Forty-second annual report of the Wisconsin Dairymen's Association: held at Antigo, Wis., Dec, 2, 3, and 4, 1913. Abridged report of proceedings, addresses and discussions. 1917

Wisconsin Dairymen's Association
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CONSOLIDATED ANNUAL REPORTS

OF THE

WISCONSIN DAIRYMEN'S ASSOCIATION

FOR

Annual Meetings 1913, 1914, 1915, and 1916

Assembled for its Forty-second Annual Meeting at Antigo, December 2, 3 and 4, 1913; its Forty-third Annual Meeting at Ladysmith, December 1, 2 and 3, 1914; its Forty-fourth Annual Meeting at Hillsboro, December 1, 2 and 3, 1915; and its Forty-fifth Annual Meeting at Waupaca, December 5, 6 and 7, 1916.

COMPILED BY

PAUL C. BURCHARD, *Secretary*

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

MADISON
DEMOCRAT PRINTING COMPANY, STATE PRINTER.
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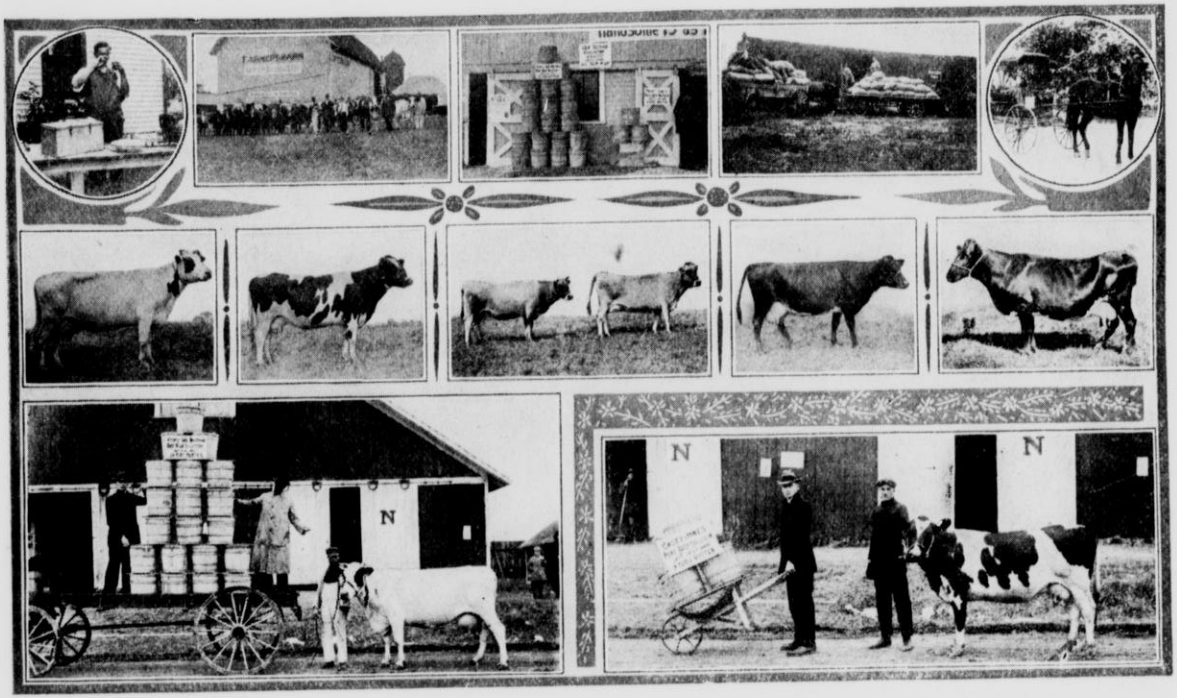

Cow testing exhibit at the 1916 Wisconsin State Fair, where there were brought together representatives of the good and poor cows to be found in Wisconsin. The average of the eleven good cows shown was 13,555 pounds milk containing 589.5 pounds fat. These were compared with other cows that were good by looks but which produced from 87 to 166 pounds fat. The exhibit was popular and proved to be one of the most attractive on the fairgrounds.

LETTER OF TRANSMITTAL

WISCONSIN DAIRYMEN'S ASSOCIATION,

Secretary's Office,

FORT ATKINSON, WIS., July 1, 1917.

To His Excellency, EMANUEL L. PHILIPP,

Governor of the State of Wisconsin.

SIR:—I have the honor to submit for publication, as provided by law, the Forty-second, Forty-third, Forty-fourth, and Forty-fifth Annual Reports of the Wisconsin Dairymen's Association, together with an abridged report of the proceedings, addresses, and discussions had at the annual meetings held at Antigo in 1913, at Ladysmith in 1914, at Hillsboro in 1915, and at Waupaca in 1916.

Respectfully submitted,

PAUL C. BURCHARD,

Secretary.

ARTICLES OF ASSOCIATION

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 places 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.

FOREWORD

For the past four years no report of the proceedings of the Wisconsin Dairymen's Association has been published because of the lack of funds, which it was felt could more appropriately and beneficially be expended in actual field work and almost exclusively in the organization of cow testing associations. Owing to various savings and additional sources of income hereafter explained, a sufficient saving was made the past year to permit at this time the printing of a consolidated and abridged report of the last four annual meetings.

In order to give a better understanding and a more nearly correct perspective of the purposes and needs of the Wisconsin Dairymen's Association, the Secretary has prepared this foreword. It gives in brief outline the activities and accomplishments of the Wisconsin Dairymen's Association during the past nearly half century, and tells more particularly of that phase of its work which now consumes very largely its total income.

Historical

The Wisconsin Dairymen's Association was organized in 1872, at a time when agriculture was at a very low ebb in this state, owing to the single crop system. It would be presumptuous for one specially interested to say that the wonderful progress of the state in dairying and agriculture was due only to the efforts of this association, but unprejudiced and competent observers have stated that it has been the greatest single force in accomplishing this result. Since its organization the dairy products of Wisconsin have increased from $1,000,000 annually to over $120,000,000 annually, and our state now stands first among the states in value of dairy products and in number of dairy cows, and she is pointed out in all regions as the pattern for successful cow keeping and has become the Mecca for buyers of pure-bred and grade dairy cattle.

The first problem met and solved was the securing of a good market for Wisconsin's dairy products and advertising their quality. Going hand in hand with this was the improvement in the quality of the product, which was accomplished through meetings and institutes of farmers, and through the employment of inspectors and instructors to visit creameries and cheese factories. This work was the forerunner of the Farm Institutes, the Dairy School, and the Dairy and Food Commission, and it was largely through the initiative and influence of this association and its members that the establishment of these institutions was accomplished and the dairy legislation of the state perfected.

As these several institutions became well established and separate phases of the industry passed from infancy to lusty strength, such as those represented by cheese makers, butter makers, and pure-bred breeders, the association gladly turned over these special activities, keeping in mind its special mission of urging dairymen to keep better cows, give them better care, feed them more intelligently, handle their products to better profit, and protect the dairy market from fraudulent imitations.

Through all these years the association has kept close to the man on the farm, and its annual meetings have been held in those districts where it was felt the influence of the association would most largely promote the gospel of the dairy cow. The large centers of population were avoided, and it has gone out into the highways and byways of the state, into sections both well-settled and pioneer, to preach better cows, better methods, and more enlightened dairying as the means to an end,—more enlightened living.

In 1906 the first cow testing association was organized in this state through the efforts of the Wisconsin Dairymen's Association, and to this work the major parts of the funds of the association have been devoted—indeed so great has been the demand for this work that for the past four years the association has omitted publication of its annual report as it was believed that such funds as were available might best be employed in the cow testing work. Marked success has crowned our efforts, for today Wisconsin leads all states by a good margin in the number of associations and number of cows on test.

The Present

Much more could be said, but the principal concern is the association of today and whether the present day generation has upheld the honored traditions of the past and can give a good account of its stewardship. To this end I give below a statement of the number of cow testing associations organized and in existence each year for the past nine years, a record that tells its own story of accomplishment:

Date	Number of Associations	Number of Members	Number of cows on test
July 1, 1909	10	310	3,840
July 1, 1910	13	403	4.320
July 1, 1911	10	339	4,200
July 1, 1912	12	360	4,500
July 1, 1913	17	527	7,480
July 1, 1914	28	868	13,920
July 1, 1915	39	1,209	19,133
July 1, 1916	52	1,614	25,871
July 1, 1917	81	2,417	39,739

There are now 81 cow testing associations in the state, these associations having 2,417 members who have 39,739 cows under test. For wages and testing machines these men are contributing not less than $51,000 annually. If the expense of boarding, lodging, and transporting the tester is placed at only $5.00 per week, the total expenditure of the members of these associations would be not less than $72,000 annually. Last year the state appropriated $4,500 to the Wisconsin Dairymen's Association and by a fortunate agreement with the U. S. Dairy Division we secured $1,300 from the Federal Government and $450 from the Agricultural Extension Department of the University of Wisconsin. Charging all these available funds to cow testing work, the 2,417 members of cow testing associations pay $11.52 for each dollar contributed by the state and federal governments combined.

We doubt whether there is any project of a similar nature where government money is expended, that the beneficiaries are contributing to its support eleven and a half times as much as the government. This plan of organization and work typifies to me the ideal of real cooperation of the state and the farmer, and it carries out my conception of real education. It does not pauperize the farmer, and avoids the bane of all real progress,—the mawkish, sentimental, and degrading so-called "uplifting process."

Organization of the Work

The Secretary of the Wisconsin Dairymen's Association, as its executive and only salaried officer, has direction of the entire activities of the association, as also general supervision and oversight of the field work. For his services and to pay for stenographic assistance he receives a nominal salary of $250 per annum. Annual meetings are held each year in various sections of the state, the major portion of the expense being for railroad fare and expenses of the speakers, the speakers not receiving remuneration other than that of the satisfaction of service rendered.

The field work is done by two men employed by the association, who the past year have been paid salaries of $1,600 each and their travel expense. These field men go into a community where one or more men have become interested in cow testing work. They canvass the situation and call a meeting to explain the merits of the cow testing associations as an institution and the form of organization. If enough interest is exhibited to warrant going on with the work, a temporary organization is effected and the neighborhood thoroughly canvassed during the following few days in search of sufficient additional members to insure a prosperous association. When enough members are secured a second meeting is called and the organization perfected.

It is then the duty of the field men to secure a good tester to do the work, and the association is furnished with a tester's outfit, all except the Babcock testing machine being supplied by the Wisconsin Dairymen's Association. The outfit costs the Wisconsin Dairymen's Association approximately $25, and is merely loaned to the cow testing association as long as it continues in existence. After the tester's employment is approved by the officers, he is instructed in his duties by the field men and if not experienced is given direct aid in his work for a few days.

The work of the association and the tester is supervised by the field men, and occasional inspections are made. Monthly and annual reports are required from each association, and these reports are carefully gone over by the field men. If any special difficulties are met with, the field men give such advice by letter or personal visit as may seem necessary in each case.

Future Needs

Prior to 1914 the Wisconsin Dairymen's Association employed one man constantly doing field work in organizing cow testing associations, with some occasional assistance. Since 1914, we have kept two men in the field, in which year the number of associations increased from seventeen to twenty-eight, the following year to thirty-nine, the next year to fifty-two, and the past year to eighty-one. From present indications and past experience I estimate that the number of associations will not be less than one hundred on July 1, 1918, and the indications are that the number will be larger.

We have made certain economies, but we still find that the work of organization takes so much of our time that we do not have the opportunity to give these associations the supervision and attention after organization that they should receive in order to make them of the greatest benefit to their members. It would be desirable to make quarterly or semiannual inspections of each association. Our associations cover a wide territory, and that means considerable travel for the fieldmen in organizing and inspecting associations. We have applications for extending the work and its scope that should be met, as cow testing work is now recognized as one of the most efficient forces for dairy advancement, and for the economical and profitable production of dairy products.

In view of these facts I asked for an increased appropriation of $1,500 per year for the next biennium in order that we may do more efficient work as well as take care of the present demands for organization work alone. The request was granted by the legislature and our annual appropriation is now $6,000 for the ensuing two years. This sum will enable us to secure further allowances from the Smith-Lever funds provided by the federal government, which will enable us to put at least one more man in the field and possibly employ such other assistance as the necessities of the occasion may demand.

Comparisons are odious, but it may not be improper to say that states having fewer testing associations have as many or more field men employed; that according to the number of associations, our field men are doing from 50 to 300 per cent more work than the field men in any other state; and that while our

fieldmen average twenty-six associations each, the general average for the United States is ten to fifteen associations per man, and in no state does the number exceed twenty per fieldman.

Cow Testing Associations—Their Organization and Value

It is not possible to determine the quality of milk by its color, or to estimate the amount of milk an animal produces by observing how much she gives at a mess. The accurate way to obtain exact information is to occasionally weigh and test the milk of each cow in the herd. A cow that does not produce at least 150 pounds of fat in a year will not pay for the feed she consumes at the present prices of land and feed. It will cost but little more to keep an animal that will produce 300 pounds of fat than one that produces only 150 pounds. There is a profit in the 300-lb. cow and practically none in the 150-lb. cow. It is a well-known fact that animals capable of producing but 150 pounds of fat in a year tend to produce animals of the same capacity. In order to improve the dairy herd it becomes necessary to breed to animals capable of doing profitable dairy work.

Because an animal has a pedigree is not necessarily an assurance that she is capable of producing a large amount of milk. If breeding is to be done intelligently, it becomes necessary to know the animals that are capable and profitable and those that are unprofitable. Yearly records are the best guides we have. With them and a knowledge of the animal's breeding power, conformation, and other characteristics, a dairy farmer is in position to build up a good, profitable herd of dairy cows.

Any farmer may do this work himself, but there are only a very inconsiderable minority who will take the time and trouble. Also they find it cheaper and better to join a cow testing association.

What It Is

A cow testing association consists of a group of dairy farmers organized for the purpose of securing the services of a man to weigh and test the milk of each cow in their herds one day every month for an entire year. These farmers must live reasonably close together because it is necessary for the tester to visit each member's place once a month. Twenty-five or twenty-six herds, and sometimes more, containing a total of not less than 400

cows, and better, 600, constitute the required number of cows, although in some instances a less number of cows form an association.

The expenses of the association are defrayed by charging from $1.25 to $1.50 per cow per year. This sum is paid into the treasury of the cow testing association, and it is then given to the tester. The expense of operating an association beyond this is very small. Some associations have adopted the practice of each member paying $2.00 per month without regard to the number of cows, and in this way the members are more inclined to test every cow in the herd.

Its Value

The value of cow testing associations may be summarized in part as follows:

1. Cow testing associations determine the production of every cow belonging to members of the association. They locate the good, the medium, and the poor cows which cannot be found in any other way.

2. After the capacity of the cows is known, there is opportunity of increasing the production of the herd. The constant breeding of the best producing cows to a well selected bull should establish a herd of high producing dairy cows.

3. Cows under test receive better care and more concern is given to the subject of feeding. When there is nothing to prompt the dairy farmer to study the individuality of the cow, her needs are not watched as closely as when there is some object in giving her attention. The owner learns to know his cows as individuals, each one becomes a personality of interest.

4. Weighing the milk brings the attention of the milker to any abnormal decrease in milk flow. It is not uncommon for cows to shrink in the flow of milk unnoticed unless the attention of the farmer is called to the production of each animal. The scale does this.

5. Some cows are capable of giving large flows of milk at the beginning of their lactation periods and then fall off rapidly in their milk flow and produce rather low records. They loaf most of the year. On the other hand, there are the persistent milkers which never seem to give a very large flow of milk, but persist from nine to ten months a year and make very creditable records. They work most of the year.

6. Knowing what cows to select makes it possible to keep fewer cows and yet produce the same amount of milk and fat. The profit from such a herd is larger and the work less.

7. Keeping of records sets the farmer to thinking and leads him to consider his cows in a different light; it leads him to be a better dairyman. Every body that comes in contact with cows under test is favorably influenced, and all work to the advantage of the cows.

8. Then there is the personal satisfaction of knowing. It is more interesting to know what profit a herd of cows is giving than not to know, that is, if the dairy farmer is interested in dairy advancement.

9. By its actual demonstration of the money value of cooperation, it puts down the dollar and builds around it a better community spirit. It brings neighbors closer together,—and we need good neighbors in the country.

10. It opens the way for the cooperative buying of feeds, and the business is large enough so the officers study the feed market and discover the cheapest kind of grain to buy and where to buy it.

11. It provides a check on the tests of the man to whom the milk is sold, and also discovers whether the separator is working properly.

12. It interests the young people on the farm. As one young man whose father was a breeder and owner of race horses said: "The interest in breeding and racing horses is mild compared with the interest in putting a record on a cow and seeing what I can make her do."

13. It aids in the selling of cows because it supplies a public record in place of a private record.

14. It not only discovers the poor cow, but it discovers the poor dairyman. It tests the cow, the man, and the methods, and the man by knowing these things can improve all three.

The Results

What are the practical results from this work? From 60 to 80 cows are being eliminated each year from each cow testing association because they are unprofitable. This means that the members of the 81 cow testing associations in Wisconsin are disposing of 5,000 to 6,500 cows annually. If an elimination were made in the same proportion from all the herds, Wisconsin alone

would send 240,000 cows yearly to the block. It is extremely conservative to say that if every farmer in the state would test his herd and eliminate his robber cows and apply better methods of handling his herd, as taught by those in charge of cow testing association work, the dairy interests of Wisconsin would reap a clear profit of at least $10,000,000 annually. This is based upon records thus far obtained from the herds under tests. It is not at all feasible to attempt to estimate what the increased profit would be if all used pure-bred sires and their cows were carefully selected. The average cow in Wisconsin produces about 175 lbs. of fat in a year, while the best herd in a cow testing association averaged last year 564 lbs. of fat, or over three times as much fat as the average cow,—how many times the profit we cannot calculate.

The high percentage of cows eliminated from our various testing associations, as being unprofitable, is not entirely due to poor cows, but in many instances to poor dairymen. Cow testing associations make better dairymen, and better dairymen feed and care for their cows in a more judicious manner.

Men Who Know

The following are a few excerpts from the letters of Wisconsin men who have tried out the cow testing idea, and who speak with the authority of experience. It might well be entitled: "Little Journeys to the Homes of Men Who Have Learned to Know Their Cows." Lack of space is the only reason for not enumerating more of these "little journeys,"—but listen to the men who know:

"Bought a cow for $55 and offered her for $75. No one would pay it. At the end of the first year she produced 386 pounds fat. I think no man can afford to practice dairying without being a member of a cow testing association."—Ernest Andrew.

"Just a few months before the association started testing, a cattle buyer was to my place and tried to buy some of my cows. One little brown cow I priced him at $50, but he would not pay it, saying it was too much. I also had one nice looking black and white cow. He offered me $75 for this one but I would not sell her for $75 because I thought she was a good cow; but in this instance the test brought something to light. The little

brown cow gave 6,383 lbs. milk containing 333 lbs. fat, making a net profit of $48.01 for the year. The nice black and white cow gave 4,366 lbs. milk containing 146.9 lbs. fat, and the total net profit for the year was 38 cents."—Wm. Behling.

"In this association 45 cows actually did not pay for their feed. It was worth something to know these cows individually —the butcher got them. In one herd of 33 cows, 16 unprofitable cows were found. At one farm the tester found the separated skim milk tested 0.8% fat. The owner was each month losing $8.47 worth of fat in his skim milk, or over $100 a year. It cost him $15 to belong to the association."—R. E. Shook.

"Members here will not consider disposing of their good grade cows for less than $100, while farmers not in the association consider $75 to $80 a good price. Impartial records increase value about 20%."—M. Pease.

"We are breeders of registered Guernsey cattle and the help it gives us and the community vastly exceeds the small expense." —M. E. Schwartz.

"One-fourth of the cows (101), most of which were very low producers, were sold out of our association during the past year."—R. F. Adams.

"During the second year 92 unprofitable cows were sold, making a total of 120 boarders disposed of in two years."—A. Klemm.

"Another thing is the buying of feed in carload lots. We find we can save from $1.50 to $3.00 per ton."—C. L. Turner.

"By buying feed in carload lots the association saved $200. If we had ordered feeds earlier we could have saved $300."—J. H. Toolajiam.

"By feeding balanced rations instead of what they had been feeding, six farmers are each saving $15.50 per month in actual feed cost besides having a better ration."—R. N. Root.

"Herds containing 120 cows were fed balanced rations beginning February 1. For February the record shows that these cows produced 270 pounds more of fat and made $138.04 more net profit than they did during the month of January, this despite the fact they were all further advanced in lactation. In other words, it meant an average saving of $15.33 every month for each of the nine owners. The saving in feed alone for one month more than paid the association dues of each member for the year."—Louis Bober.

"The father said: 'I'm sick of feeding cows.' I talked then with the 18-year-old boy and asked him to take care of the cows for one month and feed them like I would tell him. When I got around next month the boy's eyes were sparkling as he brought up a full pail of milk which weighed 20 pounds from a cow that gave only 12 pounds the previous month. He had three other cows giving 12 to 20 pounds per day that gained from 2 to 5 pounds. I am glad to do what I can to help farmers better their condition, and help to keep the best crop the farm has, our boys and girls."—Geo. Moss.

Wisconsin Cow Testing Associations

The following table gives the names of the various cow testing associations in operation in Wisconsin on July 1, 1917, together with the name of the tester then employed, the number of members, the number of cows, and the amount of money contributed by each association:

	Associations	Tester	Members	Cows	Cash contributed
1	Alban and New Hope	M. E. Smith	38	485	$614
2	Alto	F. L. Cuenot	25	465	610
3	Alma Center	Chas. Stauber	28	450	650
4	Amherst and Nelsonville	Howard Moss	37	448	645
5	Antigo	John Reckinger	36	586	625
6	Augusta	Erwin Sutton	30	450	625
7	Avoca	Bessie Lipsitz	27	521	645
8	Baraboo	Ernest Hinrichs	31	475	645
9	Barron and Dallas	S. McBrayer	30	480	600
10	Buena Vista	Louis Bober	30	710	885
11	Bear Creek	Louis Sasman	30	492	645
12	Black Earth	J. Uebersetzig	26	580	645
13	Bloomer and Eagle Point	E. P. Kinney	26	572	615
14	Bloomfield	J. Levinson	28	574	650
15	Bone Lake and Luck	Marius Nielson	26	350	450
16	Cambridge	C. C. Jackson	30	500	650
17	Cedar Grove	Herbert Molter	31	435	645
18	Chilton Co-op.	Oscar Kossman	30	507	575
19	Clintonville	E. A. Hammen	35	527	650
20	Columbus	C. F. Wehrwein	26	516	650
21	Dodgeville	George Springer	26	510	650
22	Door County	George E. Thull	45	519	675
23	Dunn County No. 1	W. E. Anderson	39	560	875
24	Dunn County No. 2	Chas. Wetmore	31	579	725
25	Dunn County No. 3	George C. Ogle	38	410	615
26	East Fond du Lac	M. H. Duel	30	511	625
27	East Troy	H. F. Brandt	27	547	675
28	Empire	R. E. Boyd	26	490	630
29	Gays Mills and L. F.	A. S. Wiczynski	30	450	645
30	Geneva	F. W. Drake	31	600	670
31	Granton	George Ehlert	28	419	645
32	Happy Valley	J. B. Voskuil	15	208	340
33	Horicon (Dodge County)	F. J. Jazdzewski	26	396	650
34	Kewaunee	Ed. Hoeft	31	453	540
35	La Crosse	Ben Hauser	29	462	625
36	Lindina	A. J. Hunsader	26	361	635
37	Linn	Eugene A. Massey	26	642	650
38	Ladoga, L. & W.	Frank Redmond	32	520	650

	Associations	Tester	Members	Cows	Cash contributed
39	Marshall	Gerald Krueger	26	500	650
40	Manitowoc	John E. Bowstead	35	510	600
41	Maplewood & D. R.	Marlin Frihart	28	359	500
42	Medford	A. T. Zeddies	40	394	530
43	Mishicot	E. W. Meineke	29	422	600
44	Monticello	Alvin Wardas	27	713	800
45	Mosinee-Emmet	W. H. Brewster	33	438	600
46	Mukwonago	Harry Hooyboer	28	493	520
47	Muscoda	O. L. Garrison	26	500	650
48	Neenah	A. H. Martin	26	515	650
49	New Holstein	Nauder Nelson	26	418	530
50	Ontario & Norwalk	C. C. Jackson	48	680	725
51	Outagamie County	Charles Maas	26	481	650
52	Ozaukee County	Wilfred Kalmerton	28	510	625
53	Reedsburg	W. J. Cummins	26	417	500
54	Rice & Cedar Lake	Fred Waldman	37	680	630
55	Rock County	G. R. Brannon	35	560	650
56	Rosendale, E. & L.	Chas. Phillips	29	560	650
57	Sauk Prairie	Earl Clingman	28	410	655
58	Scandinavia	H. R. Brewster	34	483	620
59	Shawano County	C. M. Rydberg	26	364	600
60	Sheboygan	F. B. Towne	24	470	615
61	Spring Green	J. M. Garrett	26	491	650
62	Stanley Co-op.	W. C. Johnson	26	425	590
63	Stratford Co-op.	Harry A. Johnson	28	430	500
64	Stoughton	A. L. Odsen	32	495	650
65	Tigerton & W.	Theo. Gjermundson	27	394	485
66	Troy & Honey Creek	C. H. Sherburne	27	492	650
67	Walworth	Alfred Otto	28	539	650
68	Waukesha	Walter T. Scott	26	524	620
69	Waukesha-Guernsey	Harold E. Snyder	27	477	655
70	Waupaca & Sheridan	Armen Iskern	26	399	600
71	Westby	R. N. Root	26	401	550
72	Winchester	J. H. Toolajian	30	535	805
73	Winnebago County	T. G. Fisher	27	480	525
74	Wolf River	Fred Pfuehler	32	425	650
75	Wood County No. 1	J. S. Williams	45	680	650
76	Wood County No. 2	Clarence Olson	44	475	550
77	Wrightstown & F. J.	Frank A. Gaiser	28	450	665
78	Brookfield	Chas. Humble	27	510	650
79	Leon Valley	C. P. Chrysler	26	470	520
80	Avalon	W. B. Mathews	28	520	650
81	Waukesha Guernsey 2	Frederick Thomsen	26	500	650
			2,417	39,739	$50,702

By reason of their membership in the local association, the members of these several associations are carried on the membership rolls of the Wisconsin Dairymen's Association and they are entitled to receive a copy of the annual reports when published. It is expected that there will be established during the current year a "Register of Production of Wisconsin Cow Testing Associations," which will provide for the issuance of a certificate for all cows producing 365 lbs. butter fat in a year and for the publication of these records. As soon as complete details have been worked out, complete information may be secured by writing the undersigned.

PAUL C. BURCHARD,
Secretary Wisconsin Dairymen's Association.
Fort Atkinson, Wis.

FORTY-SECOND ANNUAL REPORT

OF THE

WISCONSIN DAIRYMEN'S ASSOCIATION

HELD AT

Antigo, Wis., Dec. 2, 3, and 4, 1913

ABRIDGED REPORT OF PROCEEDINGS, ADDRESSES AND DISCUSSIONS

Compiled, July 1917

by

PAUL C. BURCHARD, Secretary

Mrs. A. L. Kelly, Stenographic Reporter

OFFICERS, 1913

PRESIDENT,
E. C. JACOBS,
ELK MOUND, DUNN COUNTY.

EXECUTIVE BOARD,

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President 1887–89. Died July 7, 1906.

PROGRAM

TUESDAY, December 2, 1913

First Session, 10:00 A. M.

1.—Invocation
2.—Address of Welcome
3.—Responses
4.—President's Annual Address

Second Session, 1:30 P. M.

1.—Potatoes as a Cash Crop — E. L. LUTHER, Rhinelander
2.—More and Better Cows — S. A. BAIRD, Waukesha
3.—An Agricultural Census — F. G. SWOBODA, Antigo

WEDNESDAY, December 3, 1913

First Session, 10:00 A. M.

1.—Quack Grass and Its Destruction — W. C. BRADLEY
2.—The Boys' and the Men's Cow Judging Contests — F. H. SCRIBNER

Second Session, 1:30 P. M.

1.—Barn Construction — W. H. GRISWOLD, West Salem
2.—Cow Testing Associations — THEO. SEXAUER, Menomonie
3.—Crops for the Dairy Farmer — E. J. DELWICHE, Ashland

THURSDAY, December 4, 1913

First Session, 10:00 A. M.

1.—How to Get into the Dairy Business — ED. NORDMAN, Polar
2.—Dairying in Guernsey — C. L. HILL, Rosendale
3.—What the Wisconsin Dairymen's Association is Doing — H. C. SEARLES, Fond du Lac

Second Session, 1:30 P. M.

1.—Transferring Cream into Cash — E. L. ADERHOLD, Neenah
2.—Discussion, Led by J. H. Howe, Antigo
3.—How I Manage My Forty-Acre Dairy Farm — WM. KAMMER, Milton Jct.

TRANSACTIONS

WITH

ACCOMPANYING PAPERS AND DISCUSSIONS

(Abridged)

OF THE

Wisconsin Dairymen's Association

AT THEIR

FORTY-SECOND ANNUAL CONVENTION

Held at Antigo, Dec. 2, 3 and 4, 1913.

MORE AND BETTER COWS

By S. A. Baird, Waukesha.

Before enlarging upon the subject assigned by Secretary Glover, I would say while this association has been an inspiration to its members who have met together annually for many years, the discussions entered into, the suggestions given out and the light radiating therefrom, have been helpful to those in attendance. Indeed the benefits derived in localities where these annual meetings are held can never be fully measured.

As an instance where less than a decade ago this association held an annual meeting in Waukesha county, there followed in its wake a noticeable increased activity in dairying and the raising of real dairy cattle. Practically from that meeting there originated one of the first successful Guernsey breeders' associations, followed by a well-organized Holstein association, and still later a Jersey breeders' association, all in a county 36 miles square. After Prof. W. A. Henry spoke of the benefits of cooperation among dairy farmers at that meeting, it led to the

organization of the Milwaukee Milk and Cream Shippers' Association, whose stand taken for dairy products produced from healthy cows has been upheld by both our state and U. S. Supreme Courts. This shippers' association has continued, and at the present time has a voice in determining the price of marketable milk and cream in the metropolis of our state. These prices, recognized as equitable, go to establish the price of milk and cream in the smaller surrounding cities, as well as marketable milk sent from other localities to the city of Chicago.

Following this same 1905 meeting of this association, a cow testing association was formed. This led to semi-official yearly testing in numbers surpassing any county in the state. The good the Dairymen's Association can do in a community, lives and grows long after the association has met there.

That more cows are needed in Wisconsin as well as in every state in the Union is evident. Everywhere the high price of beef is commented upon, to such an extent our Federal Department of Agriculture is recommending the establishment of abattoirs throughout the country as a means of increasing meat production and reducing the cost of meat to the consumers. But the department must know that would not materially increase the numbers raised or afford immediate relief.

The meat packers' associations are recommending and desiring to secure legislation prohibiting the slaughter of all heifer calves. This would be an insult to the discriminating intelligence of farmers and dairymen, as well as unjust to the farmer. Rather should our legislators seek to foster and encourage the use of pure-bred sires, and from them the raising of more and better cows. By putting a premium on every pure-bred sire that stands at the head of the farmer's herd, more and better cows would be produced, than by compelling him to raise all heifer calves against his better judgment.

We are doubling our population every 36 years, or now at the rate of three million a year, but our cow population is not increasing. In fact, it has decreased 16 million in a period of 6 years. While these figures include both the dairy and the dual-purpose cows, is it not apparent that the situation is demanding more cows? Wisconsin being a recognized dairy state, the increased numbers should be dairy bred cattle, real dairy cows that will help to bring up the average of all Wisconsin produc-

ing cows far above the estimated average of 170 lbs. fat per cow each year.

We have it from the department of dairy tests, Wisconsin Experimental Station, that out of 246 official records taken at random, from Ayrshires, Brown Swiss, Guernseys, and Holsteins, of all ages, the average production of fat for a year is over 353 lbs. While our state average per cow is estimated 20 lbs. higher than the accredited average of the U. S. reports, we believe by the selection of our best cows by test, by the continued use of pure-bred sires, and breeding in direct lines of the breed selected, it is possible to bring the farm herds of cows up to an average of 300 lbs. of fat per cow. Why not? Were the use of scrub or grade sires discontinued, nondescript sires lacking the prepotent power of transmitting high producing qualities to their progeny, it could be done.

Go where you will in our state or elsewhere, the most profitable dairy herds are those composed of cows produced by pure-bred sires. There is not a farmer in Wisconsin who can afford to use any other than a pure-bred sire.

The farmer-dairyman, whose cows are among those that make up the average yearly production of 170 lbs. fat, should receive from the first heifers of the pure-bred sire an increase of 25 or 50 lbs. of fat. In six generations or less of like breeding, and liberal feeding, the herd cows would be producing 300 lbs. of fat a year instead of only 170 lbs.

We have observed where a progressive farmer has milked the first heifers, the progeny of a pure-bred sire, he is converted to the value of better breeding, and with good feeding he can honestly tell you he has increased the profit from $7 to $10 per cow a year.

Many of us as dairymen are also breeders of pure-bred cattle. But not all of us know what our cows are capable of producing in a year. We say they are prize winners in the show ring, are well-marked, true to type, which is all right as far as it goes, but it is not enough. We should know what the dams of these young sires we are offering to the public are capable of producing. The purchaser has a right to know why he should pay more for a sire of the same color and age than for another one of the same appearance.

We believe the dam of a pure-bred dairy sire that is not competent to make better than 400 lbs. of fat per year, should be

classed as unpopular enough to not stand at the head of a pure-bred herd and should be relegated to head a grade herd where he can make a better showing than he would in building up a pure-bred herd. We are not depreciating show ring type, but dairymen should have authentic knowledge of what a heifer or sire's dam is capable of producing in milk and butter, as well as the performance of generations way back. In a sale it should be a part of the transaction, and a very important one.

There is no better way to measure the value of our cows than by the standard of what they can produce in a year. To the grade herd it is well worth the cost expended in a cow testing association. In the pure-bred herd the semi-official yearly test is well worth the additional expense. And those of us who are breeders of pure-bred herds should support every effort made to have the rules governing the tests of the various breeds of dairy cattle made more uniform, and rigidly upheld. The conditions surrounding the making of semi-official records can not be too strongly safeguarded, that when placed before the public they, like Caesar's wife, may be above suspicion.

The dairy cattle business is in itself an enormous one, outranking the beef cattle, hogs and sheep industries combined. Yet in the pressing need of and demand for dairy cattle and dairy products, there should be a greater effort made to increase the efficiency of the common working herds as well as the pure-bred herd. To push cow testing associations in new fields, to show up and cut out the unprofitable producing cows, grade up the remainder of the herd and by intelligent care and liberal feeding make both the value of the herd and their production nearly double the present average.

Discussion

Mr. Luther: As a rule the pioneer is not a fellow that is loaded down with money. If the question should be put right up in this country, "Why don't you buy a pure-bred sire?" probably the answer would come very promptly, "There is not a man here who is able to buy one," and it would be true, too.

Mr. Bradley: I think a solution of the problem that you speak of lies in cooperation. Take it in your neighborhood. A few farmers get together,—they are all too poor for any one man to go out and pay $250 or $300 for a bull, but if five or six

or eight or ten go out together and make a cooperative company and purchase an animal, in that way they will work into the use of that kind of an animal, they will get the habit. I was up in Minnesota two years ago, way up in the northwestern country attending a small meeting of poor people. They said none of them could afford to buy a $250 or $300 bull, but after the institute meeting was over, eight or ten of those fellows got together and formed a cooperative company and they bought three bulls for that community. I was told two years later that they would not have taken anything for that experience of getting together and buying something which each wanted but could not afford to buy alone. You can't buy a creamery alone but you can work together and have creameries. And when you have them you can use them in all sorts of useful ways. In many places they are using the creamery as a purchasing agent for feed by the carload. There is always some way of getting at these things if people are determined to have them.

Mr. Nordman: I believe you struck it right when you said that the thing to do is to get people into the habit of doing that sort of thing first. Then afterwards they will discover some way of arriving at the point that they are aiming at. I know it to be an absolute fact that there are any number of farmers in all of the newer counties of Northern Wisconsin that at the outset would not get any more service out of the best pure-bred bull in the country than they would out of a scrub, simply because they would not take proper care of him. It would be no use giving them the services of a pure-bred bull even if they had it for nothing? It is a question of education. As soon as you educate these farmers up to the value of a pure-bred sire, I am pretty sure they will find a way of getting them.

Mr. Scribner: I don't think a man ought to be censured for not getting interested or enthusiastic over a scrub calf. I never saw a man that was proud of a scrub calf. I never had a farmer proudly invite me down to look at his scrub calf, and if he hasn't any other kind it is not surprising that he is not proud of his dairy. It looks to me as though when a man gets a pure-bred sire and those little calves begin to come along marked like the pure-bred sire and showing the fine breeding, that will kindle in almost any man enthusiasm, and he will begin to think how he can help those little fellows develop, how he will be able to fix over his barn to make them more comfortable, how he will ar-

range things to make better conditions. I believe the pure-bred sire is the solving of this whole question. I never knew one to go onto a man's place but what it was an educator in every sense of the word, because the man begins to think of things in a little different way than what he ever did before.

Mr. Baird: Then again when this farmer gets along a little farther, and begins to milk the first heifers,—the progeny of this pure-bred sire, it is a big eye opener. He looks down the line of his yearlings and calves with new eyes, and he sees the uniformity of type and color, and it looks fine to him. He sees how well those first heifers are doing and he begins to realize it pays to take mighty good care of the sire as well as the calves and heifers, and so it is a great education, and after a while he becomes so interested that he says, "I want them all pure-bred."

Mr. Glover: I believe in the organization of bull associations or the clubbing together of five or six farmers to buy a bull. I have lived long enough to know that things that come easy are little appreciated. Back something like twenty years ago, or perhaps twenty-five, the Hon. J. J. Hill, president of the Great Northern railroad, took it upon himself to distribute bulls to anyone who would use them along his lines, and I dare say that today there is not a farmer in that whole community who has any better stock because of that distribution. I am more than ready to help Northern Wisconsin and I believe we should shape the laws to help them, but I believe these men are too proud to want anybody to give them anything, and that they will not appreciate what they are doing for themselves or their families or their community or their state unless they feel that they are carrying their share upon their own shoulders. I should think there would be grave danger in bonding a township for the purpose of raising money to buy a bull for the use of only five or six men in that township, and I dare say there cannot be found a community in the northern part of the state in which five or six worthy men cannot afford to purchase a bull for themselves. You can get plenty of good dairy bulls for $100, often for less. The county agent should be a man who can keep a lookout and buy such animals.

We all are human. We cannot get away from human nature. When we have put our money and our time and our effort into a business we are going to study that business more than if it is somebody else's money that is invested. For that reason I be-

lieve more in this idea of five or six men cooperating together to own a dairy sire, than I do in the township or the state doing it, or even an individual giving a bull to that community.

Mr. Bradley: Speaking of a man not appreciating what he gets for nothing, last year up at Ashland at the meeting of this association there was an Ayrshire breeder who told us he offered his neighbor the use of a pure-bred bull, and the neighbor said, "How much will you give me for keeping it?"

TRANSFERRING CREAM INTO CASH

E. L. Aderhold, Neenah

Milk and cream dealers and ice cream manufacturers in big cities are in the market for cream of high quality. That furnishes an opportunity to dairymen who live near a railway station, and within easy shipping distance of a big city, to market cream at an advance in price over what creameries can pay. While this class of trade is limited, I desire to say that among the best satisfied cream sellers I ever saw are those who supply such a cream trade, and for those dairymen who are favorably situated I think it advisable to secure that market whenever the opportunity offers.

But the big majority of cream producers must use the creamery for their outlet, and with many of these the problem of transferring cream into cash is a simple one. They merely hold their cream until the hauler comes after it, which may be daily, twice a week, or once a week. The hauler dumps it into a large can which contains the cream from a number of other farms, all mixed together. When pay day comes the patron receives his check. His cream has been transferred into cash, and that is about all the interest he shows in the matter.

The cream may have been of excellent quality. If so, its identity was lost when mixed with other cream, and the efforts employed in obtaining that excellence in quality were unremunerated. Or, the cream may have come from the indifferent type of dairyman, whose cows are more or less filthy, who uses the open (dirt catcher) type of milk pail, whose cow barn is of the general purpose type containing horse stalls with their strong odors, who has not provided a suitable place for his separator

nor for his cream, whose separator is often used in an unclean condition, and whose cream is neglected. If so, it is accepted without criticism, and pay day will bring as big a cream check as it would had this cream been of the highest quality.

The same condition, in a general way, prevails in the marketing of creamery butter. The commission man, no doubt, recognizes the difference between ordinary butter and the kind that scores above 94 points. He probably sends out the latter under a special brand of his own, and receives a premium on it, but he doesn't advertise the creamery that turns out this butter nor reward the creameryman with a special price.

The same condition has prevailed for several years in the American cheese industry, during which time many of our best cheese makers have declared they could no longer afford to make cheese of the best quality.

Excellence in the quality of milk, cream, butter and cheese, generally speaking, has no standing in the markets. In turning out dairy products of excellent quality extra effort, if not extra expense, is involved, and to that extent the producer of such goods is penalized, where he ought to be remunerated. This is one of the most deplorable features in the dairy industry because, in reality, it constitutes a powerful and constant breeder of indifference.

Recently the state board of public affairs held a meeting for the purpose of discussing efficient and economic methods of marketing farm products. Some two dozen outsiders were present at this meeting to assist in the deliberations. It was the consensus of opinion, at that meeting, that butter and cheese of the best quality had been produced by some manufacturers without bringing them any reward for their skill; that many consumers were willing to pay an extra price to obtain cheese and butter of that quality, but they don't know who makes it nor where to get it; that the middleman is more interested in keeping apart the maker of high quality goods and the consumer who is willing to pay for such quality, than in getting them together; that while the state attempts to foster the dairy industry by punishing those who sell adulterated or unsanitary products, or who fail to keep their premises or utensils clean, it fails to support or assist, in any manner, those who do produce dairy products of excellent quality.

It was brought out how some European countries foster the

production of butter and other produce of high quality by permitting the producers of the same to use a brand which means, practically, that the government guarantees those goods to be of the best quality; it was brought out how, by that manner of branding, the two parties whom the middleman is so anxious to keep apart, were brought nearer together, and that the services of the middleman were, in part, dispensed with; that the cost of marketing was lessened and that consumers willingly paid a premium for products branded with such a guarantee from the government.

It was suggested that Wisconsin should furnish a state brand, as a guarantee of excellence, and under proper supervision, permit such creamery and cheese factory operators who had, under good sanitary conditions, been producing such high quality goods, to use that brand. Further, that if the state would assist in informing the public where goods which carry such state brand could be obtained, the demand for said goods would be so increased that they would bring a premium. This would enable the producer thereof to pay more for milk and cream of the right quality, which in turn would stimulate the patrons in the productions of the best milk and cream.

If it is practicable to carry out a plan of state branding which will give our best dairy products the standing they deserve, as one whose duty it has been to cause punishment to violators of our dairy laws, I, for one, would welcome the day when Wisconsin will promote its dairy industry by helping to bring reward for merit, as well as by chastisement for demerit.

The president named the following gentlemen as members of the various committees:

Resolutions—W. C. Bradley, D. S. Stewart, and E. Nordman.

Audit—F. C. Scribner, S. A. Baird, and J. W. Prosser.

Nominations—H. D. Griswold, C. L. Hill, and E. Nordman.

QUACK GRASS AND ITS DESTRUCTION

W. C. Bradley, Hudson.

I am not going to say that it is easy to kill quack grass, because it is not. On most lands it is a very hard job to kill it. I think it will cost from eight to twelve dollars an acre to clean

out quack on the average lands of Wisconsin, and there are certain sections where it is almost impossible to clean it out. You take wet clay soil, and they are up against an awful proposition in undertaking to clean out quack. In light sandy soil, light prairie soil and black soil it is a very easy matter compared with the heavier soils of the state.

To kill quack, in my opinion, you have to begin early and stick to it and work late. We can take a field of light sandy loam, or light prairie soil in an ordinary season when there is not too much rain, and by plowing in the fall, just as late in the fall as you can, leave just as many of the roots exposed to freezing as possible and it will help to kill it off. Then as soon as the frost is out of the ground plow it again, go on and disk and drag twelve or thirteen times, get as many of these roots out as you can; then perhaps, if you have a drove of hogs, sow some peas and when those peas are about ripe, along about the first of July, turn the hogs in on this pea crop and quack grass, and the hogs will eat out a good deal of the quack grass that you have not yet got out. As soon as the peas are out of the ground, plow it again, disk it and harrow it and sow fall rye. Turn the hogs in on that rye, using it again in the fall as a hog pasture, and the hogs in eating the rye will get rid of some more quack. The next year in the spring turn that rye under, which will furnish some humus, check-row that field, plant it to corn, cultivate both ways, and if it is on ordinarily dry land I think you will have ninety to ninety-five per cent of that quack grass killed.

Another way that we have tried quite successfully is to grow millet. Plowing the quack grass in the spring, digging up as early as we can and sowing millet, sowing it quite thick, perhaps a half thicker than you would for making hay, and the millet in very many cases will smother the quack grass completely. I know of several places in our town that have been cleaned out in that way.

Discussion

Mr. Nordman: I am going to agree with Mr. Bradley in part of his statement where he said he did not count the Canada thistle and quack grass and other noxious weeds as altogether a curse in this country. I believe they have been sent here by

Nature on pretty much the same mission that the chinch bugs were sent here by Nature some twenty-five or thirty years ago, viz., to drive the people out of grain growing and other slack methods of farming. I believe that if you take the size of a farm that a man can cultivate the way that it ought to be cultivated, these noxious weeds are not going to trouble him very seriously.

President Jacobs: For the benefit of those who have any large amount of quack, I will say that there is a machine made at Austin, Minn., a quack grass digger, that is the best machine I know anything about for handling quack. I have not got one, but some of my neighbors have this machine, and it does get the roots out on top better than any other implement I know of. Three or four farmers can club together and buy a machine of that kind and use where they have a large amount of quack and so far as I know it will do the work.

Mr. Nordman: The principle we have to follow in killing quack grass is to keep it from growing. You cannot get those roots out entirely with that machine or anything else, you have to keep after it and go over it often enough to keep any leaves from developing above the surface. That is what kills quack. We must starve the roots right down in the ground; force them to make a little manure for you another year, and we can do that with any kind of mower that will keep that stuff from growing.

WHAT CONSTITUTES A GOOD DAIRY COW

F. H. Scribner, Rosendale

I am quite safe in saying that the universal idea of goodness regarding a dairy cow, is her ability to produce large amounts of milk and butter fat economically. The Good Book says: "Not every one that says, but those that do shall enter in," and this idea of doing is getting more prevalent and is really what fixes value. The same as the horse that can trot in two minutes, this places value upon him; and the man who goes out to buy dairy individuals pays in a large measure according to ability to do. For this reason cow testing associations are operated and different cattle clubs carry on systems of official and semi-

official tests, that we may know to a certainty as to their ability.

The long period test is practically the only reliable test as has been proven time and again. In a case in my own vicinity in cow testing work, one cow started out making 70 lbs. fat in a month, and was bragged about as the best cow in the association, but gradually dropped to about 10 lbs. fat a month. Another cow making only about 50 lbs. fat in her best month, kept close around this mark for the entire year, beating the former cow in yearly results by a large margin.

Education, or the early forming of habit, has much to do with persisting and one should be especially careful the first milking year to feed liberally and treat them kindly, to milk carefully and thoroughly, and not discourage the milk giving functions. If a heifer hates the sight of you, hates to be milked, the chances are that all the feed in the world would not make a profitable cow out of her.

When we consider the cow as a manufacturing institution, taking the raw materials of the farm, and converting them into the finished product of milk and butter fat, then we should consider those points that make for a profitable, durable machine. These points are constitution, conformation, temperament, disposition, and persistency, and I believe the order named is the order of their importance. Although it really takes the five points mentioned to make a whole cow, if you leave out any one, you have an imperfect cow and an unprofitable cow. Some seem to enjoy having an unprofitable cow around, saying they have the feed and the boys do the work and they can keep them as well as not. Very little progress, however, will be made in herds where this condition exists.

The business of the dairy cow is to produce, and reproduce, and the manner in which she accomplishes these things stamps her in the profitable or the unprofitable class. To produce large amounts of milk and butter fat requires an abundance of constitution, vitality and strength to carry her through, for often her work is done under adverse conditions. She must also have some reserve constitutional force, for she must be able to resist or throw off disease germs which are so prevalent in many of the stables where sunlight and good ventilation are things unheard of. Constitution, in a large measure, depends upon the room in which the heart and lungs are placed. This part of the cow should be roomy, giving perfect freedom for

these organs to perform their functions, as the milk is made by the blood and the blood is purified by the amount of oxygen the lungs may pump from the air. An abundance of nourishing easily digested food is also an important factor in building up and controlling constitutional vigor. If the human body gets weakened, physicians prescribe a diet of easily digested, easily assimilated food, so it is the business of the feeder to watch his individuals and keep them in a healthful condition.

The conformation also means much toward the production of milk, in fact her whole make-up from her nose to the tip of her tail contributes something to the perfect dairy type. A celebrated breeder once said if he could see an animal's head he would not need to see more, as the head would determine the rest of the body. This is true in a measure although I would rather see the whole animal. The medium sized, angular head would indicate an angular, medium sized body, and the short, compact head a correspondingly compact body, with a tendency toward beefiness, while the longer, angular head would denote a large, open jointed body with little surplus flesh.

A broad mouth is always indicative of good feeding qualities, and as this is the business of the cow, this characteristic should be sought for and bred for, which together with a bright open eye and distance between the eyes, and a strong muscular jaw would constitute an almost ideal head for a good dairy cow, and should be connected to the body with a long, thin neck, free from meatiness.

The idea of extreme angularity of the body is not as prevalent as formerly, for cows of this make-up often lack constitutional vigor, and when put to the test of large production lack sufficient stamina to carry them through.

A large barrel to a cow is compared to a large storehouse for a manufacturing institution, a place where material is stored for manufacturing purposes. A cow should have a good capacity of body, for it takes a lot of food to make a lot of milk.

The udder should be capacious and well attached to the body, extending well back and well forward, occupying a large space on the body. It should be free from meatiness and covered with a soft, pliable skin. Udders of this character are more easy to empty out and are associated very closely with persistency. The teats should be of good size and well placed, which make the work of milking desirable and more pleasurable.

The milk veins should be prominent and elastic to the touch, with the milk wells large and numerous. These are an indication that the blood flow is going in the right direction, and are always in evidence on every good cow.

The temperament of the cow is an essential feature, and the term "nervous temperament" is often confused with nervousness and excitability. It is simply what we might term "dairy organization," or an ability or disposition to eat, digest, and convert food into milk, except what is absolutely needed for the body maintenance. It also gives to her that stick-to-it-iveness which all dairymen like. The good judge takes this in at a glance, he sees her bright, active eye, the expression of activity and intelligence in her face, the freedom of surplus flesh over the entire body, the open jointedness and the spacing between the ribs and vertebrae, all of which are indications of a dairy temperament and go to prove that she is a worker.

Disposition might be classed with temperament, but disposition is often caused by the bad disposition of her keeper. There are families that seem to be full of pure cussedness, and a cow of this character is always a source of annoyance to her owner and does not make a good foundation animal. As this characteristic is usually transmitted, such a cow is usually lacking in genuine nervous temperament and has not sufficient nerve to be decent.

These points mentioned when blended together in harmony and symmetry, gives the cow an appearance of beauty which makes her attractive to her owner and consequently creates a deeper interest, which goes a long way toward making a good cow.

COW TESTING ASSOCIATIONS

THEODORE SEXAUER, Menomonie

The work in cow testing is comparatively new in this country, the first association having been established in Michigan about seven years ago. The idea was borrowed from Denmark where fifteen years ago their cows were averaging 112 pounds of butter fat; now they are producing 235 pounds.

The plan of organization is simple. Several farmers, usually

twenty-six, get together and agree to pay a certain sum of money per cow to have their herds tested. They usually pay from $1 to $1.50 per cow per year, with a minimum charge of $10 per herd, where the herds are small.

The money paid into the association is all turned over to the man who does the testing. This is his salary in addition to his board which is furnished by the farmers.

We attempted to organize an association at Albert Lea, Minn., while I was employed as an instructor in agriculture. With this, as with all new ideas, the farmers thought we had something to sell or something up our sleeve. Gentlemen, I haven't anything to sell, neither have I anything up my sleeve. I am going to give you the facts as they appeared.

If you have never attempted to organize an association of this type, you do not know the difficulties. We called on nearly all the men of the community. After eighteen days of unpleasant work the organization was completed.

This was the first and only association in the state of Minnesota organized entirely independent of the state department. Within a year five others were organized in the same county. There were no others in the state at the time.

Now, I have absolute confidence in farmers. I like them, and I would rather work with them than any other class of people. I will admit that the farmers have been imposed on many times, and many times advantages have been taken of them, and as a class they have grown rather skeptical and do not take kindly to new ideas.

In order that you may know some of the difficulties that must be overcome, I am going to tell you some of the arguments that must be met in securing these farmers for the association. The arguments I am about to give are not hearsay, but are those given by the farmers in the order here given.

Farmer No. 1 said, "I can tell what my cows will do by looking at them." This argument struck me like this,—here is our government paying large salaries to men who have given their entire lives to the study of the cow, and they are unable to determine what they will do by looking at them. If this is true, why not discharge these men and employ those who can do these things quickly and cheaply.

Farmer No. 2: "It costs too much; I would pay out a dollar and not get anything in return."

The records of the Pioneer Test Association show that practically every herd has some cows that did not pay for their feed, while in some herds one-half did not do it. It would have been more profitable for some of the owners to have given away this half of the herd.

Farmer No. 3: "We don't want the tester around."

The young men who are doing the testing in these associations are absolutely clean. These men are important factors in helping to interest the boys and girls in dairy work.

Farmer No. 4: "We want to wait another year until we get a better barn and a silo."

It certainly shows a lack of business judgment to expect to get a new barn and silo by keeping cows that do not pay for their feed. Some men in the association have lost enough during the year to put up three silos.

Farmer No. 5: "You are trying to make an easy job for another fellow, a 'paper-collared boy.'"

Think of these testers staying at thirty different homes each month and receiving from $400 to $500 per year and board. They are practically robbed of social privileges because they are compelled to be on the job at milking time every day.

Farmer No. 6: "My barn holds just so many cows and I wouldn't sell them, if they didn't pay for their feed."

Think of it, men, keeping cows as an ornament. The time has passed when business dairymen would do the like. How many thinking people want to sit down and milk a cow twice a day, wouldn't sell them, if they didn't pay for their feed."

Mr. Farmer, which would you rather have, 15 cows that actually paid for their feed and made you a profit, or 30, 15 of which did not pay for their feed and were there simply because you had a place for 30 cows in your barn? Then, too, just think of hiring help when it is so high priced and so hard to get, and as you say, "not worth much when you get it," sitting down to pail those parasites which should have been given away or sold to a stock buyer.

Farmer No. 7: "Where would you get other cows if you sold the poor ones?"

Where do people get their good ones? By testing, breeding, feeding, and reading. Is it a question of where you are going to get others to take the place of the poor ones, or is it a question of keeping less cows and only profitable ones?

Farmer No. 8: "Can I get as much for poor cows after being tested?"

What are the poor cows worth? It would have been profitable for you had you given some of your cows away. They are worth just what they would bring at the stockyard as canners.

Farmer No. 9: We came to a man, a German, by the name of Snyder. I am German myself so I may say anything I like about the Germans. We talked to this man a long time. He finally said, "I know my cows are not paying." "Very well," said I, "Why don't you put your name on this contract and let us determine which cows are actually paying?" This was the reply: "I know my cows are not paying for their feed, but I have the boys and girls here and they have to do something."

Men say to me, what can I do to interest my boy in the farm and keep him from going to town? You certainly can't blame him for wanting to leave the farm when you have him milk cows that do not pay for their feed, and you are not even willing to pay out $1.25 per cow to give the boy a chance to show you that this is true. How many of you would continue to milk when you saw that there was nothing coming back and you were simply a tool to be kept busy? God speed the day when fathers will be able to lead the boys to like the farm rather than drive them from it.

These are a few of the arguments that are met with in this work. Although these are not arguments, it is a difficult job to go around from farm to farm and beg people to do what is best for them, when they feel you have something "up your sleeve," and they are sure there is a graft in it somewhere even if they can't see it.

This association was started with 28 herds, among which were 455 cows. Some of the farmers said before we began, "I don't believe I have any cows that do not pay for their feed." But we did not find a herd but that had some cows that did not pay. We found in one herd that the best cow made a net profit of $87.68 and the poorest cow lost $20.43 for her owner. By the way, these cows were owned by the farmer who said he would keep his cows even if they didn't pay. The best cow produced 485.3 lbs. of butter fat and the poorest was dry the entire year.

Then the farmers will say those men who make so much from their cows put more into them than they get out. Let us notice the cost of feed of the best and poorest cow—$53.34 for the best

and $20.43 for the poorest. We figure that the skim milk and the calf will pay for the care of the cow. There was an actual difference of $108.11 between the two cows and I doubt very much if you or any other person could have told there was so great a difference.

These results show the fallacy of the argument that "a cow is a cow." It shows that a great variation exists among cows and that the only way these things are found is by the use of the Babcock test.

Illustration No. 1 is a picture of the cow that gave the largest number of pounds of butter fat. She is not an exceptional individual, yet she is above the average of that county.

No. 2 is the cow that cost her owner $20.43 for feed and was dry the entire year. She is a representative individual of a herd of the wrong type.

In one of the herds of this association, we found a little grade Guernsey that weighed 820 lbs. and made 410 lbs. of butter fat. Actually made half her weight in butter fat. No. 3 is a picture of this cow.

Then, to prove further that there were good and poor cows in every herd, we took the best and poorest cow of each of the 28 herds. We found that the 28 best cows, one from each herd, made an average net profit of $50.50. The 28 poorest, one from each herd, made an average net profit of $4.51 per cow. Just think of it, men taking care of cows 12 months in the year for $4.51 per cow, when they could have those that make a profit of $50.50 per cow.

Then the cows of the association were divided by taking the 100 best and the 100 poorest. We found that the 100 best produced 294.1 pounds of butter fat per cow and the 100 poorest produced 100 pounds per cow.

How much more are the cows worth that produced 294.1 pounds of butter fat than those that produced the 100 pounds? They are worth more than three times as much as the 100-pound cow. In the first place, you have only one cow to feed in place of three; in the second place, the feed of two cows is saved; in the third place, you can use your valuable room for animals that may pay.

We find that the 100 best cows produced 194.1 pounds more butter fat per cow than did the 100 poorest. Computing this 194.1 pounds butter fat at 29 cents, the average price of butter

fat per pound, we find that the 100 best cows produced $56.29 per cow more than did the 100 poorest. But the farmers say, "Those fellows who have gotten so much from their cows have put more into them in feed than they have made."

By taking the records of the 100 best cows we find that it cost $36.42 per cow to feed the 100 best cows and that it cost $21.10 per cow to feed the 100 poorest. True, it did cost $15.32 more per cow to feed the 100 best than the 100 poorest, but the 100 best made 194.1 pounds more butter fat per cow or $56.29 more money. Taking $15.32 from $56.29 we find a balance of $40.97 per cow in favor of the 100 best cows.

Did it pay to do this feeding? It surely did. If by putting $15.32 additional feed into a cow you can secure $40.97 more net profit, then it seems the reasonable thing to do.

This, too, shows there are good and poor cows in every herd. It seems to me Nature has many ways of working her wonders. You will remember the dry summers of 1910 and 1911. Many farmers lost much of the profit that would have been theirs had they had silage. Pastures were short, feed scarce, and profit small. Nature does not ask any questions, if we do not help ourselves we simply pay the penalty. This was true in the silo business. Men kept putting off what was their duty until Nature, with a strong lesson, brought them to their senses. But there are still people who do not pay any attention to science or Nature. Just the other day an old gentleman said he had not reached the place where he needed a silo.

In view of the fact that much of this work had been valuable, we wondered if the records of these herds that were fed silage would bear out what had already been determined by some stations. We found that of the 28 herds, 12 had been fed silage, 16 had not. The results of these herds are as follows:

This table shows the value of silage in butter fat production. You will note the difference of 59 lbs. of butter fat per cow in favor of the silage fed herds, or $18.66 more per cow from those that were fed silage.

RESULTS OF SILAGE FED HERDS VS. HERDS NOT SILAGE FED.

	Results of 12 herds silage fed Total of 216 cows	Results of 16 herds not silage fed Total of 239 cows
Pounds of milk	1,232,674	919,920
Pounds of fat	47,506	38,503
Value of fat	$14,023.62	$11,056.23
Cost of feed	6,885.93	5,564.28
Net profit	7,137.69	5,491.95
Average per cow.		
Pounds milk	5,706	3,850
Pounds of fat	220	161
Value of fat	$64.92	$46.26
Cost of feed	31.90	23.28
Net profit	33.02	22.98

The difference in the cost of feed between the silage fed herds and those not fed silage was $8.62 more per cow in the silage fed herds than in those not fed silage, but the silage fed herds produced 59 lbs. more butter fat valued at $18.66. Subtracting the $8.62 which it cost more to feed the silage fed herds, we have $10.04 more profit per cow from those fed silage. This means that on 20 cows you are losing enough in one year to put up a 14 x 30 ft. silo.

Then we had attempted to persuade some of the farmers to purchase some registered animals; then the question, "Does it pay?" was again raised.

We do not ask the farmers to sell their entire herds and purchase registered animals, but we felt that if they started with one or two registered animals, they would grow into the business in time and learn that good stuff requires good care and gradually one by one dispose of their scrub animals.

In comparing the registered and grade animals of this association, we found there were 4 registered and 24 grade herds. The following table will give you an idea how they came out.

This table shows the results of the registered herds vs. the unregistered. The registered cows made 61.4 pounds more but-

RESULTS OF REGISTERED HERDS VS. GRADE HERDS.

	Results of 4 registered herds Total of 86 cows	Results of 24 grade herds Total of 369 cows
Pounds of milk	555,638	1,596,956
Pounds of fat	20,540.5	65,468.5
Value of fat	$6,216.72	$18,866.03
Cost of feed	3,011.53	9,438.68
Net profit	3,205.19	9,424.35
Average per cow.		
Pounds of milk	6,461	4,355
Pounds of fat	238.8	177.4
Value of fat	$72.29	$51.12
Cost of feed	35.02	25.58
Net profit	37.27	25.54

ter fat per cow than the grades, or a difference of $21.17 in favor of the registered cows. It cost $9.44 more per cow to feed the registered herds but they made 61.4 lbs. more butter fat valued at $21.17.

Taking from it $9.44, we have $11.73 more per cow from the registered herds than from the grade herds. This means that on a herd of 20 grade cows, you are losing $234.60 per year, or enough to pay for one good pure-bred animal.

Then by doing this work we are enabled to know just how the farmer is handling his stock, whether he is studying his business or if he is guessing. Of the 28 members of this association, 14 studied their business by taking dairy papers. For our own benefit and satisfaction, the men who read were compared with those who did not read. Now I am not taking subscriptions for dairy papers, nor have I any to sell, but we found by a careful study of the records that it did pay to read. They were as follows:

RESULTS OF HERDS WHOSE OWNERS READ DAIRY LITERATURE VS. HERDS WHOSE OWNERS DID NOT READ DAIRY LITERATURE.

	Results of 14 herds whose owners read dairy literature
Total of 242 cows	
Pounds of milk	1,271,878
Pounds of fat	50,247.3
Value of fat	$14,575.54
Cost of feed	6,495.52
Net profit	8,080.02
Average per cow	
Pounds of milk	5,255
Pounds of fat	207.3
Value of fat	$60.23
Cost of feed	26.83
Net profit	33.40

	Results of 14 herds whose owners did not read dairy literature
Total of 213 cows	
Pounds of milk	880,716
Pounds of fat	35,762
Value of fat	$10,504.21
Cost of feed	5,954.69
Net profit	4,559.52
Average per cow	
Pounds of milk	4,154
Pounds of fat	168
Value of fat	$49.55
Cost of feed	28.09
Net profit	21.46

This table shows that the cows owned by men who read dairy literature produced 39.3 lbs. more butter fat per cow than the cows owned by the men who did not read, or a difference of $10.68 per cow in favor of the cows owned by men who did read.

Then, it cost the men who did not read $1.26 more per cow to feed. The $10.68 profit on butter fat plus $1.26 gain on feed makes a total of $11.94 in favor of the cows owned by men who read dairy literature. This means that on a herd of 20 cows, the men who did not read lost $238.80 a year, enough to subscribe for all the papers published in Wisconsin.

Illustration No. 4 is one of the poorest cows of the association, producing only 36.6 pounds of butter fat at an average cost of $.55 per pound. This cow shows an amazing lack in capacity and constitution. In fact she lacks all points of conformation found

in a good dairy type. This type has bankrupted many a farmer.

You will no doubt note this cow has tuberculosis. She is one of the cows the farmer said he was going to keep even if she didn't pay for her feed. Fine ornament for a barn. Say, do you know there are goats on record that will produce 100 pounds of butter fat in a year and yet men will keep cows that will produce 36 pounds? If we kept goats the women could milk them; you would not have to do it.

Now I will show you the record of the farmer's herd of 30 cows, 15 of which did not pay for their feed. Let us notice this record:

No. Cows	*Butter Lbs.*	*Value of fat*	*Cost of Lb. of fat*	*Cost of feed*	*Loss*
1	47.3	$13.63	$ 63	$29.58	$15.95
2	53.1	15.52	.56	29.58	14.06
3	62.2	17.00	.46	28.58	11.58
4	67.3	17.80	.53	29.13	11.33
5	62 9	18.32	.47	29.58	11.26
6	61.6	17.35	.46	28.58	11.23
7	68.1	19.90	.44	30.13	10.23
8	75.	20.32	.40	30.13	9.81
9	78.7	20.67	.38	30.13	9.46
10	71.7	21.29	.41	29.58	8.29
11	96.3	25.29	.30	29.13	3.84
12	93.9	27.13	.32	30.13	3.00
13	102.2	28.56	.30	30.13	1.57
14	109.6	29.60	.27	30.13	.53
15	105.9	30.10	.29	30.13	.03
					Profit
16	109.1	29.95	.27	29.58	.37
17	112.	31.03	.27	30.13	.90
18	107.9	30.64	.27	29.58	1.06
19	112.7	31.20	.26	30.13	1.07
20	113.8	30.78	.25	29.13	1.65
21	113.9	31.78	.26	29.58	2.20
22	117.5	33.04	.25	29.58	3.46
23	122.9	32.86	.24	29.13	3.73
24	126.	33.99	.24	30.13	3.86
25	132.4	35.33	.23	30.13	5.20
26	133.7	36.81	.22	30.13	6.68
27	129.1	36.50	.23	29.58	6.92
28	135.8	39.30	.22	30.13	9.17
29	148.6	39.70	.20	30.13	9.57
30	159.2	43.20	.19	30.13	13.07

Loss on first 15 cows, $122.17. Profit on last 15 cows, $68.91. Loss on whole herd, $53.26.

You will note that the cows are arranged in order of their production and that the first 15 did not pay for their feed. Cow No. I made 47.3 pounds of butter fat at a cost of .63 cents per pound. How many of you would eat butter at that price? Cow No. 2

made 53 pounds at a cost of 56 cents per pound. As you come down the line you will notice that cow No. 15 made 105.9 pounds of butter fat and made a loss of $.03. Cow No. 16 made a small profit, but as you go down you will notice that the profits do not equal the losses. When you subtract the sum of the profits from the sum of the losses, you find a loss of $53.26.

Here is a list of 30 cows that lost the owner $53.26. If he had disposed of the 15 poorest cows, the first 15 in the table, each of which lost him money, he would have made $68.91 on the last 15. In other words, he might have been relieved of milking and caring for 15 cows and increase his actual profit $68.91.

This same condition existed in a number of the herds. Men complain of the drudgery of farm life, yet they will spend their time and money taking care of cows, half of which do not pay for their feed.

Some men were inclined to look on this dairy work with distrust, so I said that it was best to publish this material so all might know just what had been done, so I am giving you a record of each man's herd and if you care to write any of them, you may do so.

One member of the association said, "You have no business to publish these records." When farmers will keep cows that do not pay and then will go out and say the dairy business is unprofitable, thus injuring the price of land and stock, I say it is time a halt was called. In the following I have arranged the herds in order of production:

AVERAGE NUMBER OF POUNDS OF MILK AND BUTTERFAT PER COW, PER HERD

Herd No.	*Fat lbs.*	*Milk lbs.*	*Herd No.*	*Fat lbs.*	*Milk lbs.*
1	315	9,451	15	201	4,897
2	310	9,008	16	199	4,805
3	304	7,710	17	198	4,949
4	279	6,082	18	196	4,944
5	274	5,350	19	190	4,570
6	272	6,207	20	185	4,679
7	237	5,604	21	177	4,444
8	237	4,935	22	175	4,395
9	230	4,533	23	158	3,843
10	224	5,211	24	145	3,283
11	223	5,517	25	143	3,763
12	222	5,586	26	140	3,454
13	215	5,445	27	101	2,663
14	203	5,154	28	90	1,976

You will note by the above that Herd No. 1, herd of 22 cows averaged 315 pounds per cow and Herd No. 2, 310 lbs. These were both Holstein herds. Now, do not understand that I am trying to sell you any cows. The owner of Herd No. 2, asked me two months after the association had started if I knew why he signed the contract when I first saw him. I said that I did not. He said, "To get rid of you."

As you follow down the line you will note that you gradually get down to 150 pounds per cow; then you follow on and reach 90 lbs. average. Think of it! men keeping cows for 90 lbs. per year. Then say the dairy business is not profitable.

Now I want to show you a few of the rations fed to these herds. They are not exceptional, but good, practical rations. Up until this time, little attention had been paid to balancing rations or buying the best feeds for the cow. Cottonseed meal was unknown in the county. It had not been heard of. It is the business of these testers to help the farmers in the selection of their feeds and the balancing of the same. Then, too, they bought their feeds by the carload and secured it at least $2 per ton cheaper than they could have bought it locally.

Some of the rations that gave the best results follow:

RATION NO. 1.

Feeds	*Protein Lbs.*	*Carbohydrates Lbs.*	*Fat Lbs.*
40 lbs. silage	.44	5.6	.28
7 lbs. clover	.476	2.51	.119
4 lbs. corn	.316	2.67	.172
3 lbs. bran	.387	1.20	.102
2 lbs. oats	.184	.94	.084
1 lb. oil meal	.293	.33	.07
57 lbs.	2.096	13.25	.827

Nutritive ratio, 1:7. Cows fed this ration produced 37 pounds of butter fat per month at a cost of 17 cents per pound.

RATION NO. 2.

Feeds	*Protein Lbs.*	*Carbohydrates Lbs.*	*Fat Lbs.*
40 lbs. silage	.44	5.6	.28
12 lbs. clover	.204	3.89	.084
4 lbs. bran	.516	1.6	.136
5 lbs. oats	.46	2.35	.21
1 lb. oil meal	.293	.33	.07
62 lbs.	1.913	13.77	.780

Nutritive ratio, 1:8. Cows fed on this ration produced 50 pounds of butter fat a month at a cost of 12 cents per pound.

RATION No. 3.

Feeds	*Protein Lbs.*	*Carbohydrates Lbs.*	*Fat Lbs.*
40 lbs. silage	.44	5.6	.28
7 lbs. clover	.476	2.51	.119
4½ lbs. oats	.414	211	.189
4½ lbs. corn	.366	3.0	.193
4½ lbs. bran	.580	1.8	.153
3½ lbs. oil meal	1.025	1.14	.243
64 lbs.	3.291	16.16	1.179

Nutritive ratio, 1:5. Cows fed this ration produced 50 pounds of butter fat per month at a cost of 17 cents per pound.

Some of the rations that gave the poorest results follow:

RATION No. 1.

Feeds	*Protein Lbs.*	*Carbohydrates Lbs.*	*Fat Lbs.*
40 lbs. stover	.68	12.96	.28

Nutritive ratio, 1:20.

RATION No. 2.

Feeds	*Protein Lbs.*	*Carbohydrates Lbs.*	*Fat Lbs.*
25 lbs. silage	.275	3.5	.175
8 lbs. stover	.136	2.59	.056
4 lbs. corn	.316	2.67	.172
37 lbs.	.727	8.76	.403

Nutritive Ratio, 1:13.

I gave you the arguments the farmers used when we were trying to organize the association. Now I am going to tell you what they said at the end of the first year.

1. They have brought into the community some of the finest types of young men; men with whom it should be counted a privilege to associate. These men are able to interest the boys and girls in this work.

2. The rule of exactness replaces the rule of guess in the dairy. The farmers know what they are talking about, instead of talking about that about which they have heretofore guessed.

3. Better methods of feeding prevail and production is increased.

4. Barns have been improved by putting in cement floors, swinging stanchions, additional windows and ventilating systems.

5. Better bulls are purchased when the members begin to study the records of the pure-bred herds.

6. The community gets a reputation for dairying in a businesslike manner.

7. A community of this type always attracts buyers because they have a large number of animals with records from which to select.

8. The up-to-date, thinking dairyman wants to know the records of his cows, so he can dispose of the poor ones and utilize his feed and time in caring for the good ones.

9. The test associations separate the farmers into two classes, the standpatters and the progressives. The standpatters are the satisfied, skeptical class, who feel duty bound and happy if they can help to support from 5 to 30 cows per year. The progressives are those who are alive to the situation and are making an effort to find out what their cows are doing, and, if need be, are willing to part with, at least, the parasitic portion of the herd.

10. It increases the profits of the dairy business.

11. The cost of running a test association is largely saved by buying feed in large quantities.

12. The test associations make better homes.

First and Second Years Compared.

Many times it is said that one year's work does not prove anything, so I am going to show you the second year's record.

The second year 24 of the 28 herds of the first year remained in the association and enough additional herds were secured to make a total of 41 herds.

Some of the herds in the test the second year were owned by different men.

Average Number Pounds Milk and Fat Per Cow, Per Herd.

First Year			Second Year		
Herd No.	*Fat lbs.*	*Milk lbs.*	*Herd No.*	*Fat lbs.*	*Milk lbs.*
1	315	9,451	6	359	8,101
2	310	9,008	1	335	9,945
3	304	7,710	3	301	7,816
4	279	6,082	2	280	8,620
5	274	5,350	5	280	5,062
6	272	6,207	29	274	6,063
7	237	5,604	12	263	6,296
8	237	4,935	28	261	5,769
9	230	4,533	30	254	6,776
10	224	5,211	14	249	6,153
11	223	5,517	31	244	6,046
12	222	5,586	9	238	5,942
13	215	5,445	32	237	5,969
14	203	5,154	33	230	5,613
15	201	4,897	34	226	5,573
16	199	4,805	13	225	5,610
17	198	4,949	35	222	5,464
18	196	4,944	18	221	5,588
19	190	4,570	36	220	5,411
20	185	4,679	16	219	5,728
21	177	4,444	37	218	5,208
22	175	4,395	38	215	4,598
23	158	3,843	10	209	4,679
24	145	3,283	39	198	5,304
25	143	3,763	40	195	4,860
26	140	3,454	41	193	4,707
27	101	2,663	42	191	5,224
28	90	1,976	43	190	4,630
			44	189	4,730
			45	184	4,813
			20	182	5,022
			8	178	3,953
			46	176	4,263
			24	174	4,168
			47	172	4,426
			48	171	4,490
			49	170	4,269
			50	160	3,804
			51	156	4,038
			52	154	3,663
			53	149	2,533

What the Second Year's Work Did For the Farmers.

100 registered animals were added to the herds of the association.

Three new barns built and 9 remodeled.

Cement floors, stanchions, and ventilating systems were installed in many of the other barns.

Three carloads of registered stock were secured by the tester and distributed among the farmers.

Rations were changed from hay and corn to silage, clover, cottonseed meal, oil meal, bran, and gluten feed.

You will see by the above that the results are practically the same during the two years, which certainly proves beyond the question of a doubt that this work is both accurate and profitable.

After the difficulty of organization has been overcome, then the question of securing a capable man comes up. The success of the association depends largely on the man whom you secure to do your work.

When we attempt to get a man, we ask him about 6 questions. If he can answer those satisfactorily, we consider him.

1. Does he use tobacco in any form?
2. Does he use alcohol in any form?
3. Is he a city or country boy?
4. What school and college training has he? What practical feeding work has he done?
5. How old is he? Married or unmarried?

I need not say that it is absolutely foolish to send a man out to work among dairy farmers who is not absolutely clean. How can he teach farmers sanitation and cleanliness in the handling of their herds if they are users of tobacco. They not only endanger the building of the farmers for whom they work, but it is impossible for them to teach by example.

I need not say that a drinking man cannot do the work satisfactorily.

In regard to place of residence, the city boy has too much to learn to attempt a job of this type among farmers. Then, too, you want a man who has worked for some practical farmers and dairymen. In addition to this, he should have had at least two years college work.

Age is of great importance. Many of the younger boys or men have not reached the age where they are willing to give up chasing around nights. If they do this the farmers will soon look upon them rather lightly, and with justice I think.

If possible, I should secure a single man—one who wants to live in his work; one who is enthusiastic and ready to help the farmers wherever they need it.

There is a tendency on the part of the married men to want to spend too much time at home, or to want to take their wives with them, which soon causes trouble among farmers.

Then, too, in going to the farmers, we advise the testers not to attempt to advise them unless they desire this information. Many of the farmers resent advice from younger men, so we think it best not to force these things on them until the right opportunity presents itself.

Of all the agricultural work done in that county, I feel that the work done along testing lines was the most valuable. It seemed to get at the bottom of the dairy business by weeding out the poor cows.

If farmers would do the testing it would be well, but I found but one man in our county who had tested through the year. He said, "He would rather pay $5.00 per cow than do it himself."

If the farmer does it himself, it will not always be well done, and very often no record of the feed is kept, let alone the fact that very few know when the cows are fresh or how long they have been giving milk.

Many of the farmers say they can do their own testing, but nearly everyone who buys a tester uses it a few times, then takes it to the attic, where it does not prove a valuable investment.

A SUMMARY OF THE TWO YEARS' WORK

First Year		Second Year	
	Average fat Lbs.		*Average fat Lbs.*
455 cows	189.00	593 cows	201.00
	Net Profit		*Net Profit*
Best cow	$87.68	Best cow	$143.19
Poorest cow	—20.43	Poorest cow	6.75
	Pounds fat		*Pounds fat*
Best cow	485.00	Best cow	514.50
Poorest cow	Dry entire year	Poorest cow	74.50
	Pounds fat		*Pounds fat*
Ave. 100 best cows	294.10	Ave. 100 best cows	323.80
Ave. 100 poorest cows	100.00	Ave. 100 poorest cows	143.60
Difference	194.10	Difference	180.20
Ave. net profit, $56.29		Ave. net profit, $54.96	
	Cost of feed		*Cost of feed*
Ave. 100 best cows	$36.42	Ave. 100 best cows	$35.61
Ave. 100 poorest cows	21.10	Ave. 100 poorest cows	23.80
Difference	$15.32	Difference	$11.81
	Net Profit		*Net Profit*
Ave. 28 best cows	$50.50	Ave. 41 best cows	$73.59
Ave. 28 poorest cows	4.51	Ave. 41 poorest cows	$27.37

	Results of 12 silage fed herds		*Results of 21 silage fed herds*
Ave. Per Cow (216)		Ave. Per Cow (350)	
Pounds milk	5706.00	Pounds mlik	5539.00
Pounds fat	320.00	Pounds fat	221.00
Value of fat	$64.92	Value of fat	$78.39
Cost of feed	31.90	Cost of feed	28.11
Net profit	33.04	Net profit	50.28

	Results of 16 herds not fed silage		*Results of 20 herds not. fed silage*
Ave. Per Cow (239)		Ave. Per Cow (243)	
Pounds milk	3850.00	Pounds milk	4295.00
Pounds fat	161.00	Pounds fat	173.90
Value of fat	$42.26	Value of fat	$60.19
Cost of feed	23.28	Cost of feed	20.92
Net profit	22.98	Net profit	39.27

	Results of 24 grade herds		*Results of 37 grade herds*
Ave. Per Cow (369)		Ave. Per Cow (86)	
Pounds milk	4355.00	Pounds milk	4718.00
Pounds fat	177.40	Pounds fat	191.00
Value of fat	$51.12	Value of fat	$67.09
Cost of feed	25.58	Cost of feed	23.89
Net profit	25.54	Net profit	43.20

	Results of 4 registered herds		*Results of 4 registered herds*
Ave. Per Cow (86)		Ave. Per Cow (81)	
Pounds milk	6461.00	Pounds milk	6999.00
Pounds fat	238.80	Pounds fat	265.00
Value of fat	$72.29	Value of fat	$95.23
Cost of feed	35.02	Cost of feed	33.21
Net profit	37.27	Net profit	62.03

	Results of 14 herds whose owners read dairy papers		*Results of 18 herds whose owners read dairy papers*
Ave. Per Cow (242)		Ave. Per Cow (293)	
Pounds milk	5255.00	Pounds milk	5672.00
Pounds fat	207.30	Pounds fat	224.30
Value of fat	$60.23	Value of fat	$79.25
Cost of feed	26.88	Cost of feed	27.43
Net profit	33.39	Net profit	51.82

	Results of 14 herds whose owners did not read dairy literature		*Results of 23 herds whose owners did not read dairy literature*
Ave. Per Cow (213)		Ave. Per Cow (300)	
Pounds milk	41.54	Pounds milk	4402.00
Pounds fat	168.00	Pounds fat	179.60
Value of fat	$49.55	Value of fat	$62.82
Cost of feed	28.09	Cost of feed	22.95
Net profit	21.46	Net profit	39.89

CROPS FOR THE DAIRY FARM

E. L. DELWICHE, Ashland

The subject of crops for the dairy farm is rather broad in scope, so much so that within the limits of an article of this sort, attention can only be given to the principal crops to be grown for feed directly or indirectly, the proceeds from which to be used for buying feed on the market. The up-to-date farmer plans to grow all the roughage needed on his own farm. To do this requires a proper system of crop rotation. In making plans for a rotation the needs of dairy cattle should be considered along with the soil and climatic conditions under which crops are to be grown.

The roughage may be discussed under two heads—feeds high in protein on the one hand, and high in carbohydrates on the other. The high protein roughage embraces clover and other classes of leguminous hays. Clover still remains our leading hay for cow feed. It has many decided advantages. It fits well in the rotation, is comparatively easily handled, and where it grows well, as is true in the greater part of Wisconsin, it furnishes a large amount of forage per acre. Farmers should use all reasonable effort to get clover to grow well. Generally speaking, there is not much trouble in growing clover in Wisconsin although here and there one hears of failures. There are two chief causes of failure in getting a good stand of clover—lack of moisture or deficiency of lime in the soil.

On sandy soils the custom of sowing clover with a "nurse" crop, so-called, often prevents getting a good catch of clover. In the experimental work which the Experiment Station has been doing on the sandy soils in the north at Iron River in Bayfield county, Spooner in Washburn county, and Ellis Junction in Marinette county, we have found it unsafe to try to get a good stand of clover in grain and for such soils we think it better to sow the clover alone without a nurse crop. If there is sufficient rainfall to enable the ripening of a crop of grain and at the same time get a good stand of clover without sowing a nurse crop, it is possible to grow from one to one and one-half tons of clover hay the first year sown. This, we think, is worth more than the possible chance of getting twenty-five to thirty bushels of oats per acre.

Certain soils have become more or less acid through cropping. Where such conditions exist lime is needed. In order to determine this it is suggested that farmers make a preliminary test before investing in large quantities of lime.

Soy beans are a splendid crop to grow for roughage. Analysis shows them to be very nearly equal in feeding value to clover. In dry seasons we have found soy beans superior to any other leguminous crop for sandy soils. They withstand drought or heat better than clover, alfalfa, or peas. They are very well adapted to growing on light sandy soils. Where clover has failed to make a catch it is often possible to grow a ton or more of soy bean hay the same season as planted. Soy beans seem to thrive better on acid soils than alfalfa or clover, although they are undoubtedly benefited by the use of lime under such conditions. We believe they are a crop which deserves more attention from the dairy farmer than it has heretofore received.

Alfalfa comes at the head in leguminous hays. Its feeding value is so high that it is sometimes classed with concentrates rather than with roughage. While I am not prepared to state that alfalfa will displace clover and other legumes as a general crop for the farmer, I believe that this valuable crop can be grown under a wide range of conditions. Thrifty fields of alfalfa may be found growing on practically all types of soil in Wisconsin. Alfalfa is somewhat more exacting on soil and moisture than is true of the other classes of hay mentioned. Briefly its requirements are as follows: a soil at least neutral in reaction, well drained land on which water will not stand, soil inoculation, and comparative freedom from grasses. In Northern Wisconsin June grass seems to be the arch enemy of the alfalfa plant and in planning to grow this crop every effort should be made to suppress it before seeding down to alfalfa.

Regarding lime, the requirements for different soils will vary and these, too, can best be determined by field tests. Generally speaking, soil which shows acid reaction to litmus paper is benefited by the use of lime. We have found that soils similar in texture and general appearance may vary with regards to lime requirements. For instance, on a fine sandy soil at Ellis Junction we found that alfalfa cannot be grown successfully without the use of lime. At Spooner, on the other hand, on new land, also on sandy soil, while liming was a benefit, the differ-

ence on well inoculated fields was only small. Where proper inoculation was not supplied, however, the lime plats were superior. Soil inoculation, we think, is one of the first essentials in getting alfalfa to start and do well. The soil transfer method has given us the best results.

Corn silage is undoubtedly the cheapest roughage to supply the carbohydrate balance in the ration. Practically speaking, corn can be grown for the silo everywhere in Wisconsin; in fact, the silo is more necessary in the northern section where corn is not apt to ripen fully and thus carry a larger per cent of moisture than is true farther south. Yields ranging from ten to fifteen tons per acre are easily obtainable. The essentials in getting first class silage corn are: good seed of an early maturing variety, well drained soil containing a good supply of nitrogen and humus, and proper and frequent cultivation. It is a mistake to plant large growing varieties that will not ripen fully. Our experiments show that when brought down to equal percentage of moisture, there is no great difference in total yield for the different improved varieties grown. My advice to Northern Wisconsin farmers, particularly, is to plant varieties that are sure to ripen at least two years out of three where conditions are most critical. In the more favorable section of the north, I would insist on getting corn that will ripen seed every year. The Experiment Station has now isolated different strains of corn adapted to particular sections. While it is desirable to grow a variety as extensively as possible, I don't think it would be possible to grow only one kind or even two kinds of corn over the entire northern half of the state. Difference in soil, altitude, and proximity to large bodies of water have to be considered in the selection of varieties. There is a variation between the ensilage corn suited for the western counties as compared to the counties immediately adjacent to those on the extreme east. In selecting varieties it is well to recognize these differences. Fodder corn has proven not well suited for roughage in the north, chiefly because even when the corn has ripened ears the stalks remain green and juicy and are liable to spoil. Therefore it is of the utmost importance that silos be provided to take care of the corn. A few farmers in the extreme northwestern part of the state have grown peas and oats and put them in the silo. Results have been fairly good but in normal seasons more good feed can be grown from corn than with the mixture mentioned.

On heavy lands peas and oats furnish good hay for dairy animals. This is particularly of importance to the dairyman who is located on new land where he has not had time to establish good fields of clover.

The growing of grain for feeding to dairy animals is practised on a good many dairy farms. Oats are probably raised more extensively than barley, wheat, or rye. On sandy land where ordinary small grains do not do well, we think that there is a good opportunity to grow soy beans to furnish feed for cattle. Soy beans are very high in protein and I think can be successfully used when mixed with corn or oats. There are many sections in Northern Wisconsin where the soil is very well adapted to growing wheat. Under those conditions we think the dairyman could well afford to grow wheat to be sold on the market in exchange for bran. This is particularly applicable to the red clay soils where wheat does very well. On new land in northern and central Wisconsin flax does quite well. It seems that this crop could be grown to supply concentrates for dairy animals. When flax sells for approximately $1.25 per bushel (two cents per pound), as is the case now, it would seem wise to feed the flax to cattle rather than to buy the commercial linseed oil meal.

Barley can be grown practically everywhere in Wisconsin. In newer sections where corn does not ripen well it can be used as a substitute for that grain, being about equal in feeding value to corn.

Root crops should be grown on every farm, particularly is this true for the northern section where roots do so well. With good cultivation yields will range from ten to twenty tons per acre. Forty dollars per acre will cover the entire cost of growing a first class crop of rutabagas, thus putting the cost of production at about two dollars per ton. Research work carried on by the Cornell Experiment Station indicated that where roots can be grown for less than four dollars per ton, they may well be used to replace one-half of the dry matter in concentrates ordinarily fed to stock.

Mention should be made here of the systems of rotation adapted to dairy farms. On small farms in the northern section it seems that the largest amount of feed can be grown by following a three year rotation to consist of small grain seeded to clover one year, clover to be cut for hay one year, and cultivated crops, such as corn, roots, etc., one year. Where the

soil is too light to grow grain well we suggest that clover be sown alone without a nurse crop to be cut for hay the same year if the season is favorable, and pastured in the fall. Under certain conditions we think it is quite feasible to plant soy beans in place of the grain crop on sandy soils and use the soy beans for feed as suggested above. The three-year rotation mentioned above does not provide for pasturage. Where no permanent pasturage is available, grass seed may be mixed in with clover so as to make a better stand and one year be added to the rotation. The rotation would then be small grain seeded to clover one year, clover to be cut for hay one year, mixed clover and grass for pasturage one year, and cultivated crops one year. The two rotations just mentioned are thought to be the best suited where the primary end is to grow feed for dairy animals. In certain sections where it is desired to grow canning peas or other special crops on the dairy farm, these can be grown successfully after the corn crop in the three year rotation or after the mixed grass and clover in the four year rotation, making a four year rotation out of the three year, and a five year rotation out of the four year, mentioned above.

Dairymen in Wisconsin have a choice of many crops to feed their stock. As a rule, clovers grow abundantly. Root crops do well, pasturage holds out well throughout the season, and silage can be made to furnish the major part of the roughage. We think that a considerable amount of feed stuffs are purchased and by following a proper rotation of crops it is possible to maintain the fertility well with increase rather than decrease in yields as a result.

WHAT THE WISCONSIN DAIRYMEN'S ASSOCIATION IS DOING

H. C. Searles, Fond du Lac

It is an easy matter for a good dairyman to tell how a herd of cows should be cared for in order that he may receive a fair profit, providing there are not too many boarders mixed in. He realizes that each cow must be fed a balanced ration and a sufficient amount of food to keep up a good flow of milk. His cows are not out in cold, stormy weather, but remain in the

barn, which is well lighted and ventilated, with plenty of good bedding to keep them clean and comfortable. There are also many other cares which I will not take time to mention.

The good dairyman also knows that there is a vast difference in the production of the individual cow. In fact, a great many of our good dairymen have gone so far as to buy a Babcock tester for the purpose of keeping a record of their cows. After testing a few times the other work on the farm demanded their attention and in a short time the Babcock testing machine was taken up in the attic. This was not done because this good dairyman thought he did not need to have the records kept, but because he did not have the time to do it.

The Wisconsin Dairymen's Association fully realizes these facts, and for the last six years they have been working directly among the dairy farmers, organizing and supervising cow testing associations that a large number of dairy farmers may have a record kept of their individual cows at a cost which is less than they could afford. At the present time we have twenty cow testing associations, with a membership of 560 dairymen, with a total of 8800 cows under test. These associations are located at the following places: West Salem, La Crosse, Menomonie, Eagle Point, Stanley, Mineral Point, Darlington, Rochester, River Falls, Columbus, Amherst Junction, Ellsworth, Waupaca, Iola, Wrightstown, Moquah, Augusta, Withee and two associations at Eau Claire. The Dairymen's Association furnishes testing outfits and individual record books free to each of these associations. They also aid in organizing and supervising the same.

In discussing the good which comes from the organization of cow testing associations, I would say that a great many unprofitable cows are eliminated from our herds which would otherwise remain undisturbed. If we should take no other factor under consideration this would mean a good investment to every farmer owning a herd of twelve to fifteen cows.

Another and very important aid comes in building up our future herd. Butter fat records determine the value of our cows. Without them we are at a loss to know what price to set providing we have one to sell. A gain of from fifty to two hundred and fifty pounds of butter fat per cow has been accomplished by our dairymen in from two to five years time in

association work. This means that a few dollars expended in this work by our farmers has proven a wise investment.

There are three causes for low production, namely—poor cows, poor feeding and poor care. The association work brings about a change in all of these essential points. Suggestions are offered by our field men in feeding and care, which brings about excellent results.

Smith, who is one of our prosperous dairymen, has an average net profit of $100 per cow per year. Mr. Smith's methods of running a dairy are discussed with Mr. Jones, who is not so fortunate as to understand the best and most economical way. Other good dairymen's methods are used to improve the poorer class. One of our members states that before he had any records of his herd he had priced one of his cows to his neighbor for $150, but his neighbor declined, saying that that was too much money for a cow. After he had been in the association work for a year and this cow's record was known she was sold to the same man for $275.

One of our patrons with a herd of forty cows was advised by the field man to change his grain ration and was shown by figures that the ration to be fed would cost $15 less for a month than the ration he had been feeding. The new ration was furnished and at the close of one month the extra production of the cows showed an increase amounting to $16.30, making a total earning of $31.30, or nearly enough to pay for his whole year's work in the association.

It is impossible for people from the outside to grasp the real good which comes to a patron belonging to one of these associations, as there are so many ways a farmer may be aided in making dairying pay him what it should. One farmer, when approached in regard to joining a cow testing association, said: "I can't see what good that work will do me. I have a certain number of cows and I want to keep that number; now, suppose that I go and join that association as you wish me to do and I find that I have eight or ten cows that do not pay for their feed, what am I to do? If I go out and buy cows to fill their places I am just as apt to get as poor cows as I had before. I hardly think I want to run the risk."

A neighbor of this man with a herd of twenty cows had a different view of his ability. His first year's average per cow was 3,547 pounds milk, 152 pounds fat, value $40.71, cost of

feed $26.98, leaving a profit of $13.73. Naturally this man was not satisfied, as there was such a wide variation of the production of his cows. As a consequence there were ten cows sold and he went out and bought twelve, making a total of twenty-two cows for the second year's work. At the close of the second year the records averaged 4,539 lbs. milk, 195 lbs. fat, value of the fat $58.40, cost of feed $29.60, net profit $28.80. Six cows of the second year's work were sold. The testing work had also convinced this man that it paid him to feed his cows better, and at the close of his third year his records averaged as follows: 6,165 pounds milk, 265 pounds fat, value of fat $82.61, cost of feed $35.85, net profit $46.76, a net average gain of 2,618 pounds milk, 113 pounds of fat, value $41.90, net profit $33.03. In other words, this means that this man's first year net income from twenty cows was $274.60, his third year's income from the same number of cows was $660.60, being a gain of $386.00.

I have another man in mind who took pity on me and entered fifteen cows in the association just to help get the work started. This man said he knew what his cows were doing and in fact did not need the work, but believed in helping a good cause along. This same man has done more work toward getting another association started in his community than any of the other members, and at times, it is said, he has the sidewalk blocked with farmers, talking cow testing association to them. The testing association has convinced this man that he knew very little about his cows.

Discussion

Secy. Glover: I would like to say a word. Our annual meeting has become largely local, and in view of this, it is not uncommon to hear people say that the Wisconsin Dairymen's Association is not what it used to be. Now, I dare say that there never was a time in the history of the association when it was doing as much work as it is doing today. Remember that we have 560 men scattered all over Wisconsin that are testing their cows. They are contributing to this cause $8,800; the state is contributing $4,500. We are expending, in other words, nearly $13,000 a year in this association, and we are constantly employing 21 men who are working every day in

the year for the dairy interests of the state. There is not another Dairymen's Association in the United States,—is there Mr. Scribner?—that is doing that amount of work. We do not have our banners out and our red lights burning and our street parade at our annual meetings, yet at the same time our work has been greater in its influence than it ever has been in the history of the association. Each year we succeed in adding three, four, five testing associations until at the present time Mr. Searles finds it a pretty hard matter to attend to them.

A MEMBER: When this association organizes a new testing association, and a man is placed at the head of the new testing association, is he always supposed to be a graduate of the Agricultural School, and to thoroughly understand about rations?

MR. SEARLES: They either come from that source, or have worked in herds where they fully understand the balancing of rations.

MR. SCRIBNER: We have an association in the western part of our county that has been running a year or two, and as is usually the case a number of cows were found to be unprofitable. A dealer not far distant from there went into this locality and picked up all these non-paying cows and took them up into another section of the country and sold them at an exorbitant price. Now, that was a place where a cow testing association did some damage. If a man is going out to buy a cow he ought to know what that cow can do, if it is possible to find out, because that is what we keep cows for,—not for any thing else in the world, but for what they can do.

PRESIDENT JACOBS: I cannot always agree with Mr. Scribner. That is, not altogether. I agree with him that we ought not to palm off a poor cow for a good one, but I don't think it is fair,—if a cow has been running along several years and not paying, I don't know but she ought to be passed along and let the other fellow lose something on her,—that is if she is going to be continued in the dairy business at all.

MR. GRISWOLD: Mr. Searles has brought out one point strongly, and that is that if the cow does not pay she should certainly be sold. Now, I find that with a whole lot of farmers it is not the cow's fault that she does not pay, that she could be made to pay if she was fed a little better. I have heard men say, "Those fellows that feed a cow so heavy are going

to spoil her, they are going to use her right up." And maybe that has been done one time in a thousand, but that is about all, and the rest of the thousand do not feed the cow enough nor good enough feed. Up in this country you can raise any amount of hay, but if it is not cut in the right season and is not cured right, so that it makes first-class feed, it won't make any kind of a cow a profitable cow.

MR. GLOVER: One of the things that the cow testing association brings to the farmer is his change of view with reference to his consideration for his herd. It is not so much a proposition of the determining which are the poor producing cows, as it is to get the farmer to see and understand the fundamentals to be followed in caring for and feeding a dairy herd.

MR. NORDMAN: I think a man is a fool that will sell a poor cow in his neighborhood or anywhere else. For instance, I make it my business to raise anywhere from fifteen to twenty new cows every year for sale, and I know that there are a lot of other farmers in our county doing the same thing every year. Let us establish a reputation for dishonesty by selling these poor cows, and where are we in our selling business? We could not expect to do business after that. On the other hand if we always live right up to our agreement, when we tell a man anything in regard to our cows, he knows that he can bank on what we say, and in that case that man will send right back to your place to buy your cows in preference to sending anywhere else. That is the only way to do, to establish a business reputation, and that is the kind of thing which will help sell the kind of stock you have to sell. That is nothing more than good business principle, to say nothing about the matter of honesty.

PRESIDENT JACOBS: I think Mr. Nordman has got his theory from the old man who was advising his son. He says "My son, be honest. Honesty is the best policy. I know because I have tried both ways."

MR. HILL: We had an experience in buying for the Chicago demonstration. I went into a fairly good dairying community to buy cows, a community where there had been a testing association, but one of these farmers had not indulged. Our problem was to buy from herds of cows that looked like good cows, and to get cows some of which should be good ones and some not good cows, but all of them to look all right.

We went to where the farmers knew what they were doing, and we paid $150 for a good grade Holstein cow. At Chicago she milked from 50 to 52 pounds a day of four per cent milk. I had a telephone message later from the farmer who bought her and she was then milking sixty pounds of 4 per cent milk a day. That farmer fixed his price at $150. He wanted that and he got it.

We bought another cow that we did not know was as good as this one but we thought she was a pretty good animal. There is an element of uncertainty about some cows, and she proved to be one of the uncertain ones. In that demonstration herd she only milked thirty pounds of milk a day, but as an off-set to that her milk did not test below six per cent during that ten days and it went up as high as seven and a half. After she was moved to her new place I am informed she has milked up to forty pounds testing six per cent of fat. That farmer said we could not buy one of his cows but we bought her for $60. And you could not buy her today for $250.

There was another herd where the farmer had been a member of the testing association but did not continue. He just knew this certain cow was a good one. You see we were not looking for poor cows, though we found some. Anyway this farmer would not take less than $85. for this one and she was bought. She milked fourteen or fifteen pounds a day of four per cent milk at that demonstration at Chicago. There was another cow in the same herd, a pure bred Jersey. We knew she was a poor cow from her looks, and the owner knew she was a poor cow. She milked about eight or nine pounds a day, testing four and a half per cent.

That farmer was a careful enough fellow as to feeding, breeding and testing, so he knew she was a poor cow, and he knew she was sure to run her owner in debt. He knew all about her; but some of the farmers who are supposed to be among the best dairy farmers in Wisconsin do not know what their cows are doing and that is what this association is after,—to help such people find out where they are at.

GETTING INTO THE DAIRY BUSINESS IN NORTHERN WISCONSIN

ED. NORDMAN, Polar

This paper gives my view as how a new settler in Northern Wisconsin should proceed when he is starting a dairy farm. Let me say for those that are contemplating such a move that there is more to the dairy business than just keeping cows. The object of dairying is to produce milk. To make his business a success the dairyman must first of all be able to supply the raw material out of which milk is made and he must think of the cow only as a machine for converting this raw material into the finished product. In a sense he is a manufacturer.

Now, I have noticed that when the manufacturing concern contemplates the erection of a factory their first thought is about the raw material available. When this can be got in quantities and qualities at a cost that will enable the manufacturer to compete with other concerns engaged in turning out like products they go ahead with the erection of their plant, and not before. And so it should be with the man who is going to produce milk. He should plan on having enough of the right kind of raw material on hand to feed the number of cows he can afford to keep, and to be successful he must produce this raw material economically. So that the first thing that we will consider is the raw material for the making of milk.

The raw material for milk production is not the same in every locality. Milk can be made out of many different kinds of feeds and the kind to grow in every dairy district is the kind that will make the most milk at the least cost. In Northern Wisconsin so far as we now know these feeds are corn, roots, clover and small grains and the pasture grasses. The new settler whose purpose it is to become a dairy farmer should start in by making as large a clearing as he can for the first year and then calculate on keeping a cow or her equivalent in heifers for every acre he has cleared. Of course he will raise only the winter feed for his stock on his cleared land, depending upon his uncleared land for most of the feed which the stock gets through the summer months. Say that he clears two acres the first year with the intention of wintering two cows. He can raise the feed for his two cows on these two acres by raising one-quarter of ruta-

bagas and one-half of the balance of the clearing of corn and the other half of oats cut for hay. The second year these two acres should be plowed up either with a turn plow or if there are too many roots, with the shovel plow, then we will harrow, sow with oats and seed with timothy and clover. When new clearing is made it should again be planted to corn and oats and roots, and a cow procured for each additional acre of clearing. All of the manures that are made should be saved as carefully as possible and piled on the meadow land.

In five or six years the settler should have developed into a farmer and will find that the stumps in the meadow land, first cleared, have become sufficiently decayed so they can be cheaply removed with the aid of dynamite. The thing to do at this time is to dig out the stumps and begin a regular three year rotation consisting of corn and roots, small grain and clover. Another matter that should be mentioned at this point is that when the settler or farmer is far enough advanced to grow three acres of corn each year, he should erect some kind of a silo. A permanent one if he can afford it, a cheap, temporary one if that is the best he can do. An acre or two of corn can be cared for fairly well in the shock or in small stacks, but more than that, under our conditions, should be harvested by means of the silo. Silo filling machinery can now be hired in any part of Northern Wisconsin more economically than it can be owned, especially by the new beginner, so that this expense is no longer a bar to the building of the silo.

Pastures can be cheaply made by fencing the woods, cutting out the timber as time and the occasion warrants, and confining the stock to the land so fenced. In the beginning the cows will not get the best of pasture from this land except for about seven weeks in the forepart of the season when the leaves and shoots are young and tender. The new settlers with only a few cows can help out the pastures after July 1st by pulling rutabaga leaves and by cutting a little green oats and some of the clover that grows on the new seeding. Later, when the clearing is larger and the herd has increased, the wood pasture can be supplemented in the fall by the two crops of clover or if the cows are confined as stated above they will destroy the brush and in its place will come a luxurious growth of plow grass and wood clover.

When a farmer has cleared land enough to support the num-

ber of cows he desires to keep, it is then time for him to quit his clearing and devote all of his time to farming. Nine farmers out of ten in this country would do much better if they worked one-half the amount of land they do now and work that half thoroughly and scientifically. In the lonely sections of Northern Wisconsin, an acre properly farmed will not only raise the winter feed for a cow but it will produce enough more than that to help out the pastures for that cow in the summer. Therefore my advice to a Northern Wisconsin settler is to plan on clearing from 25 to 45 acres of land, and to farm this well and see what it will do for him before he proceeds to develop any more clearing. This much cultivated land with the good land for pastures will feed all the cows and harvest that one family can take care of. It will furnish the funds for a comfortable living and be the means of a more enjoyable life than the best half section farmer in the country.

So far as cows are concerned I would advise the new settler to get the best he can afford to buy. Not necessarily pure-bred cows with a long pedigree, get cows of the breed he prefers and then take good care of them. A new settler can make his cows as comfortable in a log stable as they can be made in the most modern mansion if he makes up his mind to do it. All that a cow requires for comfort is a warm stable, a clean bed, good air and sun light and enough to eat. All these conditions are easily supplied and they must be supplied or there will be no success in the dairying business.

Having his foundation stock, the new settler should increase his herd by breeding to the best sires in the neighborhood and raising his heifers the right way. I want to say that he should not be deceived by the term pure bred. Some of the worst scrub bulls in the country are pure bred because everything entitled to a pedigree is being used for breeding purposes. If possible the new beginner should bring his cows to a sire that comes from a long line of producers on both sides and he should not begrudge a fair fee if he can get the services of such a sire. In this way he will soon get cows that will make the very best use of the feeds they consume and be a source of pleasure to him as well as profit.

It will pay every beginner to keep an account of what his cows are doing and this is done by means of the milk sheet, the scales and the Babcock test. In this way he can learn whether

or not it will pay him to feed concentrates in addition to the silage and hay, and how much. He should feed them all they will pay for but it has been my experience that silage, roots, and clover hay can be made to take the place of grass and not very many dairymen feed grain to their cows when they are on grass. This applies to such cows as settlers are likely to have and not to the 400 and 500 cows of our best dairymen.

Discussion

Mr. Green—Where a man feeds as large quantities as Mr. Nordman speaks of, isn't it absolutely necessary that his corn should be pretty well ripened so as to put it up just as nearly dry as possible?

Mr. Nordman—That is a good point—that is a matter of great importance. There is a tendency up here to plant for silage a kind of corn that does not mature and they will put that kind of stuff into the silo green and then they are sure to have sour feed. On the other hand, you get a kind of corn that will mature early in Northern Wisconsin,—and there are plenty of good kinds that will mature,—and put that up, a little on the dry side, and you will have good silage. Our practice is to not only let the corn get ripe, but to let it get pretty dry. We let it dry as much as three days sometimes before putting into the silo. It is then dry enough and still has a sufficiency of succulence so that it will be fine and you can feed the cows all they will eat of it, and it won't harm them any more than pasture grass.

A Member—Do you shock your corn?

Mr. Nordman—No, we cut it and leave it on the ground.

A Member—Do you put in some kind of application so it does not rain in the meantime?

Mr. Nordman—The rain benefits it, if anything. There is a great deal of corn put into silos in this country that is rained on and it does not hurt it a bit. The conditions are different up here in that respect. Somehow or other, we cannot grow corn—I don't care what your experts or anybody else says—we cannot grow corn in this country that will mature enough to make it safe to put into a corn crib. I can pile corn only a foot high in my corn crib, and it is going to mold. The only place to put corn up here is in the silo. Our corn seems to contain more

of those natural juices than their corn farther south, and it is good practice always to dry some of those juices out before you put it in, to put it in condition that you may feed in large quantities.

Mr. Hill—At our Farmers' Institutes we were always told that when our corn was immature, a little frost would not hurt it. However, my experience has been that when the time comes along that it is time to cut this corn and that we are in danger of frost, we had better cut it down and let it lie in the field for three or four days and let the leaves dry. We will find there is still plenty of juice in the stalk to carry it through in the silo, and we will find when this silage comes out, it will come out sweet and we can feed considerable quantities of it and produce good results at the milk pail.

Mr. Scribner—Isn't it a fact that your corn up here contains more moisture and does not dry out as quickly as other corn in other parts of the state?

Mr. Nordman—Yes, that is true. Corn carries more moisture here. The same is true of clover. We have more difficulty in making hay than you have in the southern part of the state.

Secy. Glover—Do you feed any roots with silage?

Mr. Nordman—Sometimes, and it is a good thing to do. They give more milk when part of their succulent ration is roots.

Secy. Glover—In what quantities do you feed roots in connection with silage?

Mr. Nordman—I am not so particular about that. Half and half in weight will do. You might produce on an acre in this country one thousand bushels of roots. You can get your ground good and rich. Sow your rutabagas in drills, we will say about three feet apart—it isn't necessary to have them that far apart, but that is the way I grew mine—then afterwards thin them out so they stand about eight to ten inches apart in the row, and then give them a good, thorough cultivation through the summer, until the roots get big enough so you cannot get your cultivator in. That is one of the sure crops. You can put in oats and potatoes and various other crops, but the cultivated crops, like corn and rutabagas, are the crops that are a dead sure thing in this country. The only real bad season we had was three years ago when we did not have a drop of rain through June and July. That was the year when I grew my very best crop of roots and corn. I had 1,200 bushels of roots on one measured

acre. I am not so sure of getting a good stand of mangels as I am of rutabagas. Rutabagas will grow like weeds, it is only a matter of thinning them properly and giving them proper cultivation.

A MEMBER—When is the best time to feed these roots?

MR. NORDMAN—The roots must be fed right after milking, but everyone in this country understands that, so I did not speak of it.

A MEMBER—Do you cut them up?

MR. NORDMAN—Yes, we have a root slicer. It is a dangerous thing to feed rutabagas without their being cut up. They will get chunks in their throats and choke on them.

TRANSFORMING CREAM INTO CASH

J. H. HOWE, Antigo

The cow should be handled right, the farmer must be clean in person and clothes. The utensils must be clean and dry, and the milk should not be poured and handled in the barn; it should be carried right out of doors or into a separate room. Be clean about every detail of the milking. There are a good many things to think of in the way of being clean.

Now, to pass along from the milking proposition to the next one, which is getting the milk out of the stable just as quickly as possible. Wherever it is strained—whether in the barn or somewhere else—strain it through a cloth. Do not strain it through one of these little wire strainers—it is no use, it is really foolishness; it does not take anything out but straw. A cloth tied over the mouth of the can is the best system; that will take out all the dirt. As soon as you are through milking, get that can out of the barn, and if you are separating your milk, get it to the separator as soon as convenient, and separate it just as soon after milking as possible; you will get better results in all practical ways. We do not want to forget the great necessity of keeping all utensils clean. The separator should be in a sanitary condition, should be cleaned and properly and promptly washed after the separating is done.

Next after that comes something that is too often neglected. With very many after they separate their cream, what happens then? The chances are that if the farmer even stops to do the separating, he will then walk off and leave the milk for the women folks to take care of. Of course, naturally in the common home the responsibility is placed on the woman, and she has a lot of little things to do and children to take care of, and it is really unjust in many cases. This wife, or whoever is left in charge, is very busy; she must do her necessary work, and she generally does it first, and the milk is neglected. In my opinion the right and proper thing is for the man to make it his business to see that the milk is properly taken care of, and not left with the wife or some child to take care of.

That is one of the main points, gentlemen, in this matter of bringing poor cream to our factories—the neglect in taking care of the cream after it is separated. It is warm, of course, after it is separated, and then it is just at the right temperature for the rapid development of bacteria and the souring or contamination on any line may take place very rapidly. We know from experience that the only safe system is to get it cold as soon as possible.

I don't know of anything that is more needed in this country or that would be of more benefit to the county than good milk houses in which to keep milk or cream, whichever you are handling. It will add more of convenience to your farm than any other one thing, and I don't see how a man can attempt to farm and handle milk and cream without it, particularly if he has a large herd.

Another very important point: Do not on any account mix the warm cream from the new milking with the cold cream, but have a separate can to put it in and then when it is cool, you can dump it all in together, and you will find you will have better success than you have had before, and whoever handles the product will certainly have better success in turning your milk or cream into product for the market. We have got to get down to some system of trying to get milk houses into the farm districts.

The next point I want to bring up is the getting the cream to the factory. Perhaps this point has not reached so bad a condition as the last mentioned, but it is very serious. Too many people just dump their cream down anywhere and let it stand

until it is convenient to haul it to town whenever they must go to do some trading.

What we ought to have is a system of delivering cream whereby it is delivered at least twice a week—on certain days. You can see the position it puts the man at the factory in if a man is liable to come along any old time with his cream. Both the farmer and the factory man must be systematic to produce the right kind of results and make a good grade of butter.