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*COW-TESTING
ADDS TO DAIRY
PROFITS

By

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COW-TESTING

Is a balance wheel on the dairy business

Is a guide to better cows and a larger income

**Crowns the years of effort and planning in the dairy
business with success**

**Helps to establish a community, a county, or a state as
a center for good dairy cattle.**

MINNESOTA COW-TESTING ASSOCIATIONS

Cow-testing is rapidly becoming recognized as a necessity in every well managed dairy herd. It provides the most economical and satisfactory means of obtaining the information necessary to develop a high producing, profitable herd.

This report gives the most outstanding results of the cow-testing work for 1925 and 1926. It deals largely with herds and cows of superior producing ability, and indicates that a great opportunity awaits a large number of herds now ranking low in production. The herds reported on have in a short time, by means of improved methods of feeding and management, passed from very ordinary to decidedly satisfactory production.

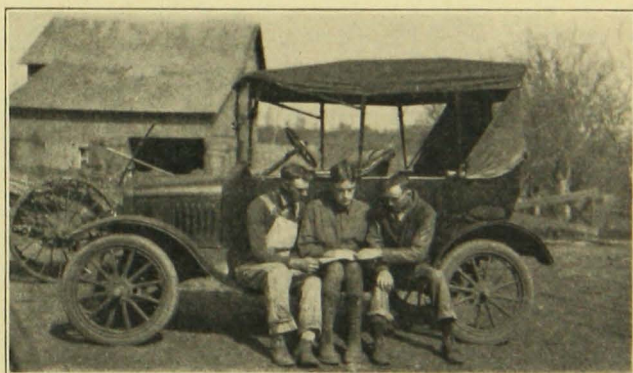


Fig. 1. The farmer sits down with the tester and talks things over.

Building a good dairy herd takes years of effort. The trouble is that too many depend wholly on breeding, and ignore feeding. Many a herd which has been bred with great care to develop high-producing ability has shown only ordinary production until the adoption of proper feeding has increased production to the point at which the owner aimed.

Minnesota Dairy Farmers Are Milking Too Many Low-Producing Cows

The production and the income received by members of Minnesota testing associations, is, on the average, not beyond the reach of practically every one who keeps dairy cows. Testing association cows produce 90 pounds more butterfat annually than the average cow. To the skeptics, a large increase in total production may indicate a surplus with resulting lower prices.

Another way of dealing with the low standard of average dairy production is to dispose of all the low producers and feed the remaining good cows to the limit of profitable production. By this method the present volume of dairy production in Minnesota could be maintained by about two-thirds of the 1,600,000 cows now kept.

REASONS FOR POPULARITY OF COW TESTING

It eliminates unprofitable cows.

It stimulates better feeding methods.

The records show to what limits liberal feeding is practical and profitable.

Cow testing is one of the best means by which a community may gain a state-wide reputation for having dairy herds of outstanding merit.

A study of dam and daughter records reveals the value of the sire in transmitting production to his daughters. The demand for proved sires is increasing rapidly.

HIGH LIGHTS FROM REPORTS

Average yearly butterfat production for cows in test associations increased 9.6 pounds from 1925 to 1926.

Butterfat average for more than 22,000 cows for 1926 was 280.8 pounds.

Eighteen associations averaged over 300 pounds of butterfat per cow.

The association averaging highest in 1926 reported 340 pounds fat for 309 cows; the lowest during 1925, 211 pounds for 446 cows.

The herd averaging highest produced 520 pounds of fat for 9 cows.

The leading registered cow produced 1053 pounds of fat; the best grade, 709 pounds.

The greatest improvement in four years was made by the herd of Ole Lea, of Douglas county, which increased from 158 pounds of fat per cow in 1923 to 320 pounds in 1926—a gain of 162 pounds per cow.

The Brandon, Cow-Testing Association, in Douglas County, claims the largest association improvement in four years, climbing from 230 pounds of fat for 420 cows in 1923 to 311 pounds in 1926—a gain of 81 pounds of fat per cow.

The owners of the highest producing, as well as the most profitable herds, generally follow these practices:

- (a) Feed legume hay and silage.
- (b) Feed liberally of a grain mixture containing at least three home-grown grains and one or more such high-protein concentrates as linseed meal and bran.

- (c) Feed grain to dry cows.
- (d) Feed such pasture supplements as grain, silage, alfalfa hay, or soiling crops.
- (e) Head their herds with sires whose dams have large A.R. records.

Table 1. Summary of Cow Testing Work, 1922 to 1926*

	1922	1923	1924	1925	1926
Associations active as of January 1	30	43	70	87	82
Associations reporting results	19	29	61	67	66
Herds on test	442	695	1463	1614	1529
Cows on test	5392	10459	21100	24626	22500
Unprofitable cows sold	672	891	2211	2495	3229
Cows producing 365 lbs. fat yearly		881	2220	2273	2835
Average milk per cow, lbs.	6565	6637	7350	6966	7206
Average butterfat per cow, lbs.	258	258	269	271	280
Average test, per cent.	3.9	3.8	3.6	3.8	3.8
Average yearly feed cost per cow					\$54.31

* All data and calculations are based on the number of associations submitting annual reports and not on the total number of associations active.

PRODUCTION AND INCOME

The income from any business is universally governed by the volume produced. In dairying, the herds having the largest annual average production of butterfat per cow show the largest net income.

Table 2 shows a comparison between groups of herds from high to low production. Fat is figured at 47.5 cents a pound. The figures are taken from cow-testing association records.

Table 2. High Production Yields the Largest Income

Group	Herds	Cows	Yearly fat production per cow	Value of fat	Yearly feed cost per cow	Yearly income over feed per cow
1	25	348	380.4	\$180.69	\$68.67	\$112.02
2	73	1096	319.5	151.76	60.17	91.59
3	270	4314	248.4	117.99	46.75	71.24
4	44	793	177.4	84.26	37.92	46.34

INCREASE IN YEARLY NET RETURNS OVER \$500 PER HERD MORE IN 1926 THAN IN 1923

The Brandon Cow-Testing Association, in Douglas County, has completed four years of testing. Seven herds were on test in 1926 that were also on test for the first time in 1923. Table 3 shows the improvement made.

Table 3. Improvement in Production of Cows in Brandon Testing Association

Year	No. of cows	Average fat per cow	Yearly feed cost	Income over feed cost
		lbs.		
1923	106	254	\$44.20	\$76.45
1926	93	351	57.36	109.60
Yearly increase per cow....		97	\$13.16	\$33.15
Per cent increase.....		38	29.7	43

By making use of the information in the cow-testing records, the owners of these herds were able to cull intelligently, feed according to the producing ability of their cows, and increase their net returns over \$500. To yield this return at 6 per cent would require an investment of \$9000, while the total money invested in dues to the testing association was less than \$150 per member for the four years.

LEADING STATE HERDS FOR 1926

H. A. Dilly, Northfield, and W. H. Eddy, Howard Lake, own the only two herds that averaged over 500 pounds of butterfat per cow. In 1925 both herds were managed much the same as hundreds of other dairy herds in Minnesota—milked twice daily and fed reasonably well. In 1926 they were handled under official test conditions—milked three times daily and fed accordingly. A comparison of the two herds is here presented.

H. A. Dilly—Grade Holsteins

Year	No of cows	Av. milk per cow	Test	Av. fat per cow
		lbs.	per cent	lbs.
1925	7	7520	4.46	335
1926	9	12397	4.11	520

Mr. Dilly has been dairying for about ten years. A registered Holstein sire heads the herd. The cows are grades, on the dam's side tracing to stock carrying some Jersey blood, from whence probably comes the butterfat test, which is higher than the average for the Holstein breed. Eight of the nine cows are by the same sire. During 1926, when this herd did so well, three cows were in their first lactation period and six in their third period.

According to Mr. Dilly's statement, feed consisted of silage, clover and timothy hay, and a grain mixture comprised of equal part of corn, oats, and bran, which was fed liberally in the proportion of one pound to three pounds of milk. To supply the protein necessary for high milk flow, linseed meal

and gluten meal were mixed in equal parts and each cow received from 2 to 4 pounds daily, depending on the milk yield. From November, 1925, to July, 1926, all cows were milked three times daily, after that time twice daily.

When asked for a short statement as to the factors responsible for his herd reaching its high production, Mr. Dilly replied, that "regularity of care, liberal feeding of the right kinds of feed, coupled with cows that had the inherited ability to produce, and three-time milking when the cows were milking heavily" was the secret of his success in a nutshell.

W. H. Eddy—Registered Jerseys

Year	No. of cows	Av. milk per cow	Test	Av. fat per cow	Feed cost
		lbs.	per cent	lbs.	
1925	14	6566	5.63	369	\$86
1926	13	8490	5.94	505	91

Mr. Eddy says: "We like to study each cow and feed her what we think she needs to bring best results. Some cows are lean when producing heavily so we feed them more fattening feeds; others will lay on fat and to those we feed more of the high-protein feed.

"We aim to grow practically all the feeds on the farm; only bran, linseed meal, and mineral feeds are purchased. Our ration contains alfalfa hay, corn silage, and mangels. From 12 to 20 pounds of silage and 15 pounds of alfalfa are fed daily. The grain mixture consists of corn-and-cob meal 5 parts, oats 5 parts, barley 5 parts, bran 4 parts, and oilmeal 1 part. Slight changes are made in this mixture to meet the special needs of the highest producing cows. We feed grain liberally, each cow receiving at least 1 pound of grain to each 3 pounds of milk produced. We feed grain, silage, and hay throughout the summer, as our pasture is limited and provides only a little green feed for variety, and exercise for the cows."

HIGH PRODUCTION AND HIGH INCOME GO TOGETHER

The herds listed here have been tested for three or more years and show the results of applying intelligent management to the dairy herd. Butterfat is figured at 47.5 cents a pound for each herd and each year. The price actually received may have varied from this figure slightly, but for comparison a uniform figure is used.

This herd was never milked more than twice a day and only three cows were sold and one purchased during the four years.

Owner	Year	No. of cows	Av. fat per cow	Feed cost	Income over feed cost
			lbs.		
William Pohlman	1925	21	316	\$58.21	\$91.88
(Holsteins)	1926	19	346	64.00	100.35
Jackson County	1927	19	428	70.00	133.35

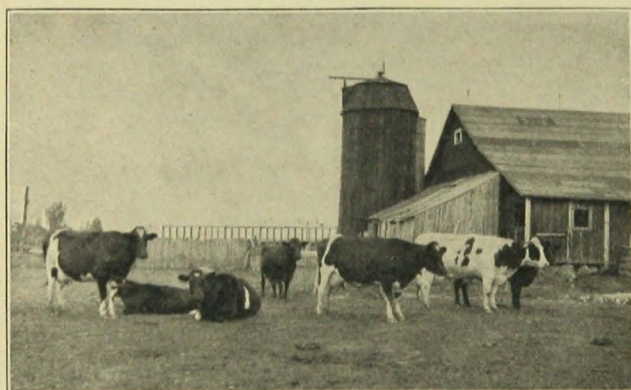


Fig. 2. Mr. Guildner's Herd
Their record tells a pleasing story.

Owner	Year	No. of cows	Av. fat per cow	Feed cost	Income over feed cost
			lbs.		
F. C. Guildner	1923	12	384	\$71.95	\$110.45
(Holstein, Shorthorn,	1924	12	445	85.36	126.01
and Ayrshire)	1925	9	498	88.75	147.80
Dakota County	1926	10	487	86.65	144.67

Mr. Guildner gives credit for the improvement in his herd to the feeding methods learned through the testing association. During the first year of testing, alfalfa hay was fed during the early winter months; after that, mixed hay. The second and third year, alfalfa and soybean hay were fed the year round.

This, Mr. Guildner says, is a big factor in getting high production. His grain mixture was fed according to daily milk yield, about one pound of grain to 3 or 4 pounds of milk, and consisted of oats, barley bran, linseed meal, and gluten feed. Corn silage and some fodder were fed during the winter. Regularity in both feeding and milking is very important, according to Mr. Guildner. Finding the ration that gives results and then sticking to it, is far better than jumping from one kind of feed to another.

Owner	Year	No. of cows	Av. fat per cow	Feed cost	Income over feed cost
			lbs.		
Ole Lea	1923	16	158	\$30.90	\$ 44.15
(Holsteins)	1924	15	275	48.80	81.81
Douglas County	1925	14	357	54.52	115.05
	1926	13	320	56.10	95.90

In Mr. Lea's herd there was an increase of 162 pounds of butterfat per cow in the four years. Thirteen cows in 1926 returned \$1350.70 over cost of feed, as compared to \$701.60 from 16 cows in 1923.

Owner	Year	No. of cows	Av. fat per cow	Feed cost	Income over feed cost
			lbs.		
Theodore Wnikjer ...	1923	16	192	\$32.65	\$ 58.55
(Guernseys)	1924	15	273	44.35	85.32
Douglas County	1925	14	325	53.69	100.68
	1926	15	317	48.29	102.28

Mr. Winkjer's herd of Guernseys increased 125 pounds of fat per cow and the net income from the herd in 1926 was \$639.45 greater than in 1923.

In response to an inquiry as to the things responsible for his herd doing so well, Mr. Winkjer says: "The increase in production is attributed to weeding out a few boarder cows, raising heifers from a few of my best cows, and improving my feeding practices. When I started testing I found that my cows were underfed and the ration lacked protein. At first, linseed meal supplied the protein; later, alfalfa hay and soybeans took its place in the ration with good results. Corn silage, oats, and barley comprised the rest of the ration. Regularity in feeding, milking, and management plays an important part in successful dairying. The records of the testing association made possible the improvement that my herd has shown. Continued testing pays well. It is constant watching and attention to details that count."

Owner	Year	No. of cows	Av. fat per cow	Feed cost per cow	Income over feed cost
			lbs.		
Joe Lehn	1924	15	300	\$53.25	\$ 89.25
(Jerseys)	1925	13	340	53.28	108.22
Douglas County	1926	12	394	63.24	123.91

COW-TESTING ASSOCIATIONS HASTEN PROSPERITY

Every community that has had the experience of a cow-testing association has benefited by the new interest aroused in the possibilities of larger production and greater income from



Fig. 3. Lucy

Lucy, a grade Holstein owned by Ola Larson of Burtrum, Todd County, has recently completed her sixth consecutive testing year. Her record is the highest long-time record reported. This performance is noteworthy because it was made under every-day farm conditions, by a man who makes his living milking cows. Lucy was milked three times daily during a part of the last three lactation periods. Her feed consisted of silage, alfalfa, and mixed hay, corn, oats, bran, oilmeal, and pasture. The records were supervised by six cow testers.

dairy cows. Testing provides a means of obtaining facts as to the best accepted methods of feeding and management. Tabulated results for two associations are presented:

Table IV. Record of Brandon Cow-Testing Association—Douglas
County

Year	No. of cows	Yearly average fat per cow lbs.	Yearly feed cost	Income over feed cost
1923	420	230	\$42.92	\$66.33
1924	443	281	50.45	83.02
1925	422	310	52.84	94.41
1926	350	311	50.86	96.86
Increase		81	\$ 7.94	\$30.53
Per cent increase.....		35	18.4	46.0

These Brandon dairymen made over \$7000 more from their cows in 1926 than in 1923. During the four years, 272 unprofitable cows were sold. One cow out of every six proved unprofitable.

Table V. Record of Redwood Falls Cow-Testing Association—
Redwood County

Year	No. of cows	Yearly average fat per cow	Yearly feed cost	Income over feed cost
		lbs.		
1924	334	233	\$48.39	\$62.28
1925	383	271	58.79	69.93
1926	269	312	57.81	90.39
Increase		79	\$ 8.42	\$28.11
Per cent increase		33.9	19.4	45.1

Table VI. Lucy's Six Yearly Cow-Testing Association Records

Year	Milk	Fat	Value of product	Feed cost	Income over feed cost
	lbs.	lbs.			
1921	9,051	418	\$186.88	\$59.65	\$127.23
1922	12,244	540	231.23	61.51	169.72
1923	11,941	504	265.80	60.80	205.00
1924	14,842	604	302.39	80.33	222.06
1925	17,328	745	381.90	97.83	284.06
1926	13,673	545	257.68	75.49	182.19
Total	79,079	3358	\$1625.88	\$435.61	\$1190.26
Average	13,179	559	\$270.98	\$72.60	\$198.37

These yearly records are for cow-testing association years ending January 31. Lucy's best yearly record on the basis of 365 days was for the lactation period starting December 7, 1924, and ending December 6, 1925, when she produced 19,003 pounds of milk and 800.3 pounds of butterfat. During this time she consumed 8730 pounds of silage, 2080 pounds of hay, and 4390 pounds of grain composed of corn, oats, bran, and linseed meal, the total cost of which was \$105.21. The income over feed cost was \$302.64.

SUMMARIES FOR 1925

ASSOCIATIONS WHOSE BUTTERFAT AVERAGE EXCEEDED 300 POUNDS,
1925

Association	County	No. of herds	No. of cows	Av. milk per cow	Av. fat per cow	No. of cows producing a pound a day	No. of boarder cows sold
				lbs.	lbs.		
Dakota South ..	Dakota	27	382	9527	333.4	65	40
Clarissa	Todd	23	405	8477	332.3	95	72
Blue Earth II..	Blue Earth .	24	300	8418	329.4	87	18
Blue Earth I...	Blue Earth .	24	305	8754	326.3	62	50
Wright	Wright	25	349	7399	312.5	60	25
Brandon	Douglas ...	25	422	7070	310.0	75	55
Ottertail Circuit	Ottertail ...	14	225	7176	309.3	47	20
Nelson	Douglas	26	374	7517	308.9	73	45
Deer Creek	Ottertail ...	25	330	7785	304.8	52	34
North Hennepin	Hennepin ..	26	326	7851	302.7	54	42
Rushford	Houston ...	25	440	6051	302.4	104	89

RECORDS OF HIGHEST PRODUCING HERDS AND COWS

Grade and Registered Holstein Herds

Name	Association	No. of cows	Grade or reg.	Av. milk	Av. test	Av. fat	Av. cost of feed
				lbs.	per cent	lbs.	
F. B. Seivert...	Dakota South...	10	Grade	14,250	3.62	516.3	\$ 94.20
F. C. Guildner..	Dakota South...	10	Grade	14,781	3.62	498.6	72.05
Evan Williams..	Blue Earth I...	20	Reg.	13,276	3.49	474.6	103.00
Alfred Agrimson	Rushford	11	Reg.	11,743	3.86	458.4	81.62
C. A. Peterson.	Blue Earth II..	5	Reg.	12,270	3.70	457.0	78.00

Registered Holstein Cows

Name	Association	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
Dr. C. Graham.	Byron-Rochester	Colantha	26,605	3.31	881.8	\$240.10
Evan Williams..	Blue Earth I...	White Jones..	18,012	3.95	712.0	119.75
P. J. Nelson...	Clarissa	Pauline	18,234	3.59	652.2	102.98
Edwin Austin..	Blue Earth I...	Queen	19,664	3.30	649.6	97.34
W. D. Carroll .	North Dakota..	Segis	17,941	3.60	644.4	99.54

Grade Holstein Cows

Name	Association	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
Ola Larson	Long Prairie ..	Lucy	17,328	4.16	745.2	\$ 92.56
A. A. Anderson	Clarissa	Queen	17,890	3.89	692.9	85.03
Ivan Hanson ..	Clarissa	Lady	21,010	3.26	694.5	100.48
R. A. Klingbeil	South Dodge I.	Rosie	14,296	4.60	662.7	88.48
F. C. Guildner..	Dakota South ..	May	17,701	3.60	638.7	106.69

Grade and Registered Guernsey Herds

Name	Association	No. of cows	Grade or reg.	Av. milk	Av. test	Av. fat	Av. cost of feed
				lbs.	per cent	lbs.	
W. A. Holmquist	Clarissa	7	Grade	9,142	5.04	463.7	\$ 63.93
M. C. Kline....	Dakota South ..	8	Grade	10,035	4.57	459.4	105.19
E. E. Gleason...	Nicollet	12	Reg.	9,099	4.80	435.0	105.16
G. A. Strandberg	Barnum	5	Grade	8,980	4.80	430.7	66.65
L. A. Page.....	So. Hennepin..	11	Reg.	8,187	5.04	412.6	115.90

Registered Guernsey Cows

Name	Association	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
E. E. Gleason..	Nicollet	Lola	13,035	5.3	700.0	\$122.70
E. E. Gleason..	Nicollet	Myra	11,954	5.10	610.3	128.54
L. J. Beck....	Barnum	Imp. Dimple.	10,357	5.6	575.9	
L. A. Page.....	So. Hennepin ..	Assie	13,223	4.15	548.8	157.99
C. E. Swenson & Sons.....	Chisago	Star	10,326	5.24	540.7	117.23

Grade Guernsey Cows

Name	Association	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
Adolph Humble.	Rushford	Flora	11,907	5.1	606.1	\$69.24
W. A. Holmquist Harrington & Doring	Clarissa	Daisy	10,699	5.55	594.2	69.43
A. R. Schwenke	Biscay-Hutchinson .....	.....	.....	...	560.5	
Putnam & Sons	Progressive ...	Daisy	11,050	5.04	557.5	80.08
	Ottertail	Hazel	10,169	5.5	554.1	80.28

Grade and Registered Jersey Herds

Name	Association	No. of cows	Grade or reg.	Av. milk	Av. test	Av. fat	Av. cost of feed
				lbs.	per cent	lbs.	
A. E. Snodgrass	Wright	2	Grade	9,750	5.36	519.0	\$82.77
L. B. Hanna...	Mower I.....	16	Reg.	7,797	5.27	410.8	82.29
Fred Wittnebel.	Brandon	17	Grade	7,818	5.20	404.3	52.60
Arthur Abel...	Northrup	7	Grade	8,226	4.81	395.9	69.70
Munson Bros...	Freeborn-Alden.	23	Reg.	6,776	5.77	390.7	68.29

Registered Jersey Cows

Name	Association	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
Armstrong Bros.	Freeborn-Alden..	Lenore	13,342	5.10	686.6	
Munson Bros...	Freeborn-Alden..	Lady	10,703	5.80	617.9	
C. R. Breckett..	No. Hennepin..	Majesty	10,874	5.54	602.6	\$115.01
Mrs. G. Wood & Sons	Waseca I.....	.....	9,896	6.07	600.2	
L. B. Hanna...	Mower I.....	Belle	12,030	4.90	594.8	96.65

Grade Jersey Cows

Name	Association	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
D. A. Buss....	Park Rapids...	Flossie	10,818	5.94	643.8	\$96.85
Joe Lehn	Brandon	Rose	10,854	5.82	630.2	66.25
A. E. Snodgrass	Wright	No. 1	9,907	5.94	588.8	28.10
Frank White...	Lyon-Marshall..	Gretchen 2 ..	10,041	5.53	566.0	
D. Davidson....	Winona 4.....	Bess	11,410	4.85	553.3	72.61

Brown Swiss Herds

Owner	County	No. of cows	Av. test	Av. fat
			per cent	lbs.
August Becker	Freeborn	17	3.98	317.3
Henry Brill & Son....	Jackson	13	3.76	308.3
Fred Reckert	Jackson	9	3.83	305.7

Brown Swiss Cows

Owner	County	Grade or Reg.	Fat
			lbs.
Henry Brill & Son....	Jackson	Registered	548.2
Henry Brill & Son....	Jackson	Registered	458.2
Nick Marnach .....	.....	Grade	371.3
Lee Neurchwarda	Redwood	Grade	374.6

Ayrshire Herds

Owner	County	No. of cows	Av. test	Av. fat
			lbs.	lbs.
J. M. Kern.....	Todd	10 Reg.	4.2	298.4
E. M. Wilson.....	Hubbard	10 Grade	4.2	209.0
C. J. Drake.....	Lyon	10 Reg.	4.2	253.0

Ayrshire Cows

Owner	County	Grade or Reg.	Fat
			lbs.
C. J. Drake.....	Lyon	Registered	371.6
J. M. Kern.....	Todd	Registered	305.2

Shorthorn Herds

Owner	County	No. of cows	Av. test	Av. fat
			lbs.	lbs.
Marvin Russell	Douglas	11 Grade	4.6	365.0
T. A. Thornberg.....	Mower	8 Grade	3.9	359.0
Frank Gillard	Freeborn	16 Grade	3.5	344.5
Alfred Foslin	Douglas	17 Reg.	4.1	328.0
Tinus Jensen	Freeborn	14 Reg.	4.26	324.0

Shorthorn Cows

Owner	County	Grade or Reg.	Test	Fat
Alva Farrell	Wright	Grade	4.0	500.7
W. D. Carrol.....	Dakota	Grade	3.7	495.5
T. A. Strater.....	Brown	Grade	5.0	484.9
George F. Lee.....	Brown	Registered	4.0	461.6
Frank Gillard	Freeborn	Grade	3.83	475.2

SUMMARIES FOR 1926

ASSOCIATIONS THAT AVERAGE 300 POUNDS OF FAT

Association	County	No. of cows	Av. fat	No. of cows producing a pound a day
			lbs.	
Clarissa	Todd	309	340.3	99
Barnum	Carlton	322	331.8	52
Dakota North	Dakota	543	327.6	135
Dakota South	Dakota	369	319.1	86
Nelson	Douglas	347	317.3	75
Waverly-Howard Lake	Wright	387	317.5	113
St. Louis South.....	St. Louis	264	315.8	58
Redwood Falls	Redwood	270	311.9	48
Brandon	Douglas	350	310.0	71
Ottertail Circuit ...	Ottertail	243	309.0	73
Itasca No. 1.....	Itasca	242	308.2	46
Northrup-Sherburne .	Martin	237	302.0	40
Kandiyohi	Kandiyohi	350	301.8	40
Moose Lake	Carlton-Pine ..	264	301.5	51
Owatonna No. 1.....	Steele	405	301.0	68
Blue Earth No. 1....	Blue Earth ...	195	301.2	36
Askov	Pine	422	300.5	60
Lake Pepin	Wabasha	366	300.2	41

LEADING FACTS FOR EACH ASSOCIATION

Association	County	Years active	No. of herds	No. of cows	Av. milk per cow	Av. fat per cow	No. of cows producing a pound a day	No. of boarder cows sold
					lbs.	lbs.		
Anoka	Anoka	7	23	400	6821	285.3	22	7
Askov	Pine	3	42	422	7883	300.5	60	30
Barnum	Carlton	4	40	322	8071	331.8	52	35
Blue Earth I.....	Blue Earth...	6	24	390	8525	301.2	36	21
Brandon	Douglas	4	25	350	7365	310.5	71	81
Byron-Rochester ...	Olmsted	4	23	567	7437	280.3	81	77
Cannon Falls.....	Goodhue	4	25	404	7131	266.2	45	76
Carver	Carver	7	26	460	7944	294.7	60	12
Clarissa	Todd	2	26	336	8742	340.3	99	24
Chisago Lake.....	Chisago	5	17	284	7334	288.0	42	40
Cottonwood	Cottonwood ..	1	28	279	7257	277.5	28	74
Dakota North	Dakota	4	26	543	8507	327.6	135	59
Dakota South	Dakota	4	28	397	7531	319.1	86	36
Eden Valley.....	Meeker-Stearns	1	26	356	5834	233.6	8	69
Eyota	Olmsted	3	20	350	6687	262.8	39	47

Association	County	Years active	No. of herds	No. of cows	Av. milk per cow lbs.	Av. fat per cow lbs.	No. of cows producing a pound a day	No. of boarder cows sold
Evansville	Douglas	1	24	377	5679	237.4	13	61
Faribault I.	Faribault	2	27	398	7227	282.5	40	57
Faribault II.	Faribault	2	26	339	6350	259.8	18	77
Forada	Douglas	1	26	367	6663	245.9	28	77
Garfield	Douglas	1	27	380	6606	289.7	48	45
Goodhue	Goodhue	1	24	370	7392	275.2	27	72
Isanti	Isanti	2	21	256	7676	283.2	32	24
Itasca	Itasca	2	25	304	6937	308.2	46	56
Jackson	Jackson	3	23	302	8376	290.0	42	27
Kandiyohi	Kandiyohi	2	22	350	8084	301.8	40	81
Lake Pepin	Wabasha	4	24	366	7694	300.2	41	90
LeRoy	Mower	2	19	340	6540	246.7	16	40
Le Sueur	Le Sueur	3	23	329	7749	269.2	49	60
London-Shell Rock.	Freeborn	2	21	335	6848	264.5	20	50
Lyon	Lyon	4	26	324	6760	250.0	32	86
Meeker II.	Meeker	5	18	271	6698	265.9	25	21
Montrose	Wright	1	23	322	7861	294.1	50	86
Morgan	Redwood	3	24	306	7097	272.2	21	87
Moose Lake	Carlton-Pine	2	43	264	6751	301.5	51	61
Mower I.	Mower	5	21	407	7093	289.0	31	46
Nelson	Douglas	3	25	347	7801	317.3	75	47
Northrop-Sherburne.	Martin	2	20	237	7700	302.0	40	50
North Hennepin	Hennepin	7	25	426	7287	286.1	38	52
Ottertail Circuit	Ottertail	4	21	343	7401	309.0	73	6
Owatonna I.	Steele	2	26	405	8218	301.0	68	51
Owatonna II.	Steele	1	23	379	7529	271.3		
Pope	Pope	1	26	412	6251	249.7	18	75
Progressive	Waseca	5	22	335	7831	296.2	25	39
Redwood Falls	Redwood	2	18	270	8194	311.9	48	58
Renville	Renville	3	20	313	7348	264.8	42	32
St. Louis	St. Louis	3	14	264	7785	315.8	58	67
Sandstone	Pine	3	40	358	6728	269.2	41	105
Sauk Center	Stearns	3	19	385	7632	269.3	28	30
Scott	Scott	2	25	406	6915	275.6	36	46
Shell Prairie	Hubbard	2	29	331	5949	297.2	62	24
SW Ottertail	Ottertail	3	28	475	7670	290.0	119	80
Shell Prairie	Hubbard	2	29	331	5949	297.2	62	24
Sherburne	Sherburne	1	20	322	7042	284.8	43	42
SW Ottertail	Ottertail	3	28	475	7670	290.0	119	80
SW Freeborn	Freeborn	19	19	329	6712	250.4	14	40
SW Olmsted	Olmsted	3	17	352	6129	229.7	6	46
Wabasha-Olmsted	Wabasha-Olmsted	6	20	384	7157	271.8	49	49
Wadena-Deer Creek	Wadena-Ottertail	2	12	184	7591	299.0	46	20
Waverly-Howard Lake	Wright	2	27	387	7220	317.5	113	20
Waseca	Waseca	5	26	432	7603	292.2	55	25
Watsonwan	Watsonwan	3	26	339	6845	273.0	44	63
Welcome	Martin	3	21	345	6530	261.2	23	60
West Meeker	Meeker	3	23	446	6540	250.8	17	57
Wilkin-Grant	Wilkin-Grant	2	26	378	6458	235.0	19	45
Winona I.	Winona	5	24	400	6324	239.4	8	25
Winona-Wabasha	Winona-Wab.	2	23	437	6730	258.5	31	27
Yellow Medicine	Yel. Medicine	1	23	303	7228	268.3	35	31
Pennington	Pennington	1	15	248	6081	234.2	27	25

Holstein Herds

Owner	Address	Grade or Reg.	No. of cows	Av. milk	Av. test	Av. fat	Yearly cost of feed per cow
				per cow		per cow	
				lbs.	per cent	lbs.	
H. A. Dilley...	Northfield	Grade	9	12,397	4.11	520.1	\$ 88.53
F. C. Guildner.	Randolph	Grade	10	12,820	3.90	487.1	86.65
Onal Stock Farm	Alexandria	Reg.	22	12,521	3.71	467.3	100.06
O. B. Mohring.	Montrose	Gr.&Reg.	14	12,501	3.61	451.2	85.34
E. Bruer	Redwood Falls.	Reg.	6	13,032	3.40	443.8	63.29

Registered Holstein Cows

Owner	Address	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.			
*Grahamholm Farm	Rochester	Colantha Segis Maid	33,545	3.14	1053.0	\$196.70
O. M. Scholt...	Franklin	No. 11	17,882	3.71	665.0	97.87
F. C. Steele & Son	Conger	Walker	15,989	4.07	651.4	106.48
Russell Farm...	Duluth	Alcartra	15,348	4.23	649.4	116.69
E. E. Schmidt..	Moose Lake ...	Alma	17,002	3.80	646.8	100.96

* On official test simultaneously with C. T. A.

Grade Holstein Cows

Owner	Address	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.				per cent	lbs.
H. A. Dilley...	Northfield	No. 2	13,980	4.8	657.5	\$ 97.82
W. A. Douglas.	Montrose	Rosey	18,365	3.5	646.1	97.73
F. C. E. Beneke	Hamburg	Nellie	15,856	4.0	645.9	119.18
Kohls Bros.....	Rosemount	Jennie	15,725	4.1	609.5	89.38
St. Louis Coun- ty Work Farm	Duluth	No. 24	15,762	3.8	604.3	155.45

Guernsey Herds

Owner	Address	Grade or Reg.	No. of cows	Av. milk	Av. test	Av. fat	Yearly cost of feed per cow
				per cow		per cow	
				lbs.	per cent	lbs.	
W. H. Kopp...	Clarissa	Grade	9	8,731	5.18	415.7	\$50.03
Nels Lundbeck.	Sturgeon Lake.	Grade	5	8,846	4.74	415.1	80.00
W. A. Holmgurd	Clarissa	Grade	8	7,981	....	413.9	46.28
Arverson Bros..	Barnum	Gr.&Reg.	13	8,261	4.97	411.2	75.73
Hilding Larson.	Duluth	Gr.&Reg.	5	8,165	5.00	408.3	87.74

Registered Guernsey Cows

Owner	Address	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
Guy Leasman..	Hector	Poppy	12,141	4.71	571.9	\$79.26
Arverson Bros..	Barnum	Jethro Beauty	9,722	5.28	513.6	80.07
Arverson Bros..	Barnum	Jethro	11,289	4.53	511.4	77.65
Putnam Bros...	Battle Lake ...	Chaplet	9,106	5.60	509.8	67.93
Albert Johnson.	Thief River Falls	.....	11,065	4.80	504.4	59.06

Grade Guernsey Cows

Owner	Address	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
Fred Kopp & Son	Clarissa	Florence	10,878	5.60	615.3	
Charles Wolf ..	Cohasset	Spot	13,766	4.31	604.2	\$108.67
Peter Englested	Thief River Falls	.....	12,036	5.00	602.9	
John Brandon..	Kensington	Trixie	8,888	6.30	565.8	
Chas. Mosteller.	Deer River.....	Peggie	10,880	4.97	546.8	91.96

Jersey Herds

Owner	Address	Grade or Reg.	No. of cows	Av. milk per cow	Av. test	Av. fat per cow	Yearly cost of feed per cow
				lbs.	per cent	lbs.	
*W. H. Eddy..	Howard Lake..	Reg.	13	8,495	5.94	505.0	\$91.91
J. C. Sherer...	Howard Lake..	Reg.	8	7,118	5.98	430.2	63.30
D. A. Buss....	Park Rapids....	Gr.&Reg.	14	7,464	5.36	420.6	72.31
E. A. Olson...	Nelson	Gr.&Reg.	12	7,121	5.59	398.1	62.41
Louis Stifter...	Howard Lake..	Reg.	14	6,706	5.94	398.0	70.06

* On official test simultaneously with C. T. A.

Registered Jersey Cows

Owner	Address	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
W. H. Eddy...	Howard Lake..	Lottie Jewel.	10,914	6.4	695.2	\$111.64
W. H. Eddy...	Howard Lake..	Stockwell ...	11,800	5.7	679.4	102.31
F. R. Angell...	St. Paul.....	Honey	13,509	4.8	648.2	106.91
W. H. Eddy...	Howard Lake..	Irene	11,370	5.6	630.9	103.41
W. H. Eddy...	Howard Lake..	Majesty	11,331	5.3	609.0	102.48

Grade Jersey Cows

Owner	Address	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
Joe Lehn	Brandon	Rose	12,951	5.40	708.9	\$82.02
Louis Stifter ..	Howard Lake..	Larry	11,351	5.80	659.8	83.77
Fred Wittnebel.	Garfield	Beauty	13,465	4.60	629.1	70.80
G. H. Christison	Plainview	Irene	11,485	5.12	588.2	77.28
D. A. Buss....	Park Rapids..	Flossie	10,381	5.62	584.3	90.87

Shorthorn Herds

Owner	Address	Grade or Reg.	No. of cows	Av. milk		Av. fat per cow	Yearly cost of feed per cow
				per cow	per cent		
Victor Samuelson	Cannon Falls ..	Grade	11	8,815	3.95	348.5	\$60.08
A. M. Reitz....	Clements	Grade	10	8,282	3.99	330.9	61.58
Paul Qually....	Alexandria	Gr.&Reg.	15	8,187	3.92	321.6	60.15
Fred Dose.....	Lake City	Grade	14	8,063	3.98	321.6	72.00
J. J. Scofield...	Lakeville	Gr.&Reg.	13	8,375	3.80	316.5	42.73

Grade and Registered Shorthorn Cows

Owner	Address	Name of cow	Milk		Fat	Cost of feed
			lbs.	per cent		
Alfred Foslin...	Garfield	Black (Reg.)	11,005	4.40	482.2	\$66.63
O. B. Mohring.	Montrose	Lucy (Grade)	16,052	3.74	600.6	96.67

Ayrshire Herds

Owner	Address	Grade or Reg.	No. of cows	Av. milk		Av. fat per cow	Yearly cost of feed per cow
				per cow	per cent		
Swanson & Tron- zen	Litchfield	Gr.&Reg.	14	9,124	3.85	352.0	\$62.75
John Benson...	Braham	Grade	13	7,902	3.99	315.9	48.50

Grade and Registered Ayrshire Cows

Owner	Address	Name of cow	Milk		Fat	Cost of feed
			lbs.	per cent		
Swanson & Tron- zen	Litchfield	Daisy (Reg.)	.....	....	495.7	
C. K. Winter..	Villard	Grade	7,850	4.08	328.4	

Brown Swiss Herds

Owner	Address	Grade or Reg.	No. of cows	Av. milk		Av. fat per cow	Yearly cost of feed per cow
				per cow	per cent		
Henry Brill & Son	Lakefield	Reg.	12	9,775	3.60	349.4	\$66.19
Arthur Sprengler	Green Isle.....	Gr.&Reg.	16	8,086	3.88	314.4	58.05
F. J. Minnette.	Sauk Center...	Gr.&Reg.	28	7,787	3.90	303.8	57.30

Grade and Registered Brown Swiss Cows

Owner	Address	Name of cow	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
Henry Brill & Son	Lakefield	Ethel (Reg.)	12,931	3.88	501.8	\$81.56
C. Rickert.....	Mountain Lake.	Brindle(Grade)	12,151	3.86	473.3	76.48

Red Polled Herds

Owner	Address	Grade or Reg.	No. of cows	Av. milk	Av. test	Av. fat	Yearly cost of feed per cow
				per cow		per cow	
				lbs.	per cent	lbs.	
Mrs. D. J. Green	Park Rapids ...	Grade	11	6,391	4.71	301.0	\$52.14
Fred Scharf ...	Jordan	Reg.	12	6,622	4.41	292.4	46.92

Grade and Registered Red Polled Cows

Owner	Address	Grade or Reg.	Milk	Test	Fat	Cost of feed
			lbs.	per cent	lbs.	
L. Kately	Ceylon	Reg.	7,817	5.1	399.1	\$51.25
F. M. Nash.....	Nashua	Grade	384.1	

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