

FARM AND DAIRY

& RURAL HOME

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land — Lord Chatham

VOL. XXXV.

PETERBORO, ONT., APRIL 13, 1916

No. 14

Grading Up The Dairy Herd For Greater Profits

The Profitableness of a Herd Can Be Greatly Increased in a Few Years by Selection and Wise Breeding

By E. S. ARCHIBALD, Dominion Animal Husbandman, C.E.F., Ottawa

THE only cow that is fit to raise, a calf is the profitable one. Every farmer who has an ambition to improve his herd should earnestly ask himself the question, "What profit is each of my cows making?" If he can answer that question intelligently, he will have no difficulty in selecting heifer calves which will be the most valuable contributions to his future herd. He will also be able to weed out those youngsters whose inherited producing powers do not qualify them to take a place in that herd.

What profit does the average cow make? Let me give you some figures based on the returns from an average good grade herd of 24 cows producing pure milk (not certified):

1. Cost of food for cow, giving 6,787 lbs. milk	\$ 32.21
2. Barn for housing cows and feed (\$5.00 per cow)	
Interest, taxes and depreciation, repairs, insurance, etc., 10 per cent.	4.50
3. Value of cow (\$5.00 per grade cow)	
Interest at 5 per cent.	3.30
Depreciation at 10 per cent.	5.00
4. Value of tools, dairy implements, etc., per cow (\$100); interest and depreciation on same at 10 per cent.	80
5. Value of labor, record sheets, cow, veterinary supplies, etc.	1.00
6. Cost of pure-bred bull, per cow (including 5 per cent. interest of \$100.00 and maintenance)	2.00
7. Care of cow and milk for year, man at 16 cents per hour.	30.00
Total cost per year	\$102.11
Total cost per 100 lbs. milk	1.78
Credit to Cow.	
1. Value on milk at 1.25 per cwt.	68.70
2. Chemical value of manure, 10 tons in 365 days at 2.25 when well kept and well applied.	22.60
3. Human value of manure (10 tons)	22.50
4. Grade cost yearly	5.00
5. Licking not calculated as it is worth its average estimate as manure.	
Total credit per year	\$118.70
Profit, not considering mortality and other risks, per cow	16.59

In considering these figures the value given to the manure may be questioned, but remember we are trying to make out a good case for the average cow. The value of the manure is estimated on a commercial fertilizer basis and loss is not accounted for. The amount, 10 tons, is about what is produced annually by a reasonably well fed cow, but under ordinary farm conditions I believe one-third or more of this is wasted. It heats, washes away, is lost in seepage, bleaches on hillside, and is sometimes plowed down seven or eight inches deep and partially lost in the soil. Then the human value is given at \$22.50, but even after crediting the cow with \$45 for the manure you see that we have a profit only somewhat over

\$16 for cows giving 5,727 lbs. per year, which is fairly good for ordinary grades.

These figures are averages given for demonstration purposes. In building up a herd, however, it does not do to take these averages. The law of averages has no place in dairying. We must come back to the individual performance of each one of our cows and grade up by using calves from the best of them.

Grading up can be done as well with pure breeds as with mongrels. In this connection it may be well to differentiate between the different classes of stock from the breeding standpoint. A pure bred is, of course, an animal in which the blood lines are pure. A grade is an animal in which

Herds rapidly deteriorate when the breeds are changed, and are as rapidly improved by sticking to one breed. In selecting the breed it is well to fall in line with the majority of the breeders of the community. The value to a community of a reputation for good grades of any breed can scarcely be over-estimated. As an instance of this, we know how American buyers go into the Howick district of Quebec for Ayrshire grades. For these they pay from \$20 to \$30 per head more than the market price for grades of the same quality. This is simply because of the reputation that the district has for good Ayrshires and because they can secure the grade in considerable numbers. Then it pays to organize a breeders' club: 20, 30 or 40 breeders, united as

to the breed they will use, can mutually assist each other to a very great extent. They can afford better sires, can use them to better advantage and at much less expense per farmer than would be possible were no such breeders' clubs in existence. Then breeders' clubs tend to promote friendly competition, with the result that more improved methods of breeding and feeding are used. It is almost impossible to overestimate the value of cooperation in breeding.

How long will it take a good sire to pay for itself? At our experimental farm, Lacombe, Alta., we did some work which throws valuable light on this phase of the breeding question. A good bull was purchased and 30 of his heifer calves were compared with cows of the same quality as their dams. The results showed that with the same feed they produced 50,000 lbs. of milk more in one year than their dams. That meant an increase of \$500 for the year, due to blood alone in the increased production of only 10 of his daughters. By cooperation farmers can afford to pay from \$600 to \$800 for a bull, and if he is used properly he will pay for himself in one year in the increased production of his daughters. The best bull is the cheapest, and good grading pays the best. If we cannot afford to purchase a proved sire, then the best youngsters from high producers should be secured. A word of warning, however, is in place in this connection. Do not overwork a youngster. He should never be used under 12 months of age, and it is much better to use him not at all, or only very sparingly, up to 18 months of age. At all times he should be well fed and exercised. Once we overworked a bull at the Central Experimental Farm, with the result that he was sterile for a year. He gradually came back, but we lost the best year of his life.

Results of Trials by the Ontario Experimental Unit in 1915

Popular Varieties of Roots and Fodder Crops Tested Side by Side

Experiments.	Varieties.	Com. Carative Value.	Yield per Acre (tons).
Mangels (13 tests)	Sutton's Mammoth Long Red	95	31.82
	Yellow Leviathan (Ferry)	100	33.71
	Ideal (Ontario Seed Co.)	74	35.89
Sugar Beets (5 tests)	Bruce's Giant White Feeding	100	23.88
	Steele-Betts' Good Luck	180	23.72
	American Purple Top	93	26.58
	Garton's Model	100	28.22
Carrots (10 tests)	Bruce's Mammoth	95	28.78
	Simmer's Imp. Giant Short White	180	29.53
	Sage's No. 2	100	30.84
Fodder Corn (3 tests)	Wisconsin No. 2	100	13.41
	Smith's White Cap Yellow Dent	86	12.41
	Wisconsin No. 2	71	11.75
Grass Peas and Vetches (3 tests)	Grass Peas	75	10.80
	Common Vetches	100	8.00
	Grass Peas	90	6.27
Hairy Vetches and Winter Rye (2 tests)	Winter Rye (Common)	88	11.18
	Common	100	8.57
Sorghum (3 tests)	Early Minnesota Sugar Cane	100	6.97
	Early Amber Sugar Cane	100	8.47

the blood lines of a particular breed predominate. A cross is the offspring of two pure breeds of different breeds. A scrub is an undesirable individual, and may be either a pure bred, a grade or a cross. A mongrel is an animal which has no pure bred blood whatever. The average cow of the country is a mongrel or a grade.

This brings us to the question, "Should the pure bred be in the hands of the average farmer?" While recognizing that we should do all in our power to increase the use of pure bred stock, still I believe that the good grade cow is the hope of the Canadian farmer. She is the best production for the average dairyman. She can be made to produce profitably, and is always in demand at good prices.

The first consideration then in grading up a dairy herd is to choose a breed—then stick to it

*From an address delivered before the Victoria County Dairymen's Convention, London, March 2.