oakfield.	Howie, D. W., Jr.	Elm Grove.
Allen, M. L.	Waupaca.	Ingalls, S. M.	Fond du Lac.
Allen, H. D.	Waupaca.	Jones, F. L.	Utica (N. Y.).
Austin, W.	Brandon.	Jones, P. Y.	Fond du Lac.
Barsuezur, G. A.	Sheboygan Falls.	Jordan, G. E.	Amherst.
Bast, Jas.	Stockbridge.	Kates, Chas. M.	Custer.
Batchelder, J. O.	Fond du Lac.	Keys, C. W.	Fond du Lac. R.
Bates, R. R.	Madison.		F. D. No. 4.
Boettcher, John E.	Guthrie.	Kinney, James.	Fond du Lac.
Boyd, L. M.	Fond du Lac.	Klotz, Ignatius.	Campbellsport.
Buckstaff, Geo.	Oshkosh.	Kohler, John.	Campbellsport.
Beirne, James.	Oakfield.		
Bristol, M. Y.	Oakfield.	Lee, Frank.	Evansville.
Carpenter, A. H.	Fond du Lac, 112 Third St.	Levens, A.	Sheboygan Falls.
Cebell, L. G.	Oak Center.	Lonely, E.	Fond du Lac.
Chapin, C. J.	Omro.	Malbrenner, Jas.	Sheboygan.
Cody, John.	Fond du Lac.	Martin, E. P.	Paonia (Colorado).
Covill, A. L.	Nelsonville.		R. F. D.
Crain, Mark L.	Eldorado.	McCormick, Thos.	Fond du Lac.
Crooker, A. S.	Ripon.	McCready, J. B.	Madison.
Daily Commonwealth	Fond du Lac.	McCrory, Jas.	Fond du Lac. R.
Dolan, J. J.	Fond du Lac.		F. D. No. 4.
Drake, W. H.	Halway.	Mintz, Oscar.	Fond du Lac. R.
Duxbury, E. L.	Green Bay.		F. D. No. 4.
Dye, R. K.	Fond du Lac.	Moore, J. G.	Albion.
Emery, J. Q.	Albion.	Morse, Hon. E. D.	Princeton.
Emery, Mrs. J. Q.	Albion.	Mozley, W. J.	Ripon.
Ermison Bros.	Fond du Lac.	Muth, C.	Manitowoc.
Fenelov, Wm.	Brandon.	Nettekoran, John.	Fond du Lac. R.
Fenner, F. E.	Fond du Lac.		F. D. No. 2.
Fenner, O. S.	Fond du Lac.	Nisbet, Hugh.	Madison.
Foster, D. B.	Fairchild.	Nordman, E.	Polar.
Foulkes, R.	Oshkosh.	Ottery, E. J.	Fond du Lac. R.
Frulich, Frank A.	Fort Atkinson.		F. D.
Freeman, G. A.	Pewaukee.	Owens, L.	Oakfield.
Gartman, C.	Sheboygan.	Peacock, P. A.	Sheboygan.
Gibbons, T. H.	Elgin (Ill.).	Peebles, S. W.	Peebles.
Gillett, W. J.	Rosendale.	Pfeiffer, F.	Oshkosh.
Givens, F. M.	Fond du Lac.	Phelps, E. W.	Fond du Lac.
Goodrich, C. P.	Fort Atkinson.	Pienoud, August.	Fond du Lac. R.
Gordon, Lou.	Oakfield.		F. D. No. 2.
Greeue, J.	Albion.	Podalski, J.	Watertown.
Hahn, H. H.	Blanchardville.	Potter, H. R.	Fond du Lac.
Hansen, Geo.	Oakfield.	Powers, E. R.	Fond du Lac.
		Rathes, W. F.	Calumet.
		Roynd, Kys.	Oakfield.

MEMBERSHIP—Continued.

Names.	Post Office Address.	Names.	Post Office Address.
Rietbrock, Fred.....	Milwaukee.	Thomas, W. C.....	Sheboygan Falls.
Riley, J. T.....	Milwaukee.	Tiffany, Frances ..	Taychedah.
Ring, Hon. M. C.....	Neillsville.	Todd, S. B.....	Milwaukee.
Robins, J. H.....	Lomira.	Trager, Gust.....	Mazomanie.
Rogers, G. W.....	Ladoga.	Van Blascon, L. B....	Fond du Lac.
Rooke, Arthur....	Fond du Lac.	Van Duser, James....	Hebron.
Reuks, Henry.....	Fond du Lac.		
Schraven, Wm.....	Rogersville.	Watson, L. W.....	Fond du Lac.
Schroeder, Herman...	Fond du Lac. R	White, Andrew J.....	Waucousta.
	F. D. No. 4.	Wilkinson, Alfred S..	Ladoga.
Scribner, F. H.....	Rosendale.	Willes, M. L.....	Rosendale.
Skidmore, E. L.....	Rosendale.	Williams, D. O.....	Fond du Lac.
Smith, F.....	Oakfield.	Worthy, Ed.....	Oakfield.
Solverson, Chas.....	Nashotah.	Worthy, R.....	Oakfield.
Stanchfield, S. C.....	Fond du Lac.	Zwickey, Wm.....	Vandyne.



TRANSACTIONS  
WITH  
ACCOMPANYING PAPERS AND DISCUSSIONS  
OF THE  
**Wisconsin Dairymen's Association**  
AT THEIR  
THIRTY-FIRST ANNUAL CONVENTION

Held at Fond du Lac, Wisconsin, February 11th, 12th, 13th,  
1903.

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The thirty-first annual meeting of the Wisconsin Dairymen's Association was called to order in the city of Fond du Lac, at 10 o'clock A. M., February 11th, 1903, by the president, J. Q. Emery, of Albion.

Secretary Burchard: Before the formal opening of this association, I desire to read a letter that I received this morning, which comes from Menomonie, Wisconsin, where we held our last annual convention. It is addressed to me as secretary, and reads as follows:

"We take pleasure in forwarding to you to-day by American Express, a mahogany gavel, the handiwork of the boys of the Stout Manual Training School. Kindly accept same with the compliments of Senator Stout and the School." On opening the box, I find it contains this gavel, and in behalf of the Stout Manual Training School and Senator Stout, it gives me very great pleasure indeed to place it in the hands of our president for use during this convention.

As I remarked before, we held our last annual convention in Menomonie and spent one hour of the time in visiting the Stout Manual Training School; and it was a revelation to all of us. We had heard more or less about that school, but we were not prepared to find, in what seemed to us a far-off section of the state, such a complete equipment and such splendid work being done by the lads—and lassies too, because it includes both sexes. The state of Wisconsin may well feel proud that it has a citizen with the public-sightedness and the public spirit to start such an institution within its boundaries. It reflects great credit indeed upon the state. It is a Mecca for pilgrims from all the other states, and for educators from foreign lands when they come here, the equipment is so complete, the building is so well adapted for its purpose. It is a monument to Senator Stout and the public spirit of his enterprise in that city and county. I forbear to detain you longer, except to move that the thanks of the association be tendered to Senator Stout and the Manual Training School which bears his name, for their very kind remembrance.

Motion seconded, put to the house and unanimously carried.

The Chairman: This gavel, which we are pleased to accept, represents excellence in its quality both in material and workmanship. It comes from an institution that stands for progress and education, and it is to be used to preside over an association that has for more than thirty years stood for progress in a great educational work, in the great dairy interest of Wisconsin; so may it symbolize to us the spirit of progress ever.

I take pleasure in introducing to you at this time Mayor Bishop, who will speak to us on behalf of the city of Fond du Lac.

#### ADDRESS OF WELCOME.

Mr. President, Members of the Wisconsin Dairymen's Association: As representing the city of Fond du Lac, it affords me great pleasure to extend to you a hearty welcome to all the courtesies that Fond du Lac can possibly offer. It gives me great pleasure to welcome a body of men and women to our city of the intelligence of this, whose course from 1872 has



been marked with grand progress, one of the grandest and noblest works that pertain, not only to the agricultural interests of Wisconsin, but to every one of the products of those interests. We not only welcome you to the city, but we welcome you as well to the county of Fond du Lac. Its celebrated herds of dairy cattle are known practically the world over where efforts are made in improvement of the products of the cow. I call your attention to the well known and celebrated herd of Holsteins at Springvale owned by Mr. Gillette and son, the fine herd of Jerseys owned by Mr. Fred Scribner and also the Guernseys of Mr. Hill, just outside of the village of Rosendale, also to Mr. Bierne's herd in the town of Oakfield. You have all heard of that herd where, but a short time ago, two of his cows furnished on a test nearly, or quite 1,800 pounds of butter in one year, or less than one year,—almost a ton of butter. You can remember very readily when it was considered a good deal for one herd to average 125 pounds to the cow. We thought that was all right.

When Mr. Hiram Smith, one of the pioneers in the dairy business of the northwest, stated to your convention that his herd averaged him 250 pounds to the cow, a great many listened to that statement with considerable doubt as to the accuracy of his scales or his tests. We have now reached a time when it is not considered an extreme limit when a man's herd averages 400 pounds to the cow during the year, which is a gain of 275 pounds over what was considered a sufficient yield at the time this organization was inaugurated, thirty-one years ago. I believe I am not exaggerating when I say that there has been one hundred million pounds of butter made in the state during the last year, about one-third of that being dairy butter and two-thirds creamery butter. I think I am not exaggerating when I say that seventy million pounds of cheese have been made in this state during the last year.

Another thing may not be amiss for me to mention, and that is, that over a million dollars worth of cheese has been handled through this city during the last year by dealers here, and we do not claim that we have the best agricultural county in the state of Wisconsin, but I want to say to you that there are not

many rounds on the ladder above us. Our people are delighted to have you here for the benefits you will do the cheese and butter interests of our county. I might go farther and say, what you possibly may consider is out of order—you can tell by my rotundity, my appearance of vigorous health, that I have some reason to know something about these food products. I commenced in the dairy business, you know, some fifty-six years ago. All I got for it was my living, and I have got that ever since. I well remember when my younger brothers grew old enough to milk cows and I could go at something else, and I was not sorry, for I did not particularly enjoy milking after the first year.

I want to call your attention to this souvenir that the citizens of Fond du Lac have been delighted to present to you. It may possibly have been a query in your mind why we put upon it the head of a beef cow. Well, the reason for that is, that the dairy cows are all at home, busy, busy, busy, making butter and cheese, and the beef cow is the only cow that has time to attend a dairymen's convention. That is the reason you find the beef cow's head; it was not an oversight on the part of the committee that selected this badge.

I want to say something more in regard to the city of Fond du Lac. The city of Fond du Lac was at one time a very prosperous city, when it had the river bank here lined with sawmills; but those gradually went away, and then we had to hustle around for something new. There was a time of sleep, you know, but after sleep all vegetation wakes up in the spring. No tree can bear foliage the whole year around. Fond du Lac took that respite and then she woke up, and she has been moving right along ever since.

Fond du Lac has now a population in the neighborhood of 20,000, not including our lively suburb, North Fond du Lac, a village which is incorporated, with 2,000 inhabitants. I think you all know that Fond du Lac is one of the finest railroad centers in the state of Wisconsin. You can take the cars here practically for any place in the universe, and at almost any time of day or night. The government of the United States has decided to furnish us a custom house, the site has

been accepted and the title approved. The contractors are at work furnishing material already for a \$40,000 library building, exclusive of the lot, to be located on an elegant plot of ground 160 feet square, and not over 150 feet from the center of the business portion of the city. We expect also to erect this summer a \$30,000 Elks' Club House. We expect to open, a week from next Monday night, about a mile of as fine shale block pavement as can be found in the United States. We are moving right along, and whenever you see fit to come back to meet with us, we will see fit to have you come any time you can, and we will show you streets in better condition than they are to-day. Three years ago the country upon which North Fond du Lac now stands, was farm land entirely and to-day they have 2,000 inhabitants, the Wisconsin Central has the combined shops of Waukesha and Stevens Point located there. I cannot begin to tell you how many men they employ but not less than 275 in the shops alone. The North-Western, on the 6th of last August, broke ground for their extensive shops and division headquarters. They have one of the largest yards that they have outside of Chicago, and they have established a repair shop, and it is only a question of time until it shall become a mammoth repair shop.

Now, you cannot wonder that with all this energy, all this push, all these natural advantages, and all these peculiar circumstances that come to us, that we feel like crowing on our own dunghill.

We have a reception committee of which Mr. Galloway is chairman, and they will be very happy to extend the courtesies of the city. Thank you, gentlemen.



## RESPONSE TO ADDRESS OF WELCOME.

C. H. Everett, Racine, Wis.

Mr. President, Mr. Mayor and Gentlemen of the Convention:

Your good mayor has made free to us everything in and about your beautiful city, has told us of the magnificent improvements going on and contemplated for the future; of the good country surrounding your city; the fine dairy herds and good dairymen. We knew all this before, perhaps not about your city, but about the dairy herds, the good dairy country and men. We are all familiar with Fond du Lac county, with its agricultural and dairy resources; its bright, intelligent farmers, men who are educated in their business, who know the value of a dairy cow and her products; who know how to get the greatest returns from the cows kept upon their farms.

Not only is Fond du Lac county well adapted to the dairy industry, but so is the whole state of Wisconsin, and many of you present are no doubt from outside of this county. Wisconsin is made by Nature a dairy country. We have perfect air, atmosphere; as fine grass as grows anywhere in the world; and as pure water and in as great abundance as can be found in any other state in the Union. We are as near to the good markets as are the dairymen of any other state; we are as near the oil mills and the bran factories as are the dairymen of any other state. There is but one thing lacking, and that is what we are here to supply, a little more knowledge, a little better understanding on the part of some of us as to what constitutes a good dairyman and as to what constitutes a good, profitable dairy cow; to discern, if possible, the difference between a good cow and a poor cow, between the cow that pays a profit and the one that does not.

Some of the papers that will be presented at this convention will be well worth your time; in fact it would be hard to place a value upon the papers that will be presented by such men as Mr. Goodrich and Mr. Gurler. Mr. Goodrich has been in this county, among the dairymen and factories of this county, find-

ing out which herds pay a profit and which make a loss to their owners, and his paper will be worth a great deal to you. Mr. Gurler will present to you some facts gleaned from one year's experience with some sixty of his cows where he has kept close track of the feed given, and of the milk product, and will tell you of the profits and the losses that he has found among those cows. These lessons will be of great value, and I hope we will all be present and listen carefully to these papers.

The Dairymen's Association, in whose behalf I speak, is glad to be with you and we anticipate a good time. We shall strive to give you the best information that we possibly can. We want your experiences, we want you to tell us what you know about dairying, and we will exchange with you. We thank you very heartily for this kind reception and bespeak for you and for us a profitable convention.

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The Chairman: The next gentleman, upon whom I shall call, does not need any introduction to a Wisconsin convention, and particularly a dairymen's convention. This gentleman was present and helped perfect the organization; he was here at Fond du Lac twenty-nine years ago at a session of this association, and has been present at every meeting since the association was organized, except one. I take great pleasure in calling upon Ex-Gov. Hoard.

Ex-Gov. Hoard: Mr. President, Mayor Bishop and Gentlemen of the Convention: To a man up a tree, things look different, don't they? The longer I live, the more does this proposition of a horizon show its effect upon my judgment and upon my understanding. A large proportion of men are down where they have narrow horizons and they can't see. The business of this association, from the day it started in 1872, has been to put a hand under the farmer of Wisconsin and, if possible, lift him up a little so that he can see. It is astounding, my friends, what a vast amount of ignorance we can carry around and not know anything about it.

I read in Bunyan's "Pilgrim's Progress," when a boy, about the man that carried the burden on his back and fought like a

tiger to keep anybody from relieving him of it, and I read in the Bible about men who roll their sins like a sweet morsel under their tongue. I tell you that we hang very tenaciously to anything that belongs to us; it doesn't make any difference whether it is good or bad, if it belongs to us. The old Dutchman said about his wife that "she be not so very handsome, and she be not so very smart, but she be the best I got by me." I am talking about myself in this matter as much as anybody. I have noticed all through life how hard it was to make me forsake a mistaken notion, providing it was my notion, and so it has been all over the state.

Take these thirty-one years. Why, you can't think, unless you can remember, what a contrast there is to-day, with all this broad and pulsing movement of energy in the state of Wisconsin, over the situation as it stands now and as it stood when I came up here as secretary of this Wisconsin Dairymen's Association to hold its second meeting, thirty years ago. Chester Hazen was president of the association, and do you know, we could hardly get the farmers to stay in the meeting, because Victoria Woodhull was going to lecture here in some hall, and they said, "What do we want to hear about cows for, when we can hear a woman who has elevated her name by scandal and otherwise, so that every man wants to look at her?"

Why, do you know it sometimes makes me stand with uncovered head to think of the progress that has been made; and it has been made all the time by getting hold of men and getting them to see the error of their ways. Half of us do not fit our place on the farm. We can't change the farm very much, we can't change the order of nature, we can't change the fiat of God Almighty, and God cannot change us either, and there we are at cross purposes; but slowly, slowly, there has been an accretion of change, and men have begun to think a little closer and a little closer, and the next year a little closer, until the thirty years that have elapsed, since the first meeting here and to-day, shows Wisconsin occupying a bright position among the galaxy of states. The faith that we have held and maintained steadily, is, as Paul says, "the substance of things not seen," and we have held to that faith through days of discouragement,

My friend Clark spoke to me a little while ago about hearing me say at one time that I had been secretary of more defunct boards of trade than any man in existence, and as fast as we organized a little effort, the thing seemed to peter out, and we would try to hold on.

The first dairy board of trade was organized in Watertown and I am going to tell you a little bit of a story about that. I want to show you how important a little piece of action was on the fortunes of the dairy farmers of Wisconsin. We talk about the sharp wisdom of corporations. Get out! They are not any sharper than anybody else; they haven't any more brains than anybody else. Corporations are simply organized and depend on the individuality of those running them.

I spent two days going from one organization to another, freight lines, trying to get somebody who would help us out of our trouble. We were paying two and a half cents a pound to get cheese to New York, sending it in the summer in hot freight cars, and these railroads, the Blue Line and the Red Line and all the rest of the Lines, couldn't see the wisdom of helping out of this country the three millions pounds of cheese that we were struggling to get out. I got the association to let me bear my own expenses to go to Chicago, and I was publishing a little paper and I had a pass on the railroad, and that is the only thing that I didn't pay for, but I went to Chicago to talk to these people. Now, there was one man, a genius, a great big, black-eyed, magnificent man, William Chandler, with a blue coat and brass buttons. I went, in the last afternoon of the two days, into his room, and I was weary and discouraged, and I was mad, and I thank God always that my anger comes on top and holds me up. I wouldn't give two cents for a fellow that couldn't get mad, and that is the only thing I have ever been a little doubtful about theologically—my old father always taught me anger was sinful.

Well, I felt angry at the way these railroad people didn't and wouldn't see this thing, and I shot into that man's office and I said, "Mr. Chandler, I come here representing three million pounds of cheese that wants a quick and safe and cheap outlet to the East, and I want to know what you are going to



do about it." He wheeled around and looked at me, and he says, "Who are you?" I said, "My name is W. D. Hoard, and I am secretary of the Wisconsin Dairymen's Association, and they have sent me here and we have about three million pounds of cheese in the state, and it wants to get out of the state. I want to know what you will do about it." Well, he says, "We will do most anything you say if you have got that amount of cheese. What do you want?" I said, "We pay two cents and a half a pound to get this cheese to New York. We are shipping it in poor cars and our folks don't know anything—any of us know but little, there is a vast amount of ignorance in the way, and we want you to come up there. There isn't one man in a thousand ever saw a refrigerator car. You have just commenced to use them. I want you to send up a car to Watertown to that dairy board of trade, and come up yourself and explain to those cheese people. Then I want you to make a rate of one cent a pound from anywhere in Wisconsin to New York." He straightened back and he said, "Is there anything else you want?" I said, "Mr. Chandler, I can see with the eye of prophecy that if you will do that thing it will put millions of dollars into your pocket. All that is needed is to take this obstruction out of the channel, and the cow will take care of the rest. Let us have a chance to move this cheese out of Wisconsin." "Well," Mr. Chandler says, "I will be there." Well, he sent this car up to Watertown and Chester Hazen and a number of other men, I got them all to come down there, and he explained to us what he would do and how he would stop the car,—if one factory had only half a load he would stop the car; if we would ice the car he would see to the other operation of it.

That was away back in 1875. He made that rate of one cent a pound, and do you know, the thing began to move and move.

Now, that showed exactly what we needed was a chance to get our stuff to market within reach of our means and that would give us some profit on our work.

Those things, you know, the people to-day don't know anything about; our young men do not realize this but that was

one movement; the organization of the Wisconsin Dairymen's Association was a great lever that enabled me to do the work I did with Mr. Chandler. I couldn't have gone there alone and done anything.

Gentlemen, this Wisconsin Dairymen's Association has stood behind every step of agricultural progress in Wisconsin from that day to this; it has organized all of the distinctive steps that have made Wisconsin stand where she does.

I wish you could go with me in my lecture work over this United States; I wish you would go with me and see what men think of this Association in Nova Scotia and in New Brunswick and in the provinces of Ontario and Quebec. Two years ago I had two weeks' lecture work in Georgia, and there was constant talk about Wisconsin.

Now, what did this thing? Organization, getting together.

The farmers of Fond du Lac county have been made prosperous and too much have they thought they needed only to look at their business within their line of vision; too much have they drawn from this fountain and not given back what they ought to have given. It is just so with my own county. Farmers are apt to forget the source of the fountain from which these blessings flow and they are not the class of men that easily organize. They need shaking up; every man needs shaking up. God bless you, there wasn't any healing in the pool of Jerusalem until an angel came down and stirred that pool. There is no butter until you churn, and agitation of these questions is what we need, and we need it all the time. If we do not have this agitation we sag down, and everybody begins to measure himself, as Paul said, by himself, and the Lord knows that is a mighty small measure.

Now, this association has done magnificent work. Some of us old fellows have got to quit pretty soon, but as an old Scotchman said to me in Canada, "It is a mighty different thing when you come to die if you die with a full life behind you rather than an empty one," and that is right.

Now, then, the young men must take care of this work. I never was more thankful for anything than I have been at the way our Dairy School, at Madison, and our Short Course are

taking hold of the young men and stamping on their impressive minds the truth of things, so that they will worthily bear the burdens and carry the state on to a distinction and usefulness which it has so richly earned, so richly deserved.

Mr. Mayor, I thank you, sir, for the cordial welcome you have given us. In my own person I stand here and I know of only one other man now present who was present at that first meeting, Mr. Favill. We are the only two people to-day belonging to this association, who came here when it was in its infancy, in swaddling clothes, and I thank you, sir, for this cordial welcome, and more than anything else, I thank you for the resumé you have given us of the facts which showed the energy of your people. When men gather together in communities like this city, and show such splendid energy, take hold of their destiny with such resolute hands and minds, it is a lesson to you and to me and to all the farmers that we ought to apply upon our farms.

Why is it that the men in the towns are doing things? Why is it that the farmer on his farm settles down into a condition of mind—with just as good brain, just as good thought, with a grander outlook—why is it that he sits down and says, “Let us have peace?” No, that is not the right of it.

Fond du Lac knows what it is about when it correlates its men together and its capital and its energy and builds a city like this, and the destiny of Wisconsin with her agriculture. Agriculture, Mr. Mayor, has got to tread the same road that Fond du Lac treads; it has got to show the energy and organization and power and pith and spirit and courage, and then the Lord will pour out his best blessing upon us.

Mr. Stephen Favill, of Madison, being called upon said:

Mr. Favill: Mr. President, Brother Hoard’s speech has awakened memories that I thought were lost. I do not suppose there is a person in the house that rejoices over the prosperity that has attended the efforts of this dairy Association any more than I do. There is not any one who has labored any harder for its success, for I have done the best I could, though that was very little, and it gives me great pleasure to look over the ground and remember the steps that the Associa-

tion has taken and the different phases of the dairy interests as they have come along, the "evolution" of the dairy interests as they say now. Everything is evolution—I don't know what it means. It sounds good and big folks use it.

Well, I am glad to be here. I am glad to see this audience gathered, and sincerely hope we shall have a good meeting, and I know we shall, as we always do when the citizens of a community take hold and make the careful arrangements that have been exhibited in Fond du Lac. While Mr. Hoard was talking about his going down to get Mr. Chandler to come up here, it reminded me I was glad to know Mr. Chandler. I have shipped cheese and butter a great many years, and he was one of the best men I ever did business with. He was square and honest and clean. He has gone to his reward, but he was a splendid man, and he did a splendid thing for the dairy interests of this state.

Now, we are going to have a good time. I know it. A good many of the older ones who have been in the habit of attending these meetings have gone on before. They were splendid workers, and we shall follow pretty soon, at least I shall, but it doesn't matter, I have tried to do what I could, and the Lord has helped me very well.

Mr. Goodrich: The Mayor has extended to us a very cordial welcome, which I expected, because I have been here before. I was here sometime last fall doing some work in the interests of the dairymen and of the Association, and everybody took right hold and helped me, from the Mayor down, the editors and everybody else.

The first welcome I ever had from Fond du Lac was in 1847, fifty-six years ago. I was only a boy then, but my father was one of the first dairymen in Southern Wisconsin, and he had about a dozen cows. My father and I built a little milk house, plastered it up with mud on the outside (it was made of logs) and whitewashed it on the inside, and mother made cheese in the summer and butter in the winter. I believe that the first butter tubs that were made in Wisconsin were made by a cooper assisted by "Yours Truly," then a little red headed boy, out in the town of Oakland, Jefferson county, and the first but-



ter packed in butter tubs was made by my mother. It came the winter of 1847, and my father had heard that there was a town way up north somewhere by the name of Fond du Lac, where there were some lumbermen who would eat butter and cheese, if they could get it, so he started me off. I kept going towards the north, driving straight over the prairies; the people who had heard of Fond du Lac told me to go straight north, and I kept on to the north for two days, and when I got here I was welcome, because I had some butter and cheese, and I sold it at a pretty small price, but I got the first money that came to our family from dairy products, and we have all of us been adding to that money ever since. Mr. Mayor, I thank you.

The Chairman: This association has had quite a large number of presidents, but it has had only three secretaries. Its first secretary was former Governor Hoard, who, after several years, found his own private business enlarging to such an extent that he was obliged to drop that labor. Then we had that other magnificent man, Mr. David W. Curtis, who was secretary for so many years. These two men in their work carried a large mantle and we find that that mantle has fallen on the worthy shoulders of Secretary Burchard. I will call upon Secretary Burchard at this time.

Secretary Burchard: I agree with the mantle part of it. Whether it is worthily bestowed or not, time alone will tell. Of course the secretary of the Association is in a way the general manager, and is responsible for so many things that he better keep as quiet as he can, but all the same I want to say that the hearty welcome given to the Association by the Mayor, in his own behalf, and on behalf of the citizens of Fond du Lac, is very keenly appreciated by the active members of the Association. Of course they expected it; they had heard about the renaissance of Fond du Lac. The people here are now wide awake, and we expected such a welcome and we are not disappointed.

This Association has always stood for the cow and her products. It has had no other ax to grind, but to get the most and the best products from the dairy cow, and that is what we are here for today. We are not here to boom any particular cattle

or any particular kind of apparatus or machinery, but we are here to boom the dairy cow and her products. We expect to bring before you living figures to show the difference in herds, to show the difference in particular cows, and even to show the difference in the men behind the cows, and I hope we shall have a very large attendance.

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Adjourned to 1:30 P. M. same day.  
Convention met at 1:30 P. M.  
Mr. Everett in the chair.

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### PRESIDENT'S ANNUAL ADDRESS.

J. Q. Emery, Albion.

I find some comfort at this time in a statement made by a former president of this association, the late, revered Hiram Smith, who in his address as president at the Sheboygan Falls meeting in 1875, said: "Opening addresses, like the robes of a judge, or the surplice of the clergy, are designed more for show than for service and sense, and it does not so much matter of what materials they are composed, so that they are of regulation cut and of orthodox length."

February 15, 1872, W. D. Hoard, Stephen Favill, W. S. Green, Chester Hazen, H. F. Dousman, A. D. Favill, and H. C. Drake, met at Watertown pursuant to a published call, and organized this, the Wisconsin Dairymen's Association.

As stated by Mr. Hoard, the distinctive necessity which was urged at that meeting for such organization was the low condition of the market, the unmarketable character of the principal portion of our cheese, and the lack of action on the part of buyers to handle our goods. Our only market was Chicago, and three carloads would glut that for a week. We made as a rule a soft cheese and our only market as a consequence was the home demand and the western states and territories.

Speaking of conditions at that time, Hiram Smith once said that western cheese in the markets bore about the same relation to eastern cheese that marsh hay does to early blue grass or timothy hay, and the manufacturers had to leave it to be sold at the country stores, one or two in a place, and replenish as sold. Mail carriers and peddlers disposed of all they could. At one time it was feared that the lightning rod man and insurance agent would have to be called in to aid in disposing of accumulating stock.

Verily, it may be said that the Wisconsin Dairymen's Association "came into the Kingdom for such a time as this."

The second annual meeting of this association was held in the council chamber in this city of Fond du Lac, February 17 and 18, 1874. At that time Hon. W. D. Hoard, then secretary of the association, reported the production of cheese in this state as 10,000,000 pounds, which sold at about ten cents a pound. The product of the Wisconsin cheese factories for 1902 approximates 90,036,000 pounds, which at ten cents a pound (probably an under-estimate), shows a total estimated value of the cheese product of Wisconsin for 1902 to be \$9,036,000,—an increase of more than 800 per cent. on the product of 1873.

The published records of the Fond du Lac meeting for 1874 disclose no discussion whatever concerning the production of butter. The production of cheese only was considered. The records of that meeting do not in any way show the butter product in Wisconsin for that year. Such a thing as our present system of creameries was unknown and probably undreamed of, and there were few private dairies. Contrast that condition with the year 1902, when the factory-made butter in Wisconsin amounted to 74,000,000 pounds, and the butter produced upon the farms may be taken at 44,750,000 pounds. The estimated value of creamery-made butter is \$14,975,000, and of the farm butter is \$8,950,000, making a total estimated value of the entire butter product of Wisconsin for 1902, the sum of \$23,745,000.

Basing an estimate upon the U. S. Census for 1900, the estimated values of Wisconsin dairy products for 1902 are as follows:

Creamery butter .....	\$14,795,000
Farm butter .....	8,950,000
Cheese .....	9,036,000
Condensed milk .....	347,000
By-products sold .....	700,000
Milk and cream consumed.....	8,500,000
Increase of value of stock.....	2,500,000
<hr/>	
Total .....	\$44,828,000

Including the value of the by-products returned to the farms and estimated at \$10 per cow, these figures bring the grand total revenue from the dairy industry of the state for 1902 to at least \$55,000,000.

In contrast with conditions when this association met in Fond du Lac in 1874, it is appropriate to state that in total volume of dairy products, Wisconsin holds second place among the states of the Union. In the decade 1890-1900 the value of the total dairy products increased 190 per cent.

The quality of Wisconsin butter ranks high and in large measure because it is made by skilled butter makers. Only two states show a larger percentage of factory-made than the farm-made product.

The better grades of Wisconsin cheese rank high in quality when compared with the world's make. This high quality of Wisconsin cheese is due largely to the favorable climatic conditions existing in northern Wisconsin and in the lake counties, where low and more constant temperatures prevail with comparatively high humidity.

It has been stated by good authority that Wisconsin produces three-fifths of the fancy cheese manufactured in the United States, and thus leads all other states in this industry, New York being second with one-third.

Wisconsin leads all states of the Union in the total number of cheese and butter factories, having in 1902, 2,697, as compared with the 40 cheese factories and no creameries in Wisconsin when this association was organized in 1872.

I have not succeeded in finding any statement of the number of cows in Wisconsin in 1874, but as shown by the U. S.



census of 1900, the number of dairy cows in Wisconsin, including city cows, was 1,032,811. The number of dairy cows on farms June 1, 1900, was 998,397.

The number of farms reporting dairy cows was 156,136.

The number of dairy farms whose principal source of income was their dairy produce was 25,246.

When this association met in Fond du Lac in 1874, there was no dairy school in Wisconsin, nor, indeed, was there any dairy school in the United States, or on this continent. Today Wisconsin is proud of the fact that she has the best dairy school in the world. The Wisconsin Dairy school is the pioneer school of its class. The concept of a dairy school in this state was formed by this association and its members, and action to that end was taken by the association. It was Professor Henry, an honored member and former president of this association, who wrought out into present reality this mighty instrumentality for good in the great dairy interest of the state. More than this, it has been not only the pioneer dairy school, but the model, the guide, for other states. Upon the splendid and enduring and far-reaching achievements of Professor Henry, through his years of unremitting labor, this association looks with a sort of paternal fondness and pride.

In 1900, at the meeting in Watertown, Professor Henry said: "This dairy association is the parent of the Wisconsin College of Agriculture. What that college is today and what its ambitions are rest largely in the backing and help it receives from this association; and, as a child, we are loyal to our parent." And when he said that, our hearts responded: We are proud of the child who has so greatly honored the parent, and our sympathy, our interest, our encouragement, our counsel, and our loyal support shall go with you in your great and useful career.

In 1874 Wisconsin had no agricultural college. But today behold it, with its teaching force of twenty unequaled in quality in the entire country; its new, superb college building, where the farmers' sons can go and be housed in a building the equal of any on University hill; its horticultural-physics building; its dairy building, Hiram Smith Hall,—a monument to the memory of one of the master builders of this association; its spacious

and commodious barns of tasteful architecture; its farms; its flocks; its herds; and above all its body of earnest students filling the buildings and there being taught the great science of sciences, the art of arts,—agriculture. And then, if you would be stirred with a feeling of paternal pride, reflect upon Prof. Henry's words, "as a child we are loyal to our parent."

In 1874 we had no Babcock test. It was a man called by Professor Henry to the Wisconsin College of Agriculture and by him directed to pursue experiments that resulted in the Babcock test, whose benefits to the dairy interests, like the sands of the sea, no man can number.

In 1874 we had no dairy and food commission. Now we have the Wisconsin Dairy and Food Commission, that was fortunate in being launched upon its useful career by so competent a commissioner as H. C. Thom, and more than fortunate during the past eight years in being so efficiently administered by the Hon. H. C. Adams, a member and former president of this association, that it has not only achieved much in strengthening the state laws concerning the sale of fraudulent imitations of dairy products and in prohibiting the sale of adulterated foods and drugs, but its influence through its able commissioner has been strengthened and more widely felt in national legislation, and has been so ably carried on in all its operations, inadequately equipped though it is, as to give it great prestige in neighboring and other states. This is another child of this association.

It most urgently needs an assistant chemist and additional dairy and food inspectors. Your aid is invoked to secure from the present legislature this much needed increase to the working force of this commission.

In 1874 there were no farmers' institutes in Wisconsin. I believe it safe to say that had there been no Wisconsin Dairymen's Association that there would not now be in operation our splendid system of farmers' institutes. This association planted the little seed from which has grown up the great tree.

To these institutions and agencies which I have named, and to others also, the Wisconsin Dairymen's Association points and, like *Cornelia*, exclaims "And these are my jewels."

But there is another existence that was unknown in 1874,

and to which this association does not point with pride nor own as a child. Need I state that that existence is the *fraudulent imitation of butter*?

The manufacture or sale of oleomargarine "free from coloration or ingredient that causes it to look like butter" is not prohibited by Wisconsin statutes, but the manufacture or sale of oleomargarine "which shall be in imitation of yellow butter" is absolutely prohibited by the laws of the state. This is a plain statement of the simple, fundamental truths controlling the lawful sale of oleomargarine in this state.

The U. S. oleomargarine law, approved May 9, 1902, in no way, whatever sets aside this state law or any part of it. The license which the national law requires dealers to procure to entitle them under the national law to manufacture or sell oleomargarine, confers no legal rights whatever on those dealers to sell any oleomargarine in Wisconsin in violation of Wisconsin law. The U. S. law itself expressly provides this, and the U. S. supreme court has so affirmed in as plain and direct language as is possible in *Plumley vs. Mass.*, 151 U. S., 461.

The way some manufacturers of oleomargarine and their agents juggle with the "artificial" coloration features of the national law to mystify dealers and delude them into the belief that a \$6 government license secures to them the legal right to sell as "uncolored oleomargarine" in Wisconsin, a product that plainly appeals to the eye as being "in imitation of yellow butter," impresses me as a rare specimen of impudent effrontery. However, these manufacturers and their agents and dealers in Wisconsin are fast learning that oleomargarine, to be lawfully salable in this state, must be "free from coloration or ingredient that causes it to look like butter." It must be without taint of fraud. It must stand in the market upon its own feet. This means that it must be sold at oleomargarine prices. It would seem to be a fundamental principle that a legitimate food substitute should not be in imitation of the genuine article for which it is a substitute.

The oleomargarine laws of Wisconsin, effectively enforced, relieve the producers of an honest product from fraudulent competition and prevent the imposition upon consumers of a fraudulent article.

My immediate predecessor as president of this association, Mr. C. P. Goodrich, upon all dairy subjects that he treats, speaks as one having authority, and not as the Scribes. He speaks out of an abundant experience, an experience long, varied, practical, brainy and successful. We recognize his pre-eminent qualifications to give counsel. And to his counsel we do well to take heed.

His address at Menomonie one year ago was mainly a plea for improvement in the quality of our dairy products, and he made suggestions as to how this improvement may be effected. That address is printed in the published proceedings, and we have had opportunity to read it and to consider it. I commend the suggestions there made by him to the full consideration of the association. Especially do I commend to your consideration at this time his suggestions upon the vital question now confronting us as to the need of more rigid inspection of creameries and cheese factories, and, so far as practicable or possible, their sources of supply. I urge some expression from you upon this subject.

The Wisconsin dairy and food commissioner will urge upon the legislature the need of adding an assistant chemist and additional dairy and food inspectors to the working force now by law granted that commission. Will this association actively support that recommendation? We have reached another pivotal point in our career as dairymen. Shall we go forward? If so, by what way?

The problem of the rural country school is one which this association cannot wisely ignore. It has not ignored it. In 1900, at Watertown, this association placed itself on record as favoring the teaching of the elements of agriculture in these schools. Similar resolutions were adopted at the Mondovi and Menomonie meetings. It cannot now be logically urged against this proposition that teachers are unqualified, because teachers are now required by law to pass an examination in the elements of agriculture, the same as in other branches, to entitle them to receive a teacher's certificate. Whatever the good to be accomplished by the county agricultural schools, and it is doubtless much, it must be apparent to all that they can never reach the great mass of the rural school population.



But this is only one of the rural school problems. The time has come when the people following agricultural pursuits, should with great care study the problems of their schools, and should become alive to the relation of their schools to the progress of their art. "When every other industry is allying itself closely with the schools and seeking changes in the school courses which will be to its benefit, it will not do for agriculture to hold aloof from the educational movements of our times and attempt to run a twentieth century agricultural system on the basis of an eighteenth, or even nineteenth century school system," says Dr. A. C. True, director at Washington, of the Office of Experiment Stations, in one of the ablest articles on this subject I have ever read. The article is published in the year book of the Department of Agriculture for the year 1901.

The problems therein considered are tersely summarized as follows:

1. To provide schools for all children and to bring all children into them.
2. To make the annual school term long enough to give the children thorough instruction in the fundamentals of common knowledge, during the period of their school life.
3. To directly relate the instruction of the school to the practical business of the farm through the employment of teachers in sympathy with farm life and the enrichment of the school course by the introduction of agricultural subjects.
4. The improvement of the material equipment and environment of the school by the consolidation of small schools, the improvement of school buildings and grounds, and the establishment of libraries and collections of materials for illustration.
5. The making of the schools more thoroughly the centers for the intellectual life of the community by the co-operation of the farmer and his family with the teacher, through associations or other agencies.

Some of the men who organized this association are still living. They and others of like spirit associated with them since, have made this association the mighty force it has been during all these thirty-one years in promoting the dairy interests of this great state. These men and this association backed by and

upheld by them, have ever been characterized by a progressive spirit. Their shoulders have been kept continuously at the wheel of progress with vigorous, persistent push. I believe I do not under-estimate the good work done by any other person when I say that of those who founded this association or with it have wrought out its history, former Governor Hoard has ever been conspicuous in leadership. As the tallest peaks of lofty mountain ranges catch the earliest gleams of the morning light and reflect them to other peaks, so he has ever caught the first gleams of the rising light of dairy knowledge and has reflected them to his fellows. Present at the organization of this association in 1872, at the first annual meeting in 1873, from 1874 when the second annual meeting was held in Fond du Lac, until 1903, when it again meets in this city he has missed only one annual meeting. We extend to him our warmest greeting and gratitude. He has fought a good fight. We feel toward him as did the little girl toward her mother when she said: "Mamma, I am so glad you were born into our family!"

Nor are we, the later members of this association, unmindful of the great work done and the mighty results accomplished by other founders and veteran workers of this association. They, too, shall ever receive our honor and our praise. We are glad that so large a number of those who have built up this great Wisconsin dairy industry are yet in active life and are with us on this occasion.

And now we of this later generation of dairymen, heirs of the generation soon to pass away, are here that you, the veterans, the "old guard," may make this a christening occasion, a baptismal occasion, if you please, of this oncoming generation.

We do not ask for any "mere sprinkling of diluted platitudes." We ask that you may lead us into the great depths of your knowledge and your experience and your power, and that you will pour out upon us abundantly of your ever-progressive and conquering spirit.

Let us as dairymen be not untrue to the motto of our state. Great as has been the progress in dairying in Wisconsin in the past, still greater advancement is possible and necessary in the future.

We need greater advancement in the selection, breeding, feeding and care of the dairy herd; greater advancement in the production of good, pure milk from healthy cows, and in the care-taking of the milk. We need greater advancement in the quality and particularly in the uniformity of dairy products throughout the state. We need greater advancement in establishing and maintaining a reputation and market for dairy products. We need greater advancement in the development of high-class dairymen. We need to make advancement in securing for ourselves larger profits, by reducing the cost of production to the lowest point, by the highest efficiency possible in the methods that are used. We need to catch and to hold and to be moved by the spirit of the twentieth century.

For this onward movement, let this association at this meeting, through the speakers who occupy this platform, and those who take part in discussion, give forth the command in tones of such clearness, force and persuasiveness as to be heard and obeyed everywhere throughout this great commonwealth. Dairymen of Wisconsin—Forward!

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The following committee was appointed by the chairman to consider the suggestions made in the president's address, viz:

Mr. A. J. Decker, Fond du Lac.

Mr. F. H. Scribner, Rosendale.

Mr. E. C. Jacobs, Menominee.

The Secretary: I happened to be thinking along some of the lines of the president's address, and I took a little time to draft a resolution, and as the matter is up, I believe I will read these resolutions here:

*Resolved*, That the Wisconsin Dairymen's Association, which for thirty-two years has been the recognized representative of the dairymen and dairy interests of the state, and as such, for many years has received annual appropriations from the legislature (for two years past, four thousand dollars annually) to enable it to carry on its work of instruction and inspection, demands, as of right, that all imitations of and substitutes for dairy products

shall be put upon the market under appropriate names, free from incorrect or misleading appellations or markings, and in such manner and form that purchasers and consumers may readily distinguish and recognize them as imitations or substitutes; and they especially protest at this time, that renovated, clarified and re churned butter cannot with any propriety be denominated process butter, as though it was freshly made by some new and improved process, and should not be permitted to assume that or any other name or designation that does not clearly and unmistakably indicate its origin and character, and differentiate it from the regular product of creameries and dairies.

*Resolved*, That this Association unreservedly approves the legislation of Congress, and the regulations prescribed by the Secretary of Agriculture, relating to the manufacture and sale of renovated butter, as being just and right, conducive to commercial integrity, and in restraint of deceit and false pretenses. Every attempt to secure a modification of this legislation and the regulations for its enforcement, by the manufacturers of and dealers in renovated butter, is tantamount to an admission of a desire to deceive and thereby defraud the public.

On motion of Secretary Burchard, duly seconded, the resolutions were unanimously adopted.

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## A FOND DU LAC COUNTY COW CENSUS AND ITS LESSONS.

C. P. Goodrich, Fort Atkinson.

Mr. President, Ladies and Gentlemen: I want to say to you to start with that I am feeling good, and I have a particular reason for feeling good for the last five days. A good many of you will remember that last year at Menomonie I presented results on a cow census that I took there. You will remember that a summary of my work was published in a paper that was scattered all through the audience. The owner of each herd was designated



by a number, and there was one number that stood for a man who did not get paid at the creamery for the feed that he put into his cows. That was No. 4. After the session was over that man came to me, and he says to me, "What is my number?" I said, "Do you really want to know your number?" He said, "Yes." "Well, I am afraid you won't feel as good as you do now if you hear it." "I don't care, I want to know." "Your number is 4." You ought to have seen the look of amazement and confusion on his face. "For heaven's sake," he says, "Is that the kind of work I have been doing?" He had twenty-five cows, he was slaving himself almost to death and was really working for nothing, and throwing in forty-seven cents on each cow besides. He says, "If I can't do better than that, I have got to quit business." After a moment he spoke again, "I can do better. I will do better, and next year, Mr. Goodrich, I hope you will come up here and see if I have not done better." I have not been up there, but five days ago I received a letter from him, and that is what has made me feel good ever since, and here is what this letter says. I am going to read every bit of it, except the name of the place that he comes from and his name:

February 5, 1903.

Mr. C. P. Goodrich,  
Ft. Atkinson, Wis.

Dear Sir:—You remember No. 4 on your cow census, Rusk creamery, Dunn county. Thinking you would be pleased to know the improvement I have made along that line, I herewith send statements for the year 1902. I have got twenty-one cows.

Money received from creameries, \$1,170.96, used at home by two families, \$70—You see he did not estimate that high—skim milk, 20 cents per 100, \$250.

Mr. Goodrich (continuing): He got \$55.76 from the creamery per cow, whereas last year he got \$29.53. Now, if I have been the means of saving one man, raising one man to better work, I think I have not lived quite in vain, and I hope the paper I am about to read may not prove wholly unprofitable.

At the request of the president and secretary of the Wisconsin Dairymen's Association, I came to Fond du Lac county last November to gather statistics from creamery and cheese factory



patrons in relation to the dairy business, as it had been carried on here for the twelve months preceding October 1, 1902, with a view to presenting the results of my investigations to this meeting. I was well aware that here, as elsewhere, some men were carrying on the business at a good profit, and others at a loss, or, at best, getting very small pay for the work connected with it. I hope to be able to present the facts and figures, which I have gathered, in such a way—contrasting the methods of the most successful with those who have been less successful—as to enable those who have been working for nearly nothing, feeding and caring for cows, to do better in the future, by following the methods of those who have been making good profit.

#### THE SCOPE OF THE INQUIRY.

I visited 48 creamery patrons and 12 cheese factory patrons. I ascertained the average number of cows each had kept during the year, including the whole number, as well when they were dry as when giving milk, because they were eating all the time in either case, and counting heifers, after having their first calves, as full cows; the kind of cows and the kinds and amounts of the different feeds given the cows, and estimated the value of the same.

#### HOW COST OF FEED WAS OBTAINED.

I charged the cows for the feed raised on the farm the market price for which it could have been sold at the time, and for that which was purchased, the market price at the time it was fed. The prices I fixed on feeds are as follows: Timothy hay \$12 a ton; other kinds of hay \$8; corn stover \$3 and ensilage \$2.50. Pasture I fixed at the uniform price of \$5 a head for the season. Oats were \$28 a ton; corn, \$21; bran averaged \$19.50; gluten feed, \$24; malt sprouts, \$18.50; and oil meal, \$30.

I assumed that each cow consumed of roughage during the winter two tons of hay, or its equivalent. In the case of corn stover I figured that, as a rule, only about half its weight was eaten, as the thick, hard stalks and some of the rest was refused by the cows or trodden under foot and wasted. Therefore,

when all the roughage a cow had during the winter was corn stover I calculated it took four tons, or \$12 worth. If half of her roughage was corn stover I charged her six dollars for it.

I had some difficulty in finding out the amount of grain feed each man fed. Some men, it is true, could tell me the exact amount of feed they had bought or had ground; then it was easy. Some could only tell by measure; then my experience in measuring and weighing feeds would enable me to estimate the amount in pounds. Some, who fed shock corn, could only tell the number of acres fed. In such cases I had to make an estimate from that.

I do not claim that I have got the cost of feed of cows in every herd exactly right. From the nature of the case that would be impossible, but I believe that I have approximated pretty closely to it.

#### QUANTITY AND VALUE OF PRODUCT.

After getting all these facts from the patrons I obtained from the creamery and the cheese factory the amount of milk delivered by each patron, the amount of product and the amount of money received for each of these 12 months. From these data I was able to figure out the average per cow of milk, of product and of money per cow, together with the prices obtained and the profit or lack of profit per cow in each patron's herd.

#### WHY PRICES FOR BUTTER DIFFER.

It will be observed that some patrons received a higher price per pound for butter than some other patrons did. This is owing to the fact that those who received the higher prices produced a larger portion of their milk during the winter months when the price of butter was the highest. The price of milk also varied, not only for this reason, but also on account of the difference in the percentage of fat it contained.

These facts and figures I have arranged in as convenient a form as I could devise, in the following table. The names of these patrons are not given. They are represented by numbers. I made a promise to that effect, when seeking the information, to each patron and also to the proprietors of the factories.

Cost of feed and income in 48 herds belonging to patrons of creameries in Fond du Lac county, for the twelve months ending September 30, 1902.

Patron's number.	No. of cows.	KINDS OF COWS.	Cost of feed per cow.	Returns for butter from creamery per cow.	Pounds of milk per cow.	Pounds of butter per cow.	Average price of butter.	Average price of milk per 100 lbs.	Value of butter for one dollar's worth of feed.	Net profit or loss from butter per cow over cost of feed.
1	14	Grade Jerseys and grade Guernseys.....	\$12 00	\$57 89	5488	300	19	103	\$1 38	\$15 89
2	21	Guernseys, $\frac{1}{4}$ bloods.....	31 00	29 26	3361	155	18.9	87	97	-1 74
3	13	Grades, Durhams and Holsteins.....	25 00	33 17	3968	185	18	84	1 34	8 17
4	25	Grade Guernseys and grade Jerseys.....	28 00	57 18	5409	298	19 2	98.4	2 04	29 18
5	8	High grade Short-horns.....	28 00	37 21	4531	204 4	18.5	83.4	1 34	9 51
6	11	Grade Jerseys.....	30 00	31 54	3175	167	19	99	1 05	1 54
7	12	Grade Guernseys and grade Jerseys.....	30 00	44 05	4201	220.3	20	105	1 47	14 05
8	10	Grade Guernseys and grade Jerseys.....	34 00	35 03	3866	177	19.8	90 6	1 03	1 03
9	8	Grade Short-horns.....	34 00	33 05	3969	183	18.1	83.2	97	-0 94
10	20	Grade Jerseys.....	38 00	41 40	4576	213	19 4	90.5	1 09	3 40
11	9	Grade Jerseys.....	24 00	36 64	3812	192	19.1	96 1	1 53	12 64
12	7	Grade Durhams.....	29 00	27 9	3266	152.2	18.4	85.6	96	-1 05
13	11	Grade Jerseys, 2 grade Durhams.....	22 00	29 78	3199	153.8	19.1	93.1	1 35	7 78
14	18	Grade Holsteins and grade Jerseys.....	30 00	22 67	2599	118	19.2	87.2	76	-7 35
15	12	Grade Holsteins and grade Jerseys.....	27 00	28 61	3473	154	18.6	82 4	1 06	1 61
16	15	Grade Short-horns.....	24 50	34 46	4098	178	19.4	84.1	1 41	9 96
17	18	Holsteins and grade Jerseys.....	30 50	43 19	4806	218	19.8	89.9	1 44	12 69
18	17	Grade Guernseys.....	31 00	36 80	3820	191.6	19.3	96 3	1 19	5 80
19	10	Grade Holsteins and Durhams.....	22 00	32 95	3983	177	18.5	87 7	1 50	10 95
20	5	Grade Jerseys.....	27 00	48 79	4375	245	19.9	111	1 80	21 79
21	22	Holsteins and Holstein grades.....	25 00	45 17	6016	231.6	19.4	75 1	1 81	20 17
22	10	Grades of different dairy breeds.....	38 00	42 23	4843	214.7	19.7	87.2	1 11	4 23
23	28	Grade Durhams, some grade Holsteins and Jerseys.....	28 00	31 16	3674	167	18.7	85	1 11	3 16
24	25	Grade Jerseys and grade Short-horns.....	32 00	34 31	3634	186.5	18.5	94 1	1 07	2 31
25	16	Holsteins.....	40 00	67 79	8396	333	20.3	80.7	1 69	27 79
26	17	Short-horns and some Jersey and Holst-in grades.....	34 50	24 33	3182	133	18.3	76 5	70	-10 17
27	14	Grade Holsteins.....	31 50	31 28	3630	159 5	19.6	80.2	99	-0 22
28	7	1 grade Holsteins, 2 grade Jerseys, bal. common cows.....	40 00	45 39	4964	231.5	19.6	90 1	1 13	5 39
29	10	Grade Holsteins.....	33 00	37 11	4756	189	19 6	78	1 12	4 11
30	8	Common cows.....	30 00	33 06	3831	170.5	19.3	86.3	1 10	3 06
31	18	Common stock.....	24 00	34 22	4602	190	18	75	1 43	10 22
32	10	Common cows with a little Jersey blood.....	23 00	24 98	3023	123 9	20.1	82 6	1 09	1 98
33	15	Common cows.....	25 00	33 41	3933	171	19.5	84.8	1 34	8 41
34	7	2 grade Jerseys, balance grade Durhams.....	28 00	40 23	4623	197.6	20.4	87	1 44	12 23
35	10	Grade Jerseys and grade Short-horns.....	34 50	44 91	5531	230.8	18.8	81	1 23	8 41
36	10	Grade short-horns.....	30 00	28 57	3622	152	18.7	78 8	95	-1 43
37	10	Grade Durhams.....	31 00	26 49	3382	139	19	78.3	85	-4 51
38	11	Jerseys and grade Jerseys.....	27 00	39 18	4259	203 5	19 3	94 3	1 45	12 18
39	12	Common cows.....	30 00	27 34	3285	139 1	19.7	83.2	91	-2 66
40	15	Mostly grade Short-horns.....	27 00	41 05	4974	213.2	19.7	82.5	1 52	14 06

## Cost of feed and income in 48 herds, etc.—Continued.

Patron's number.	No. of cows.	KINDS OF COWS.	Cost of feed per cow.	Returns for butter from creamery per cow.	Pounds of milk per cow.	Pounds of butter per cow.	Average price of butter.	Average price of milk per 100 lbs.	Value of butter for one dollar's worth of feed.	Net profit or loss from butter per cow over cost of feed.
41	9	2 gr. Guernseys, 2 gr. Holsteins' rest grade Short-horns	\$32 00	\$35 34	4217	179.8	19.6	83.8	\$1 10	\$3 34
42	20	Grade Guernseys, grade Jerseys and grade Holsteins	30 00	31 25	3864	158.2	19.8	85.3	1 04	1 25
43	10	Grade Jerseys and grade Short-horns	20 30	23 68	3101	148.8	19.3	92.4	1 43	8 66
44	13	Grade Short-horns	35 00	35 40	4304	182	19.5	82.2	1 01	40
45	14	Grade Red Polls and grade Short-horns, 2 grade Jerseys	32 00	32 80	3775	161.2	20.3	86.9	1 03	80
46	13	Grade Durhams and common stock	24 00	30 53	3877	156.4	19.5	78.5	1 17	4 53
47	12	Grade Durhams	31 00	28 46	3618	143.2	19.9	78.5	92	2 54
48	7	Common cows	28 00	31 27	4503	189	19.7	82.8	1 33	9 27

## Cost of feed and income in 12 herds belonging to cheese factory patrons in Fond du Lac county, Wisconsin, for the 12 months ending September 30, 1902.

Patron's number.	No. of cows.	KINDS OF COWS.	Cost of feed per cow.	Returns for milk from factory per cow.	Pounds of milk per cow.	Average price of milk per 100 pounds.	Value of milk for one dollar's worth of feed.	Net profit or loss per cow for milk over cost of feed.
1	20	3 Jerseys, rest common stock	\$23 50	\$25 16	2317	89.3	\$1 07	\$1 66
2	14	4 grade Jerseys, rest grade Short-horns	32 50	21 51	2361	91.3	1 66	-10 99
3	15	Grade Durhams	26 00	31 61	3602	87.8	1 13	5 61
4	18	Grade Holsteins and grade Jerseys	35 50	57 73	6388	91.1	1 63	22 23
5	14	Common cows with a little Jersey blood	27 50	29 58	3484	84.8	1 08	2 03
6	13	Holstein, Jersey and Durham grades	33 00	42 41	4760	89.8	1 29	9 47
7	20	Common stock	33 00	27 60	3205	86.1	94	-5 40
8	9	Grade Durhams and grade Holsteins	30 50	29 83	3194	85.5	88	-0 68
9	14	2 grade Jerseys, rest grade Durhams	25 00	35 59	4027	88.4	1 42	10 53
10	15	Jersey, Holstein and Durham grades	26 50	29 67	3116	89.5	1 12	3 17
11	12	Grade Durhams	30 00	44 38	5183	85.6	1 48	14 38
12	8	1 Jersey, 2 Guernseys, rest common stock	35 00	33 40	3748	89.1	95	-1 60



## AVERAGES FROM THE CREAMERIES.

The 48 creamery patrons had 637 cows. By averaging the whole, we find the average cost of feed per cow to have been \$29.88; average returns for butter from creamery, per cow, \$35.82; average pounds of milk, per cow, 4204; average pounds of butter, 185; average net price of butter per pound to patron, 19.27cents; average price of milk per 100 pounds, 85.2 cents; average value of butter for one dollar's worth of feed, \$1.20; average net profit from butter per cow, over cost of feed, \$5.94. Now, if we add 20 cents a hundred to the value of the milk as the value of the skim milk (and with the high price of all kinds of feed, last year, it was surely worth that) that would make \$8.40 more, making an average profit per cow of \$14.34. This is not so bad, after all, and shows there was a fairly good profit for the Fond du Lac dairyman even last year, when the high price of feed had cut down the yield and the profits below what they had been in previous years.

And still I have not counted all that the patrons received from their cows. There were the calves; the whole milk used in the family; the whole milk fed to calves; and the manure to keep up the fertility of the farm. These last items varied considerably on the different farms, but as it would have been impossible to arrive at anything like a just estimate of their value, I have left them out entirely. It is true, that some patrons used more whole milk in their families, and fed more to calves than others, still it is not likely there would be more than two dollars difference per cow in extreme cases. Yet these last mentioned items, when all put together, would help to a considerable extent, to pay for the labor in caring for the cows.

I have selected a few numbers, some of the best and some of the poorest, and will now go into the particulars of what I learned concerning them, and see if we can discover the cause of the great difference.

## ONE MAKES A PROFIT AND ANOTHER A LOSS.

No. 1—Had 14 cows, grade Guernseys and grade Jerseys, fresh in spring and winter; cost of feed was \$42 per cow for



the year; returns from creamery for butter per cow, \$57.89; pounds of milk per cow, 5,488; pounds of butter per cow, 300; average price of butter per pound, 19 cents; average price of milk per 100 pounds, \$1.05; value of butter for one dollar's worth feed, \$1.38; value of butter per cow over cost of feed, \$15.89. Average ration: bran, ground oats and corn, 13 pounds to fresh milkers, shredded corn stover, and for two months in spring timothy hay; run to straw stack; in summer, pasture only. Adding 20 cents per 100 lbs. for skim milk would make profits per cow \$26.87.

No. 2—21 cows, quarter blood Guernseys, fresh at all times; cost of feed, \$31; returns from creamery, \$29.26; pounds of milk, 3,361; pounds of butter, 155; price of butter, 18.9 cents; price of milk, 87 cents; for one dollar in feed, 97 cents; value of butter per cow, less than cost of feed, \$1.74. Ration: bran and middlings 4 tons, which would make less than two pounds per day during winter; 4 acres, heavy crop, well-eared sweet corn, and timothy hay; in summer, pasture only. If value of skim milk is added his profits would be \$4.98 per cow.

Now, can we see what made the difference in results between these two men? It is no doubt partly owing to the difference in the kind of cows—quarter-blood Guernseys may have been the product of a half-blood sire, or a cross of something with half-blood Guernsey dams—but mainly to the feed.

No. 1 fed a fairly well balanced ration. He fed high; believed in feeding well let it cost what it would, so he told me. His feed was very expensive yet he made a good profit.

No. 2 fed a very carbonaceous ration, did not believe in buying feed but in feeding what he could raise on the farm, whether it made a well balanced ration or not.

#### THE BANNER HERD.

No. 4—25 cows, grade Guernseys and grade Jerseys, fresh at all times; cost of feed, \$28.00; returns from creamery, \$57.18; pounds of milk, 5,809; pounds of butter, 298; price of butter, 19.2 cents; price of milk, 98.4 cents; for one dollar in feed, \$2.04; net profit of butter over cost of feed, \$29.18 per cow.

Ration: bran and malt sprouts, 6 pounds; well eared ensilage, 30 lbs.; straw; fodder corn in fall; in summer, pasture only. Adding value of skim milk makes profit \$40.80 per cow.

SAME KIND OF COWS BUT LESS PROFIT.

No. 7—12 cows, grade Guernseys and grade Jerseys, most of them fresh in October and November; cost of feed, \$30.00; returns from creamery, \$44.05; pounds of milk, 4,201; pounds of butter, 220.3; price of butter, 20 cents; price of milk, \$1.05 per 100 pounds; for one dollar in feed, \$1.47; net profit of butter over cost of feed, \$14.05. Adding value of skim milk makes profit \$22.81. Ration: bran and some corn and oats, 4 lbs.; ensilage, 35 pounds, a little oat hay; corn stover cut, wet, mixed and heated with ensilage; in summer, pasture only, except a little in mangers to induce them to come in to be milked.

A BEEFY TYPE HERD.

No. 12—7 cows, grade Durhams of beefy type, fresh in winter and spring; cost of keeping, \$29.00; returns from creamery, \$27.95; pounds of milk, 3,266; pounds of butter, 152.2; price of butter, 18.4 cents; price of milk, 85.6 cents; for one dollar in feed, 96 cents; value of butter per cow less than cost of feed, \$1.05. Adding value of skim milk makes a profit of \$5.48 per cow. Ration: malt sprouts and ground oats, 6 pounds; corn stover, marsh hay and straw.

It is plain to see why No. 12 did not get as good returns as Nos. 4 and 7. He fed fairly well, though not as well as 4 and 7 did, for they fed ensilage; but apparently the main reason is, he was giving his feed to cows of a beefy type, while theirs were cows of good dairy type.

THREE GOOD HERDS, WELL MANAGED.

No. 20—5 cows, grade Jerseys, good dairy type, 3 fresh in March, 2 fresh in September. Cost of feed, \$27.00; returns from creamery, \$48.79; pounds of milk, 4,375; pounds of butter, 245; price of butter, 19.9 cents; price of milk, \$1.11; for one dollar in feed, \$1.80; net profit of butter over cost of feed,

\$21.79. Adding value of skim milk makes profit \$30.54 per cow. Ration: 2 tons bran to the five cows; shredded corn stover and timothy hay, ( $\frac{1}{4}$  of roughage, hay); in summer, pasture only.

No. 21—22 cows, Holstein and Holstein grades, 4 or 5 fresh in fall, balance in winter and spring; cost of keeping, \$25; returns from creamery, \$45.17; pounds of milk, 6,016; pounds of butter, 231.6; price of butter, 19.4 cents; price of milk, 75.1 cents; for one dollar in feed, \$1.81; net profit of butter over cost of feed, \$20.17. Adding value of skim milk makes profit \$32.20. Ration:  $1\frac{1}{2}$  pounds bran, 45 pounds ensilage, 8 pounds clover hay, and oat straw, all they will eat.

No. 25—16 cows, Holstein thoroughbreds and very fine dairy type, most of them fresh in fall; cost of keeping, \$40; returns from creamery, \$67.79; pounds of milk, 8,396; pounds of butter, 333; price of butter, 20.3 cents; price of milk, 80.7 cents; for one dollar in feed, \$1.69; net profit of butter over cost of feed, \$27.79; adding value of skim milk makes profit \$44.58. Ration: 8 pounds bran, 40 pounds of well eared ensilage, hay and corn stover, all they would eat; in summer, good pasture only. Cows kept in good barn and fastened in Drown stalls.

#### COLD BARN NOT CONDUCTIVE TO PROFIT.

No. 26—17 cows, Short-horns and Short-horn grades, a few with a little Jersey and Holstein blood, fresh one-half in fall, rest in spring. Stable cold, cows fastened with chains; cost of keeping, \$34.50; returns from creamery, \$24.33; pounds of milk, 3,182; pounds of butter, 133; price of butter, 18.3 cents; price of milk, 76.5 cents; for one dollar in feed, 70 cents; value of butter per cow less than cost of feed, \$10.17; counting the skim milk at 20 cents a 100 lbs. there is still a deficiency of \$3.81. Ration: bran, oats and corn ground, 8 pounds, marsh hay, a little timothy hay and fodder corn, not well eared. In summer, pasture and a little bran.

What is the matter with No. 26? In the first place, his cows are not very good dairy cows; and secondly, and the main cause of his failure to get better returns is, his barn was so cold and his cows so uncomfortable that though half of them were fresh

in the fall, they produced very little milk during the winter, as shown by the records of the creamery. He fed very well and quite expensively, but the cows had to use most of the feed to keep warm, and left but little for milk production. They gave most of their milk in summer on pasture, but even then they did not do very well, owing no doubt to the care they had in winter.

#### BETTER THAN THE AVERAGE.

No. 35—10 cows, grade Jerseys and grade Short-horns, fresh at all times, but most in early winter; cost of keeping, \$36.50; returns from creamery, \$44.91; pounds of milk, 5,531; pounds of butter, 230.8; price of butter, 18.8 cents; price of milk, 81 cents; for one dollar in feed, \$1.23; net profit of butter over cost of feed, \$8.41. Adding value of skim milk makes profit \$19.47. Amount of feed: 2 tons gluten feed, 3½ tons bran, 6 acres shock corn, well eared, timothy hay and corn stover; in summer, pasture and 5 pounds bran to those giving a good mess of milk.

#### NEITHER GOOD COWS NOR GOOD MANAGEMENT.

No. 36—10 grade Short-horns, fresh at all times; cost of feed, \$30.00; returns from creamery, \$28.57; pounds of milk, 3,626; pounds of butter, 152; price of butter, 18.7 cents; price of milk, 78.8 cents; for one dollar in feed, 95 cents; value of butter per cow less than cost of feed, \$1.43; adding value of skim milk makes net profit, \$5.82. Ration: Fodder corn with ears on, half the winter; then corn, oats and bran, 7 pounds; clover and timothy hay once a day, and corn stover once a day; in summer, pasture only. This herd are not first-class dairy cows. They were fed corn half the winter till they had nearly dried up, then they were fed bran and some clover hay, but it was too late to bring back the flow of milk.

No. 44—13 cows, grade Short-horns, part fresh in fall and balance in spring; cost of feed, \$35; returns from creamery, \$35.40; pounds of milk, 4,304; pounds of butter, 182; price of butter, 19.5 cents; price of milk, 82.2 cents; for one dollar in feed, \$1.01; net profit in butter over cost of feed, 40 cents.



Adding value of skim milk makes profit \$9 per cow. Ration: Well eared shock corn,  $1\frac{1}{2}$  months; then timothy hay and clover hay and 8 pounds ground oats and corn. In summer, pasture, and in fall, fodder corn.

Here is another herd fed expensively and almost without profit. The mistakes here made are almost identical with the mistakes No. 36 made.

#### THE RELATION OF FEED TO PROFIT.

The 12 months through which these records run make an unusually trying year for the dairyman. The widely extended drouth of the summer of 1901 had made all kinds of feed very high and when winter came some dairymen were puzzled what to do. Some decided to feed grain as usual, no matter what the cost. Others said, "I will not buy high priced feed to make a balanced ration, the cows will never pay for it." Those of this second class whose cows were fresh in the fall made a sorry mistake, as the notes which I have presented show.

There was still another class who had cows that would not freshen till spring. Some of them said: "We will give our cows cheap feed during winter—corn stover and straw—and not try to produce much milk in winter. They will be fresh in spring and give milk on pasture which is cheap. We may not get as much money per cow but we will make more real profit than you fellows who pay out all you get for milk for feed."

These arguments are quite plausible and we will see what these facts I have gathered show.

Let us take the three highest feeders. No. 1 fed \$42, got back \$57.89, made a profit of \$15.89. No. 25 fed \$40, got back \$67.79, made a profit of \$27.79. No. 28 fed \$40, got back \$45.39, made a profit of \$5.39.

Now take the three cheapest feeders, and their cows were all fresh in spring. No. 13, fed \$22, got back \$29.78, made a profit of \$7.78. No. 19, fed \$22, got back \$32.95, made a profit of \$10.95. No. 43, fed \$20, got back \$28.66, made a profit of \$8.66.



Now, fellow dairymen, these are the facts: The cheap feeders did very well when their cows came in in the spring, and they made a pretty fair profit; but the good feeders did better. There may never again come a time when the cheap feeder with summer cows will have such an advantage. The winter of high priced feeds was followed by a summer of luxuriant pasture, such as has never before been seen in this country.

#### ENSILAGE A FACTOR IN PROFITABLE DAIRYING.

There are five creamery patrons who fed ensilage: No. 4 who made on butter \$29.18 profit per cow, No. 7 who made on butter \$14.05 profit per cow, No. 17 who made on butter 12.69 profit per cow, No. 21, with \$20.17 profit per cow, and No. 25, with \$27.79 profit per cow. One cheese factory patron fed ensilage, No. 4, whose profit on milk delivered was \$22.23. These six silo men averaged \$21.02 profit per cow, while the average profit of creamery patrons was only \$5.94 per cow. The gross returns for the silo men averaged \$52.52 per cow, while those who did not feed ensilage received an average of but \$34 per cow, a difference of \$18.52 in favor of the ensilage men.

Can any one doubt, in face of these facts, that it will pay to build a silo? Is it possible that all this gain in gross receipts and profits is because these men feed ensilage? Or, is it, in part, because these men are more progressive, up-to-date farmers, have better dairy cows, study to feed a balanced ration, and, in short, have less of old fogysm than many of those who do not have silos? These are questions for you to ponder on and answer.

My own opinion is that, although I think any man is making a great mistake who keeps a herd of dairy cows without having a silo, the feeding of ensilage did not and could not, of itself, make this astonishing difference of over 54 per cent. in gross receipts and more than 500 per cent. in net profit.

Professor Voorhees, Director of the New Jersey Experiment Station, found that ensilage increased the amount of milk 12 per cent. over dry feed of the same kind, when everything else was equal. Taking that statement as being the real difference

in favor of ensilage, then in our case \$4.08 out of the \$18.52 gain per cow should be credited to ensilage and \$14.44 to "the man behind the cow."

So I hope that none of you here who have had small returns per cow will entertain the idea that all you have to do, to get as large returns as these men who fed ensilage, is to build a silo. A silo will no doubt help some, but something else is needed.

#### RELATIVE PROFITS OF BUTTER AND CHEESE.

I took the statements of 12 patrons of a cheese factory. This factory made cheese the year round, and paid for milk by test and these 12 were nearly all that had patronized the factory the whole 12 months.

These patrons had 172 cows. The average cost of feed per cow was \$29.60; average returns from factory for milk, \$34.20; average pounds of milk per cow, 3,835; average price of milk, 88.2 cents per 100 pounds; average profit per cow, \$4.40.

There are many persons who wish to know whether it is more profitable to patronize a creamery or a cheese factory. It will be seen that the average price of milk at the creamery was 85.2 cents per 100 pounds, while at the cheese factory it was 3 cents more. This statement is a little misleading, for the milk received at the cheese factory did not average so high in test as that received at the creamery. Four per cent. milk at the creamery averaged 84 cents and at the cheese factory 92 cents. Possibly this 8 cents may make up for the difference in value between skim milk and whey. At all events you have the facts as I found them.

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#### DISCUSSION.

A Member: I would infer from Mr. Goodrich's paper that Durham cows were not much good.

Mr. Goodrich: You get the facts just as I found them and that is all I have to say. I had no previously conceived notions to bolster up. I went out hunting for facts. I took the men

right along as I found them, and then I went to the creamery and got the returns, and there you have it.

Mr. Gurler: I was interested in your talk about the silo. I have frequently made the statement that corn silage was just as much superior to corn fodder as canned fruit is superior to dried fruit. I believe that is a fair comparison to make. The cows are just as much more fond of it, will keep better natured the same as anybody. We wouldn't enjoy it if our wives put us back on dried fruit after we had had canned fruit.

A Member: Did your investigations show any results as to those who fed during the summer season?

Mr. Goodrich: There was only one who fed to any amount and he fed to fresh milkers. There is nothing in that that would give us any information.

Ex-Gov. Hoard: Mr. Goodrich, you spoke about different things besides the silo that went to make up these men's better success. Name them, name some of the things that characterized those men that had the best success.

Mr. Goodrich: They had better cows, they took better care of them, and they loved their cows better. That is the greatest thing in the whole business. When I went to those men who fed ensilage and got the best results, in fact all those that got the best results, do you suppose those cows rushed to get away from us? Not at all. They came up to him and licked him, and they came up and smelt of me to see what I was.

Mr. Fraley: Do you think these men could take a cow that is not of the dairy type and feed her as well as they could and make a success of it?

Mr. Goodrich: The cow has got to be of the dairy type. There are cows of the dairy type in most all breeds. I have seen a Hereford dairy type, some splendid cows among the Shorthorns. I don't know as I have ever seen a Galloway, but there are dairy types in nearly all breeds.

A Member: We would like to know about this man who made such a difference between the two years.

Mr. Goodrich: Perhaps No. 4, Rusk Creamery, is here. Is he? No, he doesn't seem to be, or I am sure he would respond.

A Member: Some of the gentlemen sitting around here

don't seem to think it possible to make such a change in one year.

Ex-Gov. Hoard: You must remember he sold off the poor cows out of his herd, and then he took better care of what he had left.

Mr. Goodrich: He had not been feeding well at all the year before. I looked his herd over and he had some cows there that never would pay anybody, anywhere, any time, to keep, and undoubtedly he has rejected those. He had been feeding these cows nothing but corn, and he has learned better, to feed a balanced ration to better cows, and he has got his pay for it, and if you want to do as well as he has done, you can, any of you, do it.

Mrs. Lehman: Is not the man behind the cow a good deal of that?

Mr. Goodrich: Of course, but he has got to have the right kind of a cow, and if he is the right kind of a man he will have the right kind of a cow.

Mrs. Lehman: I know of a man who this year only made \$32 a piece from a herd of Guernsey cows, and his father before him made \$52.

Mr. Goodrich: It is the fault of the man, I suppose; unless it is the fault of his wife.

Mrs. Lehman: He hasn't any wife.

Mr. Goodrich: Then that is what is the matter. A man that hasn't a wife, isn't fit to keep cows.

Ex-Gov. Hoard: He is only half a man.

Mr. Hubbard: About eight years ago I came to Fond du Lac to attend an institute in which Mr. Goodrich delineated the way in which he cared for his cows. I went home and tried to put into practice what I heard in Mr. Goodrich's address, particularly some of the little things about keeping them in out of the cold, keeping them dry, trying to make them comfortable, varying the rations so they enjoyed it better, and I made \$150 from that day's work of going to that institute. I remember talking to one of the leading men in our town about coming down to the institute, and he said, "No, I am not going, I read all of those speeches in the Bulletins. I know just what they will



say, and it isn't worth my while to go. I kept track of what he got out of his cows that year and it didn't reach half of what I made extra. Now, I do hope and pray that the dairymen of Fond du Lac county will take lessons from what they have heard and do something for themselves as well as for the county.

Mr. Hansen: Mr. Hubbard is a patron of mine, and I want to say that he is doing more for his creameryman than for his cows or himself. A man who has no profits from his cows, as a rule, blames the creameryman.

Mr. Burchard: There is an old motto that is brought to my mind by what this gentleman says that applies very well to what we are talking about. The man who progresses in one direction, who does something honorable and successful for himself, is a good citizen. He is not only doing well for himself, but he is doing well for his community. The best patron, the man who tries to do the best he can and accomplishes it, always is in favor of the creamery man, and he has no kick, but the man who neglects his cows, who does not select his cows, the man who does not banish poor cows and who does not feed his cows well, the man who will turn them out in the cold or the hot, or shelters them in a cold barn through the winter, is continually crying out that the creamery man is cheating him, and that the price is not what it ought to be, and finding fault with everybody else, when, as a matter of fact, he ought to find fault with himself, because he is continually cheating himself, while he thinks everybody else is cheating him.

Mr. Pike: We creamery men always get the greatest and most vigorous kicks from those who do the poorest work. Is there any way by which we can overcome that?

Mr. Goodrich: Now, I am going to give you my idea about it, and it is what others have done and you can do a whole lot. You don't work all day in your creamery making butter, you get done along about noon sometime. I know of one man who had a wheel and as soon as his work was done at the factory, he skipped right out and he visited all his patrons, every one of them, and talked to them in a pleasant way. He saw how their stables were, kept talking about balanced rations and other things that would be good for their business, and he raised the



product of almost every man among his patrons, and they were always glad to see him. I happened to be with him once. We stopped at a house and the owner said, "Well, you've come a little unexpectedly on me today, my stable is not looking quite so nice. I haven't got my cows fixed up as well as I would like for company." But that's the way that man did it, and I have known of others doing it. I would advise every man to get well acquainted with his patrons and their cows and their boys and their wives and girls. A good many creamery men have the idea that they are not called upon to do anything but make butter and test the milk, but they can do a whole lot of missionary work in a pleasant way.

Mr. Pike: I agree with you fully there. I had in mind some particular work that was done in the way of giving figures to the farmers. I am doing that very same thing you speak of.

Mr. Goodrich: I thought you were, or I wouldn't have dared to talk so straight at you. If you can only induce the farmers to keep an account of the amount of feed that they give their cows and the amount of work, it will teach them a lot. They think they can't tell anything about the work.

Mr. Pike: The trouble is, if we don't keep cows ourselves, the patrons say, "O, you creamery men come out here and tell us we ought to have this or adopt that, and you don't know anything about it."

Mr. Burchard: There is one thing that, if we could get them to do, it would be an immense advantage to them and to you. Of course, your profit lies in getting all the milk you can and making just as large a profit as you can for your patrons. Every time you help your patrons, you help yourself. First, you want to let the patrons who are not doing as well as they can, understand that you are really their friend, that you are not finding fault or criticising, but talk to them in a friendly way and if possible bring them up to the point of weighing the milk of each cow every day so as to find out which are the profitable cows. Mr. Gurler, who comes here to talk to us tomorrow, is going to tell us what he has found out about particular cows in his herd, and he will show you that with all his experience, he has got boarders in his herd that do not pay their board, but

he has got gumption enough to find out which they are, and then they stay in that herd—how long, Mr. Gurler?

Mr. Gurler: A mighty short time.

Mr. Burchard: So when you go to your patrons, try to interest them in this question, "Do you know which cow it is that is cutting down your profits? How is that cow doing?" You see a big beefy cow there and you pin him down as to what he knows about that cow. He will probably tell you that when she is fresh she will give a washtub full of milk. But how long does she hold out? It is the cow that keeps along every day that pays in the long run; it is the cow that keeps everlastingly at it, that brings profit. If you can only interest the man in particular cows and what they are doing, instead of harping on his faults, you have got that man pretty nearly fastened.

Ex-Gov. Hoard: In Hoard's creameries there are about eight hundred patrons, and there is constant talk and constant thought and constant preaching, and still it is awful the way some of those men perform. Mr. Goodrich took a census of one hundred of those patrons, and among them there were men who made \$2.08 for every dollar they spent in feed, and there were men who lost thirty and forty cents for every dollar they spent in feed. Now, you go to the men who lost this money, and ask them if they ever read. No, they don't believe in reading. One man had four acres of beautiful alfalfa. In the fall of 1900 he saw that alfalfa standing there, green and juicy, and it was tempting to him, and he turned his cows onto it. I said to him, "You have lost your alfalfa." "Ah," he says "humbug! What does a newspaper man know about farming?" Then he was told if he wanted to fry in his own fat and perish there, that there was no law against it. Well, he lost his alfalfa, and his neighbors said to him, "Why don't you grow alfalfa. Hoard grows alfalfa. You ought to know as much as a newspaper man." Now, if he had read, if he had studied the question of alfalfa, he would have known; but, no, he would not pay one dollar to save a hundred, and he ruined four acres of alfalfa, because he was persistently and wilfully blind. Now, I will guarantee that these men who made the good showing in this list were students of this business, readers and stu-

dents, men who have put study and thought upon it. I tell you the day is passed and gone when the blank-headed man can stand up and compete with the man who studies, and you farmers of Fond du Lac county must cast aside your conceit, your self love, and say, "O Lord, be merciful to me, a sinner." The man who patted himself on the breast and said, "O Lord, I am not as other men are," what kind of standing had he in the great tribunal at the last? No standing at all. But the man who said, "Lord, be merciful to me, a sinner," has passed down into the immortality of the Christian religion.

I feel so earnest on this subject that sometimes I get out among our people. I can catch them on the corners, and, do you know, a whole lot of them will run when they see me. They say, "You can't see the old man but he is trying to jack you up all the time, and trying to get us to read and read and think and study." It won't do to handle this magnificent mother with a mind that has no study or thought.

Mr. Fraley: I think there are a good many farmers who, if they would have their cows tested, would find some surprising things in their individual cows. There is no man knows what a cow is. She may be good, she may give a big mess of milk and appear to be good, when she was really no good at all.

Mr. Goodrich: Yes, it is a good thing to test the cow, but there is another individual that needs testing a great deal more, and that is the owner of the cow. I have tried to do testing that way myself. I have tried to test a man's intelligence on just feeding a balanced ration and I only had to ask one question of each individual before I could sort him right out. I would ask, "What is the best grain feed to feed cows to make them give milk?" One would say one thing, one another, gluten feed or bran or oil meal, and so on, and finally I struck one man and he said, "It depends on what the rest of the feed is before I can tell what is the best grain." Now, that was intelligence. He knew that a cow has got to have a certain amount of protein. If she got it in alfalfa hay, corn meal would be the best grain to feed her, but if she was fed timothy hay with only two and a half per cent. of protein in it, then in the corn meal she wouldn't get sufficient to enable her to give milk; she must have something

containing more protein. I have heard men say they are feeding timothy hay and corn, and their cows are giving a good mess of milk. Do you suppose I believe that? If that big man over there should get up and say his wife made him a pair of pants out of half a yard of cloth, do you think I would believe him? No, I know she couldn't do that, and the cow can't do it.

A Member: Speaking about the difference in the patron, there is one of my patrons here in this audience who some five years ago got \$19 at my factory from his herd, and last year he got \$63. That is Mr. Schley.

Mr. Burchard: Do you confirm the report of the creamery man, Mr. Schley?

Mr. Schley: When I started out as a dairyman, I had no experience in dairying, and I went on the best I could. At the end of the year I figured up the statement from the creamery, and found that I received \$19 per cow for the year, without the calf. At that time I made up my mind that I would get better cows or drop the business altogether. I filled my pocket with a little money and went down towards Fort Atkinson, and bought a herd of grade Guernseys, and the next year,—not the first year I had them, but the second year,—I received from that same creamery \$63, besides the calf. Of course I changed the feed for them, gave them a balanced ration as near as I could find out. All I had to study was Hoard's Dairyman, and I studied that as much as I could, and that is what brought me up to \$63 per cow for the year, changing the cows and changing the feed into as near a balanced ration as I could, although I had no silage.

Ex-Gov. Hoard: He changed the man, too, made himself over.

Mr. ———: When Mr. Schley got his new herd of cows, they were not high-priced cows, all grades. The feed that he was actually giving to each animal before he began feeding the balanced ration really cost him two or three cents a day more than the balanced ration, and after he fed the balanced ration he got much better results.

Ex-Gov. Hoard: Now is a good time right here to say a word as to the meaning of the term "balanced ration." We



hear this talk constantly, the farmers hear it, and many of them don't know what it means. Many good, honest farmers come to me and they say to me, "We don't know what you mean by the terms you use." We must remember, as Professor Emery has said, that 95 out of every 100 of the farmers in the United States have never received any schooling other than what they got in the little school houses at the cross roads. Your humble servant stands here as one who got just that kind of schooling, and never anything better than what he got in the little backwoods, country school house. It is necessary to know the meaning of terms. I have a hired man, a German, and I have been much impressed with his judgment. I said to him one day, "What is the matter with that piece of land over there?" Well he replied: "Das land got no humus." I was astonished to hear that word "humus" because it is a scientific term, and I said, "John, what do you know about humus?" "Ach, I learn das at school way back in Germany." The German government took hold of that boy and taught him the meaning of such words. I asked him what he meant by humus, and John says, "Humus is decayed vegetable matter. That is all gone out of that land." He says, "It holds the waser in the land." And when he said that he referred to great scientific truths. He said, "Plants don't eat, they drink." The food that comes to every plant has got to come to it in liquid form, and when the water is taken out of the land, the plants cannot grow, and this black humus is necessary in the land to hold water.

Now, these men write to me, "I can't tell what you mean by carbohydrates. It is all Greek to me. What do you mean by protein? Let me know what you mean." Earnest souls, seeking the light. So we prepared a little dictionary, called a "glossary," explaining the terms that we use. Now, what is the meaning of the term "balanced ration?" The cow has got to give a balanced product, that is, milk, and she can't help herself. That milk she makes for her calf for food, it must be balanced for that calf. Now, she cannot make an abundance of that balanced product—milk—if you are not wise enough to give her rightly balanced food, that she may in turn give you back a balanced product, which she does not intend for you, but

for her calf. Now, how does she balance up her milk? She puts in three and one-half per cent. of nitrogen, called casein or cheesy matter. That is pure protein. She puts in five per cent. milk sugar. She puts in four per cent. of butter fat. Now, all those things are put together and balanced into a product that is best fitted to develop the life of her offspring. Now, what are the carbohydrates? They are the starchy and fatty elements of food. A man that does not look into the philosophy of this thing will give her carbohydrates to make cheesy matter out of. She can't do it, so she shrinks in her milk until she can balance it. The cow stands there, my brother farmer, and she will show you something; she will reduce her flow until she can balance it, and you are punished because you will not think, you will not read, you will not study, you will not learn the meaning of these terms, for through these terms come the consequence as well as conclusion of all thought. It was no great trick for you to learn a wonderful great big Greek word, "telegraph." You know what it means. You know what telephone means, you learned that easily. Now, why can't the ordinary farmer learn the meaning of protein and carbohydrates and nutritive ratio. All that is necessary is for a man to put his mind on it, go to studying. A man wrote me from California and he says, "Confound your old paper. I have had to go to work and buy a big dictionary." He had not education enough to know the meaning of these things by the schooling he had received, so he bought a dictionary and he is reaping the benefit of it today. My friends, most of us farmers have been denied the privileges of schooling, but we can educate ourselves. We can study, we can become as gods, knowing good from evil, and I adjure you—for I shall not have many years more in which to adjure you—that the key that unlocks this question of profits in dairying is the key of intelligence. Now, men will not give a dollar a year to know something, who live between their line fences and think that God Almighty never made anything outside of those line fences—oh, there are plenty of them. There is a book published by my friend, Mr. Gurler, called "American Dairying," and instead of there being ten thousand or five or even three thousand of them read in Fond du Lac county, I will

guarantee there are not a hundred. There is another book published by Professor King, called "The Physics of Agriculture," treating upon the important things that every farmer ought to know, ventilation, drainage, the care of milk, etc., costing \$1.75, and yet the farmers won't take interest enough in their own business to buy it. What can you do with a man who shuts his eyes and turns his back to so many of the things that he really needs?

My friends, these facts are what have made me so earnest before the legislature and elsewhere on the question of teaching the elements of agriculture in the common school. I cannot do anything with the old farmer; you can't change him, no matter how good a man he may be, but the farmer's boy—God bless him—he should have some show for himself. We have begun to make a move in this direction in Wisconsin; we are looking for the farmer that is to be. We old fellows will not do much, but the boy is coming along and we must put into his head some judgment and knowledge of his profession. The farmer does not lack brain. Oh no, the agricultural brain is the foundation of this country. Every man who has plowed himself into public conviction on this green earth, in the United States at least, has come from the soil, but he did it by making himself intelligent.

What would we have done in our supreme moment of anxiety in this country, when our faith hung between heaven and earth? What would we have done if Abraham Lincoln's brain had not been cultivated? What would we have done when Grant took hold of our destinies, when it seemed as if there was no man to lead us, but Grant, a man who came from the soil, his brain enlarged until he could comprehend the real situation, and finally won the battles of the Union?

I tell you, my farmer friends, that it is time we woke up for our own sakes, for the sake of the profit that we are looking for in these things, and it is time we woke up for the sake of the country and the state we love.

On motion of Mr. Everett, the Secretary was directed to send a telegram of greeting to the convention of Ohio State Dairy-men in session at Columbus, Ohio.

Mr. Burchard: I want to say a word about that balanced ration question. My good friend and neighbor, the Governor, started out all right, but he switched off onto his favorite topic and didn't say very much about balanced rations. The Experiment Stations in this country and in Europe have found out these things for us. Among other things they have found out that a thousand-pound cow at rest in the stable needs to have, in order to maintain its weight, about .7 of a pound of digestible protein and something like 7 pounds of digestible carbo-hydrates, and from .2 to .3 of a pound of digestible fat. For the cow that is giving milk, if they feed her that ration only, they find she does not give much milk. They tried one thing and another one until they ascertained about how much of these different elements it requires to enable a cow to give milk up to her capacity. They used to think it required  $2\frac{1}{2}$  pounds of digestible protein for the cow giving 20 to 30 pounds of milk. Experiments seem to show that less will answer, that 2 or 2.15 pounds will be required, and then she wants, in addition to the 7 pounds of carbo-hydrates, she wants fat, about .5 of a pound. She must have that, because one element in the proper preparation of this perfect food for the calf that Mr. Goodrich tells you about is fat. Corn does not contain enough protein to enable the cow to give milk up to her capacity, and she must have something else to make up the proper proportion. That is what we mean by balanced ration; that they compensate one another. You can't use carbo-hydrates exclusively for making milk, and you can't use fat exclusively for making milk. The protein is the expensive part of it, so we use the least protein necessary to put the casein into the milk. We are more intelligent in handling our horses. Protein is the element that makes muscle. Now, what do you do when you are working your horse hard? You increase the feed of oats. If he is lying idle, you feed more straw, because he is not expending any muscular force; but when he commences to work you feed him oats or bran. So when you are working a cow to her capacity, why shouldn't you feed her in the same intelligent way; why should you keep feeding her just as you would when she is not giving milk? In other words, why are not you as sensible with her as you are with your horse?



The Chair named the following gentlemen to act on the respective committees:

Nomination of Officers—C. H. Everett, Racine; C. P. Goodrich, Fort Atkinson; E. C. Jacobs, Menomonie.

Resolutions—W. D. Hoard, Fort Atkinson; W. A. Henry, Madison; Mrs. Adda F. Howie.

Exhibits—C. L. Hill, Rosendale; S. M. Ingalls, Fond du Lac; M. T. Allen, Waupaca.

Auditing Committee—H. C. Taylor, Orfordville; Stephen Favill, Madison; Fred Rietbrock, Milwaukee.

Adjourned to 7:30 P. M.

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Convention met at 7:30 P. M.

The President in the chair.

The evening's program included a much appreciated address by Mrs. Adda F. Howie of Elm Grove, on "Home Making;" vocal solos by Miss Bishop, Miss Peck and Miss Korra; recitations by Miss Waters; instrumental music; and the following address:

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### THE CLERGYMAN ON THE FARM.

Rev. Sabin Halsey, Fond du Lac.

Mr. Chairman, Fellow Citizens, Farmers and Friends of Many Years: I count myself happy to stand before a Fond du Lac audience when I am not expected to preach. I am sure you will agree with me that a preacher should know something about Canada thistles and kale and quack grass, to bring himself in touch with nature and with all classes of people. I sat for an hour this afternoon in the meeting of this Association entranced with what I heard from one of the most successful practical farmers in the state, and as I looked into the faces of some

of these men who have a reputation, not simply throughout Wisconsin but throughout the northwest, I have appreciated something of the work they are doing.

I am going to give you for a few moments some reasons why I think every clergyman should take an interest in the great science of agriculture, and why every clergyman, if possible, should own at least an acre or five acres, or ten acres or an eighty acre farm and give it some of his thought. We have passed the time when people said it was a crime to save a nickel for a rainy day, and I know of no better way to invest superfluous earnings than in a farm, even for a minister.

The first reason I give, is as a matter of recreation and health. Many a man's life and strength have been saved because his physician has sent him out to dig in a garden or take care of some horses or cows. Most preachers have what they call "Blue Mondays." They wake up Monday mornings with a big head and a small heart, and they are very apt to sit around the house and feel that they are very near the border line of despair. How much better for a man to take such an interest in God's great, big out-doors as to get up early in the morning, put his dinner in his pocket, drive out into the country and take his place beside other workingmen and give his strength to the soil and return home at night to sleep the sleep of the just and be broader and better all the week to come. God started the first man as a tiller of the soil and that is where we seem to belong naturally.

Another reason I wish to give is, that God has commanded man to subdue the earth and keep it in subjection. When I drive out to my farm and take the handles of the plow—though I would rather ride the sulky plow—I feel every moment that I am carrying out the divine command to subdue the earth. O, but some one says, what undignified things for a man to do. Well, that sort of dignity that is referred to is of no sort of account. The only dignity on earth or in heaven that counts before the throne of the Omnipotent Jehovah is the dignity of frank, openhearted manhood and womanhood.

Another reason why the clergyman should take an interest in agriculture is that a special benediction has been pronounced upon the tiller of the soil. I have searched the Scriptures

through and I can't find a single benediction pronounced upon lawyers or any other kind of business, except the tilling of the soil. God has promised that there shall be seed time and harvest. He has promised that the cattle shall increase on a thousand hills.

One other reason. You know when God wants great men, He has them born, starts them and grows them on the farm. All the great men of history, the statesmen of the world, have come from the farm. When we came to the saddest time in the history in this country, what did we do? We called for the man, Abraham Lincoln, who had his start on one of the poorest farms in old Kentucky, and so with Garfield and with McKinley. A number of years ago in this state, some of us felt that something must be done, and at the convention in Milwaukee, one man took the platform and nominated the long, lean, lanky, witty farmer, my friend, W. D. Hoard, and you and I have now, and our sons will have, an appreciation of what he has done for the farmers of the state of Wisconsin, the best work he has done, and that appreciation will live when that voice we love so well has been silenced forever.

One other reason, and I am through. The clergyman should have a little farm, because it furnishes such an opportunity for the exercise of cultivated, intelligent faculties. The time has come when it is understood that the young man on the farm is just as certainly obliged to put his brain into his work as does any professional man. Give your sons the benefit of a college education, they will need it in the days to come, to make of the waste a fruitful field and to make the wilderness blossom as the rose.

Ex-Gov. W. D. Hoard being loudly called for, responded:

I wonder if you think I am a slot machine—all you have to do is to stick in a call and out comes a speech.

You have listened this evening to the best that the musician and the preacher can give; you have listened to Dooley's humor, rendered by a little Irish woman—which reminds me that the first girl I ever fell in love with was an Irish girl, and I appreciated the proposition that when an Irish girl falls in love with a man, he has got his hands full, and his arms, too. While

this little lady was reading I was thinking of a neighbor of mine, an Irishman by the name of O'Brien, whom I found digging a ditch, and he gave me a lesson that lasted me for many years. He was doing a splendid piece of work, clean cut and true, there was the hand of an artist in it. I was filled with admiration, and I said, "O'Brien, that is a ditch fit for a king." He took off his cap, made me a very polite bow, straightened himself and said, "Sir, the O'Briens were kings once." He hadn't forgotten his lineage, and he still took a kingly pride in his work,—whatever he put his hand to, he did it like a king. It is pretty nearly time that this holy lesson permeated the hearts of all men who have to do with this God-given proposition of agriculture. So many men look upon it as a drudgery. I never step within the sacred precincts of my farm but what there rises to me, as it were, the inspiration that is seen in the springing grass, and in the lowing herds, and in all the problems that are there unfolded to me, and I feel sometimes as though the contact with men is pitiful when I can have the contact with the mysteries of life.

Music, Vocal Solo, Miss Elsbeth Korra.

Adjourned till 10 o'clock A. M., next day.



## MORNING SESSION.

Convention met at 10 A. M., February 12, 1903.  
The President in the chair.

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## REPORTS OF CHEESE INSTRUCTORS.

E. L. Aderhold.

During last winter a number of factorymen in Calumet and Manitowoc counties formed an association with the primary purpose of giving the "pound for ten" system a black eye, the members being pledged to accept no milk from patrons of neighboring factories where this system was being discontinued.

Under the protection of that association something like twenty-four factories paid by test for the first time. The patrons in some instances were given the choice of receiving pay on the fat basis, or by the cwt. of milk based on the net returns for the cheese.

The latter proposition did not take well because "pound for ten" farmers are suspicious of each other and when their pet system is denied them the test system is usually chosen in its place.

Realizing that the "pound for ten" system prevents harmony between the factory-man and his patrons and therefore stands like a stone wall in the way of all necessary improvements; realizing that a discontinuance of said system meant a great deal more than was apparent on the face of things; realizing also that the test system, in these twenty odd factories was merely on trial and that the results of this trial were of the greatest import, I took it upon myself, first, to visit those makers who had started on the test system and drill them in the work of testing, test their test bottles, and to call their patrons together and explain

the test and its application in making out dividends. Later I did the same in factories lying in adjacent territory in order to arouse, as much as possible, a sentiment in favor of the test system.

Occasionally I made flying trips among these test factories in order to compare notes and see whether or not the testing was being done right. The result was that, with few exceptions, there was very little variation between the different factories in the yield of cheese per pound of fat and farmers came to believe that the fat content of milk is a good indication of the cheese content.

Very few of those factory-men lost any patrons and such losses are considered temporary.

From the evidence I have been able to gather I am safe in stating that the test system in the above named territory has scored a decided victory, that seventy-five per cent. of the farmers who patronized these factories will, in the future, oppose any other system of making dividends.

This little band of cheesemakers by, for once, asserting their backbone; by, for once, standing for their rights; by, for once, acting like men instead of like boys have won a victory far-reaching in its effects.

They have strengthened their position with their patrons; harmony is taking the place of distrust; they look into the future with increased confidence and some of them are already planning and making improvements such as they had never before dared to dream of.

At one factory in this territory the patrons had refused to accept the test system and as they were somewhat wrought up I managed to get a fair attendance at a day meeting. The maker had on hand composite samples of milk and I undertook to show his patrons how to test.

Nearly all of those farmers were ignorant on the question of testing and they must have taken me for a Norwegian because, while I was taking samples they made such remarks in the German language as "two samples of the same milk will not test alike," and, "adding water to milk will not lower the per cent. of fat."

There were twenty composite samples and when I had taken a sample from the last jar, after inviting their particular attention, I added four small doses of water to the jar and took a sample between each dose. The finished test showed them a reduced per cent. of fat for each dose of water added and they were convinced that the Babcock test does show how rich the milk is.

Then I talked to them in their own language for an hour, after which they were satisfied that paying by test is the right way, providing the testing is correctly done, and they voted to accept pay on the fat basis.

The basis of opposition to the test system is ignorance, and one day spent in making demonstrations in correct testing will dispel more foolish notions than a year's talking will.

Farmers, like other people, are afraid of doing business under a method with which they are unacquainted and it is certainly a fact that a large majority of the cheesemakers do not possess the ability to so demonstrate and explain milk testing as to make the farmers feel sufficiently acquainted with the test system.

As it is not practicable to make these demonstrations by lamp-light it seems expedient that day meetings be held. But I have found by experience that it is simply impossible, under ordinary circumstances, to get an attendance at a day meeting after spring work has begun.

It is customary to hold annual meetings at cheese factories. The time of holding these meetings begins in February and extends into April. They usually are, or can be, held in the day time.

As there is a good attendance on these occasions and as plans for the future are acted upon at these meetings they certainly furnish the very best opportunity for missionary work.

Last year, for the first time, I started out early enough to attend a few annual meetings and the result was so encouraging that I deem it pertinent to suggest to the management of this association that they make arrangements whereby the instructors can attend as many annual meetings as possible. I feel certain that if such a change is made there will be a good demand by farmers as well as by factorymen for the instructor's services at these annual gatherings and I feel equally certain that the efficiency of the instructor's work will be greatly increased.

The practice of coating the surface of cheese with parafine has grown so much in favor that nearly all the cheese that goes into cold storage is now subjected to this treatment.

I have heard dealers say that if the parafine is rightly applied to cheese that are well dressed, clean and bright, the shrinkage, while in cold storage, will be almost insignificant.

If that is true is it not possible that, indirectly, the parafine treatment may be the means of improving the quality of our product?

When cheese is taken from the factory and placed in cold storage it usually implies that it is removed from a temperature that injures to one that preserves or improves the quality.

If the parafine treatment almost eliminates the factor of shrinkage during cold storage may we not expect that dealers can be persuaded to accept cheese at a younger age than they have heretofore been willing to accept them?

I do not know what dealers will say to this proposition. I simply mention it as a possibility.

The manufacture of square-shaped cheese has grown rapidly. Approximately one hundred and fifty factories were turning them out during last season. These cheese have creases pressed into their faces to indicate pound cuts.

The claims put forth in favor of this style are that the boxes cost less; they can be cut up to better advantage for table use and the retailer is protected from loss from shrinkage while on the block. So far this cheese has been manufactured only on orders from dealers and in sizes of ten and twenty pounds.

A bird's eye view of our cheese factories reveals things that are pleasing and things that are otherwise. Some of our best factories are built on a site that slopes enough to facilitate drainage and furnishes pitch to conduct the whey from the vat outlet to a tank that is placed on top of the ground. The building is roomy and neatly painted. The walls are, in some degree, air tight and insulated. The floors are sound and the make room floor is pitched towards a gutter. The whey and washings are conducted through the wall *above* the floor into an open hopper *outside* of the building. The boiler room floor is about on a level with the make-room floor. There is an elevated water tank,



an engine for pumping water, running the curd mill and that curd agitator that ought to be installed. The piping is so arranged as to enable the operator to easily obtain water at any temperature he desires; also to use steam for cleansing, sterilizing or pasteurizing purposes. The cheese vats, I am sorry to say, are made to suit the man who manufactures them instead of the man who uses them, and in many instances they are monstrosities that reflect little credit on the good sense of those who buy them.

The curing room is of the basement type or has a sub-earth duct connected with it to insure against extremely high temperatures. The nasty pestiferous flies are compelled to remain outside of the building and the operator positively declares this to be much the easiest way to keep them out of the milk and cheese.

The interior of the factory and the machinery, of course, are in a clean condition and the operator looks tidy and, like a good dairy cow, has a high forehead and a bright eye and as we depart from his place we instinctively feel the pity that comparatively few of our factories reach the above described standard.

A true illustration of one of our worst factories presents a sorrowful picture. It is built on the lowest spot that can be found in the immediate vicinity and the odor surrounding the plant bears constant witness to the total lack of drainage.

The building stands on posts. It is one and a half stories high, six feet too narrow and ten feet too short. The upper half story furnishes the dwelling abode for the operator and his family.

One thickness of boards and battens furnishes the insulation for the walls. The temperature of the curing-room is in deep sympathy with the outside temperature. The floors are unsound. There is no boiler nor Babcock tester. Whey is conducted in open, leaky troughs under the floor, or in pipes that enter through the floor and emit foul gases. There is a stagnant puddle under the factory. The equipment and arrangement are generally inconvenient. The only warm water obtainable is from the self-heating cheese vat, and as the milk pan leaks a little this water is foul smelling. Nothing more than a bluff is

made to prevent flies from entering and you can imagine there is "something doing" during fly time.

The floors, walls and utensils are unclean almost to stickiness and the outer garments of the operator can stand alone. The word sloven is stamped on his countenance. He may have a good excuse for his lack of civilization, but what excuse has the state of Wisconsin to offer for allowing such a plant to exist within her borders.

When a farmer offers for sale skimmed or watered milk at a factory the state is liable to arrest him and impose a fine, and rightly so. Yet the milk so adulterated may be perfectly wholesome for food purposes. But what about the unsanitary conditions of most of our cow barns and some of our cheese and butter factories. Are not these conditions a thousand times more damaging and dangerous than the above named adulterations?

To the cheese factory patrons I wish to say you are not making good use of your opportunities for enhancing the profitableness of your industry. Our population consumes an average of only three pounds of cheese per head annually. Those three pounds are the result of some milk, some skilled labor and an uncertain quantity of abuse. If the abuse were left out the people would demand more than three pounds per head and prices would be maintained higher than we have ever had them.

. You should improve the sanitary condition of your cow barns, produce *clean* milk and be more liberal with boiling water on your utensils; compel the factoryman to add a boiler to his equipment, if there is none, also a measuring device for distributing whey; compel him to clean the whey tank daily and to scald the whey at least once a week; persuade him to add a curd agitator to his equipment and do not allow him to cure cheese at a temperature above sixty or sixty-five degrees.

Because of low grade work at our cheese factories there is an enormous loss constantly which you milk producers must bear. Do not let it continue. Get together and demand that the factoryman shall perfect his building and equipment so that he may perform a higher grade of work, and don't forget that you owe the cheesemaker a living and that he cannot furnish high grade

work at the rate of low grade pay that obtains in eastern Wisconsin.

To the cheesemakers I will say that it takes you a mighty long time to realize your condition. Your dwelling places average much poorer than those of your patrons. A great many of you live upstairs in your old factories. Some of you have lived there for more than a score of years and never expect to occupy a decent house unless some one makes you a present of it.

Model factories are about as scarce as hen's teeth. Most of you would be glad to perfect your plants if you could figure out returns on the investment necessary for doing so. You are doing a poor job in cheese work, and you know it. Your property, generally speaking, is not salable. Your machinery and supplies cost more than they did a few years ago and the farmers are receiving fancy prices for their cheese so what reasonable objection can they have to paying you a little better for your work.

Cheesemakers, are you not entitled to a decent house to live in such as your patrons have? Is your labor not entitled to remuneration that will enable you to make your factory respectable and salable? Is not your profession respectable and legitimate? Are you ever going to realize that you need to become emancipated?

My advice is for you to act like *men* and make a determined fight for what your station entitles you to so that you may be enabled to begin "right living" sometime before you die.

The past season has been unique in point of advantages. We had an abundance of grass, insuring a big production of milk; cool weather, insuring milk of superior quality, and high prices throughout. Never before have we been blessed with so many advantages in a single season.

As to the price of cheese for the future I am very hopeful because, first, on account of our increasing population the demand for dairy products must grow; second, the rate of increase in the production of milk is restricted; third, the production of cheese in the United States is probably not growing at all. If I were compelled to add a fourth reason it would be this; The butter

factory may not be in serious competition with the cheese factory.

Taking all things together I do not hesitate to say that for many years to come cheese will compare very favorably in price with other farm products.

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## REPORT OF CHEESE INSTRUCTORS.

John B. McCready.

Mr. President, Ladies and Gentlemen: I submit the following report of my season's work for your consideration.

I started my road work May 1st, 1902, and finished November 3d, 1902, earlier this year than usual on account of having to be present at the opening of our Dairy School.

The first part of this season, I visited 12 factories where I was not called and made short visits; was called and worked from two to three days in 47 factories; 18 of these received second visits. Five of these factories were making Brick, Swiss or Limburger.

Hold evening meetings at nearly all factories visited and found only three American factories not paying by the test.

The evening meetings have been productive of much good; yet the patrons whom we really wish to reach (namely, the careless ones) are often the ones who do not attend.

As a cheese instructor of this association, during the past year I have had an opportunity of studying existing conditions as found in that section of the country in which I worked.

The past summer was one of the finest in the history of my experience for the manufacture of good cheese. Cool weather, plenty of rain, excellent pasture and a fine, strong market all went in to make it so.

The demand for cheese was good and prices paid were high; the result was that the buyers were not so strict in their inspection as might have been the case had the prices been low.



The weather could not have been better for our work than it was this last year. Our curing rooms were held at a lower temperature this year than they generally are, and the improved quality of our goods showed only too plainly the necessity of having curing rooms in which the temperature can be reduced and controlled.

I think I am safe in saying that we are making improvements rapidly in cheese production. This is plainly shown by the uniformity of our goods, especially in those districts where instructors are employed and where the patrons and factory-men are interested enough in up-to-date methods to attend conventions and institute meetings.

In southwestern Wisconsin the work of cheese instructor has been made somewhat lighter this past year on account of a few firms contracting with the factory-men for their season's make of cheese and furnishing them with the services of their own instructor.

These factories are scattered about among the factories I have generally visited and have cut up my territory to quite an extent, thus making it necessary for me often to travel far, thereby losing time in order to visit some other factories. As a rule we are not called to a factory unless the cheesemaker really needs our services. I believe that our cheese could be improved if this association had sufficient funds to employ more instructors who would be given the power to visit any and all factories in a certain territory.

I had occasion to visit a district where instructors were unknown. At one factory I found a very bad condition of affairs. The factory itself was not equipped with one-half the necessary apparatus and the cheese made were not fit even for local trade or immediate use.

An appeal to the factory owner was made by me and everything necessary obtained. The cheesemaker himself had often made this same appeal but without getting his wish. The result of this improved machinery was that a better cheese was made and the last I heard from this place was that they did not need to depend on the local market and their cheese were going at top price in Chicago.

When our worthy Secretary asked me to make my report, he also asked me to mention some of the things which cause defects in our cheese.

These causes are not hard to find and for fear that I should conflict with some other paper which I believe covers this ground thoroughly, I shall say but little on this, but, briefly, they are as follows: Inexperienced cheesemakers; poor curing rooms in which the temperature cannot be controlled; poor care of milk utensils, etc., on the farm; bad water, both for cows and at factories; unclean cheese factories, underground whey tanks, lack of proper equipment of machinery at factories. These cover most of the causes of defects in our cheese and although they cannot be found in all factories, yet, I am sorry to say they can be found.

I cannot say too much in regard to factory equipment; our factories lack two of the most important pieces of equipment that there are: First the Curd Sink; second, the Curd Stirrer or Agitator. While in Canada last spring I was requested by Mr. Johnston, of Boaz, one of our most successful cheesemakers, to look into the idea of bringing back a set of Canadian Curd Agitators. I did so and found that whereas they used to cost about \$40.00 per vat, the patent having run out, they can now be bought for \$20.00. In order to save freight and customs duty I just bought two sets of gearing without the frames or stirrers, the gearing for two vats costing \$16.00. When they arrived, I spent three days at Mr. Johnston's where we made the frame and the irons and stirrer at a small cost. The first one we put on a vat holding about 7,000 pounds of milk and the work done was very satisfactory. The advantages of an agitator are, 1st, the milk can be stirred continually from the time you start weighing in until the desired temperature is obtained; 2nd, one man can attend to six vats if need be, while the milk is warming or the curd cooking; 3rd, the curd is cooked uniformly throughout the whole vat. Last, but not least, the curd is not broken in the least as is the case when rakes are used, but the pieces remain the same shape and almost the size as when first cut. There can be no doubt that a better yield is obtained by their use owing to the careful manner in which the curd is stirred.

We obtained a set of these at a late date for our Dairy School and those who used them were very much pleased with them.

I would recommend their use to all cheesemakers and hope to see them come into general favor as I feel sure they will.

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DISCUSSION.

Ex-Gov. Hoard: Mr. Aderhold spoke about the excellent prospect of cheese in the future and enumerated some of the causes that he thought would lead to that condition, and among them one of the chief causes I wish to speak of, and that is the remarkable increase in the consumption of milk in cities and towns. Our people have no adequate idea of this. The cheese making districts in New York today are almost entirely given over to the shipping of milk to the city. This invasion of the old cheese district by the milk shipment to the cities is constantly working to decrease the supply of cheese. Milk is now shipped to New York from a distance of three to four hundred miles, and the cities are calling for milk constantly. In Wisconsin, many of our districts, where they used to make cheese and have since been making butter are invaded by this same influence, whereas the growth of the number of cows is not anywhere near adequate to the growth of the people who consume dairy products. From 1860 to 1890 the growth of the number of cows in Wisconsin was only  $5\frac{1}{2}$  per cent. The census reports give us about 12 to 15 per cent. increase of people. Now, you know, these facts, if they are rightly understood, are clearly in favor of the farmer as to whether he shall embark in this business, and they are clearly in favor of another fact, that he should embark in it with capital fitted to the business, and not be led off by the siren cry of more beef. The dairyman who sticks to his business is going to be the surest man in the agricultural field for the next ten years to come.

Prof. Henry: Governor Hoard has called attention to a very important point, and he might have gone a little further; he might have told you that in 1883 the United States exported \$10,000,000 worth of cheese. He might have told you that at

that time Canada exported \$4,000,000 worth of cheese. He might have told you that now Canada exports \$25,000,000 worth of cheese, and that the exports of the United States have fallen to a little over \$2,000,000. They have gone up in Canada from \$4,000,000 to \$25,000,000 of exports and we have dropped from \$10,000,000 to about \$2,000,000. The decrease is so rapid that if it keeps on in the same ratio in three or four more years the United States will not export a pound of cheese, but will be in the anomalous condition of having a greater demand for home produced cheese than we have cheese to fill it, or we will have to import cheese from Canada.

At our Farmers' Institutes and other meetings, a few years since we told the farmers that the condition of the horse business was such at that time that the man who carefully and wisely went into the breeding business, was in a safe business, and we have reached already a condition which proves we were right—horses are bringing good prices. The beef cattle industry has been remarkably profitable and many a Wisconsin dairyman was carried off his feet by that fact, unfortunately for him. Wisconsin is not a beef-producing state. If you will go to some of the beef-ranges of the United States I will show you things that will shake you through and through. I have seen corn costing 19, 20 and 22 cents going into steers coming off ranges and being fed. What is the use of a Wisconsin farmer trying to compete with those men under their conditions. There is no danger of those people competing with you in making butter or cheese.

Now is the time to go into the cheese business in Wisconsin; now is the time to get your cows right, to get good cheesemakers, to stand by this Association in its dairy work, and push the cheese business as hard and as wisely as it can be pushed. Now is the time for some of you men with capital to look toward Northern Wisconsin and find profitable investment for your money in cheese factories. Don't get into the wrong end of the wave of prosperity. The same applies to the dairy business. Now is the time, with our exports steadily decreasing, to start new factories, Wisconsin could start five hundred next year and five hundred every year for the next ten years with great advantage to the people, and to the commonwealth as a whole.



If I am worth anything to this state, as the head of the Agricultural College, I ought to look ahead and see these things, and help you realize them. If I don't see correctly, then I ought to be put out, or if I make any statements that lead you to believe wrong. I hope the business men here will think of these things. I hope that the young men who are thinking of some outlet for their little capital and their energies will think of these things and take them seriously. Today at our Dairy School at Madison we have three calls for cheesemakers to one we can supply. I wish we had more young men down there, taking the training to be sent out to the factories and I wish there were more factories calling for such men. Remember, again, that inside of three or four years the United States will actually not be producing enough cheese to supply its own demands, and we will have to import cheese from Canada to supply the demand, unless Wisconsin takes it to heart and takes advantage of it, as she ought to.

Mr. Clark: It seems to me Governor Hoard has hit pretty near the mark in regard to our cheese making industry. The use of milk in our cities has crowded the creameries from many sections further back into the cheese making country of Wisconsin. Take Fond du Lac county, for instance; take the line of road running from Fond du Lac to Milwaukee and to Brandon southwest. In 1883 we had thirty cheese factories reporting to our Dairy Board of Trade, and handling all the way from 200 boxes, big 50-pound boxes. During the past year not one single box of cheese came from that section to our Dairy Board. The whole section has been covered by milkers and the result of the increased demand for butter has pushed the work further along into the cheese making section of Wisconsin. I am sure that there is a very bright outlook for cheese making in Wisconsin, because we have a better cheese making territory for full cream cheese than there is in the United States west of New York.

Mr. Aderhold: What is the reason, Mr. Clark, that so many cheese factories changed over into creameries.

Mr. Clark: I don't know that I can fully answer that question, but it seems to me that it is just here. We were contiguous to the district that was drained for milk for the cities, and be-

cause of that the butter factories came into our territory for location. Perhaps another and stronger reason is that it is easier to get ten good butter makers than to get one *good* cheese maker—mind you that word “good” is very emphatic in that statement. Another reason is this, and I suppose if I was the owner of a factory handling milk it would weigh considerable with me—that after the plant is first put in, the cost of running a cheese factory and a butter factory is pretty nearly the same, while the results to the owner of the factory making butter are from 30 to 40 per cent. more than in making cheese, and at a factory getting from 16,000 to 18,000 of milk a day, I think I would make butter if I could get 30 or 40 per cent. more for it, than to make cheese, wouldn't you?

There is another great thing with this industry, that our cheese makers are not paid enough for the skill and labor and good sense that they put into their work. Our farmers ought to see that our cheese makers are paid more money for their work and then there would be less temptation to make a change.

Ex-Gov. Hoard: One other fact. Our cheese making industry is not economically organized, and the farmer feels that. It doesn't take very long for a farmer to see that his cows could easily give milk ten months, and the factories, as a rule, do not run over six or seven. How many months do they run in your district, Mr. Clark?

Mr. Clark: We have quite a number that run twelve months in the year. As a rule, about eight months.

Ex-Gov. Hoard: You see the creamery is continuously at work through the year. Now, in Canada and particularly in the eastern townships of Quebec, where I expect to be next month, they are organizing rapidly to combine cheese and butter factories to accommodate the cows that come fresh in the fall. A cow coming fresh in the fall will, as a rule, give you from 1,000 to 1,500 pounds more milk than she will if she comes fresh in the spring,—if she is properly fed, of course,—because after the cow comes fresh in the spring, at the end of six months she strikes a shrinking period, cold weather and dry feed. But, if the cow comes fresh in the fall, at the end of six months she strikes an enlarged field, warm weather and fresh feed.

Another thing, the farmer in cheese making finds himself confronted with the fact that he cannot raise his calves as he wants to, or other young stock. If the cows come fresh in the fall and butter was made, these factories would be able to make butter from the first day of November to the first day of May, and then go right on with cheese making, and the farmer would raise his calves from November to May in the winter as he ought to do; there would be all those months the little fellows would be without botheration from the flies, and there would be a whole lot of advantage to it. He would build his silos and put himself on an economical ground and he would have a ten-months continuous milk season and his cows would bring him 25 to 30 per cent more if handled that way. Gentlemen, we are like a long reached wagon, it takes about an acre of ground to turn around in; we haven't kept abreast of ourselves in these matters of economical organization, but we are going along and we are punishing ourselves, and we may talk as much as we please, the law of economy gets in its work—it punishes the farmer when he is not wise economically, and it punishes the factory.

Mr. Clark: Just one more remark. Four per cent milk in the factory ought to produce 33 1-3 more cheese than 3 per cent milk, and it doesn't do it; there isn't a cheese maker anywhere that can get it out, and there has been a feeling under the surface that the man who makes four per cent milk is not getting some of the money that belongs to him and that the 3 per cent man is, and it has had an influence among our farmers to favor the creamery because it is an absolute fact that when you have a certain amount of butter fat in your milk, you get the product in the butter on an absolute basis; in other words, they are getting all they are entitled to, and the love of fair play is way down at the bottom in every American farmer.

Mr. Favill: I just want to emphasize one of the suggestions of Mr. Aderhold, and that was for a better equipment of factories, such as will produce an article that pleases the public taste. If we could get the right kind of cheese to eat, the demand would increase amazingly. They are improving—there was a time a few years ago that we were chasing after strange gods, and making filled and skimmed cheese, and we were pun-

ished by it by losing our foreign reputation. Perhaps it was a good thing for us, because we have switched back to better work, making a better article and eating it up ourselves. There is another thing in connection with this business. We have had exceptionally good prices the past year; now, why? It is because we were short the number of cows.

Another point. We have not got over the extreme drought of 1901 yet, and we will not for the next three years in southern Wisconsin. Many farmers sold off their cows and that left them short last spring. It will take at least three years to get over that drought, and in the meantime the population is steadily increasing and the demand will increase faster than the machines to make cheese with. So I don't think there is any danger of this business ever being overdone. It has been preached to me for the last sixty years—yes, it is more—our folks commenced making cheese on the farm seventy-two years ago when I was eight years old, and I have heard it from that day to this. that we are just on the eve of overproduction—it is sure to come next year, or pretty soon. Well, it hasn't come yet, and it isn't going to come; I am not a bit afraid of it. It can't come; our stock will not increase any faster than the demand, and they will not increase as fast if we make the right kind of an article.

Mr. Cobb: Down in Illinois I used to make filled cheese. I got that bad habit up here in Wisconsin. When I send to my commission man in Chicago for a cheese, if I don't state what I want, he writes back and says, "I will furnish you a Wisconsin cheese for 12 cents, and I will furnish you a good cheese for 13 cents." Now, why is it I have got to get my cheese from York state, because that is where it comes from.

Mr. Favill: Yes, but it doesn't come from there. Your man takes the best Wisconsin cheese and marks it "York State," and sells it to you. The name of Herkimer county has got a great charm and they know in Chicago how to use it.

Mr. Cobb: Speaking of getting over the severe drought, I do not feel at all as the gentleman has stated in that respect. We made more money with our herd a year ago last summer than we have made any other year in our experience in the dairy business, excepting one. This last summer our cows came into the



grass period in first class condition. I had one leading dairyman from Walworth county, Wisconsin, at my place last spring, and he looked my herd over and he said, it was in the finest condition that he ever saw cattle. A year ago last summer the shrinkage in our dairy yield never exceeded twenty-five pounds, while this past year, with plenty of blue grass, we had shrinkages of 40 to 60 pounds, with a herd that was thoroughly well wintered and in excellent condition in the spring. A year ago last summer our cows got ensilage from start to finish. This year, our silos were empty, and so were the cattle.

A Member: I suggest to the gentleman that he fences off part of his pasture the next time. Cattle do not do well on such fresh pastures. Two years ago we had rains enough, so we had good pasture all summer. It seems to me, gentlemen, that on account of some legislation in this state, butter is going to be better than cheese for the next two years.

A Member: I would like to ask the gentleman from Illinois how much his herd of cattle paid per head, net.

Mr. Cobb: A year ago last summer my income was \$100 per head in round numbers, and the expense per cow was \$35.

Mrs. Lehman: I think there is a point here that the gentlemen have forgotten. I come from the cheese portion of Wisconsin where there are cheese factories all around us and farmers equipped to keep from thirty to forty cows, and one of the greatest questions they have to solve is the question of help to milk those cows. I think there is only one remedy for it, and that is for every farmer in the state of Wisconsin to place upon his farm a tenant house and have a man with his whole family who can help milk. It is utterly impossible with us to get men who milk and milk well. I had men last winter to milk and they would dry up the cow every time unless I watched them, do it on purpose, when the cow was on good feed with plenty of ensilage. Without better help, it is almost impossible to carry more than twenty-two to twenty-five cows, on large farms, too, and I think there are men here from all parts of the state who will agree with me.

Mr. Cobb: Hoard's Dairyman, in the issue of the 6th of this month, gives a good recipe, how to produce milk and get it milked on the farm.

Mr. Gurler: I want to say to this lady, I am not a Wisconsin man but I meet this trouble that she speaks of in a way that makes me sick. I have men who, with all my watching, and having a milk sheet for each milker, recording the yield of every cow at every milking, those little sheets come to me at the end of the week and the figures are transferred and carried to the end of the year. I have men that will deliberately dry up cows so it will be less labor to milk them. Now, what can we do?

Mr. Favill: Kill them.

Mr. Cobb: Milk yourself.

Mr. Gurler: I have milked thirty-five cows a day, but I can't milk two hundred.

Mr. Cobb: Sell off part of your cows.

Mr. Gurler: I can't supply the demand for my milk. It is the most discouraging question in this whole field, the lady is right about that.

Ex-Gov. Hoard: I will tell you what will remedy it,—another panic.

Mrs. Lehman: I went down to the village the other day to get some extra men and there were ten idle men in town, and they wouldn't come and pack ice. They had been waiting around all winter for the spring's work to open up, and they wouldn't take my offer at a dollar and a dollar and a half a day and their board to pack ice. That is the kind of people we have to contend with in southern Wisconsin.

Mr. Gurler: This trouble goes all over this country. I was reading a little article two or three days ago in the paper about what they were doing up here in the pineries to keep men there; they are getting up dances and offering all sorts of attractions. I never saw so much food piled up on a table, such a variety, as I saw in the camp last fall. We would go crazy, we farmers, if we thought we had to set such tables, as they do up there. I saw half a dozen kinds of pie on the table at one time. I simply mention this to show how the labor question is meeting us all over. My dear madam, I am fully in sympathy with you.

Mrs. Lehman: They don't seem to think they have got to use any judgment or earn their wages in any way after you get them. I went down into my barn day before yesterday and I said to the man, "What are you doing? You are feeding too much ensi-

lage." "Well," he says "this silo we got not half empty. I give one cow two baskets ensilage." He knew better, but he had no notion of responsibility in the matter.

Mr. Gurler: O, they don't care. But now there are two or three points I had thought of in looking into the future. In my location a great many cows have been dropped out and many of the farmers have gone to feeding steers; they go to Chicago, buy steers and ship them in by the carload. Well, they are beginning to unload those steers. I heard of one feeder the other day that sold his steers and he got half a cent a bushel for the corn he put into them. I was talking with an old comrade about two weeks ago that put in two carloads of steers and he said to me, "Mr. Gurler, I am going to lose my whole grain crop and good money with it." Now, there are a few dairymen in our locality who were wise enough to see this condition. I know one young man, a Swede, who came to me and he was tickled clear through. He says, "Mr. Gurler, I have been putting my money into cows, and I got good money for it and some of the neighbors, too." A good many of our people knew nothing about feeding, they were not trained for it at all, and they have had to pay for learning.

The Chairman: The next topic will be of interest to all of us who are interested in the care of the dairy herd. We have heard about the need of having clean, wholesome, sanitary milk. About two years ago, one morning in a snowstorm, I took an electric car and went out from Milwaukee to the Sunny Peak Farm. I went quite early in the morning, and I walked from the electric car and was met at the door by Mrs. Howie, and communicated my mission, that I wanted to see the herd, and I got there just in time to see the men taking care of the herd, and I was greatly impressed with the care that was given that herd. Over the door was the legend, "The Jewel Casket." And I was impressed that every animal in the barn was being cared for as a rare jewel, and I want to bespeak now your careful attention to the discussion this morning of the care taking of a herd that is cared for in a cleanly manner. This young man who is to speak has had more experience in the care of the herd than in addressing audiences of this kind, but I am sure he will give you some valuable information.

## THE DAILY ROUTINE ON SUNNY PEAK DAIRY FARM.

D. W. Howie, Jr., Elm Grove.

Mr. President, Ladies and Gentlemen: In a weak moment I consented to appear before this convention and read a paper upon the subject of the daily routine at our farm. Had the topic suggested been anything else, I should have flatly refused.

As it was, I thought perhaps I might be able to write something that would possibly do, though I was very doubtful. You will soon be aware of the fact that my doubts and fears were not without foundation.

I ask you to be lenient with me; also that the responsibility be shifted onto the honorable officers of this society.—Gen. Burchard and Prof. Emery. They are the gentlemen who were instrumental in getting me into this scrape.

In the following paper I make no pretense of adhering closely to my subject. I do not claim to be authority on dairying, neither do I claim to be original. The ideas that I bring forth are some that have accumulated during the years in which I have been associated with dairy cattle and can be taken for what they are worth.

If there is one thing more than another against which I hold a grudge it is our miserable, old alarm clock. This clock persists in ringing about half an hour every night. It also has a habit of making a terrible racket and arousing me just when I want to sleep the most. I have fond hopes that some morning, during its violent exertions, it will shake itself off the dresser and come to grief.

Well, the fires are built and we are off to the barn with our milking utensils. The first thing to do is to wrap a heavy blanket around the cans which are to receive the milk. By so doing the milk is enabled to retain its heat for a very long time. This prevents the necessity of warming it again for the separator and calves.



The next procedure is milking. Each milker has his own cows. The poorest milker, as a general thing, is given the easiest cows to milk and the best milker gets the hardest ones. This may not seem fair but it saves time and also prevents the chance of spoiling the hard milking cows, that, though they may be hard milkers, are nevertheless excellent cows in every other respect. It certainly never does a cow any good to have a poor milker dribble away at her for half an hour or more.

I have noticed that good milkers are "born, and not made." If a man has had any considerable number of cows to milk daily for six months and at the end of that time is not a good milker, you may rest assured that he never will be one.

Each man feeds his own cows their grain ration as he milks them. The milk being weighed by the milker, he, of course, is in the best position to know which of his cows should have the most feed. Some are fed just before they are milked; this takes their attention away from the milker and they give down freely, standing quietly at the same time. Others, if fed while being milked, become so engrossed with their eating that they forget everything and step forward and back, now stretching their whole bodies to get a good mouthful, now drawing back to chew it, thus greatly annoying the milker. Such cows are generally fed after being milked. We arrange it so that when the milking is done the cows all have their grain either in front of them or in their stomachs.

While we are speaking of milking, I think it appropriate to make a few remarks upon the subject in general. Owners who milk their own cows will not have to be told what kinds of teats to look for when buying cattle. However, those who are men of means do not generally figure on doing any milking and are therefore not as particular in this respect as they should be. There is nothing more exasperating for a tired or hurried man than to have to sit down to a short-teated cow, where at best he can only make the milk come in squirts. Extremely large teats, that look like sweet potatoes, are just as bad, for, as a general rule, they milk hard. For short teats, I would advise hand-over-hand stripping. In milking this way you gain considerable over the method of stripping a separate teat with each hand,

for the reason that before one hand leaves the end, the other is already at the base of it, and you do not have to fumble around to find the lost teat, as in the case where you draw the milk from two quarters at the same time.

For the larger kind I have mentioned, I advise grasping them quite near the end. In this way you will be able to extract the milk somewhat easier than if you take your hold farther up.

Besides being quick and thorough, we require our milkers to wash their hands after milking each cow. This not only insures cleanliness, but also prevents the spreading of certain diseases of the udder, such as cow pox.

Some people are opposed to so-called wet milking. I can see no objection to this style, providing the milker keeps his hands clean. In fact, I think that dry stripping is one of the causes of warts on the teats. My plan is to milk dry and strip wet.

Manipulation of the udder comes under the head of milking. Quite recently a Danish veterinarian has devised a series of squeezings of the udder, which are to take place after the milker thinks he has finished. The manipulations are supposed to be the means of extracting every last particle of milk, this, of course, being the richest. The operation takes two minutes and the results gained are claimed to more than pay for the extra time consumed.

This gentleman certainly can not claim to be the originator of manipulation of the udder. You can all prove this by bringing to your minds the numerous times you have watched a litter of pigs taking their nourishment. It is then you see true manipulation. The calf,—and this is more to the point,—also knows how to manipulate. It simply gives its mother a bunt that jars her to the back bone and in this way secures the creamy milk.

It may be all right in the old country, where labor is only worth twenty dollars and a suit of clothes per year, to spend two minutes extra to the cow in getting this surplus milk, but in this country I do not think it will ever become popular, especially as you can accomplish the same results by simply imitating the calf,—giving the separate quarters of the udder several chugs with the hand when you are stripping.

As the grain ration comes in such close proximity to the milking, it may not be out of place to make a few remarks upon this subject. A cow is not a waste basket, as some manufacturers seem to think. Farmers, as a rule, are easy money for such men, believing all the claims they make for their by-products. These goods are not what they are cracked-up to be. Stick to your own produce for the most part for cow feed. Ground oats I believe to be the best single feed. If you have pea-meal, corn-meal or anything else in that line to mix with the oats, so much the better. I have fed boiled rye and got the same results as I did from ground oats and peas, in spite of the fact that I have never heard of rye, in any form, being a good feed.

Wheat bran, although comparatively high in price, is greatly over-estimated. We have been unable for some years to get satisfactory bran. The manufacturers of this one-time staple cow feed are getting altogether too greedy, and I think the dairyman would do well to pass it up entirely until the price comes down within reason. It is not the scarcity of this article that keeps the price above its real value, but simply a manipulation of the market.

I am not a strict advocate of scientific feeding, for the reason that the chemical analysis of some of our feeds is misleading. For instance, take the common navy bean: Nothing on the farm will eat them in any shape, although they prove by analysis that they are one of our richest foods. If cows are fed what they like they will give better results. A feed that has to be mixed with something more palatable in order to coax the cows to eat it, is not in my opinion worth feeding.

Next on the program is the separation of the milk and feeding of the calves. You all know about the centrifugal separator, so it will be useless to dwell upon this. The principal thing to remember is to have your milk about 85 degrees to insure against any loss of butter fat in the skim milk. We run the skim milk from the separator into ten gallon cans. When the can is full we allow it to stand a few minutes so that all of the foam comes to the top before feeding the milk to the calves. The reason for this is that the foam on skim milk is one of the most prolific causes of scours.

After the foam has all risen to the top of the milk we proceed to the feeding. We hold the foam back by placing the open hand at the mouth of the can and pouring the milk through the fingers into the pails. Six pounds, or three quarts, is the amount fed to the average calf over three weeks of age. This, with hay and some grain, keeps them in a thrifty and growing condition.

If the calf starts scouring we immediately cut its milk ration to one-half and it speedily recovers, provided the milk has been the cause of its sickness. We use clean pails for feeding. They being washed twice a day cannot possibly become sour.

Experience has taught me that scouring among calves, fed on skim milk, is caused by one of the following reasons: Sour feeding pails, too much milk at a feed, foam on the milk, or filthy, wet stalls. Knowing these things to be the faults we can easily stop scours by removing the causes.

Sometimes a newly-born calf will start scouring before it is twenty-four hours old. In this case you usually lose it, but can prevent the re-occurrence of such an accident by removing the cow's next calf as soon as it is born and feeding it on the mother's milk, diluted with skim milk at blood-heat. You can feed it on a bottle until it is old enough to wean. We generally leave a calf with the mother until it is thirty-six hours old, keeping the cow's udder empty of milk the calf does not consume.

The milk that is left over, after the calves are fed, is immediately taken to the pig pen and fed to the hogs.

The cream is placed in ice water and remains there until shipment. All dairy utensils are taken to the cottage and washed, being, after an airing, ready for the next milking time.

It is now eight A. M. and we feed every animal, cows, heifers, bulls and calves, their morning allowance of hay. This hay is all the roughage they get for the day time, at least until four P. M., when they all, except the young calves, get silage. Of the latter, the cows get from one-half to one and one-half bushels and the heifers get what they will eat up during the night. I might say here, that I do not advocate the feeding of silage to animals that are advanced in the period of gestation. I believe that such feeding is one of the causes of abortion, so we feed some other form of roughage to these animals.



You will notice that we feed roughage but twice a day. Being so fed the cows are more contented than if fed more often in smaller amounts. If cattle are fed little dabs several times a day it not only makes more work but keeps the cows on the constant lookout for something to eat. And I, for one, do not care to have them bawling at me every time I pass before them.

It seems that the way I have mentioned of feeding cows is the most natural. Cows in pasture will eat until they are satisfied, then lie down and thoroughly masticate the food they have eaten. It is then they do their best. They do not generally fill up more than twice a day, therefore, in winter we feed bountifully the same number of times.

After the cattle have had their hay in the morning, they are cleaned up for the day. We use good, stiff root-brushes for this purpose and the curry comb is also brought into requisition when necessary. The cows enjoy this brushing and stand perfectly still, frequently stopping their eating during the operation. Some authorities claim that brushing stimulates the circulation, thereby increasing the milk flow. Whether or not this is so, I do not know. That a clean row of cows is more attractive and pleasing to the eye there is no doubt. Besides this, can you tell me of anything more repulsive than milking vile-smelling, filthy cows? If the custom of cleaning cows was more general among farmers, the butter-makers and creamery men throughout the country would have much less trouble in producing a first class article.

By the time the cows are all brushed they begin to look towards the door leading to the barnyard. They are now turned out for the morning drink of water, the fire in the tankheater having been started immediately after breakfast. In winter, water at about 40 degrees they will readily drink and I do not think there is any benefit in having it much warmer.

While the cows are drinking and exercising in the yard, we clean out the gutters and bed down the platform with about six inches of straw. We put two inches of the shortest litter in the gutter. This acts as an absorbent and keeps their tails out of the wet. It is not the most pleasant sensation to have a sopping wet switch wrapped around one's neck, while milking, therefore,

we try to keep dry this fly-shooing part of the cow's anatomy. We also bed our calves at this time, using a plentiful supply of straw to keep them off the cold floor.

If our winter's manure is to go onto a reasonably level piece of ground, we haul it there daily as it comes from the barn. If, however, it is to go on a rolling or sloping field we pile it up in the yard and take it out in the spring. This latter practice, I am aware, takes much valuable time at one of our busiest seasons, but then it would be poor economy to allow the melting snow and spring rains to carry the best part of the fertilizer over the line and present it to our neighbor.

The stalls now being ready, the door is opened and the cows file in, each taking her accustomed place. Occasionally one will get too familiar and, becoming impertinent, enters whatever stall suits her fancy. This makes trouble for us, also, I might add for the offender. Here is where you find the difference between the gentle cow and a "fresh" one. The latter, not in the literal, but the slang sense. I much prefer the former; and am glad to note that it is only the young and foolish ones that ever abuse their privileges.

The cows resume their eating or lie down to chew their cud.

We now sweep all the aisles and walks in a conscientious manner and although it is one of our lightest and easiest performed duties the effect is most pleasing, causing many complimentary remarks from visitors. This ends our morning chores, the greatest part of the day's work in the cow barn.

After dinner we milk all of our recently freshened cows. This practice is a good one. It not only increases the milk yield to a considerable extent but relieves the heavy milkers, and possibly wards off many cases of garget and other disturbances of the udder. Moreover it helps to develop the younger animals and others that may not be doing their best. The cattle that are milked at noon are milked first in the morning and last at night, so as to make the periods between milkings as nearly equal as possible.

At four P. M. we again turn the cows out to water, putting silage in their mangers while they are absent. After they are turned in we start the evening milking and the process of feed-

ing grain, separating, feeding the calves, etc., is repeated as in the morning.

When the work is all done we retire to the house, eat supper and then become acquainted with the news of the outside world through the columns of the daily and agricultural papers.

So far I have not mentioned the care we give the bulls. They get practically the same food as the cows and that with exercise keeps them thrifty.

Breeders and farmers, who have occasion to buy bulls will do well to take possession while they are still very young. In this way they will be able to raise them according to their own ideas and above all will have had time to become acquainted with their dispositions. Every person is afraid of a full grown, strange bull. If not, they should be, as many times there is nothing more treacherous nor powerful than such an animal. Besides this, male calves cost much less, as a rule, than mature animals, not to mention the saving on transportation.

In conclusion, I will say that my original intentions were to allow a few paragraphs in this paper, upon that necessary and interesting being—the hired man—as found in our neighborhood. However, one of these fellows who has made his abode with us for a few weeks, deliberately foiled my plans by going upon a protracted spree just fourteen days ago, from which he has not returned. In doing this, he left a young man and myself to care for sixty-five head of stock, besides chickens and pigs and worst of all—a speech. I am afraid the speech, in consequence, has suffered as much as anything else.

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#### DISCUSSION.

Mr. Clark: Every well posted dairyman must commend the management of this herd of cattle. I apprehend, however, that the farmers in this audience will want to know something about the profit side of this business. There is considerable work connected with such a system of management and if Mr. Howie has no objection, I would like to have him state what is done with

the product of this herd and approximately what profit is made from this business as he carries it on.

Mr. Howie: I suppose it is not my place to answer this question, as the lady who owns the farm, my mother, is the one who pays the freight, and she is in the best position to know the answer. We ship cream to the Plankinton House in Milwaukee and we get above the market price for our cream. Our cows net us approximately \$100 a year for about twenty-five head of milking cows.

Mr. Gurler: When you say net, do you mean above the cost of feed?

Mr. Howie: Yes.

Mr. Gurler: Do you figure the skim milk into that?

Mr. Howie: The skim milk is disposed of on our farm in feeding hogs. We keep brood sows and sell the young pigs when they are weaned at about eight weeks old. They bring us about five dollars a pair, and a good sow will give us a gross income of \$35 to \$40 a year. That is also counted into the proceeds.

Mr. Burchard: How about the calves?

Mr. Howie: I did not figure the calves in. We count our calves as surplus stock. The cows pay all running expenses of the farm and all money taken in from the sale of surplus stock (which is registered and brings a price as such), is salted down. It does not come into the expenses of the farm at all.

Mr. Foster: How many cows does a man usually milk in an hour where he washes and wipes his hands in between?

Mr. Howie: Charley Tanner and myself are able to milk one cow in five minutes as the run goes, hard and easy, right through. However, I will say very few milkers we have ever had on our place, in fact, only one, has ever come up to us. I find that the common run of men are very poor milkers, or at least they are not what we call good milkers.

Mr. Foster: Does that include feeding the cow?

Mr. Howie: Yes, we feed the cow, as I stated, either before we milk or at the time or after we milk, according to the cow. Some cows, if you feed them during their milking, get restless and annoy the milker, so we feed them after milking.

Mr. Gurler: I would like to emphasize what Mr. Howie said



about the bull. There are thousands of farmers that will cling to a bull that is more dangerous than any wild animal on this continent. A black bear is a coward in comparison with a bull, because you never know when you are safe with a bull. We have men being killed all the time with the ugly creatures.

Ex-Gov. Hoard: Do you want to know how to keep him down?

Mr. Gurler: Yes; tell us.

Ex-Gov. Hoard: If you will start with your bull when he is young and accustom him to the tread power and make him work every day, he will be all right. I tell you a bull that goes onto a tread power and works on it for two hours, has got all the gimp taken out of him. I have had two wicked fights with bulls, but I have never been so much instructed as I have since I commenced this practice of the tread power. I paid \$80 for a tread power, and put it into the barn, and my bull furnishes the power for separating all the milk. He has to work about an hour and a half to two hours, and sometimes when he gets pretty cranky, even after the milk is done, he keeps working. The track wears down his feet, too, and keeps him in good condition, and every young bull is trained to get onto the tread power and work. I have one old fellow that has been dehorned and he bosses everybody and everything that comes into the barn. I can't put him onto the tread power, it would take forty men, but if he had been trained when he was a baby, in the way he should go, he would be a different animal today. I have not had a cross bull in my possession since I used the tread power.

A Member: My practice with cross bulls is always to have a good Shepherd dog at my heels and I never feel at all alarmed. The dog will never leave you and if the bull makes a move he will catch his heels.

A Member: I have got a good Shepherd dog and my bull tossed me about four rods in spite of the dog.

Mr. Howie: I have been in the ring with a bull three times, and every time I got the worst of it. The first time he had horns on, and I tell you it was not a very pleasant experience to be lying on your back with a bull staring right into your eyes within two inches. Fortunately he stumbled over me, and I got out of

the way. A strange bull should always be handled by taking it for granted that he is ugly. Keep him in a good pen and leave him there until you send him to the butcher. The way to keep a gentle bull gentle is to lead him, never try to drive him. We once got a gentle bull and he got in to the station on the freight car at one o'clock at night. He weighed 1,650 pounds and was gentle, but we didn't know it. The herdsman had the rope and I had a staff, and my honorable father went ahead with a lantern. He arched his neck and he burr-rr-ed all the way up the road. The worst of it was that the other fellow had all the trees on his side of the road, and I had nothing but an old barb-wire fence, and every time I would come within fifty feet of a tree, a glad shout of relief would come up, but as soon as I got on the other side of the tree, my fears began to return. However, we got him home, and in a box stall, and I never was so thankful in my life. You will never appreciate this until you have been downed by a bull.

Recess to 1:30 P. M.

## AFTERNOON SESSION.

Convention met at 2:30 P. M., February 12, 1903.  
President Emery in the chair.

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ANNUAL RECORDS OF FIFTY COWS IN ONE  
STABLE AND THE LESSONS THEY TEACH.

Address by H. B. Gurler, De Kalb, Ill.

Mr. President and Gentlemen of the Convention: I am an Illinois man, but I never realize when I come across the state line into Wisconsin. Our interests in the northern part of Illinois are more like your interests than they are like the interests further south in our state, and to tell you the truth I have sometimes become so tired trying to create a dairy atmosphere down there that I have actually wished that the Wisconsin state line was far enough south to take in my county. It is with great pleasure that I find myself here again with you Wisconsin people. Back some fifteen years ago I saw more of you, but there are some of the old wheel horses still alive, and it does me good to meet them. We are dropping off, one by one, but let us keep lively as long as we can.

When Professor Henry first came here I was doing a little experimental work myself, trying to build up a dairy on the farm, and he was writing in the Live Stock Journal over the signature "Alimentation." I didn't know who "Alimentation" was until we had a State Dairy convention at Sterling, and Professor Henry was there, and he came and introduced himself to me, and told me he was going to jump onto me on some of my figures, and we have been good friends ever since. Then, when he started the dairy school down here at Madison, I got a letter from

him, stating that they wanted me to come and instruct the boys in butter-making. I wrote him that I had not enough experience in that line, but a second and a third letter came, saying "I have got to have you." So finally I came and this is another reason why I feel so friendly toward the Wisconsin people.

In the annual records which are summarized in the following table I have put the price of skim milk at twenty cents. Before that, I had put it at twenty-five cents per hundred, applying an old rule that skim milk is worth half as much per hundred pounds as corn is worth per bushel,—so that on these figures I have made the price pretty low, and where skim milk is used intelligently, it is worth more money than that. You will notice that the calf and the manure are not taken into consideration. It is an uncertain quantity about what the calf is worth; it depends upon what the cow is and what the sire of the calf is, and I felt it was wiser to leave the calf out entirely, and let everybody put his own value; and the same with the manure.

Then comes the cost of feed. I fed some gluten meal from the glucose factory; I fed some food from the distillery at Peoria, and got my protein cheaper in that form than in any other form, but I struck one carload that had something wrong about it; it was not palatable, and I had some sharp correspondence about it. The manager thought I didn't know what I was talking about, but he found out that I did.

That reminds me, I want to talk a moment on the question of palatability. It is the first thing to be thought of in feeding. There is any amount of nitrogen in the atmosphere, and it might as well remain there as to be in an unpalatable feed as far as the cow is concerned. This question is not sufficiently recognized. Chemists cannot tell about the palatability of food. They know how to analyze, and that is as far as they can go, but they can't make the cow eat it and like it.

Hay was charged at \$8 per ton and the corn silage at \$1.50 per ton. For last year perhaps that price was a little low, but even at that I can tell you there is a good profit in growing corn for silage, if we grow fifteen tons to the acre, as every one should. You see there is a gross income of \$22.50 per acre and if we allow \$10 for interest and the growing of it, you have



\$12.50 left. That will pay interest on \$200 land and not map-- of us are asking \$200 an acre for our land. It is hard to put a market value on silage, as it is not a marketable food, but I have given the farm a profit for growing it, and I think that is sufficient.

Then I charged up for labor \$12.50 per cow. That was a basis that I figured out ten or twelve years ago when I made milk for the creamery. It may not be strictly accurate. Perhaps labor is a little higher now, but if you think that is not right, you must make your own allowance, as you have got to do with a great many of these things. No man can make an arbitrary rule that will fit all of you.

That left an average profit of \$19.98, after paying for the feed and \$12.50 for labor. Many people do not figure the labor in. Of course they would have \$32.48 for profit.

Now, out of those fifty cows I picked out nine. I picked out the four poorest cows in the stable, then I picked out a cow that would be just about on the dead line, as you might term it; she would barely squeeze through and not get me in debt. Then I picked out four of the better cows, not the best ones, but pretty good average. You see what I wanted was to get an average of the whole fifty in that nine, and to show you how near I reached that object, the average of the fifty cows was 297.7 pounds of butter, while the average of the nine that I am going to talk about was 295.3 pounds.

Average for fifty cows, and for some of the poorest and best.

No. of Cow.	Wt. Milk lbs.	Per Cent. of B. Fat.	Total Fat lbs.	Wt. of Butter lbs.	Price per Pound.	Value of Butter.	Wt. of Skim Milk.	Price per 100 Pounds.	Value of Skim Milk.	Total Income.	Cost of Feed.	Cost of Labor	Profit.	Loss.
244	2382.5	4.87	116.11	135.48	20c	\$27.09	2266	25c	\$5.66	\$32.75	\$31.23	\$12.50	.....	\$11 00
154	3619	4.51	163.40	190.63	20c	38.12	3494	25c	8.64	46.76	41 06	12.50	.....	6 80
44	3399	4.58	155.94	181.93	20c	36.86	3243	25c	8.10	44.48	37.32	12 50	.....	5.34
72	2661	5.06	134.97	157.46	20c	31.49	2326	25c	6.31	37.50	26.45	12 50	.....	1.15
308	4617	3.83	177.16	206.68	20c	41 43	4440	25c	11.03	52.36	39.32	12 50	\$ .44	.....
184	7997	4.77	382.01	445.71	20c	89.14	7615	25c	19 14	103.28	44.22	12.50	51.46	.....
262	9297	4.03	372.56	434.65	20c	86 93	8900	25c	22 09	109.02	44.72	12.50	51 80	.....
283	10151	3.68	374.76	436.75	20c	87.35	9777	25c	24.44	111.79	44.72	12.50	54.57	.....
129	8949	4.52	406.73	472.18	20c	94.43	8545	25c	21.36	115.80	46.06	12.50	57 24	.....
Av. 4 best cows..	9098	4 25	384	447.32	20c	89 46	8709	25c	21.76	111.22	44.95	12.50	53.77	.....
Av. 4 poorest	3020	4.75	142.6	166.4	20c	33.28	2881	25c	7.20	40.48	33 96	12.50	.....	\$5.98
Av. of 9 cows..	5897	4.43	253.5	295.7	20c	59.14	5644	25c	14.11	73.25	39.46	12 50	21.25	.....
Av. of 50 cows..	5708	4.47	255.2	297.7	20c	\$59.54	5453	25c	14.00	73.57	41.06	12.50	19.98	.....

There is one thing I want to drive home to you, and that is that a two-hundred-pound cow is right on the dead line. I do not live at my farm, I have to pay for all the labor. I might have a hundred such cows, and I would be none the better for having them; indeed, I would be worse off because it would annoy me until I should probably grow ugly trying to get something out of those cows and not succeeding.

We can't talk about cows without talking about capacity, and that reminds me of a story. A lady in our township has a little daughter in school who didn't get along, and the mother was worried and went to the teacher, and asked her, "What is the matter?" The teacher replied, "Your daughter hasn't any capacity." "Well," she says, "I'll have her father go right down town and buy one." Now, you can't buy capacity for cows any better than for girls, and there will be no profit in the cow that hasn't capacity.

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This work was looked after by Mr. Glover, who was doing field work for the Illinois Experiment Station. He came to my farm once in seven weeks, took a sample of the milk, and tested it himself. He looked closely after what was being fed to each cow; the feed was not weighed constantly, but the milk was weighed at every milking and an accurate record kept. If there is anything that isn't just right here, it must be on the feed line, but Mr. Glover is a very intelligent, conservative man.

Mr. Goodrich: How did you get at the cost of labor?

Mr. Gurler: I figured that out several years ago, probably fifteen or twenty, and I have forgotten now the details of my figuring.

Mr. Goodrich: I can tell how I got at it. When I was making butter on the farm, I wanted to know what it cost a pound. I could get at the feed all right, but I was bound to tell how much the labor cost. People said that I couldn't do it, but you know I would rather hold the watch on the boys when they are working than to work myself, and so I got at it. I found that when I had twenty-five cows, the average time taken in milking a day through the year was five hours a day, two and a half at each milking; that is, if they were giving milk all the time, it would be ten cows to the hour, but it really averaged about eight cows to the hour. Then in feeding and cleaning the stable and doing the other work around and in cutting green food for them in the summer time, it averaged up at the end of the year three hours a day. That made eight hours. Then, in making the butter, that was done partly by my wife, of course, but her time was worth as much as anybody's, and that amounted to two hours a day, so there were ten hours a day, and that is a day's work, whether it is on the farm, or in the factory; so that it just figured up one man's work during the year. I would have had to pay \$240 a year at that time and then I boarded the man, and I should charge the amount of his board at what it was worth, though not what some farmers think it is worth. I put in the board at \$3.00 a week, and that made practically, all put together, \$400 a year for one man, and that figures out \$16 per cow.

Mr. Gurler: But, Mr. Goodrich, I did not charge for mak-

ing the butter, because I paid for that at the creamery, and after taking out of your figures for making the butter, you are pretty nearly on my basis.

Mr. Goodrich: It comes to \$16 per cow and we made 300 pounds of butter.

Mr. Gurler: I am much obliged to you for helping me out and I am confirmed on my figures because we come out so nearly alike.

A Member: Wasn't there any loss on the value of the cow every year?

Mr. Gurler: There has been on the average cow, for the last three or four years, until the last year. Last spring I was able to buy new cows to replace the culls out of my herd, with the money the culls brought, but, as a rule, there is a loss in the exchange. You can't get so much for a cow for beef as you will have to pay for a fresh cow, as a rule, and the better the cow the more loss, and that suggests another point. No one can afford to feed a dry cow. When you make up your mind you are going to dispose of a cow, get a little flesh on her and get rid of her as soon as you can after you have done milking her.

Mr. Scribner: That is all right for the milk man, but not for the breeder.

Mr. Gurler: I am not talking for breeders.

Mr. Faville: Don't your cows ever get old, so they have to stop breeding and milking?

Mr. Gurler: Yes; my cows wear their teeth all out sometimes, but I have got a registered cow in my herd now that is thirteen years old, and she is doing mighty good work. She made 400 pounds of butter for her first year's work as a heifer. You may be sure I am not going to dispose of that kind of a cow. I will keep her when her teeth are all gone.

Ex-Gov. Hoard: I have got such a cow as that, a registered Guernsey, sixteen years old.

Mr. Gurler: These good cows are just as liable to live to a good old age, if you take care of them.

Prof. Emery: I have a cow that at fourteen and one-half years gave fifteen and one-half pounds of butter in one week.



Ex-Gov. Hoard: A good cow will last longer than a poor cow.

Mr. Gurler: Yes, and the reason is that she has a great big constitution.

Mr. Faville: But you haven't answered my question yet. I had a cow that lived to be twenty-two years old, and when she was seventeen years old she dropped a calf that weighed 110 pounds.

Mr. Everett: What breed of cows have you, Mr. Gurler?

Mr. Gurler: Registered Guernseys, registered Jerseys, and registered Holsteins; but most of my cows are grades,—crosses. I am not going to get into any breed contest. I am talking about the individuality of the cows.

Mr. Everett: Do you depend on raising your own cows or buying them?

Mr. Gurler: I raise all the good heifer calves, but I have to buy a good many cows besides, and that is what breaks my heart, because I can't buy such cows as I want. Why, gentlemen, my two-year old heifers, with their first calves are giving fifteen per cent. more milk than the average cow I can go out and buy.

Prof. Henry: Suppose you have a cow on your farm that makes 200 pounds of butter the first year. What do you do with such a cow? Do you summarily dispose of her, or do you try her another year?

Mr. Gurler: It is not under all conditions fair to judge a cow from one year's work. You take the record of the cow's work with her general appearance, her make up, and you are pretty safe. A man can tell pretty well whether a cow has done her best or not, if he is watching her.

Ex-Gov. Hoard: If she indicates a capacity that she has not used, you are encouraged to hold onto her.

Mr. Foster: In this matter spoken of by Mr. Goodrich of computing the amount of labor put onto the cow in the year, I think it is not quite fair not to charge up to the cow at least certain proportion of the time that is naturally wasted on the farm by the hired man. If we go into a machine shop, we are charged at the rate of fifty cents per hour for the work they do

for us, and the workman generally puts in a certain amount of special work on us.

Mr. Goodrich: I think most of that should be charged up to the farm account, and not to the cow, because you have got to do that work for the cow every day in the year. It doesn't matter it rains or shines, Sundays or week days you do that work for the cow anyway. If you have got a lot of rainy, broken weather, the men don't do anything but care for the cows.

Mr. Foster: If you want to do that labor, all right; you increase your income. Now, I haven't got a family of boys to help me out with this work; my boys are all girls.

Mr. Gurler: When I bought the farm I am now on, in 1868, everything had been carried off for twelve years. I just worked for nothing, like working with 200-pound cows. I was forced to go into some other line of work. Now, here is a point that comes to my mind. You see on that chart the value of skim milk for the four best cows; the average value was \$21.76 and the four poorest cows, \$7.20. Now, there was a difference of \$14.56 in the value of the skim milk.

A Member: In regard to the value of skim milk, how about feeding it back to the cows?

Mr. Gurler: Have you ever practiced that and is it profitable?

A Member: I have, yes. I never figured that thing out to see whether there was a profit, but I know I can increase the flow of milk very nicely by feeding back to the cow sweet skim milk. I can't tell whether I get more for the skim milk fed to the pigs than if fed to the cows.

A Member: Isn't it a fact that you often find that the poor milk has the most of the solids not fat in it?

Ex-Gov. Hoard: No, no.

The Member: I can show it to you in a chemical analysis of milk made by the Experiment Station in the state of Ohio.

Mr. Gurler: Let us not sidetrack onto that question now; we have too much to pick up already. Here is a matter of the rations that I fed those cows. I aimed to work to the German standard, that is, one to five and a half, and that ration that was fed for the year ending the first of September last was one of

protein to five and a half of carbo-hydrates and fat reduced to carbo-hydrates. I don't think I better touch that feeding question any further. I dislike always to preach when there is some fellow looking on that I know can do it better. I want to mention here again that question of palatability, for there is no question of greater importance. We may have a feed that will analyze all right, but if it is damaged in any way, or for any reason the cows don't like it, don't want more of it, don't eat it with a good relish, they won't do their best. You are at fault, not the cow.

A Member: I eat a whole lot of things I didn't used to before I was married.

Mr. Gurler: And probably you are better for it my friend; very likely your wife has got four times the sense you have, although you are a Jersey man and have probably got lots of sense.

Now, here is another point: There is a question in my mind, whether skim milk is not really entitled to all the increase that you can get from feeding grain feeds with it, over what you get feeding the grain feeds alone. Just go home and think about that. I don't want to deceive myself, nor you, but it is hard to get a feed that will take the place of skim milk.

A Member: I believe the gentleman's figures of the value of skim milk are substantially correct, and that skim milk is worth more fed to pigs than anything else. I believe his figures as to labor are also substantially correct.

Mrs. Lehman: Supposing you fed that skim milk to the calf, would it be worth as much as you say?

Mr. Gurler: The calf does not show up here at all; but if fed to the calf it would be worth more. To a calf fed intelligently, skim milk is certainly worth 25 cents a hundred.

Mrs. Lehman: It makes a difference what kind of a calf.

Mr. Gurler: Yes, and it makes a difference what kind of a man. I told you that there is more difference in the men that feed the calves than there is in the calves.

Question: What amount of grain do you feed your cattle on the average.

Mr. Gurler: The average cow has been getting this winter a ration of ten quarts per day, composed of one part gluten meal

—mind you, that is not gluten feed, it is gluten meal, analyzing 33 per cent. protein. The gluten feed has the bran ground with it. My ration this winter has been 10 quarts per day, composed of one part gluten meal, one part wheat bran, three parts corn meal, with what corn silage and hay they would eat. This hay has been some of the time alfalfa; some of the time oat hay, and clover and timothy hay. This combination of grain weighs just about a pound to the quart. The wheat bran weighed 17 pounds per bushel; the corn meal, 50 pounds per bushel; the gluten meal, 61 pounds per bushel.

Mr. Goodrich: Then that would make more than a pound to the quart.

Mr. Gurler: It was not equal parts, you would have to take a lead pencil for that.

A Member: Wasn't that feeding a good deal of corn?

Mr. Gurler: It figured out a balanced ration, one to five and a half, and that is what I was aiming for. With this they were fed about forty pounds of silage.

Mr. Clark: Was the silage well eared?

Mr. Gurler: I don't know what you would call well eared. There was just about twice the amount of seed planted that you would put in for a grain crop.

Mr. Cobb: I am feeding the cheapest grain ration this winter that I ever fed. We are feeding six pounds of corn meal, three pounds of cotton meal, mixed, and a half a pound of cotton seed meal on the ensilage at noon, and it costs about three quarters of a cent a pound.

Mr. Gurler: What does your daily ration cost you?

Mr. Cobb: Three quarters of a cent a pound for eleven pounds. That is for cows that are giving 35 and 40 pounds of milk—besides roughage, of course.

Ex-Gov. Hoard: I am feeding 35 pounds of good corn ensilage, costing 4 3-8 cents; 10 pounds alfalfa hay, .05; 3 pounds of bran, at 2 3-8, making a ration costing 11 5-8 cents, for which I am getting over a pound of butter fat a day, which I estimate to be worth at present prices, about 30 cents.

Mr. Cobb: That is an ideal ration. Whenever we can get alfalfa in the dairy belt of this country, our fortunes are made.



Ex-Gov. Hoard: I am adding to that now about a cent's worth of cut corn stalks, dry, cut corn stalks, which would bring it up to 12 5-8 cents.

Mr. Gurler: In this barn with the fifty cows, there were six cows among that fifty that made less than 200 pounds of butter per year, and there were seven that made over 400 pounds per year. The average of those seven was 440 $\frac{1}{4}$  pounds. Those poorest cows averaged 173.7 pounds per cow. Two hundred pounds is the dead line down at my place. Unless I am satisfied that cow can do better in the future I dispose of her.

Mr. Foster: Were those six cows some of your best heifer cows, or some you had to go out and buy?

Mr. Gurler: Most of those cows were cows that I bought.

Mr. Favill: Do you mean the best ones?

Mr. Gurler: Yes. There was a period that I did not raise any heifer calves, but I have got a nice lot of young heifers coming up now.

A Member: Do you find gluten meal better feed than distillery grain?

Mr. Gurler: I can buy protein cheaper in distillery, kiln-dried feed than in gluten meal, but I was sidetracked by getting some that was not good.

A Member: We all got caught on that. They were putting in cob and sawdust down there, where cobs are cheap.

Mr. Gurler: The old saying that it costs no more to keep a good cow than it does a poor one is not always correct, but that point is of minor importance. We never have learned why it is that one cow will make 50, or even 100 per cent. more from the same feed than another cow, and it isn't necessary that we should know. We will let Professor Henry's force down at Madison find out why that is so. But certainly in the matter of care I am safe in saying it costs no more to care for a good cow than a poor one, but it is certainly more satisfactory to work with profitable cows than with poor ones.

You have all heard the old saying that the bull is half the herd. The bull is more than half the herd, because the females are more likely to be like the sire, and I care just as much to to know about the record of the grandmother on the sire's side as

I do of the mother's record. The governor says it is more important, and I believe it. I say it is as important to know the butter record of the heifer calves' granddam on the sire's side as it is to know the butter record of the calves' own dam.

Now, from a strict business point of view I must talk a little. What other business is there in the world that would stand such abuse as is often given to this business in dairying? The lack of business methods which are generally applied to the dairying business is such that no manufacturing business would stand it at all without being driven into bankruptcy in six months. We have got in our town large wire factories, that belong to the U. S. Steel company, and I have had men tell me how they are running the business of that corporation. I happen to know that that plant in De Kalb is producing wire at less cost than any other in the combine, and the key to the situation is to cheapen the cost of producing. If I could have as many cows as I have got now and have each one of them do what these four best cows are doing, I would get rich enough to quit business in a few years.

It seems to me that there are greater opportunities for the young men that are coming up now and are getting an agricultural education, than in any other field in this country. About a year and a half ago, there was an attorney came to my farm from Detroit. He had been down on the Atlantic coast, down to —, (that 12-cents-a-quart man in New Jersey), and he came out to my farm for some ideas. He said to me, "I have got a son twenty-five years of age that I educated for the bar, and the young man commenced to practice law and he didn't like it; he stole away to some agricultural college and he is bound to run his father's 400-acre farm, twelve miles out of Detroit." And the father was looking around the country for ideas. He says, "I am going to fit up that farm and let that young man run it," and the last remark he made before driving out of my yard was, "Mr. Gurler, there are greater opportunities on the farm than in any of the professions." It was a professional man who said that, and there is no question in my mind but what that is true. If the young men here will go to studying and thinking along that line, by the time they get up to my

age there will be nobody in this country looking down on them; every profession will be looking up to them, and they will think, "You are the lords of creation," and you will be—but you have got to put your mind into it.

Prof. Henry: Mr. Chairman, Ladies and Gentlemen: My mind goes back to twenty-two years ago last month in this city when I met a body of farmers in the month of January, 1881, talking of agricultural matters. There are some gentlemen in this room who were present at that meeting. One man came to me and he said, "Professor, I have got an eleven year old son that I am going to send to your school." I said to him, "That is the first student that has been promised to my school since I came into the state, and I am grateful for it." That was Mr. A. J. Decker, of your city; his son was J. W. Decker, who is now Professor of Dairy Husbandry in the Ohio state university, and a very honored man in the profession. There are a good many of your citizens with us in Madison now, but it was not always so, Mr. Decker's son was at that time the only student I had. I worked ten years and at the end of that time had only twenty-six students. This year we have over 460. Now, I would like to have all the young men here who have attended at Madison in the Dairy School and in the Agricultural course and the Short course, to stand up, so we can see who they are.

Mr. Gurler: There are enough for a starter.

Prof. Henry: There are cheese instructors, there are dairy-men, there are helpers all through the community. I know there must be at least four or five farmers here who have sons that they want to have interested in the college, and I would like very much to talk with them about it. I attended a farmers' meeting last winter at a little town in Dane county, and I said there "I am going to get some students out of this meeting this winter," and I did. We have seven young men from that county.

I have got places for ten thousand young men at better pay than they are now earning if they will come and study with me and prepare themselves. All I want is good, well bred boys, willing to work hard, and the positions are waiting for you. If you want lawyers up here, I can send you up a carload.

Mr. Burchard: Mr. Gurler has very kindly had printed the figures which appear on this chart, and at the conclusion of this session if there are any people interested enough in the matter to want to take those figures home, they will come forward and receive them.

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## NEEDS OF THE WISCONSIN CHEESE INDUSTRY.

U. S. Baer, Madison.

A complete revolution in cheese-making has taken place in very recent years. This has been brought about; 1st, By the introduction of the Babcock test for fat. 2d, The Wisconsin curd test, teaching a more definite knowledge regarding the various fermentations that so greatly influence milk and its products. 3rd, The recent experiments in curing cheese at low temperatures. 4th, The requirements of the markets for a higher grade of excellence in cheese and the increasing public demand for pure, clean dairy products. All this has created a need in Wisconsin for educated cheese-makers—cheese-makers who are not only skilled in their profession over the cheese-vat and in the curing-room, but makers of a broader education and caliber.

Several conditions affect the quality of milk intended for cheese production. In the first place, it must be secreted from healthy cows, fed on pure food and kept in clean stables. Second, it must be of high quality so far as the composition is concerned. Third, it must be so treated that the fat does not readily separate from the other solids, and it must not undergo fermentation. Last of all, it must be clean.

Now I believe, one of the greatest needs of the Wisconsin cheese industry is that of trained makers capable of teaching the farmer the improved methods of handling stock, what and how to feed that stock with a view of securing economy in the production of milk, perfection in caring for it, and intelligence in



marketing it; thus correcting the mistakes, uncleanness and disorder of careless and incompetent dairymen.

I very much advocate the holding of evening meetings of the patrons and their families. Take the Babcock milk test and the curd test into these meetings with you. Here is an opportunity for every cheese-maker to do some good for himself and the community in which he does business. Get acquainted with your patrons and the farming community around you. Study them and find out just what they need to make them successful dairymen. Call these meetings once each month; have faith in yourself, faith in the cause you advocate and faith in your patrons. Although you may not succeed at once in securing radical reforms, or in establishing a model dairy community, yet your labors will bear ultimate fruits. Make the cheese factory what it should be—a local dairy school, and the community in which you live will learn to rise up and bless you.

We need cheese-makers who can and will take the pains to show the patron that when he delivers tainted or sour milk to the factory it means a direct loss of dollars and cents to him and his neighbors associated with him. If a factory of 10,000 pounds of milk per day accepts three or four cans of sour, tainted, or gassy milk, at the very lowest estimate it will take one pound more milk to make a pound of cheese, than if all the milk had been sweet, clean, and well flavored. Suppose cheese to be worth ten cents per pound; the loss to the patrons, in this case, would be \$8.00. In thirty days the loss sustained would reach the sum of \$240.00. Now if the cheese-maker is skilled in the art of teaching and giving instruction to patrons this very serious loss can be stopped in a day and the patrons will have more money, the cheese-maker less trouble, and our Wisconsin cheese will merit the reputation it should have,—“the very finest cheese in the world.”

We need the services of a larger number of skilled cheese-instructors who are thoroughly acquainted with the business, from the cow to the marketing, to give their entire attention and instructions to the factories of the state. The best of cheese-makers shut up in the individual factory, are quite apt to get into ruts from force of habit. The traveling instructor is in a

position giving him a wider field of vision, meets with new conditions and varied experiences, daily; grasps more and newer ideas enabling him to readily detect defects in the factory that would not come to the notice of the maker deprived of these advantages. In those localities where the instructors sent out by this association have labored, marked improvements in factory buildings, factory equipment and factory surroundings are very noticeable. A more uniform and higher grade of excellency in the manufacture of cheese has invariably resulted from field work of this character.

The cheese industry of this state needs more inspectors, a larger force of assistant commissioners to enforce the dairy laws of the state. Every dairymen in Wisconsin should aid Professor Emery in his efforts in securing legislation providing for an increase in the working force of his office. Governor La Follette made a most commendable appointment in that of Professor J. Q. Emery to the important office of State Dairy and Food Commissioner and all those interested in dairying should show their appreciation through their influence with the members of the legislature, thus co-operating with him in his efforts in securing a sufficient number of assistants to fully carry out the work he has so fearlessly and energetically begun.

Wisconsin needs larger and better equipped factories; better curing facilities; better methods of caring for and distributing the whey; better sewage systems.

Many of our factories are so small that they struggle along, year after year, hardly paying expenses, and could not exist at all, only as they employ cheap cheese-makers. Here is a great evil. Wisconsin, with her small factories, employing boys at from \$25.00 to \$40.00 per month, these boys having learned the trade in from two to four months, in any kind of a factory that would accept them, is doing a great injustice to the young man who works one or more entire seasons under some skilled maker for his board, and then goes to the expense of taking a course in our State Dairy School, and after all this must enter into competition with these cheap makers for positions. This condition of affairs must exist so long as our small factories exist.

Co-operation among dairy farmers has proved a grand suc-

cess, and I believe the time has now come for co-operation among cheese factories themselves, and consolidation where practicable. The same arguments which were used in favor of having a number of cheese-making farmers associate in their work, may be applied to a group of neighboring factories, where they are well situated as to transportation, etc. Harmonious and systematic co-operation would mean a reduction in the cost of manufacturing, economy of administration, improvement in sales, and a more uniform and better article. Small factories cannot afford to build model curing rooms, or employ skilled labor, but a group of 15 or 20 factories could build a grand model curing room. All cheese could be transported to the union curing room, where an expert would handle them until ready for the market.

For example, we have twelve, fifteen or twenty factories, receiving milk in a contiguous territory, and in place of each one building an independent curing room and ripening the cheese themselves often under adverse conditions, these cheese can just as well be sent to a central station, where they can be handled better and with more economy, and it seems to me that with the inauguration of this cold-curing system of cheese ripening that the cheese industry of Wisconsin can be given a forward movement that will be of the greatest value.

With reference to factory equipment I want to go on record with this statement, that no factory is properly equipped without the steam boiler. Knife mills ought always to be used and the best medicine for all peg mills that jam and tear the curd, impairing the texture of the cheese, is the ax. No factory is complete without automatic curd agitators. The agitator is superior over hand labor for the following reasons: First, the curd is kept constantly in motion from one end of the vat to the other, allowing it to cook more evenly than it possibly could do when stirred by hand.

Second. By this process of gentle and constant stirring the curd is not crushed or squeezed as is done when stirred by hand, thereby securing an increased yield of cheese, and of a superior quality.

Third. The saving of labor whereby one man can perform

the work of two or three will not be too much to claim for the Automatic Curd Agitator, which once set up in the factory is ever ready, always willing, never grows tired, nor asks for a holiday nor goes on a strike.

Whey tanks should be placed at least 150 feet from the factory, built above ground with tight fitting covers. All tanks should be constructed so as to admit of their being easily washed and drained daily. The practice of returning whey to the farm in the same cans in which the milk is delivered, makes it absolutely necessary that the whey tanks should be kept in as cleanly condition as is the cheese vat.

The problem of sewage is: "How shall the organic matters present in sewage be so disposed of with the least cost that they shall not create nuisances either on the surface of the soil, along the banks of streams or by their excessive presence in the water of streams, or that they shall not pollute the water of wells or streams which may be drunk either by man or beast with injury to health as a result?"

I have had struck off on the papers distributed the cut with complete descriptive matter giving plan of Surface System Sewage as presented by Mr. Archibald Smith of Canada before the Cheesemakers' Association one year ago at Milwaukee. In Canada this system of disposing of factory sewage has proven a complete success. I trust you will look over the descriptive matter carefully.

I have always felt that the cheese industry would be materially improved if the buyers paid for cheese according to its real value. I willingly believe that most buyers are just and honest in their dealings. However, oftentimes where one buyer or firm secures practically the entire make of one locality, the prices obtained are very nearly the same; although we know there are sometimes very marked differences in the quality of the goods. This condition of affairs is not likely to stimulate zeal and to induce men to improve in their business. It offers no encouragement to the dairy farmers to make necessary exertions when they know they shall derive no greater benefits by their attention than those who carry on their business mechanically. Nothing encourages the production of a good article



more than paying a good price for it. The best worded endorsements paid to the skilled maker, the most eloquent speeches of the instructor, the best lectures, are less resonant in the ears of the man who toils early and late, than the ring of that metal we call money. I know of many districts where two prices are paid for two different qualities of cheese; where a bad cheese is never accepted at the price paid for good ones; and that where the same price is paid for different lots of cheese, it has been because all the lots were of the same quality. But this is not true of all buyers in all districts. I hold that the practice of paying the same price for both good and bad is unfair, alike to the makers and the patrons. Where this practice is followed, the patrons cannot blame the maker for any mistakes he may make. For he, with cheese of the second quality, might reply that he had sold for the highest market price, and the patrons would have nothing to say. This practice is also unfair to the makers, because they would all enjoy the same reputation in the eyes of the public. They who take greater pains than others would not be thought more of by the public than are the second class makers. The reputation of our cheese is in question, and it is the duty of all patrons, makers and buyers to concur in strictly honest efforts to maintain and build up that reputation.

Believing that a large portion of the poor cheese of Wisconsin, is made by inexperienced makers I would favor the enactment of a law licensing cheese-makers, and allowing only those that have had two or more years' experience as helpers to make cheese. We have laws compelling the farmer to sell nothing but pure, clean, wholesome milk, and imposing a penalty for the violation of such laws. Should not the farmer and the good cheese-maker have some laws protecting them and their product from the poor cheese-maker? Would it not be well to have a law compelling every cheese-maker to have a license? These licenses could be granted by a board composed of members of the Dairy and Food Commission, State Traveling Instructors, and Instructors in our Dairy School.

Such a board could hold examinations at convenient places through the state during the winter, and all those passing the examination would be granted a permit and allowed to take

charge of a factory, the instructors to visit them during the season, and report on their work throughout the season. At the end of the season all makers that were deemed worthy by the board would be granted a license. The instructors or board should have power to revoke a permit or license, however, whenever they found the holder negligent of his duties, or in any way incompetent.

This brings us to the question of licensing the cheese factory itself. To some these proposals may seem to interfere too much with the individual rights. But even if the cheese factory owners buy the milk outright from the farmers, the consuming public is surely entitled to some protection. It is a fact that many of our cheese factories are dirty, filthy old barns, and unfit places in which to manufacture an article of human food. Such factories should never receive a license. In fact they should be licensed out of existence. The license fees should go towards paying for instruction at the factories and among the patrons. This would mean better equipped factories, better instruction and education in dairying, better cheese, more remunerative prices, an enviable reputation, and we would have the pleasure of seeing all our cheese made under clean, wholesome conditions.

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DISCUSSION.

Mr. Michels: Would it be better for the cheese factories to have the whey tank inside of the building, instead of far away from the building and keep it so clean it won't do any damage?

Mr. Baer: Yes; provided you keep it clean enough to keep the flies away from the tank. The idea of having a whey tank so far away from the factory is to keep the flies away from the building.

Mr. Michels: I find when they are so far away, even if it is a good cheese-maker, that it is hard to keep that tank clean, also the pipe where the whey runs through.

Mr. Baer: I would not run it through a pipe. I would always use an open spout that can be washed easily.

Prof. Henry: How many of the young men among the cheese-makers you found came from the Dairy School?

Mr. Baer: Fifty-two out of a hundred and twenty-six.

Prof. Henry: Have you any idea how many applications we have had from cheese factories for makers?

Mr. Baer: Two hundred and forty-four calls for cheese-makers?

Prof. Henry: How many students were we able to send?

Mr. Baer: About one hundred and eleven from former classes.

Prof. Henry: How was it in the Dairy School, with butter-makers?

Mr. Baer: We seemed to have an ample supply of butter-makers.

Ex-Gov. Hoard: Why don't the cheese-makers of this state attend the Dairy School.

Mr. Baer: I believe, Governor, that it is due to the fact that they do not receive the salary that the butter-maker does. The factories are in operation only six to eight months out of the year, and they can't afford to take the course.

Prof. Henry: The trouble is they are paid \$30 to \$40 a month and the boy works eight months in the year, and he can't afford to come to the Dairy School and spend the money necessary for the time to get such wages for that number of months.

Mr. Gurler: Which requires the more time, to make a butter-maker or a cheese-maker?

Mr. Baer: Oh, to make a cheese-maker. Butter making is rapidly becoming a mechanical process.

Ex-Gov. Hoard: They deal with only one element, the fat.

Mr. Baer: In cheese making you are dealing with the whole product, or the greater part of the product.

Mr. Aderhold: Can't you learn all about butter making in one day?

Mr. Baer: No, sir, and you can't learn all about cheese making in a hundred years.

Prof. Henry: I hope the dairy papers will call attention to the fact that the next boom we are to have is along different

lines, in my judgment. The northern part of this state is the finest in the world for cheese making.

Mr. Burchard: We are going to talk about that tomorrow.

Prof. Henry: The young men ought to be getting ready to take advantage of those things that are coming. There is a legitimate boom before us in that direction, and those that get ready for it, will reap the reward.

Mr. Clark: The question was asked me the other day and I answered it as well as I could: What are the conditions for admission to the Dairy School to become a cheese maker? As I understand, he must spend a certain time in a cheese factory before he comes there; will the professor tell us about that?

Prof. Henry: To enter the Wisconsin Dairy School, young men or women—we have several women—a young woman from Sheboygan county came to us this year and she said, "I would rather run a cheese factory than be a domestic or a school ma'am," and she had education enough to be either. She is a fine cheese maker, makes fair wages, and thinks she is going to make higher now she has taken the course. She was one of the best students we have ever had, and the action of that young woman leads me to believe that there is an opening for women. The manufacture of butter involves a good deal of heavy work, but the cheese business is getting where I think the woman can manage it if they care for it. Mary Raeder is a successful example of a woman cheese maker in Wisconsin. Young men or women must work one season either in a butter or cheese factory before they come to us, they must work at least four months; they must have a certification of at least two persons that know them, stating that they are of good moral character and will make good students.

Now, it takes from eleven to thirteen people to teach these students. We teach them not only just how to make cheese, but we teach them the action of rennet, the action of the Wisconsin ferment, how to use the Babcock test, and other tests; we teach them pipe cutting and fitting, so that they can fit up a factory; we teach them to put up shafting, so they can get the right pulleys and set the shafting through. We teach them soldering, and firing, the care of steam boilers and engines. Our students



can take an engine all to pieces and work with the different parts of it.

We charge fifteen dollars to cover the waste of material used by the students. We employ 3,000,000 pounds of milk a year in the operation of the school and in experiments.

The students must have a common school education and must be able to figure through decimal fractions. We are figuring percentages every day during the term. They must be able to work out dividends for their patrons and figure the percentages of fats in the skim milk and butter milk. We have \$50,000 invested in that school, there is \$12,000 worth of machinery, and that is only one branch of the Agricultural School. Perhaps some of you do not care to be cheese makers, but want to know about live stock, about building up and cultivating the soil. There are twenty-five teachers there, running that school.

Ex-Gov. Hoard: What does it cost?

Prof. Henry: In the Dairy School, the student pays this \$15, then there is about \$3 a week for his board, his traveling expenses and laundry, etc., extra, so that it costs him about \$85 to \$90 for twelve weeks. The Farmers' Course is two winters and we have twenty different instructors in the different branches. We have about 300 of these young farmers, and if necessary we will find places for 10,000. We have had as high as eight letters a day wanting to hire young men to fill all sorts of positions at all sorts of wages. I had a call three months ago to send a man to Australia, at \$6,000 a year salary, and I have had probably fifteen calls in the last year at from one to two thousand dollars a year compensation. Those of course were Long Course students. There is a young man in this room now who is getting \$800 a year in charge of a farm, besides his board and house.

There sits over on my left a young man who came to us, practically, without a dollar. He didn't have much education. He took the dairy course and he came back and took it again, we made him an instructor, we sent him to teach in several different states and he is now operating his own factories and getting better compensation in his own business than if he was a professor in the state university at Madison.

Ex-Gov. Hoard: There is another thing about this, there are a very large number of very wealthy men who have the idea that they want to buy a farm, and play at farming.

Prof. Henry: That is it. There are many boys who haven't got any money and want to come to our school, and these men who have money to spare can do both themselves and the boys good by sending them there. We can send out every boy that you will send to us to some kind of a place. We want boys with all the education they can get. Our chief trouble is that three times out of four the boy is not well enough educated, so get all the education you can, then come to the school and learn all you can, be willing to work and I will get you a place every time, although of course I can make no promises, because it depends so largely on the young man himself. Of course a great many of these young men go right back to their fathers' farms to help and oftentimes the fathers need just such help.

Mr. Taylor: I feel like endorsing everything Professor Henry has said. Professor Henry is the hardest worked man that God ever let live. He commenced in that work of agricultural education in this state and has never stopped. The full value of his work we do not yet appreciate, but the whole country is learning to appreciate it and to know that they are indebted to our Agricultural College and to the Dairymen's Association. If you don't believe this, get close to the lives of some of these young men, watch them following out the growth of dairy animals, studying to work out balanced rations, weighing and testing the products of the dairy cow, and you will see that they are the kind of boys that like to work in the evening after their daily labor is over, figuring out results, and doing it with real pleasure; they are in love with their work. We could show you young men all over the United States who are working on Professor Henry's credentials and getting good pay. I know of one who is superintendent and farm manager with fifty or sixty men under him on the Hood farm. He learned his business at our Agricultural College from the very beginning. I am proud to find that the buildings and departments of our Agricultural College are full to overflowing. I am not doing any advertising here, but I will mention that we want \$10,000

worth of improved live stock at the Madison college, we need it badly.

Prof. Emery: Those boys who are getting an agricultural education have a right to them, to all these advantages, just as much as the other boys who are studying Latin and Greek and the sciences have a right to facilities for their instruction.

Mr. Taylor: Every boy that goes there has to spend from fifteen to twenty-five dollars extra and two weeks' time to go way out all over the state to see cattle and horses and sheep and learn to judge them. It is a shame, we ought to have enough cattle at the farm for that purpose. Let us ask the legislature to give it to us, and to give us enough money to build one of the best henneries in the country.

The Chairman: Iowa has \$50,000 of live stock in her school. Mr. Favill has risen twice to speak.

Mr. Favill: I have forgotten what I was going to say, only this, boys, let us all go to that Dairy School and our fortunes will be assured.

Adjourned to next morning.

## MORNING SESSION.

Convention met at 9 o'clock, February 13, 1903.  
The President in the chair.

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## REPORT OF CREAMERY INSTRUCTOR.

James G. Moore, Albion.

Your association has had, for a number of years, two cheese instructors in the field, doing a grand good work which has become so well established in the good opinion of factorymen and patrons that it has become indispensable and the withdrawal of which would be a great loss to the business. As to instructors in the creamery line of dairy work nothing had been attempted until about two years ago, no doubt on account of the smallness of the appropriation received from the state for such purposes. Just as soon as money could be obtained, however, it was applied to filling this long felt want of having an instructor for the purpose of helping the butter maker who, from his isolated position, is so apt to get into a rut without realizing it.

The first instructor appointed, Mr. Goodrich, had of necessity to blaze out a new path and it was thought to follow the cheese instructors' methods and wait for calls, but as this was a new idea to creamery men it did not take very well and the consequence was that new methods had to be adopted in dealing with this work. It was finally decided to have your instructor go from creamery to creamery, stopping a day with each; and if found necessary to stop longer, a charge of at least half of the expense was to be made.

By the reports of the cheese instructors you can see that they have a goodly number of visits paid for and no doubt when the creamery men wake up to the importance to them of having



an official instructor, they too will be calling for visits and willing to pay for them. In fact at a good many places where I have called I have been requested to come again but when told that the second visit would have to be paid for that put a different phase on the subject. Your instructor has the satisfaction of saying that at almost every creamery visited, after explaining the purpose of the association in making this visit, he was treated with the greatest of courtesy. In many cases the butter makers are working against odds, the small amount of milk received making it almost impossible for needed improvements to be obtained, the owners, individual or co-operative, feeling that the patronage accorded to the factory does not warrant the expense of keeping up to date. At a good many places the answer to the plea for better methods would be met with "it don't pay" or "our butter goes all right and we don't hear any kicks about it" and it is surprising to me to see how much butter of an inferior quality is disposed of at the prices said to be obtained for it. Even where they have the appliances for bettering their work, they do not always use them, claiming that it does not pay or they haven't the time or some other excuse equally as good.

The use of an acid test for determining the ripeness of the cream and the use of pure culture starters are considered at too many places as fads that are all well enough for the dairy school but not necessary under the conditions they are working in.

The methods of making butter are by no means uniform. Some butter makers have success with high temperature in ripening; others with low temperature. The conditions at each creamery have to determine for the butter maker what plan he will pursue to get the best results, as it is manifestly impossible for a maker to practice high ripening temperature unless he has ice or some other means at his command, to control the temperature at will. However, more important than methods of making, to my mind, is the factor of cleanliness both in the handling of the machinery in the factory and in the care of the milk by patrons. The pumps and pipes through which the milk passes should be cleaned much oftener than they are and to this one cause a great deal of off flavored butter can be traced. The

gates to the milk and cream vats too, are liable to become contaminated and prove a lively source of bad flavors. Churns are usually kept clean, although not always, as I have had frequently to clean churns this last summer. The reason for this is in a good many cases due more to ignorance than a deliberate desire to be dirty. There is more of a chance, however, to reach the slovenly maker than there is to impress the average patron with his short comings. In looking over the cans brought to a factory it is rather a delicate task for the maker to tell a man that his cans are dirty and his milk impure. Not only from the fact that he will incur his enmity, but that he will no doubt be told, that if he does not want to take his milk in, there are other creameries where they will be glad to take it, and this is too much the case and where a creamery is getting hardly enough milk to pay expenses the loss of a patron or two is keenly felt.

The instructor should be able to cope with cases of this kind by being clothed with powers similar to that of the Minnesota State Dairy and Food Commissioner's inspectors. In my opinion, the time has now arrived when if Wisconsin is going to regain the lead in the dairy business lost to states like Minnesota and Iowa, the forces now at the disposal of this association should be clothed with the authority of the State Dairy & Food Commissioner, and working in connection with the other forces at his command, be better able to cope with the situation by having a legal standing, and not as now, have to approach the creamery at the pleasure of the creamery owner or maker. The instructor would then be able to back up such directions as are necessary to improve the quality of the milk and butter by having the authority to issue such directions.

The State Dairy & Food Commissioner's assistant's time is taken up largely by requests to test the milk and it would seem as though much ground is now being covered by the two sets of instructors and inspectors that could be in some measure avoided by being under the direction of one official head.

The laws of Minnesota are such that men bringing unclean milk or milk in an unclean can can be fined, and the butter maker also, if the factory, pumps, pipes, etc., are not clean. And so you see the law works both ways and I was told by Mr. Haug-

dahl, one of the inspectors, that on the first visit they would merely admonish and call the maker's attention to anything out of the way or the patron's to the fact that his cans were dirty. On the second visit, however, unless there was an improvement or a tendency towards improvement, compatible with the things to work with, they could administer fines which usually have the desired effect, as no better reminder could be desired than when you touch a man pocket book. I was told by a creamery man who owns factories in both Wisconsin and Minnesota that he would rather operate in Minnesota than Wisconsin on account of these laws, the milk brought to the factory being much better in quality; and the success of the Minnesota butter makers at the national conventions would seem to indicate that there is something in it.

A law similar to Massachusetts or Iowa regarding the testing of glassware should be enacted as there is a wide difference in the size of some of the pipettes used, and the bottles themselves are not always correct, although better glass now is being sold than was the case some few years ago.

In regard to the testing of milk I would say that something ought to be done toward setting a legal standard of over-run and a more uniform system of dividend statements. We have found statements where the overrun was from twenty to twenty-five per cent. and in some cases as high as thirty, and in a number of instances it would seem as though this was done in order to apparently pay more for butter fat than neighboring creameries, and thus draw patronage to themselves.

I have had some letters from creamery men asking if there was any law to compel their neighbors to show up their books as they knew by the way they were paying for butter fat that the test was being manipulated in order to hurt their patronage.

In performing my duties as your instructor I have traveled about 3,000 miles and visited 163 creameries, stopping in most cases but a day at each, sometimes two or three days and in one instance a week. The charge made by the association for the week was \$12.50 but the creamery board was so well satisfied with the work done that they paid the full charge of \$5.00 per day. In this particular creamery, while everything was clean

and neat, yet, through the butter maker's antipathy to the use of commercial starters and an alkali test, he allowed the quality of his butter to be dominated by the character of the feeds used to such an extent as to lose about \$500 in a very short time. The butter maker was also careless about the granular butter being washed out of the churn onto the floor and down the drain which he made the management believe was unavoidable.

I was in a creamery not long ago where the boiler had on 40 pounds of steam and a good fire under it and not a bit of water either in the glass or to be obtained by opening the valves. It was a wonder to me that the boiler was not damaged as we found upon banking the fire and getting steam down that the boiler was indeed almost dry.

At one place that I called last summer the creamery had but four months before passed into the hands of the farmers. They had asked various creamerymen for advice and were told that the most important thing to do was to hire a first-class butter maker and not allow a few dollars in wages to stand in the way. They, however, were of the opinion that a good enough man could be obtained for \$35 or \$40 and got a young man for the latter figure. In four months they lost nearly \$400 on the butter and the day I got there he had left them after washing up and when I got there about seven o'clock in the evening the cream was at a temperature of seventy and had five and a half degrees of acidity, plenty ripe enough to churn. There was no water in the glass on the boiler and no water in the tank and the pump was broken and the churn which was a new one was in a very bad condition. I got some ice and cooled the cream down and stayed two days breaking in a new man, who I am pleased to say has been having good success, some of the credit for which may be due to his wife, who works in the creamery with him.

The dirtiest creamery I was in, I believe, was presided over by a dairy school graduate who was also part owner, and he himself in his working clothes, at least, was in keeping with the rest of the outfit. The outside and the end of the churn looked as if they had never seen water, and the floor was so black and greasy that it was evident that very little elbow grease was



wasted on it. In fact, the appearance of the place was certainly not very prepossessing. I am glad to say that this class of creameries does not predominate by any manner of means. On the contrary there are some very fine, up to date creameries; and it would seem to be the desire of the large creamery owners, at least, to keep up with the times in replacing some of the old back numbered structures with buildings of brick, cement floors, and all of the modern conveniences. One firm in particular has recently built two new creameries that are models in neatness, easy to keep clean and fitted up as to machinery with a view of doing the greatest amount of work with the least amount of energy.

There are, however, between these two extremes a large number of creameries that could be vastly improved by the application of a coat of paint, both inside and outside; and a little energy expended in cleaning and tidying up the outside surroundings would not come amiss. Where creameries have taken some pains to grade up the driveways around the buildings, making some provision for the waste at the places where the skim milk is loaded, they have been amply repaid by the added neatness and absence of that characteristic smell that greets one at so many creameries, especially in hot weather.

There being in the state something like eleven hundred creameries, it would seem to me that the crying need of the times is to have more instructors so that it would be possible for them to get around to the creameries oftener, as it is manifestly impossible for one man to cover so much territory with justice to all. Such work as is being done by the state of Illinois in having a man go among the farmers, testing their herds and instructing them in the better care and production of milk might well be taken up in this state. It is part of the program for the instructor to call evening meetings of the patrons for the discussion of such subjects as would be helpful, but owing to the newness of the idea and the lack of information in regard to the work and the much larger scope of territory covered by the average creamery in comparison with the cheese factory, we have not done much along that line, but if it could be arranged to get over the terri-

tory oftener so that it could be arranged beforehand by the butter makers, it would be the means of doing a great deal of good.

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DISCUSSION.

Mr. Goodrich: Haven't we got laws now on our statute books preventing a man delivering impure milk to creameries?

The Chairman: Yes; but impurity is defined by the law so that if you make complaint as to the furnishing of impure milk under the definition of the law, you must show that that milk is drawn from a cow that is diseased, or is within certain degree of parturition or otherwise. There is not a statute that applies against simply unclean milk. But a bill has been introduced into the legislature this winter taking the statutes where they are now, or defining impure, unwholesome milk coming from diseased cows, diseased conditions and so on, and trying to prevent milk being drawn from cows for sale or delivery to factories that are kept in unventilated, unlighted stables, or cows that have on them an accumulation of filth, or otherwise making it unlawful for them to deliver that to the factories. Another provision is that creameries and cheese factories shall keep their premises in a clean and sanitary condition, and it defines what unclean and unsanitary condition means. I believe it is a similar statute which has given Minnesota the lead of us in her butter products.

A Member: How much should be the overrun?

Mr. Moore: Professor Farrington assumes that it should run from ten to fifteen per cent. and the maker should be able to get within those limits.

Mr. Michels: What per cent. of acidity would you want in the average run of creameries throughout the state where they ship their butter to Chicago or New York?

Mr. Moore: The proper acidity of the cream to get the best results—for we might say exhibition purposes—would be from five and a half to six by the Farrington method; but if I was going to ship butter any distance I would prefer to have it, say,

four to four and a half, because I think the butter would have a chance to grow better in shipment. The first part of this week, I was in Chicago, examining the butter of a six months' test. Mr. Culver of Chicago was testing it, and Mr. White of Minnesota was criticising, and we found that where the acidity was carried so far, the flavor was liable to go off, and where the acidity had been left lower, the butter had a chance to improve.

Prof. Henry: The paper is to be commended for the prominence it has given to the filthiness of milk at factories in this state, and I wish that this association would take due cognizance of that part of the paper and that subject. The president of this association, who is now Dairy and Food Commissioner, is working strenuously to get laws that will enable this association and his office to accomplish something towards cleaning up the factories and getting better milk. A man that can take his milk from one factory to another and find a sale for it is standing in our way. Either that man ought to take his milk home and feed it to the pigs, or churn it himself. It seems to me that the only thing we can do is to empower our Dairy and Food Commissioner to say to that man, "You clean up, or the state will fine you. It doesn't make any difference whether you take your milk to A's, or B's or C's factory."

We must see that all goes onto the statute books of this state and that the Dairy and Food Commissioner has full power to handle this thing so that a man cannot take his unclean milk to the factory.

The Chairman: Yes, and should there not be equal authority to say to the man after its gets to the factory, "You must keep your milk clean."

Mr. Gurler: Mr. Moore spoke of Mr. Glover's work in Illinois. I was one of the committee that helped map out Mr. Glover's work, which is, to go among the dairymen and help them to apply the individual test to the cows in their dairies. When Mr. Glover started out, he needed a great deal of local assistance before men were willing to have the individual test applied to their herds. But now—why, we have got to put a lot of helpers in the field if we supply the demand; we have got a big contract on our hands, there are so many who want to have

their cows tested. Now, I must tell the ladies an incident that happened down at the Indiana dairy convention. I was talking to a certain young man, and I noticed all the while he kept using the word "we." "We" are doing so and so, "we" plant so-and-so, instead of saying "I" as the average man does. It excited my curiosity, and I said to him, "I am curious to know who your partner is?" "Oh," he says, "it is my wife." I was appointed a member of the committee to pass upon some essays for which prizes were offered, and by the way, Mr. President, that was a most excellent idea, offering prizes for essays on farm dairying. We had a number of those essays delivered, and the committee went over them, each by himself, and then we got ourselves together and we labored over those essays, and worked over them for two hours before we reached a conclusion of where the prizes should go, and two members of the committee were graduates of their agricultural college, bright young men. Well, we finally made up our mind, the committee reported, and the essays were read and then we learned who were the winners, and the winner of the first prize was this gentleman's partner. I want to say, too, that this lady attended the convention with her husband and partner, they were pulling together as they should be, instead of his coming to the convention and getting all the benefit and she staying home and doing all the work.

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## DAIRY BULLS.

Charles L. Hill, Rosendale.

"How can I be reasonably sure, that any bull, that you, or any other breeder may send me, will improve the quality of my herd."

This question I copy from a letter, received in my mail two weeks ago.

This is with all of us the leading question, and I wish I were able to answer it with any degree of certainty.



In our few minutes talk together we may be able to exchange some ideas that will be mutually helpful.

In the discussion of this question, the first thing to do is to answer the question, "Who needs a dairy bull?" and I would answer it by saying, that any man who intends to make dairying the chief aim of his live stock farming, needs a pure bred dairy bull.

"What breed," you ask; I would answer, just the breed you take a fancy to, for with this one, you will have the best success, because you will give it the best care.

The bull the dairyman will need, will possibly not be the one that the pure breeder will need, for the latter, besides utility, is seeking for good looks and many fancy points.

The essential points will be the same however.

In his search for a bull, by correspondence, the dairyman must rely largely on pedigree, and the reliability of the breeder he deals with.

If possible, I would go and see the dam of the bull I was to use in my herd.

"How good a cow shall she be?" I would say that with the improved methods of care, given by the breeders of today, to their herds, no bull should be given a place in good dairyman's herd whose dam will not make at least 400 pounds of butter in a year, or its equivalent, 343 pounds of fat.

The greater her record, the more valuable her son, other things being equal.

An excellent plan is to buy an old bull, if still vigorous, and only in this way can you know just what kind of a sire you may have.

Many of the best sires of all the breeds have gone to the shambles long before their usefulness was known.

In the selection of a bull for his individuality, the first thing I would want would be masculinity.

This is not shown by his being coarse, or having a big head, but by his resolute, sturdy, commanding appearance.

This has nothing to do with his being cross, for this is largely education, or rather the lack of it.

He wants to show that he has energy to spare. Then I want

him to have a good muzzle, showing good appetite; and then a large barrel showing good digestive capacity.

For use in a grade herd, never mind if his great barrel has caused his back to sag a little.

Nearly the same words will apply to the selection of a young bull.

Let him be active, robust, intelligent looking, and showing large capacity.

If you wish his daughters to have good shaped utters and good sized teats, see that his dam has such an udder and that the bull himself has good sized, squarely placed, rudimentary teats.

Let him be thin in the thighs and show no tendency to beefiness at any place. In fact let him be all that is different from a beef sire.

As emphasizing the thought that your bull should have a good mother, a few moments' study of some of the great dairy sires, of the different breeds will be pertinent.

The two bulls that lead the Holstein breed in the number of officially tested daughters are De Kol 2nds Paul DeKol and Aaltje Salo 3rd's Tritomia Netherland.

The first named was owned by Mr. H. D. Roe, Augusta, N. J., and he has about 45 registered daughters, and 31 of them have made tests that have placed them in the Advanced registry. Two of them have made officially 29.26 lbs. and 28.24 lbs. butter, 80 per cent fat, in seven days at 4 years old.

This bull had for a dam DeKol 2nd, with a record of 26 lbs. 9.2 oz. of 80 per cent butter in seven days, and she was also the dam of three other bulls having together 26 Advanced registry daughters.

Mr. Roe writes as follows concerning him: "The last three years that we owned this bull, on account of his being cross, it was necessary to keep him partly blindfolded and rather thin in flesh, in order to handle him safely.

"He was fed ensilage once per day, hay twice. His grain feed was largely bran with some malt sprouts and dried grains.

"We never fed him any corn outside of what he got in the silage.

"At that time we did not have any way to exercise our bulls.

"We now use a tread power and would not think of doing without it."

The latter bull was owned by S. B. Jones & Son, Hustisford, Wis.

This bull has 38 registered daughters, and 32 of these have made records admitting them to the Advanced registry.

This bull was bred in Wisconsin also, but I have thus far been able to find out but little about his dam.

His sire was a son of the well-known cow Tritomia, that we often heard Mr. Hoard tell of as winning 1st in the show ring, and butter test as well, at the Minnesota State fair.

This bull was fed 6 to 8 pounds per day of a ration of bran and oatmeal, and exercised in a yard one or two hours each day.

His picture, though a small one, shows him to have been of a very marked dairy type for the breed.

The bull of the Jersey breed that leads all others in the number of tested daughters is Exile of St. Lambert.

Ninety-four of these have made records over 14 lbs. butter per week.

He is said to have been a bull of great vigor and vitality, and retained his vigor up to the very day he died, at 13 years of age.

This bull had for a dam Allie of St. Lambert, with a record of 26 lbs. 12 oz. butter in seven days, and full sister to Ida of St. Lambert with a test of over 30 lbs. per week.

This bull was exercised in the following manner: A good strong post was firmly fixed in the ground and stayed on four sides.

Across this a strong pole of hickory, about 12 feet long was attached by means of a swivel. Exile was secured to one end of it by a chain from his nose to the pole, which was weighted down at the other end to balance it. He took his exercise in a circle.

The only picture of this bull available is a wood cut from a drawing.

As prepotent a Jersey bull as there ever was is still alive in King of St. Lambert's King, owned by Mr. F. W. Hart, of Cleveland, Ohio.

He was by King of St. Lambert, the sire of 26 tested cows, and out of his own daughter, Elsie Bonner, 21 lbs. butter in 7 days.

I never enjoyed a day much more than one spent in looking over Mr. Hart's herd, and especially looking at his bull, his mother and daughters, and last but not least a young bull showing vigor to spare, sired by King of St. Lambert's King, and out of his own dam.

This bull is commonly called Hart's King, and he has 24 tested daughters, and Mr. Hart writes me that he has 40 of his daughters and every one of them old enough is capable of a record.

I have here a fairly good picture of him, and a good one of some of his daughters.

This bull is just 12 years old and is still in the pink of condition and vigor.

For exercise he is often taken out for a twenty-minute walk by the man who cares for him. He is kept tied in a corner of the cow stable in sight of the herd of cows.

Of the well known Guernsey bulls, Lily's Bonny Boy owned by Mr. N. K. Fairbank, Lake Geneva, had 41 registered daughters, and 13 of these at least have made 343 lbs. fat in a year, and Lilly Ella and Lilyta made, in official tests, 782 and 710 lbs. fat respectively.

This bull was out of Lily of Fernwood; 22 lbs. 11½ oz. butter in a week, and one of the best cows of the breed.

This bull received his exercise by daily work in a tread power to run a separator.

The Guernsey bull having the second highest number of tested daughters was also owned in Wisconsin, and was Benjamin 1931.

He had 25 registered daughters, and nine of them have records ranging from 349 to 508 lbs. fat in a year, and ten of them have weekly records ranging from 12.02 to 17.7 lbs. fat.

He was exercised twice daily in the tread power, and proved a good sire until he was nine years old.

He was never as vigorous as some bulls, due, I think to poor care when he was about a year old.

His dam, Tricksey, was in 1888 first prize cow at the Wisconsin State fair, and made 2 lbs. 7¾ oz. butter in one day.



Mr. S. C. Kent, who imported over 1,000 Guernseys, says she was the best cow he ever owned.

I have here a picture of Benjamin and some of his daughters.

I tried to obtain pictures of all of these bulls and their dams, but was unable to do so, and this serves to emphasize the fact that usually the great bulls are not known until they are dead.

You will note that where feed is mentioned these bulls were fed a liberal grain ration, and I think one of the serious mistakes often made is to make a bull live entirely on roughage when in heavy service.

Let them have all the good hay or corn fodder they want, but feed lightly of corn silage.

Feed a ration of bran or bran and ground oats of from 6 to 8 lbs. per day.

If a bull is quiet, and a paddock is handy, he will be much improved by being at pasture in summer until the flies get bad, but in nearly all cases it is better to keep him in the barn.

Above all things that a bull needs, and not nearly enough of them get, is plenty of exercise daily.

On many farms where the item of expenses is not counted, a man will walk and lead a bull for an hour or more daily, and while it is doubtless efficient, few of us wish to spend our time in this way.

By far the cheapest and best way to exercise a bull is in a tread power, and we have so exercised our bulls for the past ten years.

Nearly all of them learn it readily, even if old, and it will do no harm to work them there an hour each day.

More than that, they can easily earn their board running a separator or other light machinery.

It will not do to have the power very steep for they will slip.

Another excellent way to exercise a bull is to work him in a harness, and I have here photos showing bulls working single and double.

There are many other ways to exercise a bull, but I think the best one is to tie him by a rope around his horns to an overhead wire or rope, 50 to 100 feet long.

Set a post 15 feet long, four feet in the ground and run a wire from the top of this post to a tree or building.

If the wire runs through a hole in the top of the post to a short post close to the ground you can readily arrange a tightener with a rod with nut on the end.

We use about the same plan to give our bull a sun bath, but use a rope running through a pulley at the top of post, and with a 100-lb. weight on which will allow some give and take, but the rope is always tight. I have here a picture of our bull tied on such a runway.

Many bulls tied out in this way will not walk around enough, and if you have such an one, let a yearling bull or two out to scrap with him and both will get plenty of exercise.

Quite an important item of a bull's care that is nearly always neglected is the care of his feet.

Don't let them grow like a certain breeder did his bull's feet a few years ago. The Short Course students were there judging and one of them ventured to call the attention of the breeder to the six inches or more of toes the old bull had, and the breeder replied: "Young man, don't you know it is now winter, and of course we keep him on runners."

It is a simple operation to throw a bull with a rope and to saw off his hoofs with a small saw.

Nothing else is as good as a saw, and a good job cannot be done unless the bull is thrown.

The bull should have a ring in his nose about the time he is a yearold, and earlier if he is headstrong, and as soon as it is healed he should be taught to lead by it and always be handled with a staff.

A daily grooming will greatly improve his looks, and doubtless do him good.

Do not keep your bull in a foul, dark pen, but, if possible, give him a light, airy box stall, in sight of the herd of cows, and be sure and clean his stall and water him daily.

Do not abuse him, but still be firm with him.

Never fool or play with a young bull, but always make him mind, and then as he grows older never give him a chance to know he can do anything else.

Do not trust him if he is gentle, though you may do as you please about it if he acts cross,

It is always the gentle bull that kills the man.

Careless handling of bulls has cost our state some of her best dairymen and breeders.

You will at this point want to come back to the first question and desire to know what results you can expect by the use of a pure bred bull in your herd.

If you select a bull who has a long line of female ancestors that were better cows than those you expect to breed him to you may be almost sure that he will work a marked improvement in your herd.

Just how much no one can say, for two full brothers will often, when equally as good individually, prove very different as sires.

Mr. Cogswell, the owner of Exile, speaks of a case of this kind, and the two trotters, Patron and Patronage, was a marked case of this kind.

I can remember of hearing the critics pooh at Patronage and say he was only used because his brother was so great a trotter.

Of course, Patron had the best chance in the stud, but Patronage sired Alix, the queen of the turf.

You can ask any of our most successful dairymen in what one thing more than any other lies their success, and they will tell you: "The continued use of the best pure bred dairy sires I could find."

Therefore, in the words of the revered Hiram Smith, "Buy a bull."

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#### DISCUSSION.

Mr. Jacobs: Is it a question that is quite right to leave to a man's fancy, just what breed he should select? While I do not wish to start a breed row, wouldn't it be a better rule to take a breed that is better adapted to a man's business rather than depend on his fancy?

Mr. Hill: Certainly. Perhaps that was not putting it quite right, that he should leave it to his fancy, but after a very little thought, that will be his fancy. He will have decided with

study which will be the best breed for him, and that will be his fancy then, and he will look askance at the other breeds, will be looking for flaws in them.

Mr. Gurler: How would it do to feed the bull the same grain feed that you feed the milk cow?

Mr. Hill: It would do. The ration that I mentioned is what I believed to be about the best for the dairy cow as well. I would want him to have a nitrogenous ration and it seems to be an established fact that the best dairymen and breeders today have ceased feeding very much corn silage. Very many of them have impaired the usefulness of the bull by feeding him corn silage.

Mr. Jacobs: Because it is carbonaceous?

Mr. Hill: That is the reason usually given and it probably is the reason. Clover hay I think to be the very best rough feed for the bull that we have today.

Mr. Hyatt: Would roots hurt them?

Mr. Hill: No, I don't think so.

Mr. Hyatt: I have been feeding them about fifty years.

Mr. Foster: The gentleman speaks about depending upon the record of his ancestors. Is it a good record to go by when they say a cow made so much butter in a week or a day.

Mr. Hill: Personally I have very little use for any record short of a year. I have known in my own herd so many cows that have made large weekly records and only ordinary yearly records, and, on the other hand, some that scarcely made two pounds of butter a day, at their very best, have made 500 pounds a year.

A Member: Do you think that a cow that has made a great yearly record will impair her vitality enough so that it will affect her offspring and that they will be as prepotent and strong as one that has not been crowded so hard?

Mr. Hill: I think we are in pretty deep water, at least I am. It would be hearsay more than personal experience if I attempted to answer, except in one instance. I did have in my herd a bull from a cow that had been pushed for a large yearly record, and it in no way impaired his usefulness, although his mother was carrying this bull at the time she was making the record; but I



do think that these cows that make those great records once a year, I think it might make a difference, I am just guessing at it, but I think it would in some measure impair the usefulness of her progeny, especially the ones immediately following such a test.

Mr. Foster: In purchasing a sire, how far back do you find you are able to go in the record of that sire in ordinary practice?

Mr. Hill: In the Guernsey breed, that I am particularly interested in, about three generations of females is the longest, I think, that you can at this time get the exact yearly record, the mother, grandmother and great-grandmother, and not that in many cases. If you are assured of two good ones I think you will be getting about all you need ask for. On the other hand, you can learn about many of the old times cows from breeders, enough to assure you in your own mind that they were cows that were capable of making four or five hundred pounds, which is practically just as much as you would ask as dairymen.

Mr. Hyatt: I will have to differ a little from Mr. Hill in regard to the masculinity of the bull. It may differ with different breeds. I want, when I save a calf for future use as a bull, I want him to look as much like the heifer calf as possible.

Mr. Gillette: Mr. Hill says he thinks it impairs the vitality of the offspring of an animal that has been tested. I would like to call his attention to one or two in our herd. For instance, take old Joe R ——. His mother made over thirty pounds in fifteen days; back twenty years ago, her mother made some twenty-four pounds, and right along down. I don't think it has impaired the usefulness of any one of the heifers that we ever got from old Joe.

Mr. Hill: As I said, I am merely guessing at it. Besides, I was speaking not about a weekly record, but a yearly record, in which the cow was forced to do her very best for a long time.

Mrs. Howie: If you were selecting a head for your herd, to which would you give the most attention, the pedigree of the individual, or the individual merits of the animal?

Mr. Hill: I think the pedigree; but I will say in that case I find the individuality, too, generally.

Mrs. Howie: But there are cases where the animal has been

forced and sustained a set-back. Would that be the right kind of an animal to put at the head of your herd?

Mr. Hill: No. I said I would by all means see the animal and his mother, if possible. If you cannot you must depend upon the pedigree and the reliability of the breeder.

Mrs. Howie: Suppose you had a cow that made a large record that had a poor conformation in her udder? Would you consider her offspring worthy to be at the head of a fine herd.

Mr. Hill: I tried to make a distinction in my paper between the bull that the dairyman might need and the bull the breeder would want. I am quite a believer, with Professor Haecker of Minnesota, that too much attention is paid to the shape of the udder. When it comes to the breeder's standpoint I want a good shaped udder on the mother of the bull I am to use, as much as to have a large record; I will have it. But in the case of the dairyman I don't think it is so essential.

Mr. Cobb: I have bred Jerseys for a good many years, but I never have felt that I was competent to take a record and read it, one sent to me through the mails, and order a calf C. O. D. In the last four years I have bought two heads of herds, and in buying those I studied eight of his get. I want to have the herd and look over that herd, then after looking at them all and studying the bull, finally I come back to the house and look at the pedigree. I have done that in two instances and I have met with entire success. In regard to exercise, we have used the tread power for some years. It so happened that we had two of the same aged animals at the same time, and one morning the boys thought it would be a good plan to put the two in the tread power and the bulls ran off with the tread power and I haven't seen it since. We use a sweep which is a good thing. We turn out a few calves to attract his attention and he gets splendid exercise.

Mr. Hill: I think it is a disgrace that so many of the best proven sires should go to the shambles, for what reason I don't know, unless people get afraid of them. I saw once a bull of seven months old that would put a man to bed for six weeks. The old bull is no more vicious than the young one, and even if he is vicious, you can put him in the tread power and work it out

of him. Before I knew as much about that as I do now, we had a bull that became cross at two years of age, and it was impossible for us to handle him, and not knowing about working him, we sold him to a man who said he didn't care how cross he was, and we had to put a rope around his neck and choke him once in a while in order to get him to the station. The man said afterwards that he thought he knew what a cross bull was before, but it took six men and a team of horses to get him home. He drew him right up into the tread power and commenced working it, and he has continued to work him, and he said in two months he was as quiet as anything he had. I believe you can work it out of any of them, so they will be glad to keep still. You can have a much better bull by buying an old bull every time.

Mr. Foster: Isn't that way of judging responsible to a great degree for the poor stock we have at present? We have been breeding stock, for instance, for dairy purposes more or less ever since old Noah came out of the ark with the original pair. We have all heard about the dairy cow of Jefferson county, where there are more cows than people, and the average cow produces two hundred pounds of butter a year. Is not this difference of things largely due to breeding from animals judged at their individual merit—upon their shape, in other words?

Mr. Hill: Yes, I think so. Perhaps they haven't even done that much; they have taken the first thing that was at hand, regardless of breeding, or individuality, or anything.

Mr. Goodrich: I heard something said about Jefferson county and I can't keep still any longer. It was 240 pounds of butter per cow that the cows of Jefferson county produced when we made a close investigation of the subject, and we are not going back to 200 pounds per cow, if we know it.

Mr. Foster: I must have seen the report that was printed before you investigated them so carefully.

Mr. Goodrich: It was before we had improved the cows so much.

Mrs. Howie: Mr. Goodrich means before he had improved the dairymen rather than the cows. Mr. Hill, you say that it would not pay for a dairyman to lay stress on the udder or the conformation. What would be your idea of the dairyman who

really wished to improve the character of his herd? Should he send to the breeder and ask for the cull of the breed? Would it be policy for a first-class breeder to send out a cull from his herd even to a dairyman's herd?

Mr. Hill: Certainly not. I say only that if a cow has a record of 500 pounds of butter a year, and a dairyman could get one of her sons with that individuality less marked I would use it in preference to the son of a cow that would make 350 pounds of butter with a good shaped udder.

Mrs. Howie: You would want him strong and with constitution and vigor.

Mr. Hill: Yes, I now am just referring to the udder.

Mr. Favill: I was out buying cows once, and I saw a good looking cow that had a real bad-shaped udder, and I didn't buy her. I went around, but I didn't find things as I wanted, and I went back and got that cow. Well, the result was I attended the North-Western Dairymen's Association twenty-three years ago this winter, and I reported that I had a cow that I had milked nine thousand pounds of milk from in ten months, without any special feeding. She had a little grain, but she first came in and went out onto grass and ran to grass until she dried off, and she gave nine thousand pounds of milk. They didn't believe me in that convention; they told me to my face they didn't believe me, but it was a fact just the same. She was a cow with a real bad-shaped udder, but she proved a good one.

Mr. Hill: A breeder likes to get a sire from a cow that has a good-shaped udder and a large one if he can have it, but some of the very best records are from cows with bad-shaped udders. Take the Jersey cow Eurotas, that had a very bad-shaped udder, and still one of her sons sold for \$12,000, and she made over 700 pounds of butter in a year.

Mr. Tripp: I want to ask a question that I think will interest many of the farmers in Fond du Lac county, and that is, will it pay the ordinary dairyman of this county, or any other, to purchase and use a thoroughbred Durham bull—not raising the heifer calves?

Mr. Hill: I believe it is a foolish practice. I know it is being carried on, but it is foolish from the fact that you are



not going to raise the heifers. I would not use a beef sire on my cows, I wouldn't advise any such practice.

Mr. Burchard: I have kept still almost two days. Here is a case cited by the gentleman and a case put so squarely by Mr. Hill and they are drawing in opposite directions. Now, it is quite a possible thing for a man who wants to raise veal male calves, and dairy female calves, in almost any community in Wisconsin to get the services of both kinds of bulls, and for the very best cows that he has, if he is a wise dairyman, he will use a dairy sire, irrespective of what the progeny may be, in the hope that his cows will occasionally drop him heifer calves that will be worth ten or twenty times as much as he can get for any veal calves he can raise on his farm. We are running these things too much in certain grooves. We think we have only a single track railroad in this business, and it is not true; there are three or four tracks we can use, and I want to enter my protest, although I may be working against my own interests a little, as to the distinction which Mr. Hill makes between the breeder and the dairyman. These breeders are a coterie among themselves and they have lots of fads. They think if an animal is not just up in color or horns or something, so it can be sold for \$500 to some other foolish man, that it is not a typical animal and therefore it is not worth having. I don't expect to convert them, but all the same I want to enter my protest every time I hear people talking about this distinction. "Handsome is as handsome does," and the sooner the earnest breeders of the country come to admit that proposition, the better it will be for the country. The gentleman said something about Jefferson county. Now, the trouble in Jefferson county is the same as in Fond du Lac county. There are herds in Jefferson county where every cow will show a profit of ten, fifteen or twenty dollars a year, and there are some foolish people down there who are content to keep herds right along without knowing what they do, and they are not bringing them in three or four or five dollars a year, oftentimes do not even pay for the feed they consume at market prices, and that is the reason this Dairymen's Association has had these cow censuses taken, to try to bring home to the attention of dairymen the importance of knowing what their cows

are doing. You don't need to have Mr. Goodrich or anybody else tell you about this. It is the easiest thing in the world for you to examine your herds for yourselves. There is no man so poor, there is no man so ignorant—if you want to put it that way—but what he can keep a record of each individual cow in his herd, and nine times out of ten, if he will keep that record for a year, he will find he will be saving money to sell off two, three, four or five cows from his herd, and make more money than to keep the whole number. These people that are here today do not need the starter that the State of Illinois is giving. I am giving it to you.

A Member: Where I live, quite a majority of the cows are of Jersey breed, and only a few days ago one of the veterinarians there told me that the most of his practice was from the result of this very practice which the gentleman over in that part of the house mentions, using a beef sire on small cows, it was producing a great deal of trouble among the herds. It seems to me that for a dollar and a half or two dollars extra on the price of the calf, it doesn't hardly pay to take so much risk. I think the sooner a man finds out whether he wants milk or beef, the better it will be for him.

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#### ADDRESS.

Euclid N. Cobb, Monmouth, Ill. (Buff Jersey.)

Mr. Chairman and Gentlemen:—My imagination goes back to Milwaukee county, in 1853. Down in an old cabin there, they had a great wedding party, and when the bride and groom came from church and took their seats at the table, there was a fine wedding cake on that table, and it was decorated with a long corn cob hanging on one side of the cake. On the other side was a rather short, thick-set one, and over on one edge of the cake there was another. In 1855, down in the same county, there was born in Greenfield township, in Milwaukee county, myself, and

from that time I have always felt really that I was a Wisconsin man and I often have a sort of a homesick feeling. To illustrate this I will just tell you a little circumstance. I went West and lost several years of my best manhood out there having run against grasshoppers and droughts and all the things they have out there. While we were out there, we used to be reduced to about the last thing in the house, and wife and I would sit by the fire and wonder what they were doing in the East. And a lump would come up in my throat and we would resolve to come back, and after one winter we did come back. We had a cow and she was a good one, at least my wife said her milk was rich, and I don't doubt but what it was. We had no Babcock test at that time to go by, but it came to the time when I said to my wife, "We have got to sell the cow, we have nothing to feed her." That cow had a habit of sucking herself and we had her harnessed, so when I said that to my wife, she said, "Go out and take the harness off the cow and let her suck herself." But finally I had to sell her to pay my taxes.

I have been doing a good deal of work down in Monmouth for the last few years, and I have learned a few things and I am going to talk along the lines of education on the farm. We have had education for boys and girls at the University, but perhaps a great many of them are in the position that I was in, their parents not able to send their boys to the Agricultural College.

I have here a picture of my first wife and myself and the children and this picture explains something of our system of education on the farm.

When I found that I was going to follow the occupation that my father had followed before me I also found that I wanted to know something about my business. In my time we had no agricultural college really. I was brought up on a farm and when I lived on a farm down here in Waukesha county my greatest ambition was not to work on a farm, but to be a section hand on a railroad. In those days we worked from early to late; recreation was something we had very little of.

Now, while I tell you about our operations and my methods—I might as well say "our" methods, because without the aid of

my wife we never could have done what we have done. The mother in any family is the one that molds the character of the children as a usual thing. Last fall, before our institute meetings commenced in Illinois, we met in the directors' room at Springfield, and Dean Davenport impressed us with this thought: "When you go out to examine the boys who are entitled to a free scholarship, don't send them down here to get a classical education; send them to the Agricultural College. We want men who can come out of our college and do something, the kind of men that there is a demand for in the working world." And I can tell you there is just as much a demand down in our state for that kind of people as there is in Wisconsin. In our town we have got a Yale graduate selling onions at five cents a bunch. We have a graduate from Monmouth college who is one of the poorest excuses for a farmer that I ever saw, any one would say that he had entirely missed his calling.

Now, in the work on our farm, we try to be what we call up-to-date, and with the number of children that we have, we have divided the work into departments, and I am pleased to say that with the many visitors that we have we find them interested and pleased with that system of dividing the work into departments and having each one do his or her work and do it all the time. My oldest son, who is now twenty-three years old, is foreman of the farm department. He knows thoroughly well what causes corn to grow, the nature of the plant through and through, and there is no doubt but what some of our one hundred and twenty rod long rows are a great deal shorter to that boy than are some very short rows on a farm where they do work without knowing why. He is interested, he watches that plant grow just as closely as our herd manager watches the calves grow down at the barn. We have at our college at Champaign what we call a Farm Mechanics Department. Professor Crane has visited our farm several times, and he congratulated my son on his knowledge of machinery and his ability to handle machinery and I assure you it is often put to use on a farm. This boy also thoroughly understands the value of the manure crop and is just as much interested in it as in the corn crop. He keeps close track and a record of everything. He has figured out the



manure problem, for instance, from a week's production, keeping track of the foods eaten by the cattle, and he has found that a load of manure from our stable is worth \$1.50, and we make fifteen loads during the week. These things give him something to think about. While I am gone on these trips, he is the foreman or manager, and he is responsible, and there is no trouble about getting him up in the morning just the same when I am away as when I am home. I am happy to be able to tell you fathers that I haven't had to call my boys in two years or more. They are up at five o'clock every morning. This same boy knows the chemical analysis of all grains and is thoroughly well posted on the management of animals.

My son of twenty years is the herd manager. There is a herd of eighty Jerseys, and he looks after them. You go into our barn and walk up one aisle and down the other, and you will find just six animals that he has not raised from birth. Every animal in that herd is part of our family. That boy will take you up the aisle and he will show you first the cow Dolly that gives her own weight in milk every eighteen days when she is fresh; he will tell you the per cent of fat in that milk; he will tell you that Trilby is the best four-year-old heifer he ever developed. He will go on down and give you the history of every animal in the barn. Do you suppose that young man has to join a football team or a baseball team to get exercise and have something to interest him? Not at all. He is as interested in that herd as any school teacher is in her pupils. He has missed feeding those calves just once in seven years. He has a thermometer; he has his pails scalded twice a day; he has little stanchions, a high partition between them so they can't suck each other, and each calf is fed just as carefully—well, I was going to say as our first baby. The individual record of every cow is kept as carefully as a person will keep accounts in a mercantile business. We know exactly what every cow is doing and how much she is earning, what her feed costs, the commercial value of different kinds of feed, and everything is carefully avoided that has any tendency to mar the comfort of any animal in our barn. We have made experiments and we have found out on our farm what it costs to give a cow ice

water for a day, and you would be surprised to know what an expensive luxury it is. We have a 100-barrel cistern, a wind-mill, deep well, and we have it so arranged that we can warm up the water to 83 degrees. That boy can also tell you how expensive the fly plague is and how it costs not only in the loss of product, but in annoyance to the milkers and the cows, too. We don't like to see our cows suffer with the fly plague, and it is not necessary for any one to subject his horses or his cows to the tortures of the flies.

Ventilation has a commercial value; so have many other things. Now, all those things my son studies about, and learns and knows in dollars and cents what they cost.

I was down at Sunny Peak Farm not long ago, and I saw there a faded bouquet over one of the stalls, and the stall was empty. I never have had occasion in all my experience with dairy animals to put a bouquet over any stall in my barn on account of milk fever.

There is another point in this which is important, and that is in giving this young man charge of this herd it makes him kind and gentle. When he makes a home for himself, which he probably will sometime, I don't think there is any girl in the country can make a mistake as far as that is concerned.

The girls have their business also; one of them comes in in getting the product to the creamery. My daughter, who is now twenty years old, had charge of that some years, but now she has taken charge of another branch. My girl, fourteen years of age, is the butter maker, and her sister, twelve years of age, is her assistant. In going over the country and speaking of our way of doing things, people sometimes say to me, "That sounds well, and I suppose you do it just to have it sound well." If you will come down to our place any morning, Sunday and all, you will find those two girls on deck. They take care of the whole business. They have a steam plant to look after, and they know pretty nearly as much about an injector and other things about the creamery as a great many regular butter makers. I know I have seen a good many butter makers that I would not trust as I do these girls. I never knew these girls to let the water get out of sight in the glass. The floor is

scrubbed and when the cans and pails are put out on the shelf, we know they are clean. My girl of twelve years prints the butter in pound prints. She was in the contest once where a fellow had some kind of a patent that he thought he could work a good deal faster than anybody else, and she could easily print three pounds while he was printing two.

Some people ask me, "What are your daughters going to do after they leave home?" Do you for a moment think that the work they are doing there is going to hurt them as home-makers? Not at all. We have a school of thirty scholars down our way, and our girls have to drive a mile and a half. The neighbor girls have only to get up in the morning and comb their hair before they go to school, and my girls are never tardy, while the other girls are tardy very often. System makes them work on time and promptness gets them to school on time. They will get dinner on time, and supper, and if they have any social obligations, they will attend to them on time.

My son, eighteen years old, has charge of the swine and the poultry department, and he is just as much interested in what his Berkshire pigs are doing as the other son is with the Jerseys. Professor Henry's book, that was spoken of here, is pretty nearly thumbed to death at our house. This boy read an account of an experiment by Professor Henry, and he has been conducting an experiment. These things keep him interested. He feels he is doing something. He is gaining knowledge in performing these little experiments. It is the same in the poultry department.

In the hog department, three years ago, we put forty pigs and sows on three acres of rape on rough land, and with the skim milk that we could spare, those hogs made 4,000 pounds of pork that summer without any grain. Now that means something down in our country. Our neighbors are feeding high priced corn, too much of it, and in the fall they had the cholera. I never had a case of cholera on my place, and I don't believe that my son will. I believe that the hog cholera is largely caused by bad feeding and management. It is feeding corn to hogs with a scoop shovel that brings on hog cholera.

In the house, we have the domestic science part of the farm.

Professor Waters was there a few weeks ago, and he said, "I have seen all of the departments, I have been all around the farm, and I believe I like this department just a little better than any of the rest."

Education is bound to solve the problem of keeping our boys and girls on the farm, there is no doubt about it. That is what makes them contented and happy.

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DISCUSSION.

Mr. Everett: What are you going to do when your children leave the farm?

Mr. Cobb: I am going to quit farming. I am doing this work for my family. That is all my wife and I are living for, and about time we get through with the children, it will be about time for us to quit.

A Member: How is the financial end of the business run; or are the children stockholders?

Mr. Cobb: I pay my boys wages. That is, the wife does. My wife is the treasurer and collector and pays the bills. I have to clean my feet and carry in the coal and ask if she wants anything.

A Member: You have changed your mind about being a section hand?

Mr. Cobb: Oh, yes.

A Member: You can't get in all this work in ten hours?

Mr. Cobb: We do it in twelve. There are a great many farmers that think they cannot do a day's work in twelve hours. That is a mistake. With us it is eight hours in the field and four hours at the barn. When I was a boy, we milked in the morning before daylight, and worked in the field all day and milked at night after the sun went down.

Question: How do you get rid of the flies?

Mr. Cobb: Down in Texas where I was two years, they have the fly plague the worst I ever saw and I found a preparation



that we have been using seven years; it is made down at Philadelphia, and it is called "shoo-fly." We experimented with it some time to find out the best way to use it, and I believe the right way is to use it once a day unless you have a pasture with running water, because they get into the water and wash the preparation off. We found they did that, so we use it twice a day, with a hand sprayer. It takes my boys about a minute or two to vaporize each individual cow, and every fly that touches it is killed. Of course the condition of things around the barn makes a difference. If you have a lot of filth around the barn, the flies will breed faster than you can kill them. We use air-slacked lime for sweetening the barn, or land plaster, and keep the barn clean, clear of manure or anything that will encourage the flies.

A Member: I think air-slacked lime is as good as land plaster.

Mr. Cobb: Not a great while ago if that question had been asked Professor Henry or Professor Davenport, or any of these men, they would have said, "You better use the land plaster," but today, down in our state at least, they tell us to use the lime. They have found out that air-slacked lime will help our soil. I would not use lime on the manure. I think it hurts the quality of the manure.

Mr. Hyatt: How do you prevent milk fever?

Mr. Cobb: I never had a case of it. I have been talking here three-quarters of an hour telling you how to prevent it. We do everything with a thorough understanding of what we are doing it for. There was a statement made by Mr. Howie that I think he will change his views on, and that is that ensilage is liable to cause abortion. I think he is wrong. We raise our young cows on ensilage with a little pea hay or oat hay or whatever hay we can get, and they never get fever. My father had one case, we raised roots and fed those cows. This cow that had the milk fever was out in the hot sun in the pasture two or three days when we are not expecting her to be fresh, and she died of milk fever.

Mr. Hyatt: What do you do with your calves?

Mr. Cobb: The calf is taken immediately away and the cow

put in her own stall and she is given a very small feed of ensilage and gradually brought up on ensilage and if she shows up all right, in a day or two she is given a small amount of grain ration.

Question: How long after she freshens before you begin to feed grain rations?

Mr. Cobb: It depends on the cow, but generally the second or third day. We begin with a small amount.

Mr. Gurler: What time of year do you have your cows freshen?

Mr. Cobb: I would like to have cows freshen every day, if possible, in the year. We have no time. We like to have them come fresh as often as they are a mind to.

Mr. Hyatt: About how long is the average cow dry between times?

Mr. Cobb: I had a dairyman down from Walworth county and he was prepared to make all kinds of fun of our Jersey cattle, and the night he got there he saw some cows. One of them gave seven pounds and the other five, and the next morning we got milk and a calf both.

Mr. Hyatt: The milk isn't fit to use where you run up so close.

Mr. Cobb: No, but if the cow wants to give milk, let her give milk; if she wants to go dry six weeks, all right.

Question: How many loads of manure do you generally put on an acre?

Mr. Cobb: Fifteen.

Question: How far is your cistern below your tank?

Mr. Cobb: The cistern is just behind the power house.

Prof. Henry: Do we understand that your daughters make butter in the morning before they go to school?

Mr. Cobb: Yes, sir.

Prof. Henry: And that they can do all of the work in your creamery and be at school on time?

Mr. Cobb: Yes, they do.

Prof. Henry: About how many pounds of butter do they ordinarily make in the morning before they go to school?

Mr. Cobb: Seventy to seventy-five and eighty.

Prof. Henry: Do they work in the creamery after school hours?

Mr. Cobb: No, they have no work to do after school hours in the creamery.

Mr. Foster: How much butter do you require from a cow in your dairy in order to entitle her to live with you?

Mr. Cobb: You see we are breeders. I am just as much of a breeder as I am a dairyman. We raise all our heifer calves. In that case, the two-year-olds are counted as so many cows in the barn, and it is not a common thing for a two-year-old to jump up from two or three hundred pounds to over four hundred pounds, with her first calf; that is, when a cow looks well and her milk is good, we give her a second chance, but you must remember that the second chance is not a good rule to go by. I have had many a heifer that was not as good at three years old as at two years old. If they continue showing up a reasonable amount of milk, we give them a trial if they are four-year-olds. Then we want them to go up to three hundred pounds or better. We are not making butter all the time, but our rule is a pound every day for every cow in the barn; that is the rule we are working by and we are doing it a great deal easier now than some years ago. The herd is improving all the time, in fact.

Question: What disposition do you make of your manure? Do you take it away every day?

Mr. Cobb: Yes, all but zero weather. We have an inclined plane at the back of the barn and the manure is put in that and carried off to the field.

Question: Aren't there certain seasons that you can not put it on the crop?

Mr. Cobb: Just take it in the crop season, we feel just as much repaid to put it on our blue grass pastures as on the land, and I never have seen the time yet when I couldn't find a place to put all the manure, and we keep it cleaned up.

Question: Will the cattle eat the pasture as well if the manure is spread on it?

Mr. Cobb: No; but you take a sharp disc harrow in the spring and run the harrow over it and cut up the manure. It im-

proves the land wonderfully, and the cattle feed over this ground readily.

Question: Don't you think it hurts the roots of the grass doing that?

Mr. Cobb: No, sir; improve it.

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Mr. Goodrich in the chair.

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Reports of committees were submitted as follows:

#### COMMITTEE ON NOMINATIONS.

Your committee on nominations respectfully recommend the election of the following named gentlemen to the offices specified; namely, for President, J. Q. Emery of Dane county; for Secretary, G. W. Burchard of Jefferson county; for Treasurer, H. K. Loomis of Sheboygan county.

On motion, duly seconded, the report of the committee on nominations was unanimously adopted and the gentlemen therein named declared the duly elected officers of the Association for the ensuing year.

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The President in the chair.

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The report of the secretary was duly submitted and, on motion, accepted.



## SECRETARY'S REPORT.

To the President and Members of the Wisconsin Dairymen's Association.

Gentlemen:—I have the honor to submit the following report:

Our expenses for the past year have been somewhat larger than usual. The Menomonie convention was continued through four days, one of our cheese instructors was in the field nearly two months longer than usual, and the creamery instructor approximately three times as many days as his predecessor.

The expenditures for the current year may be classified as follows:

Expenses of officers and speakers and reporter at the Menomonie convention .....	\$523 36
Premiums .....	200 00
Taking Dunn county cow census .....	50 00
Paid Cheese Instructor Aderhold for 202 days, \$1,010, less received from factories, \$190.....	820 00
Paid Cheese Instructor McCready for 167 days, \$835, less received from factories, \$122.....	713 00
Paid Creamery Instructor James G. Moore for 171 days, \$855, less \$52.50 received from creameries...	802 50
Paid expenses of meeting of Executive Board.....	16 80
Paid miscellaneous expenses .....	33 94
Total paid to date.....	\$3,159 60

There remains to be paid:

Secretary's salary .....	\$250 00
Expenses of secretary's office (including postage, \$48.33, freight, \$10.75, stenographer, \$52.00)....	119 08
Printing programs, score cards, etc., .....	30 95
Total expenses of the year to date.....	\$3,559 63

There has also been paid from the reserve of \$1,000 annually for the Swiss cheese industry to:

Mr. Fred Rubin, instructor, for 55 days.....	\$255 00
And he collected from factories \$20.	
For a curd test outfit.....	4 00
Total .....	\$259 00

Just why Mr. Rubin did not devote more time to the work I am not informed. Certainly it was not from lack of co-operation on the part of this Association or its secretary for he was repeatedly urged to do so. Had he been employed by this Association and under its direct supervision he, or some other competent instructor, would have been kept in the field the same as our other instructors, and thus have accomplished much more good. In my judgment it was a serious mistake to add a proviso to our annual appropriation directing that any part of it should be expended under the direction of some other organization. This association has always responded to every call for help from the Swiss cheese makers, and with its increased appropriation, if unhampered by restrictions, would have inaugurated systematic work in that branch of Wisconsin dairy industry.

Our creamery instructor has rendered excellent service, for the details of which I beg to refer to his report. Much of it might appropriately be termed pioneer work, for butter makers and creamery managers are not as a rule cognizant of their own limitations and defects. Mr. Moore was instructed to go from creamery to creamery, introduce himself as employed by this association and offer his assistance. If accepted, as it was in almost every instance, he made such an inspection of the plant as his long experience in the work enabled him to do, and pointed out the particulars in which improvement was possible. In some instances the conditions were such that he took hold with his own hands and assisted in cleaning pipes and churns and butter workers, preparing starters and acid tests, and testing the glassware. In other instances he only submitted suggestions, and in others he was able to report everything in good order and methods correct. This work should be continued.

The work of the cheese instructors has been carried on much as heretofore, and it is noticeable, and confirmatory of the benefits conferred, that those factories which have had their service in former years are the ones most anxious to have them come again and are more and more willing to assist in defraying their expenses and contributing to the payment of their salaries.

I thank the association for its continued confidence and remain, its obedient servant,

GEO. W. BURCHARD,  
Secretary.

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The report of the auditing committee was submitted, and on motion accepted.

#### AUDITING COMMITTEE'S REPORT.

FOND DU LAC, Wis., Feb. 12, 1903.

The committee appointed to examine the vouchers and accounts of the secretary and treasurer have examined such accounts and find them correct.

STEPHEN FAVILL,  
H. C. TAYLOR,  
Committee.

# REPORT OF TREASURER.

Mr. President and Members of the Association: The following itemized report is made showing the source from which all monies paid into the treasurer's hands were received and the disbursements paid on orders from the secretary, which I hold as vouchers.

H. K. LOOMIS,  
Treasurer.

## Receipts.

1902.			
Feb. 22.	Balance in hands of treasurer .....	\$504 78	
	Membership for 1902 .....	180 00	
	From State Treasurer .....	1,000 00	
Aug. 1.	From State Treasurer .....	2,000 00	
1903.			
Jan. 30.	From State Treasurer .....	1,000 00	\$4,684 78
		<u>          </u>	<u>          </u>

## Disbursements.

1902.			
Feb. 22.	Premiums awarded on butter and cheese at Menomonie .....	\$200 00	
	C. P. Goodrich, expenses attending convention at Menomonie .....	18 00	
	Geo. W. Burchard, expenses attending convention at Menomonie .....	4 75	
	C. H. Everett, expenses attending convention at Menomonie .....	5 50	
	E. L. Aderhold, expenses attending convention at Menomonie .....	11 50	
	John McCready, expenses attending convention at Menomonie .....	8 50	
	Hotel bills, speakers .....	97 00	
	Geo. A. Smith's services and expenses .....	110 61	
25.	H. K. Loomis, expenses attending Menomonie convention .....	17 95	
	John Van Owerkirk, helper .....	17 95	
	H. K. Loomis, postage and printing ...	5 36	



Mar. 5.	Otto Kielsmeier, for cheese sent to con.	1 20
19.	Chas. Thorp, expenses attending Menomonic convention .....	7 87
	Stephen Favill, expenses attending Menomonic convention .....	10 13
	F. H. Scribner, expenses attending Menomonic convention .....	15 50
	Mrs. Adda F. Howie, expenses attending Menomonic convention .....	14 40
	DeWitt Goodrich, creamery instructor.	10 00
Apr. 15.	Geo. McKerrow, expenses attending Menomonic convention .....	12 20
	18. Mrs. A. L. Kelly, reporter .....	135 00
	29. Prof. W. A. Henry, expenses attending Menomonic convention .....	11 19
	H. C. Taylor, expenses attending Menomonic convention .....	35 19
May 12.	E. L. Aderhold, instructor .....	130 00
	20. C. P. Goodrich, expenses attending board meeting May 8 .....	2 50
	H. K. Loomis, hotel bill for member of board .....	10 55
June 5.	W. A. Henry, expense attending at Milwaukee .....	3 75
	John B. McCready, instructor .....	116 00
	E. L. Aderhold, instructor .....	130 00
July 1.	Telephone message .....	25
	14. E. L. Aderhold, instructor .....	120 00
	22. John B. McCready, instructor .....	103 00
	29. H. K. Loomis, hotel bill and bus fare, Fond du Lac .....	1 75
Aug. 2.	James G. Moore, instructor .....	137 50
	7. E. L. Aderhold, instructor .....	108 00
	John B. McCready, instructor .....	105 00
Sept. 9.	E. L. Aderhold, instructor .....	92 00
	John B. McCready, instructor .....	127 00
	J. G. Moore, instructor .....	92 50
Oct. 9.	J. G. Moore, instructor .....	130 00
	John B. McCready, instructor .....	107 00
	E. L. Aderhold, instructor .....	90 00
Nov. 10.	E. L. Aderhold, instructor .....	110 00
	John B. McCready, instructor .....	155 00
	James G. Moore, instructor .....	105 00
Dec. 17.	James G. Moore, instructor .....	85 00
	A. A. Arnold, expense attending Menomonic convention .....	4 94

1903.

Jan. 2.	E. L. Aderhold, instructor .....	40 00	
Feb. 5.	James G. Moore, Dec. pay .....	115 00	
	James G. Moore, Jan. pay .....	120 00	
	H. K. Loomis, exchange on drafts.....	20	
14.	H. K. Loomis, postage .....	2 34	
	W. D. Hoard, printing .....	30 95	
	G. W. Burchard, ex. secretary's office..	113 22	
	G. W. Burchard, secretary's salary ....	250 00	
	Transferred from Swiss Cheese Makers' Ass'n to State Dairymen's Ass'n, by order of Ex. Com., S. D. A. ....	259 00	
	Balance in hands of treasurer .....	937 53	\$4,684 78

# CHEESE AND BUTTER SCORES.

*Cheese scores.*

Exhibitor's Name and Post Office.	Flavor 45.	Texture and stock 30.	Color 15.	Finish 10.	Total 100.
John Pfeiffer, Oshkosh .. . . .	44	29	15	10	98
Unknown .....	44½	29	15	9	97½
Fred Pfeiffer, Oshkosh .....	43½	28½	14	10	96
Wm. Zwickey, Vandvne.....	43½	28½	14	10	96
Jocely Bros., Krowles .....	43	27	15	10	95
H. M. Scott, Sheboygan Falls .....	44	26	15	10	95
Max P. E. Radloff, Husti-ford .....	43	26	15	10	94
Charles Gartmann, Sheboygan. ....	42	28	15	9	94
J. O. Batchelder, Fond du Lac .....	44	25	15	10	94
A. Kielsmeier, Hika .....	42	26	15	10	93
Albert Schmidt, Fond du Lac .....	44	24	15	9	92
J. F. Bachman, Black Creek .....	42	27	13	9	91
Average .....					94.6

## Butter scores.

Exhibitor's Name and Post Office.	Flavor 45.	Grain 25.	Color 15.	Salting 10.	Packing 5.	Total 100.
C. M. Kates, Custer .....	42½	25	15	10	5	97½
F. L. Duxbury, Green Bay ..	42	25	15	10	5	97
G. E. Jordan, Amherst .....	41½	25	15	10	5	96½
W. A. Abbott, Portage .....	41½	25	15	10	5	96½
James Van Duser, Hebron .....	41	25	15	10	5	96
A. E. Dixon, Evansville .....	40	25	15	10	5	95
W. J. Hyne, Evansville .....	40	25	15	10	5	95
Gust. Trager, Mazomanie .....	40	25	15	10	5	95
G. A. Freeman, Pewaukee .....	40	25	15	10	5	95
B. F. Holbrook, Durand .....	40½	24½	15	9½	5	95
McLean & Felch, So. Byron .....	40½	24½	15	10	5	95
A. L. Covill, Amherst Junction ..	40	25	15	10	5	95
R. Holcomb, Scandinavia .....	40	25	15	10	5	95
Henry Bast, Garnet .....	39	25	15	10	5	94
W. H. Caffisch, Baraboo .....	39	25	15	10	5	94
W. G. Jamison, Appleton .....	39	25	15	10	5	94
B. J. Ellis, Stoughton .....	39½	25	15	9½	5	94
Chester J. Chapin, Omro .....	39½	25	15	9½	5	94
Ole Esker, Bloomer .....	38	25	15	10	5	93
S. Haight, Cambridge .....	38	25	15	10	5	93
E. R. Powers, Fond du Lac .....	38	25	15	10	5	93
A. Kielsmeier, Hika .....	38	25	15	9½	5	92½
L. G. Cebell, Oak Center .....	37	25	15	10	5	92
W. H. R. Holden, Poynette .....	38	25	14	10	5	92
Matt Batchelder, Fond du Lac ..	37½	25	14½	9½	5	91½

In addition to the foregoing there were seven entries that scored less than 91 points, but in some cases at least the butter exhibited either lost flavor in transit or was not up to their average make in quality. The average score for all entries, 32 in number, was 93.22

Adjourned till 2 o'clock same day.

## AFTERNOON SESSION.

Convention met at 2 P. M., February 13, 1903.

The president in the chair.

The Chairman: Gentlemen, we have met for the last half day's session of this thirty-first annual meeting of the Wisconsin Dairymen's Association. We have a feast for the afternoon.

For myself, I wish to express to you my hearty thanks for what I regard as a distinguished honor that you have conferred upon me in re-electing me to the office of President of this Association.

H. C. Adams once said on a similar occasion that he would rather be elected President of this Association than to be elected to Congress. There were two gentlemen in the Second Congressional District who, for several months last fall, would have been greatly pleased, could they have gratified his ambitions in this respect. I certainly regard it as an honor and I can only say as I did a year ago, that I will do the best, in this capacity, that I can for the Association.

Secretary Burchard was called on for a speech.

Secretary Burchard: Ditto.

The report of the committee on Exhibits was submitted and accepted.

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## REPORT OF COMMITTEE ON EXHIBITS.

The committee on Exhibits and Dairying Machinery would report that as shown by the scores read this morning, there is on exhibition a very high class exhibit of both butter and cheese, but could wish that many others might have availed themselves of the opportunity presented for having their butter and cheese scored.

Several makes of hand separators, pasteurizers and other machinery are exhibited. This exhibit would bear out the



opinion often recently expressed that the interest of the farm separator is ever on the increase.

CHAS. L. HILL,  
S. M. INGALLS,  
Committee.

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A resolution, offered by Mr. Foster, received the unanimous vote of the Association in the following language:

*Resolved*, By this convention of the State Dairymen's Association, That we approve of and request that the appropriation asked for by the Agricultural College management this year, from the Legislature, be granted in full, as being to the best interests of the whole people of the State of Wisconsin. And be it further

*Resolved*, That the Secretary of this Association be and is hereby instructed to forward a copy of this resolution to the President of the Senate and to the Speaker of the Assembly of the State of Wisconsin.

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#### DAIRY POSSIBILITIES IN NORTHERN WISCONSIN.

Fred Reitbrock, Milwaukee, Wis.

Mr. President, Ladies and Gentlemen:—

It has been assigned to me to read a paper on the dairy possibilities of northern Wisconsin. By direction of your Secretary it is to be "terse, succinct and accurate."

There is implied in this subject pastures, cows, men and women, and markets.

Northern Wisconsin is no new territory or unknown district. Indeed, northern Wisconsin was land when southern Wisconsin and all the territory directly south of it to the Gulf of Mexico was covered with water, so the geologists would have us understand. At the same time to most people that we meet in southern Wisconsin the northern half of the state is a new country

but little understood by them, and in order to form an idea as to its desirability for dairying it is necessary to some extent to study its location, its accessibility, character of soil, water and climate. This we will undertake to do as briefly as possible.

Northern Wisconsin embraces practically one-half of the area of the state, or about 17,000,000 acres of land, and extends from east to west at its greatest width about 225 miles, and in its greatest extent from north to south about 160 miles. To the east of it is Lake Michigan; to the north of it Lake Superior; to the west of it the Mississippi and St. Croix rivers.

In the northern border we have what is known as the Penokee range, an elevated territory, extending east and west, the summit of which is not more than 25 to 50 miles from Lake Superior.

The whole territory south of this elevated range is an inclined plane sloping to the eastward, to the westward, but mainly to the southward. The surface of this plane in most parts is gently rolling.

There are numerous small lakes, especially in the northeastern parts, and innumerable springs, creeks and rivers which discharge their waters into Lakes Michigan and Superior but mainly into the Mississippi river.

The water in this territory is clear and in most places soft. Trout, bass, perch, muskallonge and other game fish abound in the lakes and rivers.

The soil, according to location, varies from a light sand to a heavy clay, but by far the largest portion of this territory has a clay loam soil. It is safe to say that the soil of two-thirds of the whole territory is clay and that one-third of it is sandy.

The sandy districts are mostly in the southwestern part of this territory in the lower valleys of the great rivers, as the Wisconsin, the Black and the Chippewa, and these sand valleys are so wide that they run into each other, making, as it were, a sandy belt, extending from Waupaca county west to the Mississippi river.

There are also considerable sand patches in the upper tributaries of the Wisconsin river. Then for about 50 miles in the course of that stream the sand valley is narrow, being not more

than about 5 miles wide, with great stretches of territory, on either side, of rolling clay loam land.

Throughout the most part of northern Wisconsin the soil rests on rock bottom, the underlying rock being a fire rock, of a granite nature, said to be of the first incrustation of the earth.

An abundance of water is found in this rock. The upper surface of the rock for a distance of 4 to 6, and sometimes 10 feet, is very much broken. This upper surface is soft. There are innumerable depressions in this rock surface all of which are filled with water.

The overlying clay bed is generally from 12 to 20 feet deep, so that it may be said the soil is in connection with the soil water without an intervening strata of sand or gravel, as is so common in southern Wisconsin and northern Illinois.

In its primeval state the most part of northern Wisconsin was covered with a dense growth of timber, the sandy territory being occupied by pine, and the clay loam territory mostly by what is called hardwood timber, such as maple, basswood, elm, oak, birch, ash and butternut.

Northern Wisconsin was first explored by the lumbermen, who entered by way of the streams that were large enough to float logs and lumber. The timber thus obtained was mostly pine, cut from the sandy regions, in consequence whereof it was quite easy and natural for the impression to go out that northern Wisconsin was a pinery, and its soil was only sand and unfit for agriculture.

As the woodsman penetrated further inland, and especially since the coming in of railroads, the true character of the country has become more generally known.

The climate of northern Wisconsin is not essentially different from that of southern Wisconsin. It has a little greater altitude, lies some northerly, but it also extends more westerly. The lines of equal temperature run in Wisconsin about from the southeast to the northwest, and not east and west as some people might suppose.

The climate is healthy, as is general in Wisconsin. The people are strong, active and progressive, as people generally are in a country that has a snug winter in its change of seasons.

During the winter the ground is covered with snow which as a rule comes between the middle of November and the 10th of December, and remains on the ground until the fore part of March, so that during the entire cold period the ground is so covered that frost seldom penetrates deeper than about two feet, and which is no where under this snow cover frozen as hard as it is in the southern sections that are not so covered.

In the summer time it does not become so excessively hot and dry as we often experience it in southern Wisconsin, showers are more frequent. The excessively dry and hot winds from the southwest do not seem to penetrate northern Wisconsin, but when the wind does prevail from that quarter it is generally followed by rain.

Until recently the abundance of timber was often assigned as the cause for this difference in rainfall, but Dr. Wilson, director of the United States Weather Bureau at Milwaukee, in his lecture at the closing Farmers' Institute at Oconomowoc last year, effectually exploded the notion that timber had very much to do with the abundance of rainfall, and asserted that our rains come almost exclusively from the Gulf of Mexico. Thus we are compelled to seek out another theory for this summer climatic difference. It may be that it is on account of its peculiar triangular position between the two great lakes, so that when the wind prevails from the southwest, driving the air in between rising cooler currents from Lakes Superior and Michigan, a condensation of moisture is effected and rain the consequence.

This theory seems to me plausible, but certain it is that during the growing season there is a more even rainfall in northern Wisconsin than there is in southern Wisconsin. This, together with the great depth of soil, accounts abundantly for the greater growth of vegetation throughout this section.

While some portions of northern Wisconsin have been settled pretty nearly as long as the southern part of the state, the great clay loam domain, however, has been too little occupied until within a recent period. The surplus population of 20 and 25 years ago was altogether too prone to go to the western prairie country. The northern part of the state thus lost a class of people that it would have been very desirable to have had and whose



conditon would have undoubtedly been very much better had they stayed in the state rather than to have gone to the treeless, windswept prairies beyond the Mississippi. The people who settled upon the hardwood timber sections of northern Wisconsin have never suffered the privations and vicissitudes that have befallen so many people who did go to the western prairie country.

During the last few years there has been a very rapid increase of population in northern Wisconsin, and it is only a question of a short time when the rural population of northern Wisconsin will be greater, upon any given area, than in southern Wisconsin, or neighboring states.

To determine the desirability of any section of country for any particular industry, its avenues to markets is always of great importance.

Northern Wisconsin is not only well provided with water communication with the rest of the world through Lakes Superior and Michigan, but the great railroad systems of the country have taken in the importance of the territory and have built their several lines pretty nearly in all directions through it, so that the Chicago & Northwestern Railroad, the Chicago, Milwaukee & St. Paul, the Chicago, St. Paul, Minneapolis & Omaha, the Wisconsin Central Railroad, the Green Bay & Western, the Duluth, South Shore & Atlantic, the Minneapolis, St. Paul & Sault Ste. Marie, and other roads; all have their various lines of railroads running throughout the length and breadth of this section of country, thus making easy communication between it and the great centers of population to the east, the south and to the west of it.

From Chicago, Milwaukee, St. Paul, Minneapolis, Duluth, Ashland and Sault Ste. Marie most any part of northern Wisconsin can be traversed in a day in a comfortable palace car, and all the productions of this territory are easily and cheaply landed in the best markets of the country.

In the valleys of the large rivers and on the lines of these various railroads, cities have been built, water powers have been improved, factories have been established and employment is given to thousands of people.

The farming industry is also largely on the increase. The

farms are generally small, running from 80 to 160 acres, but such as have been established are in good condition with good buildings, and show a high degree of prosperity.

Had there been any doubt of the desirability of northern Wisconsin for general farming this doubt was most effectually dispelled when some of the northern counties exhibited their agricultural productions at the state fairs during the last few years. Marathon county for three years in succession won first prize, upon the merit of its various forage plants, grains and fruit, when put in comparison with the exhibits presented by such agricultural counties as Waukesha, Kenosha, Walworth and Jefferson.

While Marathon county had no exhibit at the state fair last year, its neighboring counties of Lincoln, Taylor, Price, Ashland and Douglas, did have, and the first prize, based upon the merit of their agricultural exhibits went again to the northern part of the state.

The question has often been asked, can they raise fruit in the northern part of the state? Of course they can; but you might say does that affect the dairy possibilities of the country? In a way, yes. A country that produces good fruit is more attractive to people than one that does not.

All the small fruits, as strawberries, raspberries, currants and the like, grow wild and do ever so much better in the cultivated state. Native plums are also found in considerable quantity. While pineapples, bananas and oranges do not grow there any better than in southern Wisconsin, apples are very successfully grown.

In its exhibit at the state fair Marathon county showed, in 1901, forty-three varieties of standard apples, the quality of which was pronounced to be excellent and was awarded first prizes on the same.

The apple is a northern fruit. The tree does best upon a deep clay soil with a northern exposure. The northern slope of the Penokee range is large enough to grow apples and will undoubtedly grow them, as the section gets cleared up and the industry well on its feet, to supply apples for Wisconsin and every adjoining state.

While the sandy sections of northern Wisconsin are not particularly desirable for dairy farming the territory is sufficiently valuable, however, for the root crops, especially for potato culture, to make it attractive for permanent and successful settlement. No better potatoes go into the southern markets than come from northern Wisconsin.

In this discussion we have, however, particularly to do with the clay loam and clay sections which make the ideal pasture lands for the dairy cow.

Upon these lands the clovers, blue grass, red top and other grasses grow luxuriantly and produce regular, heavy yields. On account of the abundance of rain and the snows of winter, with the great depth of soil, and the connection with soil water, these forage plants root deeply, suffer little during the winter and start to grow with an extraordinary vigor in the spring, and grow continuously through the summer, and are therefore not so much affected by slight frost in early fall as are the grasses which have started to grow afresh after a summer's rest.

Oats, peas, barley, wheat, rye and corn all do well. The oat, pea and barley crops are entitled to special mention. These crops do not ripen so quickly, but seem to grow to full maturity, so that the yield is heavy. From 50 to 60 bushels per acre is the ordinary average crop of oats, while 80 to 110 bushels have been frequently harvested, oats weighing about 44 pounds to the struck bushel measure.

Barley is successfully grown, but it is not very much used for feeding purposes. It is sought after too sharply by the brewers, and by the farmers who produce it it is held sacred, as it were, for the production of beer; but considering how readily a good crop of barley is produced, the farmers will in time forget sentiment and use the barley in connection with oats and peas for the purpose of feeding cows and pigs.

Peas are a very good crop in northern Wisconsin. The vine grows luxuriantly and matures a heavy crop of the grain, which is without the bug which commonly affects the pea crop in southern Wisconsin. The value of it in balancing a cow ration and especially for pork production, is hardly appreciated.

Dairymen will concede that with an abundance of oats, barley,

peas, clover and red top hay a fairly well balanced and good feeding ration can be made for the dairy cow, especially if this is supplemented by corn and corn silage.

While the dent corns on the purely clay and clay loam soils have not ripened as successfully as on the warmer sandy and sandy loam soils, flint corn matures well, and either variety matures sufficiently for first-class silage. As the country has become older and more cleared up in larger areas the corn has done very much better.

Some say that blue grass is indigenous to the soil. Be that as it may, in the older sections you find it everywhere, in the pastures and along the road sides, the genuine so-called Kentucky blue grass or *poa pratensis*.

For grazing, where it does well, nothing better has yet been found. A blue grass pasture, with a mixture of white and alsike clover, some red top and orchard grass cannot be excelled for the growth of young animals and for milk and butter fat production.

Blue Joint is a native grass of this region and makes the finest quality of hay. It is not found in large areas, but is found in considerable quantities in the valleys of the small streams and on the so-called alder bottoms, but the main reliance for pasture and for hay and grain crop must be put upon the higher land, which in its primeval state is covered with timber.

The lumbermen and the farmers have worked together in clearing off such lands, and as the condition now is the land is cheaply cleared of its wealth of timber inasmuch as every variety of timber is valuable in a commercial sense; the logs for lumber, either for house building or for furniture and other mechanic arts; the hemlock bark for the tanneries; the trees for pulpwood, the smaller sticks for railroad ties, the maple and birch for cordwood, the small and inferior basswood trees for barrel stock, the black ash for hoops; so that with the present facilities for transportation and the demand for the timber product, all in all the labor in the clearing up of the land is well and fully compensated for by the prices obtained for these various products.

As this clearing up process goes on the thrifty husbandman works the land up into desirable farms. The stock business and



dairying is already well upon its feet. Of the 2,700 creameries and cheese factories represented upon the dairy map of Wisconsin of 1901 nearly 800 of them are located in the northern half.

The erection of creameries and cheese factories has been going on within the past two years with double the rapidity ever before witnessed in that territory. As this process continues the people will still more and more go into the dairy business, and it is only a question of time, and a short time at that, when northern Wisconsin will be one of the greatest and most successful dairy sections in the United States.

Land of the very best quality for general farming, and which cannot be excelled for dairy farming, can still be had for a very small price and that is why farmers, largely of the so-called renters, of southern Wisconsin and adjoining states are migrating there in such great numbers. Not that great settlements are picking up and going there in a body, but one family from here and another from there, and thus the aggregate whole amounts to many. There are people enough there already so that by the natural increase one generation more will completely settle the country.

With reference to the cow it can be said that the people settled there are just as much in the fog as to what they ought to have for the best results as they are elsewhere in the state.

As you drive through the country you will see all kinds of breeding. Sometimes in one bunch you will see Jersey, Holstein, Ayrshire and Guernsey breeding, and always some of no breeding at all—just common cows in which you can detect no particular known breed. The idea is gaining strength, however, that for dairy purposes you want the special dairy cow.

The conditions are such that best results will be attained by raising pigs in connection with the dairy herd rather than to raise cattle, other than cows, for sale. It will always be profitable to raise good heifers because for good cows there will always be a demand; and the feed stuffs for pork making when supplemented with the skim milk are so abundantly and easily raised that much more money will be made out of the sale of pork than if steers were attempted to be raised in connection with the

dairy. Hence, if a herd is started with cows showing dairy breeding it is easy to produce a good paying milking herd by the use of a pure bred dairy sire.

People learn more quickly by example than by precept. If an object lesson is brought before their eyes they can study that much more correctly than if they tried to get the information through volumes of print.

There is perhaps no better example that could be cited in this line than is found in the herd and workings of Mr. H. D. Griswold of West Salem, La Crosse county, this state. This dairyman, upon a farm of 50 acres, supplemented by 25 acres of rented pasture, has in the period of a little better than 10 years produced from common stock, by the use of pure bred Guernsey sires, a herd of cows, numbering upwards of 20, that have averaged him over 400 pounds of butter during last year.

Surely with such herd of cows together with the pig industry to be carried on with it on account of the skim milk, very much greater results can be attained than from a common herd, or a half and half dairy and beef herd whose average would not be one-half of the amount.

In carrying on a dairy business there is much work implied, and it must be mainly the work of the family owning the land. It is a home business that families can carry on within themselves most profitably, and with reasonable care and diligence will support a family much more comfortably and provide a surer surplus than will most any other undertaking.

Having stated the conditions as we find them in northern Wisconsin upon which to predicate its dairy possibilities—that means what it will do in the dairy line in the future—we may be permitted now to figure out the number and size of our dairy farms, and plant thereon the kind, gentle and accommodating cow which is to eat the grains, grasses and clovers and extract therefrom that element of human food so necessary for the growth and comfortable existence of man.

Out of the whole domain of northern Wisconsin take 3,000,000 acres for example; divide the same into farms of an average size of 120 acres. This will give us 25,000 farms. Set apart 40 acres for a wood lot. This will amply supply the needs of

the farm in the shape of fire wood, building material, etc., and give a little park for the family and shade for the herd and at the same time maple sugar for the children. This will also leave to the country that romantic and park like appearance which does so much to make it a desirable and attractive place for a home. Cultivate and pasture 80 acres of the farm. Upon this there will be no difficulty in maintaining 20 cows in milk the year round, and to raise the desirable young stock for the maintenance and improvement of the herd. There will also be ample room for the raising of 50 to 60 pigs to be annually turned off.

Twenty cows, on 25,000 farms will give us 500,000 cows, and it seems to me the great majority of the farmers in northern Wisconsin, after the example of Mr. Griswold, will grade up to a perfect dairy herd from the common cows of the country by the use of pure bred dairy sires. In doing this they should not mix the breeds. Keep the breeds separate, as it were, by fences "horse high and bull tight." The pure bred bull has dairy heredity; the half blood has it not, and is therefore a scrub. The pure bred of the same breed should always be used.

Let them work on these lines, with good judgment and care, and success will be theirs.

Here then we have the country with sparkling water, a delightful and bracing climate, a deep and productive soil, carrying the humus shed annually by the forests for a thousand years, unrivaled railroad and water communication with the great centers of population and to which are coming the young, the intelligent, the active and energetic. To them we can safely commit the dairy possibilities of northern Wisconsin.

## DISCUSSION.

Prof. Henry: What varieties of clover grow in northern Wisconsin?

Mr. Reitbrock: The Medium, I think, is most grown. Alsike is grown on the softer soils and White Clover is grown pretty nearly everywhere. Some people have said that it was indigenous to the soil, but I don't think it is. I think it came there some other way, and then got scattered, and it keeps on growing. My experience extends over a period of about twenty-five years. In one section of territory, that I am more particularly acquainted with, I have heard it said by people living there now that it always grew there, that it came naturally, but the fact is I brought a bushel of White Clover seed there and gave it to a farmer settled there and requested him to scatter a little here and there, wherever he found a patch of bare ground, and the sheep and cows, I think did the rest.

Mr. Gurler: I have hunted up in northern Michigan, just over the Wisconsin line, for twenty-one seasons, and it has been a great surprise to me to see how clover thrives up there. I have expressed many times a wish that I could get a stand of red clover and get it to thrive as well in northern Illinois as it does in northern Wisconsin.

Prof. Henry: You are right.

Mr. Cobb: We have a gentleman down in our country and he has been up in that country, and he says the farmers of Illinois don't know a thing about clover or blue grass either.

Mr. Goodrich: Do cows produce an abundance of milk during the year up there where the timber is thick, up in the woods, up above Athens, for instance?

Mr. Rietbrock: If they get the feed. In its natural state the timber growth is so extensive that there is little grass for the cattle, but as the timber is cleared off and an opportunity given for the grass to come in, of course they get an abundance of feed.

Mr. Goodrich: But are there any flies there, that is what I want to get at?



Mr. Rietbrock: Certainly there are some flies there, but I don't think the flies are as savage as I have known them in the southern part of the state, because the evenings are generally a little cooler and there is a rest from the flies and the mosquitoes after it cools down in the evening.

Mr. Goodrich: Then you think they are not as bad as they are in the southern part of the state?

Mr. Rietbrock: I don't know; a mosquito bite is pretty bad anywhere you get it.

Mr. Wheeler: I moved into northern Wisconsin something over thirty years ago. There was no grass at all in the woods. I bought me a cow and put her in the woods, thinking she would starve to death, but I had to milk that cow three times a day all summer, and she ran in the woods with no grain. She was fat as a hog. That's the way cattle do in northern Wisconsin.

Mr. Rietbrock: My impression is that the gentleman did not follow up that cow all day to see where she went into the little crooked paths and little openings to get the grass naturally growing there. She certainly did not get very fat nibbling the buds from the brush, or the moss from the ground that does not see the light of the sun. It is in the little paths that are open, any place that is open, there is an abundance of grass, providing there is not an over abundance of cattle to eat it. The open territory is limited.

Mr. Thorp: Why is it that we have earlier pastures in northern Wisconsin than in southern Wisconsin?

Mr. Rietbrock: I thought I made that proposition fairly clear. I have studied it out in this way: The soil is deep and is in connection with the water. The ground is covered the winter through with snow, and does not freeze so hard, and the plant roots do not suffer. They start to grow with greater vigor in the spring and your pasture comes thicker on that account. It is more hardy, too, there is more to it. Where your pasture is liable to die out in mid-summer, and your grasses have to come up anew, they are juicy and can't stand much and are easily nipped by the early frosts.

Prof. Henry: How long is the season in northern Wisconsin, in the vicinity of Wausau? A. Well, I should say that it

would be just about as long, no longer or shorter than in the vicinity of Milwaukee. I have been acquainted with those two cities and have been at all seasons of the year in both of those places for twenty-five years, and by that I judge it. They are about the same. There is no very great climatic difference noticeable, and in studying some of the climatic conditions years ago, I found the line of practical equal temperature running from near Milwaukee to Douglas county, in the northwest part of the states; so it would run from southeast to northwest.

Mr. Thorp: It may be that it will do somebody good if I sav something here. Where I live in northern Wisconsin we have a canning factory there, and they hire the farmers' land, pay him so much an acre, plowed, and the canning factory people do the rest. There was a gentleman lived near town and had a nice farm but he didn't like the idea of sowing peas on his land unless they would allow him to sow clover with the peas. They did not propose to do that at first, and he told them he would not take the customary ten dollars an acre for his land unless they would allow him to sow clover with the peas. They finally agreed to let him do it, and after the peas were sown he sowed clover seed on top and went over it with a harvester and when they cut those peas for the canning factory—they cut them green—and when those peas were taken off, that clover was green and in less than a week there was a good growth of clover on the ground and that man got from that piece of land that he had had ten dollars for the use of, two tons of clover hay besides. I don't know whether it would do for people in the southern part of the state where they have canning factories, whether they could get a catch of clover that way or not, but I know that in northern Wisconsin when we sow clover seed we expect to get clover and we never fail, no matter what time of year we sow the seed or with what crops. They cut those peas very early, and of course that took the crop off the ground and gave the clover a chance.

Mr. Rietbrock: Clover in northern Wisconsin is generally sowed in the spring, either with oats, or if the land is prepared in the fall and sown to wheat or rye, the clover is sowed in the

spring, but in either case after the harvesting of the crop, a good growth of clover is made for hay, following the cutting of the other crop.

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## THE WISCONSIN FEEDING STUFFS LAW, AND ITS IMPORTANCE TO THE FARMER.

Prof. W. A. Henry, Madison Wis.

Mr. Chairman, Ladies and Gentlemen:—

The substance of my address will be found in Bulletin 97, of which there are copies here and of which more can be secured from Madison.

The Wisconsin Feeding Stuffs Law I believe was drawn up by the Honorable Secretary of this Association, and was passed by the Legislature of 1901.

Now, why did our Secretary feel it necessary to have such a feeding stuffs law? As an editor, he knows what is going on all over the United States; he has followed the history of these laws as they have been passed and enforced in other states, and he knows that there is good work being done under them, and therefore that it would be a good thing for us to have.

Laws regulating the sale of high priced feeding stuffs have been enacted by the following states besides our own: Maine, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania and Maryland.

Chapter 377 of the Laws of 1901 as passed by our legislature covers the subject for Wisconsin. The substance of the law is as follows:

Section 1. The term "concentrated commercial feeding stuffs," as used in this act, shall include linseed meals, cotton seed meals, peameals, cocoanut meals, gluten meals, oil meals of all kinds, gluten feeds, maize feeds, starch feeds, sugar feeds, sucrose, hominy feeds, cerealine feeds, rice meals, oat feeds, corn and oat feeds, ground beef or fish scraps, mixed feeds of all kinds, also all condimental stock foods, patented and proprietary

stock foods claimed to possess nutritive as well as medicinal properties, and all other materials intended for feeding to domestic animals; but shall not include hays and straws, the whole seeds nor the unmixed meals made directly from the entire grains of wheat, rye, barley, oats, Indian corn, buckwheat, dried brewers' grains, wet brewers' grains, malt sprouts, sorghum and broom corn. Neither shall it include wheat, rye and buckwheat brans or middlings not mixed with other substances, but sold separately, as distinct articles of commerce, nor pure grains ground together.

Section 2 provides that each and every person selling or offering for sale any concentrated feeding stuff shall furnish with each car or package a printed statement properly attached, giving the name of the manufacturer, and the contents of the car or package, stating the percentage of total crude protein and crude fat.

Section 3 provides that before any manufacturer can sell or offer for sale any concentrated feeding stuff, he shall file with the Director of the Wisconsin Agricultural Experiment Station a certified copy of the statements specified in the preceding section, together with samples of the goods to be sold.

Section 4 provides that the manufacturer shall pay an annual license fee of \$25.00 for each distinct brand of feeding stuffs sold in the state. The payment of a license fee once each year covers the expense, no matter how many agents there are. The license fees are to provide an income to the Experiment Station for defraying the expenses incident to analysis and supervision of the business by the Station.

Section 5 provides that the Station shall analyze a sample of each licensed feeding stuff.

Section 6 provides that any manufacturer or person selling concentrated feeding stuffs who does not comply with the law, shall pay a fine for violating it.

Section 7 provides that any person who shall adulterate any kind of meal or ground grain or other feeding stuff with any foreign material, unless he shall state the true composition of the mixture or adulteration, on the package, shall be subject to fine.



Section 8 provides that the Director shall report the violations of the law to the Dairy and Food Commissioner who is directed to undertake prosecutions.

Under the provision of the law twenty-three manufacturers took out licenses for forty different brands of feeding stuffs for the calendar year ending December 31, 1902, the revenue from the same to the Station being \$1,000. It is from moneys so derived that the expense of supervising the work and carrying out the law is met. There is no expectation nor intention to secure for the Station any net revenue.

#### CARRYING OUT THE LAW.

The direct supervision of this work is in charge of Prof. F. W. Woll, assisted by Mr. Geo. A. Olson, a graduate of our Agricultural College, who has performed the major portion of the very large amount of chemical work on feeding stuffs during the past year. The field inspectors are Mr. Roy T. Harris and J. D. Clarke. During the first year we made a thorough survey, our representatives visiting all communities of over one thousand inhabitants in the state. Seven hundred and thirty-eight dealers in one hundred and seventy-one towns and cities were visited, and five hundred and ninety-seven samples of feeding stuffs taken. Six cities were visited two or three times. In addition the Station received direct from the farmers and feed dealers seventy-two samples of feeds. Most of the various materials collected were analyzed, the results being given in Bulletin 97 of the Station.

#### CONCERNING OIL MEAL AND WHEAT BRAN.

We have found that licensed oil meal and cotton-seed meal runs high in quality. One or two brands of linseed oil meal fell somewhat below the guaranty of the manufacturers, but apparently through ignorance of the actual nutrient content on their part rather than from any adulteration or attempt at fraud. It is important and satisfactory to be able to report that we have not found the linseed oil meal sold in this state to be adulterated or reduced in value with intent to perpetrate fraud.

Wisconsin farmers are to be congratulated upon the high protein content of most of the wheat bran sold in the state. Analyses of 147 samples of bran made by the Station show an average content of 16.57 per cent. of total protein. This is a higher amount of protein than is carried by the brands of the eastern United States.

#### BRAN ADULTERANTS.

Unfortunately bran, as it is sold, is not always derived wholly from the wheat grain. Millers sometimes grind up weed seeds and mix the material with bran. Of course certain kinds of seeds have considerable feeding value and their admixture with bran does not necessarily lower its feeding value, though in many cases it does. An illustration of the harmful adulteration of bran may be instanced in the following case. A feed dealer in the northwestern part of the state received a carload of bran from Minnesota. Examination showed that it contained numerous weed seeds which might bring trouble to the farmers using such feed. He held the car pending a decision from the Experiment Station, and on report from us demanded that it be withdrawn from the state, else prosecution would be begun. An examination of the sample sent to the Station showed that each pound of the bran contained the following numbers of weed seeds:

Pigeon-grass seeds .....	28,000
Wild buckwheat seeds .....	16,600
Flaxseeds .....	3,800
Various other weed seeds.....	5,100
Total seeds per pound of bran.....	53,500

Remember that all of these were found in a single pound of the bran and that none of the seeds were ground up, so that most of them were capable of germinating. It is interesting to report that this carload of bran was taken back to the state from whence it came.

## MATERIALS USED IN ADULTERATING FEEDING STUFFS.

We have already referred to unground weed seeds in bran. Often they are ground and introduced into the bran. They may possess considerable feeding value, but bran should not be called pure bran in which such material is found. Another class of adulterants may be illustrated by the oat hulls and other by-products from the oatmeal factories. With the large increase in the use of oatmeal for human food, great quantities of oat hulls—hundreds of trainloads—result annually. Then the oat grains are carefully cleaned at the mills and the fine pencil of hairs found at the end of the grain is removed and these hairs constitute the major portion of a material known as oat dust. Finally, there are particles of the oat grain itself possessing considerable nutriment not used in the manufacture of human foods which go in with the waste. These materials separately and variously intermixed, are properly enough placed on the market for the feeding of live stock. Sold for what they are, no one should find fault with them.

There is a tendency, however, with feed dealers and others to mix oat hulls and other by-products of the oatmeal factories, with higher priced feeding stuffs and get as much as possible for the mixture. In the worst cases oat hulls are added to corn meal and the mixture sold for *ground corn and oats*. The unsuspecting buyer taking some of the material in his hand, sees the oat hulls, and supposed, of, course, that the kernels which naturally go with the hulls, are likewise present. The deception is a rank fraud and the selling of such material is contrary to the Wisconsin feeding stuffs law. A still lower grade of adulterating material is made by grinding up corn stalks. There has come about the use of corn pith for various purposes. The portion of the stalk remaining after the removal of the pith, consisting mostly of the shell of the stalk together with the leaves and husk, is ground to a fine dust-like powder sometimes called "Marsden Feed." Great things have been claimed for this material, but it cannot have a very high feeding value and should never rank with concentrated feeding stuffs. This material, of

a yellowish-brown color and dust-like, is sometimes used for adulterating stock foods. One sample of dried brewers' grains from Illinois shows this material mixed with it as an adulterant.

Another adulterant consists of ground-up corn cobs. In a recent issue of the trade journal named "Flour and Feed" the statement is made that a corn-cob meal factory in Indiana runs night and day. This factory grinds up corn cobs into a meal-like substance, evidently for the sole purpose of selling it to feed dealers for adulterating feeding stuffs.

#### THE USE OF LIGHT OATS.

Another means of adulteration is to screen out light oats, which have very little meat or kernel, and mix such low-grade oats with corn for grinding, the product being called "ground corn and oats." Of course it is "true to name," but unfortunately the oat side of such a mixture is of little value. We should remember that the oat hulls freed from the kernels have about the same feeding value as oat straw.

#### MIXED FEEDS.

From our first year's experience in carrying out the feeding stuffs laws we have come to believe that the ordinary high grade feeding stuffs, such as oil meal, bran and middlings are being sold without adulteration in nearly all cases. On the other hand, we are finding a great deal of trouble in the matter of mixed feeds. Mr. Woll finds that out of 96 samples of so-called pure ground corn and oats, examined at the Station during the past season, 33 were suspicious and 17 were believed to be adulterated.

Crude fiber constitutes the woody and less useful part of any feeding stuff. Our animals can utilize crude fiber to a certain extent, but the farmer, as a rule, has plenty of this crude fiber in the corn stalks and straw which he produces. As a usual thing the farmer does not care to buy at the elevator, mill or warehouse and draw to his farm crude fiber, yet in purchasing mixed corn and oats and many of the licensed feeding stuffs he is getting great quantities of this same woody fiber.



## HOW THE FARMER MAY POST HIMSELF ON FEEDING STUFFS.

First, every farmer should have his name on the mailing list of the Wisconsin Experiment Station in order to receive its frequent bulletins. When about to purchase a feeding stuff of a new name or not well known, consult the last bulletin on feeding stuffs and see if it is licensed. *Remember that licensing does not indicate that the feeding stuff licensed has a high value.* It simply means that the dealers are complying with the law and the material comes up to guaranty, which may be a low one so far as real feeding value is concerned. Unless one is short of roughage, such as hay, straw or corn stalks, always purchase a feed with a high protein content, a fairly high fat content and a low percentage of crude fiber. Remember that crude fiber is the woody part of the feeding stuff and not particularly valuable. In purchasing ground corn and oats, deal only with reliable people and see that there is no admixture, the material being just what it pretends to be and that no light oats were used in producing the mixture. Better yet, buy pure grains ground separately, and do your own mixing. Where by-products containing oat hulls, etc., are purchased, never pay high prices for such material nor expect high returns from their use. As said in the beginning, they have a legitimate place among feeding stuffs, but oat hulls, oat dust, ground corn-cobs and ground corn stalks can never take the place of the richer parts of the flax seed, the bran and middlings of the wheat grain, the rich grains of corn and the meats of the oat kernel. Avoid buying anything that is mysterious or carries a high-sounding name, just because it is a novelty. When you purchase a high grade feeding stuff be willing to pay a fair price for it, and for the cheaper portion of the ration with the heavy percentage of crude fiber, draw on the straw stack, the corn shock or the forage in the silo.

## DISCUSSION.

Secy. Burchard: I would like to ask you in furtherance of what you have said, if this law does not provide that every one of these mixed feeds and so on, should be accompanied with a guaranty as to their contents?

Prof. Henry: The point is well brought out by the inquiry. Yes. When you buy these mixed feeds, every package, every bag, must be labeled. I have a number of samples here of adulterated feeds. Each package sold of these mixed feeds must tell how much protein and how much oil that is guaranteed to contain.

Secy. Burchard: That is one of the safeguards thrown around the feeds that you go to town to buy. If your dealer offers you something in the lump, if he has got it in a bin, or something of that kind, you call on him to show you the guaranteed statement as to what that feed contained which he must show you, as it came from the car, and if it is in sacks or bags it must be accompanied by a label containing that guaranty, and if it is not up to the guaranty he is open to a heavy fine and penalty.

Mr. Gurler: I am hunting for light along this feeding line. You tell us it is desirable to grow all the protein we can on the farm. I fully believe I am going to succeed in growing alfalfa on my farm, and I know I can grow corn. If I make a mixture of alfalfa hay and corn silage as I figure it out, twenty pounds of alfalfa hay and thirty pounds of corn silage, gives twenty-five pounds of dry matter, and it gives me practically two and a half pounds of protein and twelve and a half of carbo-hydrates, or fat producers. Now, can a cow handle that amount of food, had we better try to make her do it, or shall we give her some concentrated food such as we have to buy?

Prof. Henry: If the cow was a heavy producer and working at her limit, she could stand that. If she was a cow of high development, not a very large barrel, a Jersey cow, for instance, she could hardly stand it. A Holstein cow could pretty nearly handle it.

Mr. Gurler: If I can do that, it means thousands of dollars a year to me.

Secy. Burchard: That is too much.

Mr. Foster: This protein analysis that we get on the sacks of feed is not a guide toward feeding cows entirely, is it not a question of whether it is digestible or not?

Prof. Henry: Certainly.

Mr. Foster: I saw not long ago a dairyman feeding what looked to me like oat dust, and he was bragging of the protein contents and showed me the tag on it. Now, I know that was not the right kind of stuff for feeding.

Prof. Henry: Not all, in feeding these stuffs, is digested by the animal, and having digested it, they use it.

These feeding stuffs run from 65 to 85 per cent. digestible protein up to 90 per cent. rich in protein food.

A Member: We can't get gluten meal to any amount, but we can get malt sprouts. Now, how will they answer?

Prof. Henry: I cannot answer that question positively. I know malt sprouts are very rich in protein, but they are not very well liked by the cow. They are really one of the cheapest feeds you can get, if you can induce the cow to eat them.

A Member: It is pretty hard to make stock eat that stuff.

Prof. Henry: And they vary in quality quite a little; but you can get a cow to eat three or four pounds by putting them on ensilage. On the other hand, dried brewers' grains are rich and digestible.

Mr. Goodrich: Here are some questions that have come into the question box that Professor Henry can answer, perhaps: What kind of soil is best adapted for growing alfalfa and how much seed should be sown to the acre and what time should it be sown, and is it advisable to sow it with other grain, and how should it be when you cut it?

Prof. Henry: Anything else? Your questions are all right, my friend, but you have got to read Hoard's Dairyman for about six months, and you will find all those questions answered. Don't try to take ten or fifteen big dinners here this afternoon, but spread them out, and you will enjoy them so much more and digest them much better. There are several people here who

can answer those questions better than I can. Perhaps Mr. Goodrich better answer them.

Mr. Goodrich: What is wanted of me?

The Chairman: We want you to answer your own questions?

Mr. Goodrich: They were not my questions, but I will answer the best I can. Any soil that will raise good corn and clover, where the water line is down far enough, say three or four feet, will grow alfalfa. Now, how much seed to the acre. I believe we want to sow about thirty pounds here. Out west they sow fifteen to twenty, but we want to sow it thick enough so we can keep out the blue grass which will creep in if it has any chance. It should be sown in the spring just as soon as the ground is fit to work. Select a piece of ground, good ground, on a part of your farm where it won't inconvenience you to have it out of the regular rotation of crops. The next question is, should it be sown with something else? I would prefer to sow it by itself, as being the surest way, then when the weeds are up eight or ten inches high, clip them off with the mower, up high, there will be some alfalfa and some weeds; and if there is too heavy a growth so you think there is danger of smothering the alfalfa, rake it up, and if it is a good season, the alfalfa will pop right up again and make a good crop of hay. To make the seed bed, harrow it as nice as you can, the nicer the better. You can sow with oats, a bushel and a half to the acre and after the oats are headed out, cut it off for hay. Don't let the oats stand on it too long, or they will lodge down and kill it in spots. But as I say I prefer to sow it by itself.

A Member: Is hard-pan subsoil liable to kill it out?

Mr. Goodrich: I have been told by a man who was reliable, that there was a hardpan subsoil under his land about a foot and a half, that the roots got down to it and run along horizontally, and the alfalfa did not do well.

Question: Is there any danger of the early frost killing it?

Mr. Burchard: I don't think it is desirable to sow alfalfa as early as Mr. Goodrich stated. Alfalfa seed is very slow to germinate and I would not advise any one to sow alfalfa until they are pretty certain of having good warm weather to encour-



age its germination and to avoid the frost, about grain-planting time.

A Member: I differ with you about that. I would sow it early.

Mr. Burchard: All right, sow it early, if you want to.

The Member: We sow a little alfalfa and a little common clover together, and the alfalfa is up quite a bit when your common red clover is just coming out of the ground.

Prof. Henry: There is one point on which they are all agreed, and that is, that the ground cannot be too well and carefully prepared before the seed is sown, and that alfalfa so far as the plant life is concerned, the first year cannot be cut too often, providing it is not cut too close to the ground.

Mr. Burchard: Another thing, I don't know whether it has been tried in this state, but in the western states, it is very highly recommended where they have been growing it many years, and especially if you have a comparatively thin stand, to go over the field in the spring with a disc harrow, with the disc teeth spread so as to spread the crowns of the alfalfa and get two plants where you only had one before.

Mr. Goodrich: One more thing: don't pasture it. Don't care if some neighbor says he has pastured it and it is all right. I tell you it is not all right. I don't care if they have pastured it in some places, don't pasture it. Will you remember that?

Mr. Cobb: Mr. Goodrich is right. Don't pasture it.

A Member: Will hogs kill it?

Mr. Cobb: Anything will kill it, provided it is pastured at the time it should not be.

Prof. Henry: I want to impress upon the farmers that if they are going to grow alfalfa, they must take more pains to get a stand than with red clover. We have abused the red clover, we expect it to grow where we do not expect weeds to grow. You will start out with the idea that alfalfa is somewhat like clover, and it is. You will start out to treat alfalfa as you treat clover, and you will make a failure of it. Now, if you can't treat but one acre of alfalfa right, take one acre. Remember that the ground must be given up for eight or ten years, so you do not want it in a field you expect to use for something

else another season. Then, alfalfa responds to manure, it does not like poor soil or grow in weeds. It needs the very best of care, but if it will pay at all, it will pay immensely for all you do for it.

Mr. Everett: One other important point. I think all growers agree that a good, heavy growth should be left in the fall for winter protection, ten, twelve or fourteen inches. A winter like this is very severe on clover and winter grain, and it would be very severe on alfalfa without this protection.

Mr. Burchard: I think this has been a good winter; it has with us. Not very much snow, but quite enough to protect the roots, and we have had no drying out.

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The report of the committee on Resolutions was submitted by its chairman, Professor Henry and unanimously adopted as follows:

*Resolved*, That this association most heartily approves of the bill now pending in the legislature to promote the efficiency of the Dairy and Food Commission; that we endorse the stand taken by our honored president, the Dairy and Food Commissioner, to enforce to the letter the laws of the state relating to the sale of oleomargarine, and we request all judges, magistrates and prosecuting officers to give him their aid in this effort, and we cite the association's record of more than thirty years' service in behalf of the dairy interests of Wisconsin, everywhere recognized as having been faithful, unselfish and efficient, as entitling its opinions and requests to favorable consideration by legislators and officials of every degree.

*Resolved*, That the thanks of this association are due the railroads for granting to attendants at this convention reduced rates on the several lines.

*Resolved*, That in selecting Fond du Lac as the place for holding the 31st annual meeting of this association, the committee having the matter in charge made no mistake. The hearty, helpful interest taken in the convention by the Fond du Lac Advancement Association, the prompt attendance and close interest shown by the large body of farmers at each session from

the first, shows that all classes of citizens hereabout are in sympathy and interested in the great work of this association.

*Resolved*, That our thanks are due the officers for their unselfish devotion to the society and especially to our little band of traveling instructors who are doing better and better work as time brings experience and familiarity with its duties.

Secy. Burchard: I do not know that there is anything further to say excepting personally I feel very much like returning my warmest thanks to the people of Fond du Lac, who have so cordially, so enthusiastically and so unreservedly seconded every proposition of mine in the endeavor to make this convention a success. I have said frequently, that it was not so much what the officers did, it was not so much what the programme was, but if we could have a good company of listeners at every session, we are always sure to have a good convention. We have had that company of listeners here, and to us who have sat in front it seems to me as though this has been—well, it would hardly be right to say the best convention we have ever had, but one of the best, certainly; and again I thank you all.

President Emery: If there has been a word of fault found with anybody about anything during this entire convention, that word of fault has not come to me. Everything has gone very smoothly, we have had many able papers and speakers, we have had a lot of splendid listeners and it seems to me that this meeting has been a very successful one.

If there is nothing further to come before this meeting, I now declare this convention adjourned *sine die*.

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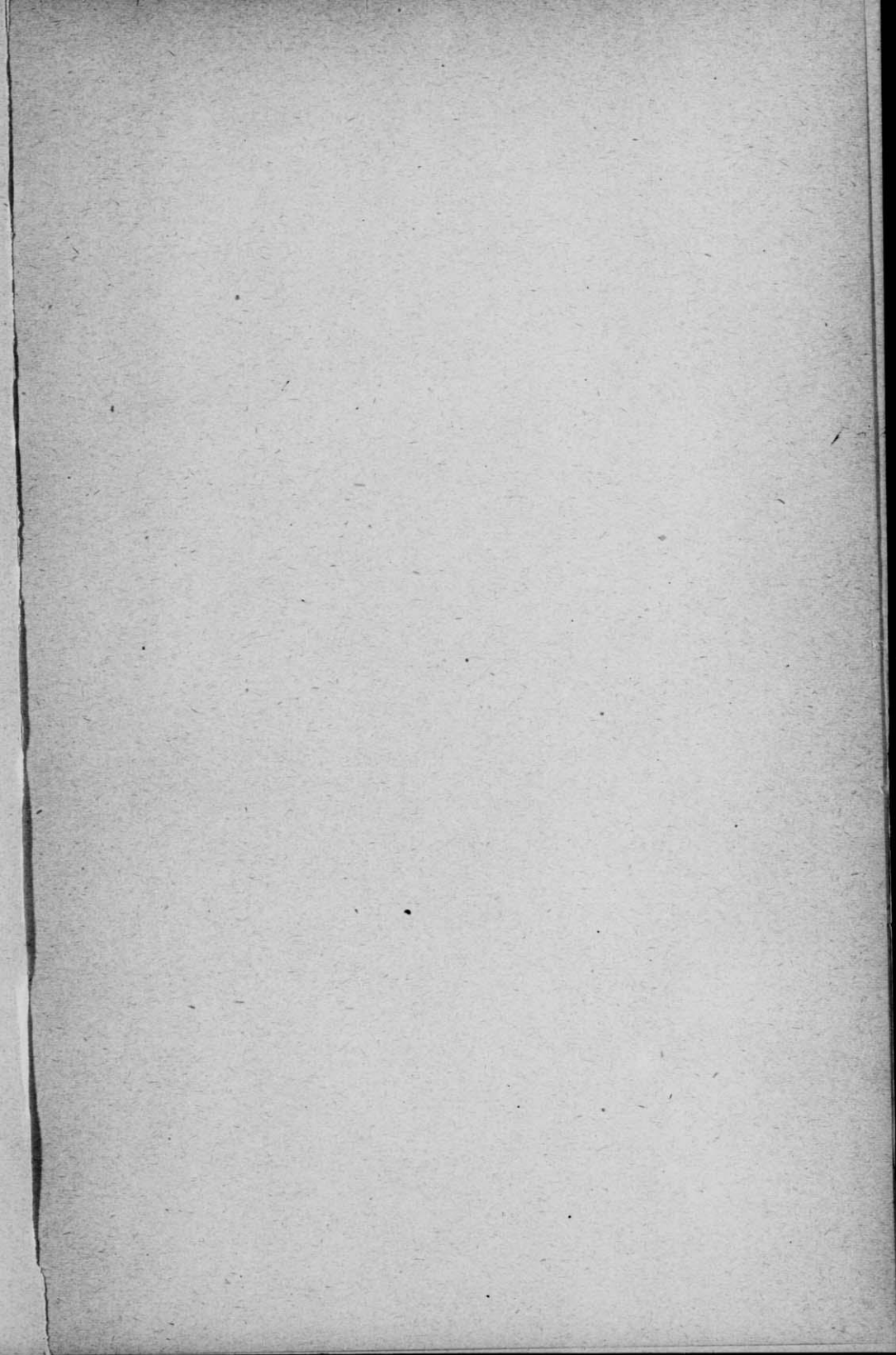
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