

Kansas State Agricultural College.

AGRICULTURAL EXPERIMENT STATION.

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DEPARTMENT OF DAIRY HUSBANDRY.

O. E. REED,
Dairy Husbandman.

REPORT OF THE DICKINSON COUNTY COW-TESTING ASSOCIATION.

RESULTS OF THE FIRST YEAR.

One hundred and thirty-four cows in the Association have complete records for twelve months. These made an average production of 6019 pounds of milk and 246 pounds of butter fat. The average Kansas cow produces 100 pounds of butter fat a year. These figures show that the cows tested are very much better than the average cow of the state.

The average cost of the feed per cow, per year, was \$35.59. The value of the butter fat produced was \$90.48, leaving a net profit per cow of \$54.89. The calf and the manure are a liberal offset to the labor and risk.

- 1 cow produced 546.3 pounds of butter fat during the year.
- 1 cow produced 448.5 pounds of butter fat during the year.
- 14 cows produced between 350 and 400 pounds of butter fat.
- 26 cows produced between 300 and 350 pounds of butter fat.
- 37 cows produced between 250 and 300 pounds of butter fat.

The following table gives the yearly record of the best and poorest cow in each herd. All of the cows did not milk 12 months, but the feed record is complete for the year.

TABLE I. RECORDS OF BEST AND POOREST COWS IN EACH HERD.

	Months milked.	Pounds of milk.	Pounds of butter fat.	Cost of feed.
Herd No. 1:				
Best	11	7,926	372	\$37.17
Poorest	7	2,784	125	35.47
Herd No. 2:				
Best	9	6,990	274	35.03
Poorest	5	1,418	59	33.23
Herd No. 3:				
Best	12	6,750	353	37.59
Poorest	8	4,530	213	34.59
Herd No. 4, 9 months' record:				
Best	9	7,182	282	31.70
Poorest	6	2,733	108	28.76
Herd No. 5:				
Best	11	8,556	317	34.23
Poorest	10	3,405	121	30.15
Herd No. 6:				
Best	10	6,510	258	27.13
Poorest	7	1,260	66	25.11
Herd No. 7:				
Best	10	8,191	377	26.16
Poorest	7	3,801	138	22.14
Herd No. 8:				
Best	8	6,087	265	21.55
Poorest	12	3,534	148	22.32
Herd No. 9, 8 months' record:				
Best	7	3,432	137	8.70
Poorest	2	609	23	10.45
Herd No. 10:				
Best	11	5,808	262	33.10
Poorest	10	4,167	164	28.58
Herd No. 11:				
Best	12	6,821	284	28.80
Poorest	11	4,416	194	27.49
Herd No. 12, 6 months' record:				
Best	6	3,579	119	8.56
Poorest	6	1,302	70	8.56
Herd No. 13:				
Best	12	11,460	362	44.74
Poorest	8	6,852	255	41.03
Herd No. 14:				
Best	11	13,698	546	55.91
Poorest	11	4,827	175	43.40
Herd No. 15:				
Best	11	7,839	347	31.10
Poorest	10	4,053	154	31.46
Herd No. 16:				
Best	11	7,290	376	49.89
Poorest	9	6,465	203	38.70
Herd No. 17:				
Best	12	8,094	449	49.00
Poorest	10	6,318	328	45.93
Herd No. 18:				
Best	11	3,863	238	43.42
Poorest	8	2,409	159	42.38
Herd No. 19:				
Best	12	7,794	286	42.82
Poorest	12	6,899	209	42.82

The figures show conclusively that all of the good cows were not owned in one herd, but there were some poor ones in the same stable with the best ones. It is interesting to note the production of the best and the poorest cow in each herd and

compare the cost of production. The best cow, a grade Holstein, was found in herd No. 14. She produced 546 pounds of butter fat in 11 months. The poorest in this same herd produced only 174.78 pounds of fat. The best cow in the association produced 546 pounds of fat at a cost of \$55.91, while the poorest produced only 59 pounds of butter fat at a cost of \$33.23. Which is the more profitable?

Three of the herds in the association had been graded up for a number of years before the association was organized; therefore the variation between the poorest and the best is not so great as in some of the herds where no attempt had been made to weed out the poorest cows.

In herds Nos. 9 and 12 the feed of the poorest cows amounts to more than that of the best cows. This is explained by the fact that the best cow was giving milk only while on pasture. The poor cow was fed extra during the first month she was milked, but later had same pasture as best one received.

THE BEST AND THE POOREST COWS IN THE ASSOCIATION
 COMPARED.

Tables II and III show records of the ten best and ten poorest cows in the association.

TABLE II. RECORDS OF THE TEN BEST COWS.

Months milked.	Milk.	Fat.	Value of products.*	Cost of feed.	Profit.
11	13,689	546	\$201.12	\$55.91	\$145.21
12	8,094	449	152.58	49.00	103.58
11	10,258	386	144.44	50.85	94.09
11	7,229	384	131.90	48.49	83.41
10	8,191	377	133.92	26.16	107.76
11	7,290	376	130.00	49.89	80.11
9	8,042	375	131.77	37.42	94.35
11	7,926	372	131.50	37.17	94.33
10	6,573	368	124.86	41.30	83.56
10	6,973	365	125.70	47.77	77.93
Average	8,427	400	\$140.78	\$44.35	\$96.43

* Butter fat valued at 28 cents per pound and skim milk at 40 cents per hundred.

TABLE III. RECORDS OF TEN POOREST COWS.

Months milked.	Milk.	Fat.	Value of products.	Cost of feed.	Profit.	Loss.
5	1,418	59	\$21.58	\$33.23	.....	\$11.65
7	1,260	66	22.83	25.11	.....	2.23
7	2,796	117	42.49	27.35	\$15.14	.....
10	3,405	121	46.16	30.15	16.01	.....
9	3,102	125	45.89	26.63	19.26	.....
7	2,784	125	44.62	35.47	9.15	.....
7	3,801	138	52.25	22.14	30.11	.....
8	3,222	142	50.95	27.25	23.70	.....
8	4,102	149	56.04	34.73	21.31	.....
12	3,534	148	53.92	22.32	31.60	.....
Average	2,942	119	\$43.67	\$28.44	\$15.23	.....

The ten best cows made an average profit of \$96.43, which is more than six times the average profit made by the ten poorest. With one exception, the ten best cows were dairy-bred animals, while there was only one of the ten poorest that showed any trace of dairy blood. Of forty-one cows that made over 300 pounds of butter fat during the year there were only three scrub cows or cows that did not show dairy blood.

The figures show that the ten poorest cows made an average of only 119 pounds of butter fat for the year, at a profit of \$15.84. However, it should be borne in mind that the prices used in calculating the cost of feeds were farm values, and the majority of the poor cows calved in the spring and produced milk only while on grass, thus greatly cheapening their ration.



Cow No. 1.—Yearly record; Milk 13,698 pounds, butter fat 546 pounds; cost of feed, \$55.91. This grade Holstein made the best record for the year. She shows dairy type and is a persistent milker.

The calf and the manure usually pay for labor, but if the labor of milking were charged up to all the cows the ten poorest would show a loss, while the ten best ones would show a nice profit.

A number of cows showing low records of production are really good cows and were retained in the herds. Their records this year were low because they were allowed to remain

dry several months. It is generally true that many good cows are allowed to go dry longer than necessary. The cow that gives milk throughout the greater part of the year usually returns the greatest profit.

One of the advantages to be gained from keeping a record of a cow is brought out in the case of the grade Holstein cow that made the best record. She dropped a bull calf early in the year, and it was sold to a neighbor for \$5. The cow made an excellent record for the first few months, and the bull calf changed hands at \$18. When the yearly record was completed and the cow showed a production of over 540 pounds of butter fat, the calf again changed hands, at \$50—a good price for a grade Holstein bull under a year old.



Cow No. 2.—Yearly record: Milk 1418 pounds, butter fat 59 pounds; cost of feed, \$33.23. A common cow, with an uncommonly poor record of production. This cow's principal fault is that she goes dry too early. She was dry for seven months during the past year.

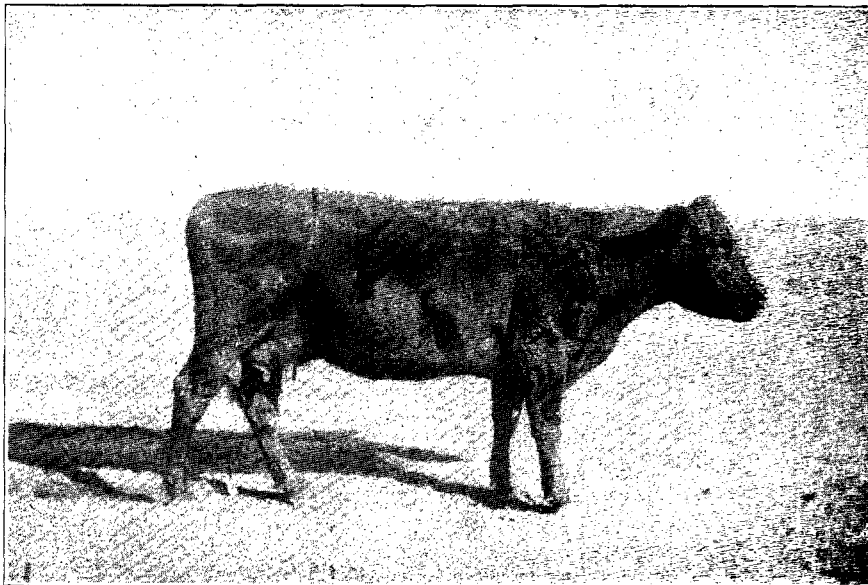
CONCLUSIONS.

Although Dickinson county is one of the oldest dairy sections in Kansas, these tests have demonstrated that there are many cows that are being kept at small profit, or even at a loss. The effects of the work of the association will extend over a long period of time. The members who were most interested in building up a herd were the ones who were enthusiastic

about continuing the association. Only a few dropped out, and they represented the ones not particularly interested in dairying.

The results of this year's work prove that one can not always pick out the most profitable cows by looking at them, and that the only sure way to select cows and build up a herd is by keeping records on them.

While some members have attempted to keep private records, they all agree that where it is possible the cow-testing association affords the cheapest and most satisfactory method of getting accurate records on the cows. However, it pays to keep private records where it is not possible to be a member of an association.



Cow No. 3.—Yearly record: Milk 7,290 pounds, butter fat 376 pounds; cost of feed, \$49.89. A common cow with a good record. She is a persistent milker and was well fed. There are many Kansas cows that can do as well if given the opportunity.

The results obtained in this first association suggest that there should be an organization of this kind in every dairy community. The Agricultural College stands ready to assist any community in establishing cow-testing associations.

A study of the herd books shows that in too many instances the owners allowed cows to go dry several months during the year. Some of the poorest cows naturally go dry soon after

freshening, but many good cows also dry up because of carelessness and poor management.

ORGANIZATION.

In November, 1912, the writer and Mr. F. H. Scriber, representing the Dairy Division of the United States Department of Agriculture, assisted by a number of local business men at Abilene, Kan., succeeded in organizing the first cow-testing association in Kansas. The Dickinson County, Kansas, Pioneer Cow-Testing Association for 1913 started with twenty-two members, representing or paying for 379 cows. Some of the members dropped out during the first two or three months on account of selling their herds. Others took their places from time to time. This will account for some herds showing records for only a few months.

Each man was assessed a dollar a cow a year, payable quarterly. No member paid for less than twelve cows. Some herds contained only four to eight cows, but a minimum charge for twelve was necessary in order to secure enough funds in filling up the twenty-six testing days for each month. Two members used more than one day. One man required three days to test cows for the Holstein Advanced Registry. A Jersey breeder used two days in order to have his cows tested for the Register of Merit. These members were charged at the regular rate for the extra days.

The herd books for the Association were furnished free of charge by the Dairy Division, United States Department of Agriculture. The testing outfit and acid were furnished by the business men of Abilene and the Belle Springs Creamery Company.

ADVANTAGES OF AN ASSOCIATION.

The principal advantage of a cow-testing association is in obtaining an exact record for each cow in the herd. A very conservative estimate is that about one-third of the cows in Kansas do not pay for the feed they eat. If a cow does not produce a dollar's worth of milk and butter fat for each dollar's worth of food consumed she is a poor investment. Cows of this sort are worse than boarders, for they eat up the profit made by the good cows. With these facts at hand, it can easily be seen that there is a great opportunity to increase the net profits from the average herd by spotting the poor cows and discarding them from the herd.

Moreover, knowing the record of production of the cows in a herd enables one to feed them more intelligently. It is a common practice to feed all the cows in the herd alike. Under these conditions the poor cow will be fed too much and the good cow will not get enough. The proper way is to feed each cow in proportion to the amount of milk she produces. When this practice is adopted it usually results in a greater production of milk on less feed.

Another advantage the members have is the suggestions and advice from the tester. Very often he can give information in regard to feeding the cows that will prove beneficial.

A record made by a man regularly employed for the purpose has a greater value than a private record when one wants to sell an animal or the offspring of one of the animals in the herd.

If desirable the members will be able to cooperate along other lines, such as buying feed in carload lots, and thereby effect a great saving.

An organization of this kind often leads to community breeding, which means that a part or all of the members decide to handle only one breed of cattle. They can cooperate in buying or selling breeding stock, trade herd sires, and thereby reduce the cost of keeping up a herd. Continuous breeding of a definite breed in a community soon establishes a center for the breed. Buyers will be attracted to this community and all surplus stock can be readily sold.

When one desires to make official tests on the cows in his herd it can be done at less expense through the cow-testing association.

Note.-Mr. R. A. Cooley did the testing for the Association for the first three months, and Ralph W. May held this position during the remainder of the year.