

RECORDS A BUSINESS NECESSITY.

Editor "The Farmer's Advocate":

We started testing our cows on the first of July, 1902, and have continued ever since, and intend to do so as long as we need to make money from our dairy. Prof. Grisdale, of Ottawa induced us to begin, and still furnishes us with blank record sheets, etc. The time it takes per day is hardly worth mentioning. We have the scales and the record sheet close by the milk shelf, and I don't think it takes three minutes a day extra time. Of course, the records have to be added up afterwards, but that is done at night. We test every two months, finding that cows kindly treated don't vary much in butter-fat. Some of the advantages of keeping a record are: First, the feeding of cows. When a cow calves, of course, she must be fed light for a few days; then, by watching the record sheet, the feeder can tell when he has reached the point of profitable "stuffing." He can tell if the cow is beginning to shrink, and investigate the reason. He can tell if it is time to change the pasture better than by looking at the field. He soon finds out, as we did last winter, how much better ensilage is than roots. Second, bettering the herd by selection. We have only six of our original cows left now. The rest have been weeded out and replaced by heifers raised from the best cows, bred, of course, to a good Jersey bull. Third, we find that people will buy cows much more readily when they can be shown their past record.

Now for figures. You will find below how our herd has increased from month to month and year to year, and remember that the figures for 1906 are from seven two-year-olds, six three-year-olds, and six old cows:

	1902.	1903.	1904.	1905.	1906.
January	64	81	120	141½	213½
February	101	141½	190½	197½	274½
March	163½	249	280½	292½	368½
April	256½	297½	343	383½	392
May	367½	430½	445½	520	605
June	318	424½	412	450½	641½
July	297	365½	373½	339½	553½
August	288½	312	313½	359½	487½
September	224½	331½	260½	330	410
October	110½	246½	231½	306	469½
November	73½	144½	222½	249½	349
December	59	92	136½	236½	313½

R. M. HALLIDAY,  
Herdsmen for J. A. Halliday.  
Vancouver, B. C.

SUMMER SILAGE AS SOILING.

The New Jersey Agricultural Experiment Station has successfully maintained a dairy herd for ten years by the soiling system, which furnishes a continuous rotation of green forage for about six months. The advantages are as follows:

1. Permits a more intensive system of dairying and keeping a larger number of animals.
2. Permits the production of milk free from flavors due to garlic and other weeds, and from stagnant water and decaying organic matter, which causes bacterial changes in milk.
3. Furnishes a succulent ration and maintains a continuous milk supply when pastures may be seriously affected by drought.
4. Decreases the necessity of a heavy grain ration and the purchase of concentrated feeds.

This system has its disadvantages, viz.:  
1. It requires a man and team daily to cut and haul a supply of forage to the feeding yards, interfering with regular farm work. When the herd is small, and the herdsman can do this work with the extra horses on the place, for delivering milk, etc., the obligation is not serious.

2. Even with careful planning, the season may be such as to hinder the development of the crop and consequent shortage of feed.

Silage will keep for an indefinite length of time if the crop is ensiled at the proper stage of maturity and the silo is air-tight. The animals relish it in summer, and with it the supply is at hand, without extra labor. The following experiment was, in a sense, preliminary, since the supply of forage was not sufficient to carry the feeding periods throughout the season. While the experiment was of far too short duration to warrant any positive conclusions, we give the results for what they are worth, believing them to be, as it happens, pretty near the mark.

PLAN OF EXPERIMENT.

Period I.—Soiling-crop ration, May 12th to June 1st—21 days.

Period II.—Silage ration, June 8th to June 28th—21 days.

The records of 25 cows, which were milking through the entire period, were used in the experiment. Each period covered three weeks, with six days preliminary feeding. The records of the first week in each period were discarded, which allowed thirteen days for the animals to get accustomed to the rations. All the green fodders were fed in a half-acre exercise yard morning and evening, while the silage and feed rations were given daily

in the stables. The animals were exercised during the day and turned out in the yard at night.

Rations fed were: Period I., wheat fodder; and Period II., corn silage. No other roughage was fed; 7½ pounds of feed was given with the soiling-crop ration, and 8 pounds of feed with the silage. The rations were as follows:

PERIOD I.

65 pounds wheat forage.  
7½ pounds—200 pounds wheat bran.  
300 pounds dried brewer's grains.  
200 pounds corn meal.

PERIOD II.

45 pounds corn silage.  
8 pounds—480 pounds ajax flakes.  
400 pounds wheat bran.

The nutritive ratio of the soiling ration was 1:5.9, and of the corn-silage ration, 1:6.9.

The yields of milk and butter for the 14-day periods from the 25 cows were as follows:

Period I., soiling ration: Total milk, 7,823.4 pounds; average per cow daily, 22.35; fat per cent., 4.26; fat, 333.49 pounds; butter, 389.07 pounds; average per cow daily, 1.112 pounds.

Period II., corn-silage ration: Total milk, 7,598.8 pounds; average per cow daily, 21.71 pounds; fat per cent., 4.28; fat, 325.20 pounds; butter, 379.40 pounds; average per cow daily, 1.084 pounds.

This gives a shrinkage of 2.9 per cent. in milk and 2.7 per cent. in fat. From records of the dairy herd for a number of years, it is shown that the average shrinkage at this season has been about 6 per cent. Assuming that this would have been the same this year, the silage ration more than maintained the flow of milk with the forage-crop ration.

The cost of the rations was computed with feeds at the following prices: Wheat fodder per ton, \$2.50; corn silage, \$3; ajax flakes, \$26; wheat bran, \$21; corn meal, \$26; dried brewer's grains, \$22. Tabulated, the results for the 14 days were as follows:

Rations.	Soiling.	Silage.	Digestible Nutrients Daily.		Milk.	Fat.	Fat.	Butter.	Cost of Daily Ration.	100 lbs. Milk.	1 qt. Milk.	1 lb. Butter.	Milk Butter.	Allowing an average of 6 per cent. for natural shrinkage of milk, the gain in cost of production in—
			lbs.	cts.	lbs.	%	lbs.	lbs.	cts.	cts.	cts.	cts.	cts.	cts.
	15.56	15.07	22.35	4.26	393	4.28	353	1.112	16.70	74.72	1.60	15.01	7	5.90
			21.71	4.28	379		325	1.084	16.24	74.80	1.61	14.99	5	5.87

COST OF MILK AND BUTTER. TABLE XVII.

BREEDING AND SELECTING FOR BUSINESS PURPOSES.

Editor "The Farmer's Advocate":

I do not keep a record of my cows that would be of use for publication. The only record I have is to the quality of milk for butter. For many years I have been making up a working herd of Ayrshires. I pay no attention to color or shape, so long as they are large both in body and teats;

and those that do not go over 3 per cent. I sell, without pedigree, to any of my neighbors who supply milk to cheese factories. I may not be able to make as accurate a test as a professor, but I can come near enough for all practical purposes. I think it is a great advantage to have a Babcock tester, and the time it takes is never lost.  
W. M. CHAMPION.  
Manitoba.

IMPROVING THE QUALITY OF MILK AND CREAM AT CREAMERIES.

The author of Bulletin No. 132, New Hampshire Station, makes the following statement regarding American creameries, which statement is probably true, also, of creameries in Canada:

"During the past few years but little improvement has been made in the quality of creamery butter; this, too, in spite of the fact that creamery buttermakers, as a class, have never before been so well informed regarding their work. Never before have they been able to make use of as good machinery and special apparatus, and never before has a fine quality of butter been more largely sought after by the consuming public."

In many instances the quality of creamery butter has become poorer, in spite of the above-mentioned improved conditions. In looking for a reason for this condition of affairs the writer says: "The reason is seemingly found in the gradual change which has taken place in the methods employed by dairy farmers in delivering their product to the creameries. This change has resulted in the acceptance and use by creamerymen of a poorer grade of milk, and, more particularly, a poorer grade of cream for buttermaking." It sometimes happens that separators are used several times without being properly cleaned, and in some instances they are placed and used in some convenient but dark and dirty corner of the barn. Cream separated under the above-mentioned conditions is brought into contact with many undesirable bacteria, and bad flavors are the natural result. It frequently happens that cream is not cooled to a low temperature and properly cared for after it is separated on the farm, and often it is of uncertain age when delivered at the creamery.

In order to improve the quality of the cream delivered at the New Hampshire College creamery, the milk and cream is graded and paid for according to grade and quality. The system has been in operation since July 1, 1906. The scale of points used for grading is as follows: Flavor, 50; acidity, 25; condition, 25; total, 100. During the time this method has been on trial the quality of milk and cream received has been slowly but constantly improving.

In order to induce patrons to improve the quality of the raw material furnished, a scale of prices has been adopted. One cent extra per pound has been paid patrons for butter-fat in milk or cream scoring 95 points or over. The usual price has been paid patrons for butter-fat in milk or cream scoring 90 and under 95 points. One cent less than the usual price per pound has been paid patrons for butter-fat in milk or cream scoring 85 and under 90 points. Two cents less than the usual price per pound has been paid patrons for butter-fat in milk or cream scoring 80 and under 85. Three cents less than the usual price has been paid for milk and cream scoring 75 and under 80 points. Patrons furnishing milk or cream scoring under 75 points have at once been notified that they must improve the product or it would no longer be accepted at the creamery.

The foregoing will serve as a guide to those who are struggling with the problem of trying to improve the quality of the raw material delivered at our creameries and cheeseries. We have been working at this question for years, but up to the present have found no satisfactory solution. In our last monthly letter to patrons we said, "It is taught that men and women shall be rewarded or punished finally according to the deeds done in the body," but in this life there are many ways of avoiding or getting around pains and punishments. It is practically impossible to frame any set of rules which will suit all cases. Someone has said that men and women are but grown-up children. We all know that children dread punishment and love rewards. We have, therefore, to work on the reward plan more, and less on punishments, when dealing with a free and independent people, such as are Canadians. We are following the reward plan of offering one cent a pound fat premium for sweet cream testing 25 per cent. fat or over, and delivered not less than three times a week in hot weather. The results will be made known later.  
H. H. D.

Every farmer in Canada needs "The Farmer's Advocate."