SHORTHORNS AS MILKERS.

Editor "The Farmer's Advocate":

On looking over your issue of Jan. 23rd, I found some articles re milking Shorthorns. My experience has been that we can raise Shorthorn cows to be good milkers. A friend of mine had three cows he purchased for about $900. He at first sold six-months' calves at $200 each. Then there came a lull in the storm, prices went down, and so did the cattle, as to condition and feed. In the third generation, to my certain knowledge, a lot of the cows became remarkably good milkers; they were in no better condition than an ordinary farmer should keep his cattle. My idea is, from what I have found out myself, that if we stuff a calf for show purposes, that calf will make a poor milker. We should grow plenty of turnips, and feed the young stock with pulped roots and straw, with a little hay. In Canada we use too much grain. I have some young cows now that are good milkers, and fairly good size. The Scotchmen know more than we do about cattle and horses. I have an old friend, a Lowlander, from whom I get some inspiration. I asked him one day how they raised the Clydesdale horses He said on turnips and oat straw, and out most of the time on pasture. "But," I said, "how in the world do you get them in such condition as we see them here?" "Eh, man," he said, "when we want to sell, we get them ready for you." A Shorthorn calf can be raised to be a good milker. W. F.

York Co., Ont.

FROM THE FARMER'S STANDPOINT.

Editor "The Farmer's Advocate":

As one of the great majority of farmers who keep cattle for commercial purposes alone, leaving the breeding of fancy stock to others, I would express my appreciation of the way you have been stirring up the Shorthorn breeders lately for their neglect of the milking qualities of the breed. Great dissatisfaction has resulted from following the advice usually given to those who wish to raise beef cattle, to use as sires pure-bred bulls only of one of the beef breeds. That has meant use pure-bred Shorthorn bulls, as practically no other beef breed was wanted or obtainable. The result has usually been to steadily lower the milking qualities of their herd. Some have sought to remedy matters by buying in cows of nondescript breeding, but with milking propensities, from their less-up-to-date neighbors, and selling to the butcher their own carefully-bred young cows. Others have cast good advice to the winds and have bred to a grade bull, sired, of course, by a pure-bred, but out of a grade dam noted for being a good milker. One farmer whom I knew, after sticking steadily to high-grade Shorthorns for many years, gave them up altogether, and invested in one of the dairy breeds. He gave as his reason that there was no money in producing beef unless the cows would give a decent mess of milk. His belief is shared by a great many farmers; probably by a great majority of them. The question with them is not only which pays the best, beef-raising or dairying, but whether there is any profit in raising beef cattle, unless the cows used at least pay their way besides producing calves.

Middlesex Co., Ont. T. BATY.

ANTI-DISCOURAGEMENT OF MILKING QUALITIES.

Editor "The Farmer's Advocate":

I have read with much interest your editorial, "Considerations for Shorthorn Breeders," as it appeared in your issue of January 9th. I must congratulate you upon the stand you have taken in this matter of development, or, had I better say, anti-discouragement of the milking qualities of Shorthorn cattle. It is very certain, in my estimation, that the low prices which now maintain for Shorthorns in Canada are largely due to the neglect with which the milking characteristics of this class of cattle have been treated for the last 25 or 30 years in this country.

It is difficult, indeed, to understand how anyone breeding cattle for beef production alone could hope to make much money out of his farming operations, so long as present prices prevail for beef. Yet, since to breed Shorthorns and to be a beef man exclusively are practically synonymous to-day, the only solution of the difficulty would appear to be the giving up of the "Red, White and Roan," a most bitter cup indeed for the true lover of cattle who has once learned to know his herd. But that such small returns from milking Shorthorns as are generally expected in this country need not be considered the best that can be done, is exemplified from time to time by quite remarkable herd or individual records made by what are sometimes called dual-purpose or milking Shorthorns. Few such cattle are to be found in Canada to-day, more's the pity. That some few are still found, is explained for the most part by the persistent quality of this milking characteristic, showing how deeply it has been bred into certain families or strains of the breed. I have visited a great many Shorthorn herds in Canada, and, while I can count on one hand the herds where a considerable proportion of the cows were of a heavy milking character, practically all the herds contained one or more individuals giving promise of heavy milk production. The development of heavy-milking qualities in any given herd would therefore depend very largely upon the retention, to some considerable extent, of the get of these heavy-milking individuals in the herd, and the publishing of records of the milk produced by individuals of this breed, as suggested in your article, would, I think, be a step in the right direction. To improve the breed along this line would, I consider, on account of the presence of a greater or less number of good milking individuals in practically all herds, be quite feasible, although more or less difficult.

That it is not impossible to find heavy-milking individuals in the breed, is exemplified by one case at least, where "Ottawa Lass," as a four-year-old, with her second calf, produced 10,760 pounds milk and 517 pounds butter in 11 months.

Wishing you success in your efforts to help the breed. J. H. GRISDALE.

Agriculturist.

Central Experimental Farm.

Lincoln Wether Lambs.

First in class and reserve for breed cup; reserve for best pen of sheep, any long-wool breed, Smithfield Show, 1907. Exhibited by W. B. Swallow.

A LOSING GAME.

I have been much interested in the discussion on fattening hogs since Prof. Day's letter appeared in "The Farmer's Advocate." As I have done some experimenting on my own account, I will give you the facts.

1. Three pigs, four months old, average weight 75 pounds at the beginning of feeding, which was in November. Value of hogs at that time, $12. (I could have sold them to one of the neighbors for that amount.) Bought 1,100 pounds of feed at $1.50 per cwt., $16.50; 5 bushels of sugar beets, 25 cents; cost of feed, $16.75. Weight of hogs when sold, 450 pounds (average, 150 pounds each); average gain per hog, 75 pounds. Sold at 6 cents per pound—450 pounds at 6 cents, $27.00. Value of hogs at start, $12.00; value of feed, $16.75; total, $28.75. Value when sold, 450 pounds, at 6 cents, $27.00. Loss on experiment, $1.75.

These pigs were grades from Chester White sow and pure-bred English Berkshire boar. The pen was a new one, built last summer, frost-proof, and up-to-date in every respect, and probably as good as there is in the country. There was kept constantly before them charcoal, salt and ashes. In addition, they got about 1,000 pounds of skim milk.

Now, Mr. Editor, if there is any money in making pork in the winter, even at 6 cents, and buying feed at $30.00 per ton, I fail to see it. The feed was corn, shorts, and feed flour.

Leeds Co., Ont. W. C. R.

Occasionally a stockman reports difficulty in persuading his cattle to eat alfalfa. This certainly is unusual experience, and, when it occurs, may generally be ascribed to overmaturity at time of cutting, poor curing, or sometimes, perhaps, to an unsatisfactory condition of the soil that produced it—land receiving a constant flow of barnyard drainage, for instance. Then, again, some cows require to become accustomed to alfalfa, but soon learn to eat it greedily, preferring it to any other kind of feed. We have seen horses refuse oats for alfalfa hay.

THE FARM.

TILE UNDERDRAINS IN ROADMAKING.

Tile underdrainage is one of the most important details of road construction. It is a well-known principle of roadmaking that the drainage should be as complete as possible. The reason that all roads, even clay roads, are good in summer is that during that season they are dry. It is only when they become wet and waterlogged that they reach their worst condition. The conclusion plainly to be reached from this is that, to make good roads, we must make them in such a way as to keep them as dry as possible. One of the simplest of our means of doing this is by using ordinary farm tile.

Township councils have been slow to realize the value of tile underdraining, yet the good roads movement has made progress in this regard. Some few townships have commenced to lay tile generally and systematically, but in the majority of cases their use has been confined to wet hillsides, which, in the spring of the year, when thawing out, would be axle-deep in mud. Tile drains laid, in numerous instances throughout the Province, for the purpose of improving such hills, have been very generally successful, and have done much to convince roadmakers as to the utility of tile-draining.

The benefit of tile underdrains may be understood by a knowledge of two facts, and the circumstances surrounding these. The first is that water, when changing into ice, expands; also, having become ice, it contracts and expands with the fall and rise of temperature, as does any other solid. Ice expands in rising from a temperature of, say, zero F., to 32 degrees. From 32 degrees to 36 degrees it contracts, and from 36 degrees upwards (in the form of water) it again expands. The expansion of a waterlogged road, known as "heaving," is a tremendous force. The rising of a road surface from four to six inches means that there is a vacuum created below the surface of the road to this extent. The soil is honeycombed and softened by the water lying in it. The result is that so commonly seen throughout the farming districts, of wagons sinking to their axles, and horses floundering in the mud.

The second important fact is that the thawing of a road in the spring proceeds from below, as well as above. Cold is negative, heat is positive; that is, cold is the absence of heat. When the atmosphere in the fall becomes cold, heat is abstracted from the surface of the soil. As the heat is conducted from below the surface, rising in the freezing earth, the congealing or hardening condition known as "freezing" sinks deeper into the earth. When, in the springtime, the atmosphere moderates, the heat of the earth ceases to pass away into the atmosphere, and, steadily rising from below, it gradually overcomes the cold condition of the ground. The earth itself does not heave, freeze or congeal, except as it contains water; that is, it is the water which freezes, not the earth.

By laying tile underdrains, water is carried away from below the surface of the road in the fall, so that it does not become waterlogged. The moisture, which in the colder season enters the roadbed and the soil, and freezes, is, therefore, of comparatively small quantity. When, in the springtime, the heat from below rises in the soil more rapidly than it passes off into the atmosphere, and the thawing process thus begins, the deep underdrains carry away the cold water in the road as rapidly as it thaws. By carrying away the ice-cold water, the warm spring rains can more readily filter through the earth and speed the thawing process. A vacuum is created for the warm air of spring to enter the ground. Tile underdrains thus reduce the quantity of surplus water in the road, and carry it away quickly in the spring.

The net result is that the road is not heaved and honeycombed by the freezing of an accumulating quantity of water within it, and the thawing and drying of the road proceeds as rapidly as possible in the spring. The chief benefits of tile underdrains are that the roads dry up more quickly in the spring, the mud never becomes so deep, a less quantity of gravel or stone is required to