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# COW TESTING PAYS



EXTENSION SERVICE  
SOUTH DAKOTA STATE COLLEGE OF  
AGRICULTURE AND MECHANIC ARTS  
BROOKINGS, SOUTH DAKOTA



## **Common Questions about Cow Testing Associations**

**1. What is a cow testing association?**

It is an organization of 25 to 27 farmers who wish to determine the production, feed cost and profit on each cow in their dairy herds. Recently testing associations are referred to as Dairy Herd Improvement associations in some states because herd improvement is the chief object.

**2. Who does the testing and who keeps the records?**

A full-time man is employed to do the work. To become a tester he must have had training and experience in testing, in record-keeping, and in the feeding and management of dairy cattle.

**3. What are the duties of the tester?**

He spends one day of every month at each member's farm, arriving in the afternoon. He determines the feed consumption of each cow in the herd. Both night and morning he weighs the milk of each cow separately and takes a sample for testing. During the forenoon he tests the samples, calculates production, feed cost and profit on each cow in the herd, and enters the records in a herd book which is left with the member. In the afternoon he moves on to the next place.

**4. Can production for a month be calculated accurately on the basis of a one-day test?**

Yes, sufficiently so for practical purposes. It has been found that the average error is less than 3 per cent. In experiments in which the production of cows was merely estimated, the average error was 28 per cent.

**5. What does it cost to be a member of an association?**

That depends upon the salary of the tester. In the associations now operating the cost per member is usually \$4 a month.

**6. Is it profitable for a dairy farmer to join a testing association?**

Yes, if he milks eight or more cows. This bulletin tells why.

# Cow Testing Pays

G. HEEBINK, Dairy Specialist

**T**HE AVERAGE COW kept for dairy purposes in South Dakota produces scarcely 3300 pounds of milk in a year. Her yearly butterfat production is estimated to be in the neighborhood of 125 to 130 pounds. Information as to the amount of profit such cows bring their owners has been obtained since 1923 during four years of organized testing in the eastern part of the state. These records show that a cow which gives about 3300 pounds of milk or 125 pounds of butterfat in a year produces an income over feed cost of approximately \$25. Quite a number of the best herds in the state have consistently made an income over feed cost of \$100 per cow.

## *What Testing and Herd Records Accomplish*

- Identify and eliminate the unprofitable cow.*
- Stimulate improvement in feeding the herd.*
- Show how much to feed to obtain most profit.*
- Increase pride and interest in the care of the herd.*
- Point out and correct sources of loss in dairying.*
- Raise value of cows that are good producers.*
- Test bulls through the production of their daughters.*

## **Good Profits Require High Production**

It is common knowledge that there is a large variation in the producing ability of dairy cows. How this variation in production affects the amount of profit is usually not understood. Profit in dairy farming is the margin or difference between the cost of production and the market value of the product produced. This margin of profit is much greater, under ordinary farm conditions, with cows that produce heavily than it is with low producers. Studies on the yearly production of thousands of cows indicate that as production is doubled profits are trebled.

## **Records Are the Basis for Herd Improvement**

The important advantage of cow testing association work is that it gives the member of these organizations information regarding the producing ability and the profit obtained from each individual cow in his herd. This information is essential to the development of a more profitable herd. This principle should be kept uppermost in the minds of South Dakota dairy farmers. There are many other advantages but all are secondary to the real value of membership in an association.

Cow testing is more profitable for the owner of a low-producing herd than for the owner of a high-producing herd. Some dairymen think that

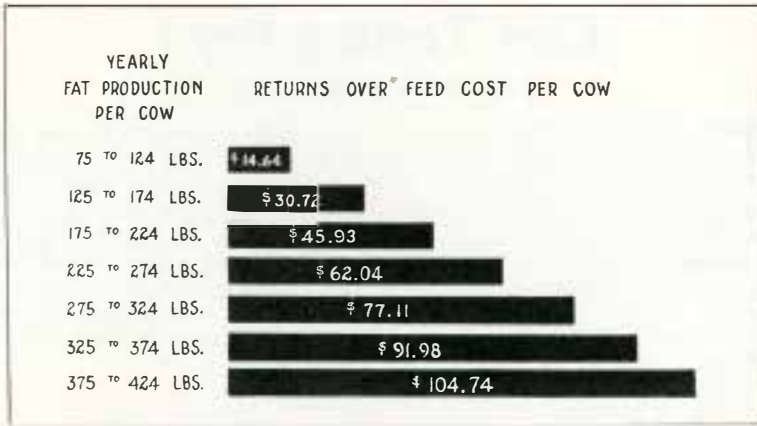


Fig. 1—Returns Over Feed Cost Increase Rapidly as Production Per Cow Increases. High-producing cows bring greater returns over feed cost than do low-producers and returns over feed cost approximately equal profit. This is a tabulation of 3062 yearly records of cows in South Dakota cow testing associations. It shows that as butter-fat production increases up to 425 pounds per cow yearly, there is an increase in profit of \$15 for every 50 pounds of increase in butterfat production.

their herds are not good enough to be in an association or that their cows will not produce as well as those of the other members and therefore do not join. They fail to realize that the object in belonging to an association is herd improvement and not competition with other members' herds.

### Continued Testing Increases Profits

Introduction of cow testing associations into dairy communities in South Dakota has been followed by marked improvements in dairy farm management. Unprofitable cows have been found and sold. In fact, 15 per cent of the cows in new associations are usually culled during the first year. The remaining cows have been fed more carefully and members have found that more care and fewer cows bring greater net returns. This is borne out by records, appearing in Tables I and II, of associations which have operated in various sections of the state.

TABLE I. Average Yearly Milk Yield, Butterfat Production, Feed Cost, and Net Income Per Cow in South Dakota Cow Testing Associations

Testing Association Year	First Year	Second Year	Third Year	Fourth Year	Av. for 4 yrs.
Number of associations -----	11	7	5	2	
Number of yearly records -----	3191	2026	1290	424	
Average milk (pounds) -----	6129	6073	6483	6916	6257
Average fat (pounds) -----	234.5	237.5	252.1	265.5	241.3
Average value of fat -----	\$104.76	\$95.74	\$107.46	\$122.92	\$108.78
Average feed cost -----	44.70	39.37	39.70	50.36	43.15
Average income above feed -----	60.06	56.37	67.76	72.56	60.63

In Table I the yearly records of all cows in all South Dakota testing associations were divided into four groups. All first-year associations were placed in the first-year group, all second-year associations in the second-year group, etc. This table indicates that there is a steady increase in production and profit as testing continues. In four years, the increase in milk and fat production per cow was 787 pounds and 31 pounds, respectively. Average income over feed cost was \$12.50 higher the fourth year than the first. The decrease in net income per cow during the second year as compared to the first year was largely caused by the relatively high price of feed and low price of butter in 1924.

TABLE II. Record of the Moody County Testing Association

Year	No. of Cows	Yearly Av. Fat per Cow	Av. Yearly Feed Cost	Average Income Over Feed Cost
1924	295	209 lbs.	\$38.49	\$50.09
1925	295	231 lbs.	38.04	44.53
1926	277	235 lbs.	44.45	60.67
1927	173	277 lbs.	60.81	81.63
Increase		68 lbs.	22.32	31.54

The records in Table II are typical of all South Dakota associations. As testing continues average production increases. Furthermore, there is a tendency to increase the feed allowance per cow. More liberal feeding seems to be profitable because the increased production more than pays for the higher feed cost as the above table shows.

The possibilities of heavier production and greater income brought to the attention of members of these associations have aroused new interest

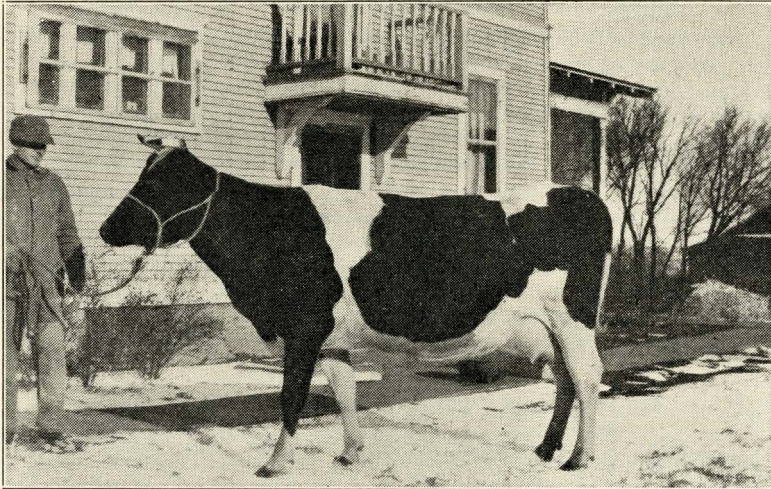


Fig. 2—A Day County Testing Association Cow

Molly, a Holstein cow of good type, produced 10,060 pounds of milk and 382 pounds of fat in one year at the age of five. She is owned by L. Philbrook of Webster.



in opportunities in dairy farming. Better dairy barns, purebred sires, labor-saving equipment, silos, bull associations, and interest in cooperative creameries have followed where testing associations have pointed the way to profitable dairying. Associations have provided a means of obtaining the facts regarding practical management and profitable feeding.

***The Cow Testing Association Herd Book Helps Dairy  
Farmers Answer These Questions***

*Which cows should be culled from the herd?  
How much profit over feed cost does each cow make?  
What does it cost to produce a pound of butterfat?  
What are the returns for every dollar spent for feed?  
How many pounds of fat does each cow produce yearly?  
What is the feed cost per cow for one year?  
Is the herd improving in production and profit?  
Am I keeping heifers from only the best cows?  
Are the sires I am using improving the herd?  
How can I improve the management of my dairy farm?*

**Hamlin County Herd Doubles Production In Four Years**

One herd in Hamlin county has been on test since 1923 and records for four years are at hand. The herd consisted of ordinary farm cows at first. Average production of all cows milked during the first year was 140 pounds of butterfat. However, several of the poorest cows were sold during this year and average production of the eleven remaining cows was 180 pounds of fat with an average income over feed cost of \$48.50.

During the fourth year there were seven cows in this herd and average fat production was 290 pounds and income over feed cost \$74.81 per cow. Records for four years appear in Table III. Note that seven cows during the last year produced as much fat and profit as eleven did the first year. This remarkable herd improvement was accomplished (1) by selling the poorest cows, (2) by feeding larger amounts of improved rations, (3) by using purebred dairy sires, and (4) by keeping heifers from the best cows.

**Testers Supply Figures for Most Profitable Feeding**

Members of cow testing associations find that the tester's records are a great help in knowing how much to feed each cow in order to secure the most profit. Feeding all cows in the herd the same amount of grain usually results in under-feeding the heavy milkers and in over-feeding the boarders. At the suggestion of the tester, a Beadle County association member reduced his feed cost per cow to the extent of \$2.50 per month without

reducing production. More frequently the tester is able to demonstrate that an increased allowance of feed results in more net profit.

TABLE III. Four Years of Herd Improvement Through Testing

Year -----	1923	1924	1925	1926
Number of cows in the herd -----	11	8	6	7
Average pounds fat per cow -----	180	231	264	290
Average value of fat -----	\$75.23	\$80.84	\$112.50	\$122.82
Average feed cost per cow -----	26.73	42.21	44.50	48.01
Average income over feed cost -----	48.50	38.63	68.00	74.81

### Testing Associations Prove Herd Sires

Association members enjoy the privilege of having sires tested as well as cows. The Bureau of Dairy Industry at Washington proves the ability of sires by comparing the production of daughters of a sire with the production of the daughter's dams. In South Dakota one bull was proved



Fig. 3—A Proved Sire

The only living sire in South Dakota proved through cow testing association records is Brookings Chief, No. 234478, a purebred bull, whose value as a sire was demonstrated in the Day County association. Five of his daughters produced an average of 356 pounds of butterfat in a year. The dams of these daughters averaged 295 pounds fat. The average daughter excelled the average dam's yearly production by 61 pounds fat, or by 21 per cent. Cow testing associations test the sire as well as the cows.

that decreased fat production by seven per cent. Six daughters of this bull produced an average of 355 pounds of fat in a year. The dams of these daughters produced 381 pounds fat the same year. Another proved bull's daughters produced sixty per cent more fat than their dams. Five daughters averaged 280 pounds while their dams averaged 175 pounds.



### **Cream Separators are Checked and Adjusted**

A farm separator that was running \$16.80 worth of fat down the skim-milk spout in one month was found by the Beadle County association tester. He investigated, found the bowl too low, raised it a trifle, and after the next test it operated efficiently. Because of a leak in the cream spout of his separator, a member of the Yankton association suffered a preventable loss of \$3 one month. The tester found the leak after obtaining a high skim-milk test. A drop of solder prevented further loss.

### **Associations Buy Feed Cooperatively**

By pooling orders and purchasing feed in car-load lots, members of testing associations frequently make a considerable saving in buying feed. The Vermillion Valley Cow Testing association bought two car-loads of cottonseed meal in 1926. Because of the volume purchased, made possible by pooling orders, the cost was reduced approximately \$4.30 per ton.

### **Tested Cows Bring Good Prices**

While the chief advantages of belonging to a cow testing association are those pertaining to intelligent culling and selection, to efficient feeding, and to practical management, members also find that cows with satisfactory records enjoy a ready market. Because such cows are usually kept under practical farm conditions and because of the general confidence in such records, buyers of dairy cattle are ready to pay a higher price for a cow with a satisfactory testing association production record than for a similar cow that has no record.

#### **Extension Service**

**South Dakota State College of Agriculture and Mechanic Arts  
Brookings, S. D.**

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