

not grow our nitrogen and only have to buy potash and phosphoric acid? By a three or four years' rotation, with a leguminous crop, such as clover, as one of them, the necessary nitrogen can be fairly well supplied. When this is done the addition of phosphates seems to give about as good returns as farmyard manure, for a few years, until the humus becomes exhausted, which does not take long. The ground then becomes hard and clover catches are difficult to obtain. In such cases beans become the most easily grown leguminous crop. Humus is therefore necessary in the soil in order to be successful in growing clover. Crimson and sweet clover are those most easily grown on hard, poor soil. The keeping of live stock must be practiced as far as possible. Mr. Thorne emphasized the value of farmyard manure over commercial fertilizers. While it is not so readily available, it has a special value in aiding clover-growing, by means of which we can grow our nitrogen. Just here the speaker was asked how many times he cut his clover meadow? His reply was that he takes off the summer crop of hay and fall crop of seed, then plows the ground for next crop. Sometimes he allows the field to grow timothy the second year, but no longer.

Mr. Zavitz's reports on the various varieties of grains, roots, corns, and other fodders were comprehensive and valuable. We will give them later.

ELECTION OF OFFICERS.

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Growing in Favor.

As an indication of the continued appreciation in which the FARMER'S ADVOCATE is held, Mr. Edwin Parker, West Middlesex, in renewing, writes:—"I think this is my 32nd year as a subscriber; am well satisfied. I took it when it was a mere fly sheet."

T. Peten, Shellmouth, Man.:—"We like the ADVOCATE better every year."

R. P. Barber, Boone Co., Iowa, U. S.:—"Could not get along without your paper. It is better than all the other papers I am taking."

W. A. Card, Glenboro, Man.:—"Enclosed please find subscription to your paper. Can't do without the ADVOCATE, it is so useful for information."

Mutton More Cheaply Produced than Beef.

According to the extensive and carefully conducted experiments at Kansas Experiment Station, ten 1,000-pound steers in five months required 25,000 pounds of corn meal and 5,400 pounds of cut corn fodder to fatten them. At the Michigan Station it was found that 120 sheep, weighing 80 pounds each, consumed in five months 25,072 pounds of corn and 18,000 pounds of clover hay. The gain during that time on the same amount of grain was given as 2,700 pounds on the ten steers and 5,472 pounds on the 120 lambs. The cost of corn was figured in each case at 35 cents per hundred pounds, fodder at 15 cents, and clover hay at 25 cents. The cost of the steers was \$3.85 per hundred, and of lambs, \$3.50. Both lambs and steers were sold at four and one-half cents per pound. The ten cattle brought \$90.90 over and above their own and their feed's cost, while the lambs brought \$217.29 more than they and their feed cost.

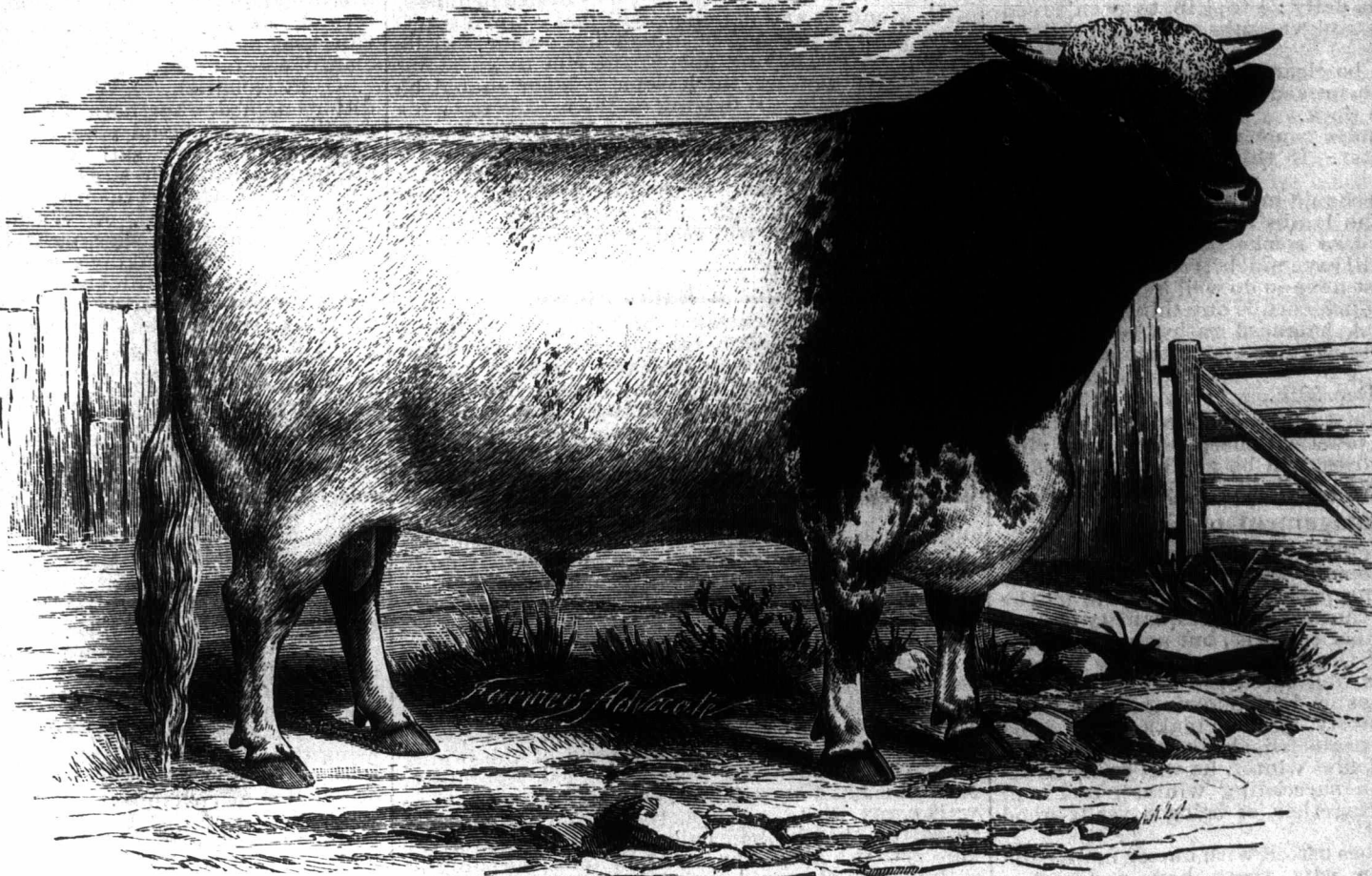
We believe the above is not a greater range of cost between beef and mutton than would be realized in Canadian practice, yet how few act as though sheep had a good thing about them.

STOCK.

A Superior Shorthorn.

The accompanying engraving represents the typical Shorthorn bull, Moneyfuffell = 20521. He was bred by Messrs. J. & W. Russell, Richmond Hill, Ont., and is now owned by Mr. James Leask, Greenbank, Ont., who did so well with him at the large shows of September last. He was sired by Topsyman = 17847, and out of Isabella 14th = 13944 = of the famous Centennial family, by Royal Booth 2nd = 3818. As the engraving shows, Moneyfuffell is roan in color, and stands on short, well-set legs. He is of magnificent quality and of great substance, carrying a wealth of smoothly and evenly distributed natural flesh. His top and bottom lines are straight and even, while his crops, flanks, and brisket are extremely well developed. He is just three years old, and weighs in nice breeding condition 2,100 pounds. He is extremely active, and a magnificent sire of feeders for the block, which, after all, is his function on Mr. Leask's beef-growing farm.

With regard to his show-ring career, he has suffered just one defeat in three years' contests, that being at Montreal, September, '96, by a calf which he defeated at Toronto, Ottawa, and Whitby. As a yearling, he won first and sweepstakes at Toronto, Whitby, and Port Perry fall shows, and first at Port Perry spring show. In his two-year-old form last autumn he again won first and sweepstakes at Toronto, Ottawa, and Whitby; also first at Montreal.



THE SHORTHORN BULL, MONEYFUFFELL - 20521 -.

This magnificent bull is well placed at the head of a herd of grade Durhams, members of which have been shown in Toronto eight years, securing first prize for four females seven times, besides two silver medals for best female any age, and silver medal last fall for best pair of fat cattle any age or sex.

Mr. Leask's farm comprises some 250 acres of excellent clay loam land, 200 of which is under cultivation. He writes us that the barn in which he feeds so many excellent animals is 144 feet long by 60 feet wide, having a 10-foot stone basement, laid out much like that of Captain D. Milloy's, recently illustrated in the ADVOCATE. With regard to his cattle-feeding operations, Mr. Leask writes the following brief letter:—

"I generally feed 12 or 13 steers for the English market. I sell them from 2 to 2½ years old, and have them weigh from 1,300 to 1,500, and always get the highest price going. I take them in in the fall as soon as the cold nights come, and feed them what cornstalks we have left, run through the cutting box, along with a handful of meal. The last week in October we take up our turnips and feed them as many as they will stand, along with clean oat and pea chop, and all the good clover hay they will eat."

The Ohio Experiment Station has made several experiments with crimson clover during the past four seasons, all of which have thus far resulted in failure. The chief difficulty has apparently been that the dry weather which is so common in Ohio during August, the time when this clover is ordinarily sown, has killed the young plants after germination.

Wintering Sheep.

We are aware that there are many methods of wintering sheep practiced even among good sheep breeders, and also believe that it can be done well very cheaply. We are therefore anxious to obtain for our readers, as far as possible, the lessons learned from the experience of practical shepherds. In order to aid correspondents in giving this information we append the following questions, which, if concisely answered in the light of practical knowledge, will aid many fellow-farmers in a branch of farming too little understood and engaged in.

QUESTIONS.

- 1.—Do you believe in keeping lambs, shearlings, and older sheep separate? If so, what are the advantages?
- 2.—Do you consider it well to confine sheep to pens all the time, or at nights, or do you allow them access to the yards and pens all the time?
- 3.—What is the character of your coarse fodder for sheep? (a) To what extent do you use pea straw? (b) To what extent do you feed hay? (c) How do you feed each or both, cut or uncut, in racks, troughs, or on the floor?
- 4.—What is your experience with feeding roots or ensilage to young sheep and to breeding ewes?
- 5.—To what extent do you recommend feeding grain to young or breeding sheep, not fitting for show?
- 6.—How much importance do you attach to keeping the pens cleaned out down to the floor?
- 7.—What do you recommend with regard to watering?

REPLIES.

Question 1.—Yes, I believe, where it is possible, it is better to keep lambs separate from older sheep, but not, shearlings. Lambs should have a little more roots and hay than is necessary for older sheep, particularly breeding ewes. It is not wise to feed them many roots, but a little is good. Lambs

are scarcely a match for older sheep in looking out for their share of the good things, such as roots and hay.

2.—Sheep require a bountiful supply of the pure air that Providence has blessed us with, and are none the worse having access to the yard at night, provided there is a dry, comfortable pen, free from drafts, for them to go to if they wish; but if they have free access to the yard during the day, they may be safely closed in a well-ventilated, dry pen at night, without injury to health.

3.—When it can be had, clover hay and pea straw make very good, cheap feed for sheep. Well-saved pea straw, with

about two to three pounds of roots for each breeding ewe, will bring them along very nicely till about a month before lambing time; but if pea straw is not real good they should have a feed of clover hay at night. Lambs should have more roots and one feed of hay every day even if pea straw is good. We have mostly fed both uncut, but when feed is scarce think it could be fed more economically if it were cut. And whether cut or uncut, by all means feed in racks or troughs. The best arrangement is to have both combined. Have a trough under rack to catch the fine stuff that falls out of the fodder. Sheep are very particular; for instance, if a lamb puts a muddy foot in a trough of grain, they will leave quite a handful of grain at that spot; and the trough should be so arranged that the sheep cannot let any of their droppings fall into it.

4.—Roots are an excellent thing for sheep. Breeding ewes should not have more than three pounds per day while carrying lambs, but the others can have more with good results. Have never feed ensilage to sheep, but have seen lambs thriving very well on it instead of roots, and I am of the opinion that when roots are scarce ensilage might make a good substitute.

5.—Think young breeding sheep not fitting for shows, if properly managed, will need very little grain, and if lambs are dropped on good grass, and ewes are in good condition from the pastures in the fall, they can do without any at all; but if pastures are poor in fall, and sheep thin, we generally feed grain a week or two before putting ram to them; and if lambs come before the grass, it is well to feed grain a short time before lambing time, and continue it until grass is plentiful.

6.—I do not believe it is best to keep the floor