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DEPARTMENT OF AGRICULTURE, OTTAWA.

OFFICE OF THE DAIRY AND COLD STORAGE COMMISSIONER.

COW TESTING.

INDIVIDUAL YIELDS.

The one safe guide in ascertaining any cow's annual production of milk and fat is the constant use of the scales and test. Memory alone is too treacherous, especially when a fairly large herd is kept. Neither will just an occasional weighing and sampling be sufficient. Cows vary considerably from day to day, more than most people think, both in weight of milk given and the percentage of fat in the milk. Thus, regular weighings are necessary as well as frequent tests.

Very often a cow thought to be the best proves to be poor, while on the other hand, cows thought to be poor have been found to be good producers. The yield of one month or the test of one sample is no real guide. Dairymen need to know the yield for a full twelve months so that the profit on the year's business may be known. Cows that do not make profit cannot be called satisfactory.

A test of the whole herd does not give the needful information: this matter of cow testing is a strict question of individual liability. It is grossly unfair to good cows to average them down to the low levels of those that do not carry their honest part of dairy burdens. Notice this instance:—

The average yield of a herd of sixteen grade cows in Ontario was 7,746 pounds of milk, 3.3 test, 262 pounds of fat.

A brief glance at the performance of each cow illustrates plainly that it is particularly unwise to "average" a lot of widely different results.

This herd included six 2-year-olds, one of which gave the lowest yield, less than half the average, namely, 3,713 pounds of milk; but in case mere youth be condemned, let us hasten to notice that another 2-year-old, freshening within eight days of the other, gave 8,754 pounds of milk and 277 pounds of fat, considerably above the average yield.

The next lowest yield of milk was 5,023 pounds, the highest yield in the herd was 13,575 pounds: one being two thousand pounds below the average, while the other is nearly six thousand pounds above.

The lowest average test for the full milking period was 3.0 per cent of fat (an 8-year-old that gave 7,022 pounds of milk and 212 pounds of fat) the highest average test was 3.9 per cent, but this was the 2-year-old that gave the lowest yield of milk and only 144 pounds of fat.

The four best yields of fat were 421, 380, 372 and 351 pounds.

In the light of these wide variations pointing with unerring finger to the fact that cows are individuals, not mere mechanical contrivances for yielding milk, is it not simply the dictate of common sense to study each one separately with a view of giving her every opportunity to do her best?

Each cow must pay. It will pay every dairyman to keep records for the full period of lactation of each cow.

A comparatively slight difference in average yields may be easily overlooked: it is when totals are available that real, weighty differences are apparent. Records in the office of the Dairy Division, Ottawa, show, for instance, that 129 cows in one dairy record centre in Ontario produced 7,762 pounds of fat more than 132 cows in another centre.

Similarly, 257 cows in one dairy record centre produced 170,206 pounds of milk more than 253 cows in another centre.

Again, if the 495 cows in one dairy record centre had each produced as much fat as did those in another centre, there would have been an extra yield of 48,015 pounds of fat.

A SIMPLE METHOD.

Cow testing is a simple plan of finding out just what return each cow makes for the feed and labour expended on her. It is a common-sense, logical system, for every dairyman needs to know definitely, judging by actual weights, not by ordinary external appearances, which are his best cows, and also **what profit each one makes**. The principle at the base of building up a good dairy herd must always be, make each cow in the herd pay a good profit.

The monthly yield of any cow can easily be calculated by weighing and recording the milk on at least three days per month, at intervals of ten days, as the 1st, 11th and 21st, both morning and evening. Samples should be taken of each of those six milkings and kept in a numbered bottle, with suitable preservative, for testing once a month to learn the percentage of fat in the milk. (Each cow is numbered and has her own sample bottle). The total of the weights on the three days when multiplied by ten gives very closely the yield of milk for the month. The yield of fat can be found by multiplying the total weight of milk by the test and dividing by one hundred. Thus if the six weights on the three days are 16 and 14, 15 and 13, 14 and 14, the total 86, multiplied by ten, gives 860, which is the calculated yield of milk for the month. If 860 be multiplied by 3.5 (supposing that to be the test of the composite six samples) the result divided by one hundred is 30.1, which would be the calculated pounds of fat for the month.

It is better for many reasons to weigh the milk daily, morning and evening.

WHY COW TESTING PAYS.

Cow testing pays handsomely, because the cash outlay for equipment of scales and bottles is only a trifle, but the cash returns from increased yields may be very large. With the figures in black and white regarding each cow before him, the owner is in a position to take definite steps, without any guess work, for **building up a profitable herd**. He knows which to keep and breed from: he knows which to sell for beef because no good as milkers, or for which cows to get high prices because they are good producers. He also has a safe guide in feeding, for the scale reflects the result of a better ration to which many cows may respond profitably: but he will not waste expensive protein feeds on cows that have not the necessary dairy capacity and instinct to give increased yields from increased meal.

STANDARDS.

What are your cows doing now? Have you a reasonable standard of production below which if a cow comes she is disposed of? If you used to be contented with 4,000 pounds of milk and 140 pounds of fat per cow, you should be able, by weeding out the poorest cows, by feeding better and by breeding to a good pure bred dairy sire, to raise that to 6,000 pounds of milk and 210 pounds of fat per cow. Since the Dairy Division induced men to commence cow testing, there are very many records of 8,000, 10,000 and 12,000 pounds of milk from grade cows obtained by men who at first did not dream of any such results. Keeping none but good cows will help you to **raise your standard of production**. Systematic cow testing will assuredly help you to select good cows.

REDUCING COST.

Where records of both milk and feed are kept, it has been abundantly proved over and over again that cow testing helps wonderfully in reducing the feed cost of every 100 pounds of milk. Whether your aim is to keep a large or a small herd, it pays to select cows that will make such good use of the feed, that you work so hard to provide for them, as will ensure you a good profit above the price received for a hundred pounds of milk or a pound of fat.

MORE PROFIT.

Additional profit can possibly be made from your present cows if they are fed better and cared for better. Every herd owner has to determine for himself whether his cows will respond to better treatment or whether they are not built on the lines of economical and profitable milk production. Many men make over thirty dollars clear profit per cow above the cost of feed, even when feed is valued at fifty dollars or more, but this is with cows that have been selected on their records. It is for you to determine whether each cow makes ten or fifty cents profit on each hundred pounds of milk. Actual feed records often indicate a variation of from eight dollars to forty-six dollars profit for the year between two cows in the same herd. If you keep 20 cows, do they show a clear seven hundred dollars profit above the cost of feed? Do you get more than that?

PROFIT PER COW.

In a herd of 25 cows in Nova Scotia that gave on the average 8,166 pounds of milk and 278 pounds of fat, there were 4 cows that gave over 10,200 pounds of milk. With a feed cost of \$65, these four cows, when milk was selling at \$1.97 per 100 pounds, each made \$130 clear profit above the cost of feed.

Near St. Prosper, Champlain, Que., 13 cows, with an average yield of 7,210 pounds of milk and 271 pounds of fat, value \$87.24, and feed cost of \$47.35, made an average profit of \$39.89 above feed cost.

At St. Aubert, L'Islet, Que., an 8-year-old cow with a yield of 8,176 pounds of milk and 335 pounds of fat, value \$114.46, feed cost of \$42.33, made a clear profit of \$72.13.

At St. Joseph, N.B., with fat worth 30 cents and feed valued at \$48, there are cows bringing \$40 clear profit.

HOW COW TESTING HELPS.

Sixty patrons of two creameries in Prince Edward Island averaged 884 pounds of fat per herd: after two years of cow testing these sixty herds averaged 955 pounds of fat; this is a gain of 71 pounds of fat per herd, or 8 per cent.

But on the other hand, the patrons who were not cow testing fell off in the same two years from 503 to 416 pounds of fat per herd; 87 pounds, or 17 per cent.

A simple calculation discloses the remarkable fact that if these other patrons had been cow testing and had made the same gain as did the sixty patrons, it would have meant in the output of butter from the two creameries an increase of 58,362 pounds.

OTHER INFLUENCES.

It is a marked feature of cow testing that men who are willing to learn what the scales and test have to teach them are the men quickest to make improvements in their herds, the buildings and the surroundings of the cow stables. They put in cement floors and walls, drinking basins for cows, swinging stanchions, good ventilation, root houses, increased acreage of corn for ensilage, and other fodder, leading to better production per acre.

WEEDING OUT.

One man near Ayer's Cliff, Que., held an auction sale disposing of 17 out of his 24 cows; he bought one 2-year-old, giving milk, which left him 8 cows. Yet his total quantity of cream from the herd shrank only one-third. **He knew from his records which cows to keep!**

A dairyman near Peterborough, Ont., quickly found from cow testing that he would be far better off if he disposed of four out of his eighteen cows.

Some herds show more clear profit per cow above feed cost after weeding out poor, mature cows and leaving promising heifers.

In one herd five cows out of twelve were found to return no profit at all over the cost of feed. The 7 good cows each made fifteen dollars profit.

INCREASES IN YIELDS.

In the neighborhood of Sussex, N.B., are over twenty herds that show marked increases in the yield of milk and fat per cow even after only two years of cow testing.

For instance, one herd of 17 cows with an average yield of 5,738 pounds of milk and 222.8 pounds of fat increased in two years to 6,944 pounds of milk and 271.8 pounds of fat per cow. This is 1,206 pounds of milk and 49 pounds of fat of an increase.

A herd of 15 cows near Penobsquis, N.B., shows an increase of 1,140 pounds of milk and 54.7 pounds of fat per cow.

Near St. Joseph, N.B., are 29 herds that have an average increase of 989 pounds of milk and 45 pounds of fat after two years of keeping dairy records that emphasized the advisability of feeding better. One herd here has increased from 5,073 pounds of milk to 7,922 pounds of milk per cow.

In the neighbourhood of Antigonish, N.S., are herds of 9 and 10 cows that show increases of 1,081, 1,117 and 1,606 pounds of milk and 35, 50, and 70 pounds of fat per cow.

Near Avonmore, Ont., was a herd of 11 cows giving, on the average, 5,846 pounds of milk: after three years cow testing the average of 14 cows, including 3 two-year-old heifers, was 7,732 pounds of milk, or an increase of 1,886 pounds of milk.

In the neighbourhood of Alexandria, Ont., are men with herds of 12 cows that now give an additional weight of 20,000 pounds of milk over their records of two years ago.

At Oxford Mills, Ont., is a herd of 10 cows that has increased from 8,134 pounds of milk and 242 pounds of fat to an average of 10,979 pounds of milk and 339 pounds of fat per cow.

Near Listowel, Ont., taking 100 good cows and comparing their yields with those of three years ago, the figures are found to be an average of 10,959 pounds of milk and 352 pounds of fat, an increase of 2,775 pounds of milk and 87 pounds of fat per cow.

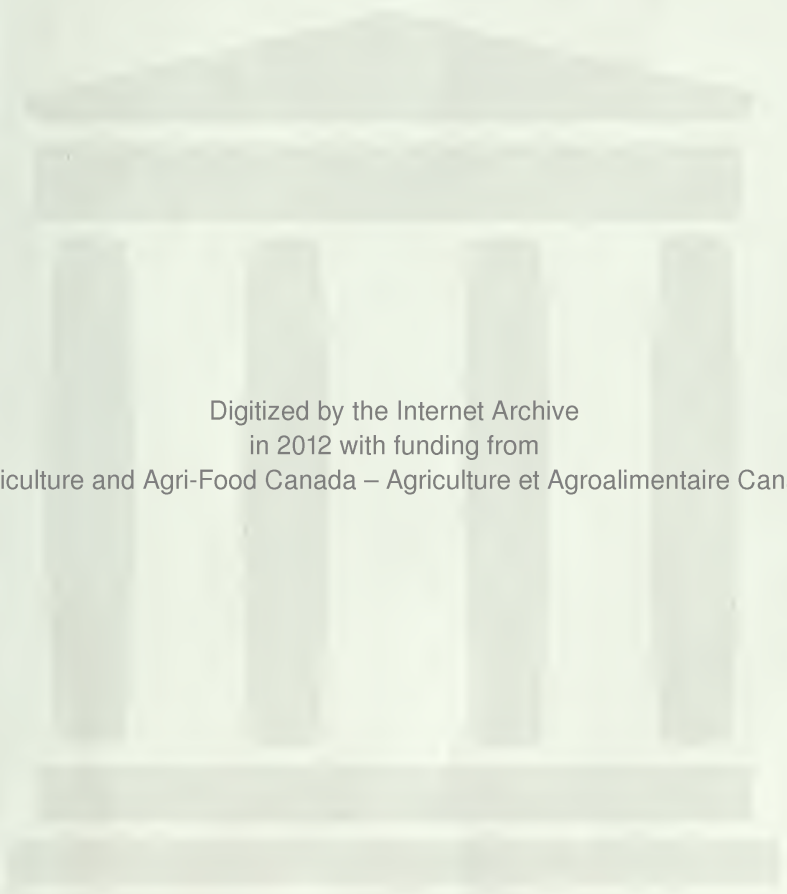
There are many herds all over Canada that show an average increase of over 1,500 pounds of milk per cow since commencing to keep records. **Some men have more than doubled the yield per cow.** When high levels are reached, such men aim still higher.

A dairyman in Ontario gave \$33 for a cow sold because she was said to be no good: in three months the records showed that her production of fat brought in \$60.

The names and addresses of several men who have made good increases have already been published.

The additional revenue from the two million, odd, dairy cows in Canada could easily be **Twenty Millions of Dollars.**

Record forms for milk and feed, and full information as to the assistance given by the government may be had on application to the Dairy and Cold Storage Commissioner, Ottawa.



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