

the white bull, and ten bull calves from the cross cows, are kept for rearing. The remainder are sold at the local auction mart and to neighbors for rearing at prices averaging 30 shillings each. Those kept are pail-fed on the milk of their own dams for the first five days, and on new milk alone till four weeks old, when they are gradually put on separated milk and cod-liver oil, or separated milk and calf meal, made into gruel, for the next three weeks; after that they get gruel alone. When six weeks old, they are taught to eat a little bruised oats and feeding cake, and they soon begin to nibble at a little long hay, which is hung in nets within their reach. At twelve weeks old the calves are turned out to a bit of good young pasture that has been specially saved for them, and the gruel gradually discontinued, the dry food being at the same time slightly increased. They are kept on as clean and as young pasture as possible for the next twelve months. During the winter they are kept night and day in a well-sheltered and dry field, with a southern exposure, if it can be so arranged, and get about 25 pounds of swedes, cut on the ground (with a cutting attachment on the back of a cart), 3 pounds bruised oats and feeding cake or dried distiller's grains in troughs, and a small quantity of hay. About the middle of April, hand-feeding may be discontinued, as by that time the grass is usually well forward. They then get nothing but what they pull till severe weather sets in, in November, when a daily allowance is given them of cut swedes and long straw—no grain—on the grass. The bull is put amongst the heifers about the New Year—that is, when they are from 21 to 23 months old—so that they calve in the autumn, before they would require housing. A few from the heaviest-milking dams are not mated before the middle of March, as they are put into the stock, and, if calving about the first of January, it will be possible to get the most out of them during the cheesemaking season. Those heifers not required to put into the stock are disposed of at auction, mostly to Southern buyers, who find them the best general-purpose cow they can get, at prices ranging from £16 to £19 (\$80 to \$95). These are, of course, 30 to 31 months old. From the beginning of August, onwards, the two-year-old bullocks are cake-fed, getting from 4 to 6 pounds daily on grass. The best of them are fit for the butcher about first of October, and the remainder are housed and get turnips or swedes, straw and feeding cake till finished, when they usually realize from £18 to £20 (\$90 to \$100) per head.

Cheddar cheese is made on the farm from the produce of these 90 cows, this going on continuously from February till November, any milk there is after that date being sold wholesale into the big cities.

"SCOTTIE."

Sheep in Simcoe County.

Editor "The Farmer's Advocate":

In my opinion, there is an excellent opportunity for the sheep business here. We have a large area of sand plains which would supply pasture early in the season for the sheep, after which they could be moved to rock pasture, of which we have a good deal which has many low spots growing luxuriant crops of grass, which would be dry enough at that time for the sheep. Then, for the winter, they could be taken to the farms and fed there in large flocks. Even if sheep were not gone into that extensively, each farm could and should support a small flock of, say, a dozen ewes and their lambs, on which there would be a good profit.

I cannot see, so far, that more attention is being paid to sheep, speaking generally. Of course, in some localities—for instance, on the 4th line of Nottawasaga Township, West Simcoe—you will see quite a number of flocks of sheep along the roadside during the summer, which, I take it, is a good sign. There are other places like that in Simcoe County, but I mention that as an illustration. The great difficulty that I see with the sheep business is the dog nuisance. Of course, there are places—as, for instance, Crown Hill—where dogs have done little or no damage for years, but there are also parts where they have simply driven the farmer out of the sheep business. It is not the good dog that does that work, as a rule, but the worthless cur, and it would seem to me that the first step in putting the sheep industry on a satisfactory basis would be to tax that class of dogs out of existence. If the dog is any good, the man will be willing to pay the big tax to keep it, but if the dog is useless, the tax will not be paid, and then the dog should be shot. I do not think that any half-way measure of handling this dog nuisance will be of any use, and I do not see why a man's dog should have the freedom of a whole township or county if he wish, while other animals must stay on the farm or in close proximity to it.

Simcoe Co., Ont.

L. F. METCALF.

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How Much Silage per Cow.

Editor "The Farmer's Advocate":

In reference to the matter of silage-feeding to cows, I may say that, with our dairy herd, in which four breeds are represented, the quantity of silage fed per cow varies a great deal. The quantity for the individual cow is regulated by the feeder's judgment, which is based on the size of the cow, her capacity and appetite. We usually feed a combination of roots and silage, and, in order to stimulate a full flow of milk, do it economically and without danger to the cow's digestion, we find it advisable to restrict the allowance of silage and add more roots, with, at the same time, a liberal allowance of meal. Perhaps an example will make our practice clearer. We have at present one fairly large cow, receiving 40 pounds silage, 70 pounds roots, and 15 pounds meal, together with clover hay. This cow, in five months, has given practically 10,000 pounds of milk, and is still giving nearly 60 pounds per day. Notwithstanding that she is a cow of no small capacity, were we to feed her more silage, she would eat less roots, and very probably less meal; whereas, with the smaller allowance of roots, she would require more meal to stimulate the same milk flow.

Silage is an ideal roughage, a coarse feed, cheap, palatable and succulent, and should form the basis of every dairy-cow ration. Roots we find of very high value as a supplement, and believe they serve quite a different place in the ration. With roots, less silage will be used, but, at the same time, less meal is required to stimulate the same milk flow, which, after all, is not entirely dependent on actual nutrients furnished in the ration. Moreover, the whole ration is much easier handled by the cow.

In feeding silage without roots, we have never found it advisable to feed more than 50 pounds, and this amount only to our large cows. The weight of the silage will vary with the quality; well-matured corn, with plenty of ears, provided it is not dry, makes much heavier silage than corn somewhat soft and green. The first is more nutritious, but the cow can eat more pounds of it because it is not so bulky. By feeding our large Shorthorn cows more liberally of silage, we have found it unnecessary to feed more meal than to cows of the other breeds. The big difference has been in roughage, and, when ensilage forms the basis of it, the difference in cost of production of milk is reduced to a minimum. It would seem that the quantity of silage should be governed by a number of factors: the individual cow, in regard to size, capacity and appetite; the other feeds available, the milk flow, for, as the cow's production is rapidly increased, her capacity for coarse feed is, in proportion to milk, diminished; the quality of silage. In any case, 50 pounds, as a maximum amount, has given us the best results.

H. BARTON,

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Erroneous Diagnosis and Treatment.

The more knowledge we accumulate about agriculture, the more hesitant we are about forming definite opinions on matters to which we have not given very particular attention. Indeed, even on these we become increasingly cautious about dogmatizing. It is so very easy for a layman to draw unwarranted conclusions from experience. Only a scientifically-trained man, with wide knowledge and sound judgment, is competent to draw reliable deductions from observed phenomena, and even he occasionally gets off the track, though less and less frequently as time goes on, because of the caution developed by knowledge and experience.

As illustrating the danger of error through hasty deduction, it is noteworthy that throughout the country many foolish ideas of and treatments for disease in live stock are still rife. The following letter, from a well-meaning subscriber, shows how some of these originate:

"In answer to an inquiry as to thumps in pigs, of which I have had considerable experience: Thumps are caused from worms and too much rich feed. I have a cure which would be very beneficial in the treatment of small pigs. First, it would be wise to separate the sow and pigs just while the treatment is taking place; then catch the small pigs and give each one a half teaspoonful of tar in the mouth and nostrils. Then, you may feed your sow a half teaspoonful of very finely-pulverized copperas, three times during the week in a half pail of thick slop, well mixed. You will see a decided improvement in the pigs in twenty-four hours. It will be no harm if you should feed the sow the copperas until the pigs are weaned. Two years ago this winter I had two sows, which farrowed in January, which had ten pigs each. When the pigs were about three weeks old, they became dumpy, and had what the veterinarians call thumps. I used the same treatment which I have described above, and I raised every pig."

With regard to this matter, it will suffice to append our veterinary editor's comment:

"Thumps is not caused by worms, and, if it were, the above treatment would not cure. This is simply another case of a man imagining the existence of a disease, following a certain line of treatment with apparent success, and then thinking he has discovered a specific. There was certainly very little wrong with his pigs; doubtless a slight indigestion."

Corn for Breeding Cattle.

It is habitual for authorities to advise against the free use of corn as a feed for breeding stock. According to the results of extensive experiments being made by the Wisconsin Experiment Station, as reported in the Breeder's Gazette, it would seem that this most excellent grain has been rather seriously maligned, at least for breeding cattle. Three years ago, the above Station took sixteen heifer calves, divided them into four uniform lots, and placed them upon rations made up respectively of corn, oats, wheat, and a mixed diet. The corn lot was fed on corn, gluten feed (which is a by-product of corn), and corn fodder; one lot was fed oat-straw and oats; one lot ground wheat, wheat straw, and wheat gluten; and the fourth lot received a ration made up of equal parts of the above three components. A minute study was made of the rate of growth of the heifers and the digestibility of the several rations. Growth was at about the same rate in all lots, except that the corn-fed calves kept a little ahead of the others. The digestibility of the rations was about the same in all cases, and in most other respects the nutrition of the different lots seemed to be quite similar. But it was found that the urine of the wheat-fed cattle was not quite normal in its compounds of nitrogen, and that it was acid, while the urine of the other lots was alkaline, as is normally the case. It was found that the oats-fed heifers did not care for salt when young, and that those fed the mixed ration had less craving for salt than the other two lots. As the heifers reached breeding age, it was found that those fed wheat were late and very irregular in coming in heat, while those on the mixed ration were most uniform and natural, and the other two lots nearly normal. However, all produced calves at two years and three.

The revelation of corn's superiority came with the appearance of the calves. The average weight of the calves the first year ranged as follows: Corn, 73 pounds; oats, 71; mixed feed, 59; and wheat, 46. The second year the weights stood in the same order, with the corn calves weighing 84.5 pounds; oats, 74.8; mixed feed, 65.7; and wheat, 52. Vitality was in proportion to the average weights. The corn calves were hearty, lively youngsters, quickly on their feet and eager for feed. The calves from the oats-fed cows were not quite so strong, but in half an hour or so they would get up and suck. The cows on mixed feed produced weak calves that lived only a few days. The wheat calves were still worse. These were born 16 to 30 days ahead of time, and, although they were born alive, they had not strength to stand. Most of them lived but a few hours, and none could be kept alive more than three or four days.

The uniformity of the results is rather convincing. Whatever the corn lacks naturally by not having its nutritive materials in the correct proportion for nourishing breeding cattle, it is evident that when the abundance of cornstarch was balanced by the addition of proteid by-products derived from the same kind of grain, the ration was entirely suitable for calf production. As much cannot be said for the oats and wheat.

By this time the cows showed distinctly the difference in rations. The corn cows kept plump, sleek, thrifty, and apparently vigorous. The wheat cows looked worse in every respect. A 30-day milk test showed that the corn ration extended its beneficial influence also to this material function. The average milk yield per day was, for corn, 24 pounds; oats, 19; mixed feed, 19, and wheat, 8 pounds. The quality of the milk was similar in all respects in the several lots.

Later, it was found, by changing the cows to different rations, that the wheat-fed lot began to improve almost at once when put on corn, as did also, though not so markedly, those fed on oats.

It would seem, from this, that, in corn alone there is nothing baneful, but rather, from the too free use of it has resulted an excess of fat, which has been so harmful that the cry has gone forth to avoid corn for breeding animals. Even at that, care must be taken at all times to insure healthfulness by exercise and moderate feeding.

Of all the means of successfully warming a chilled little pig and restoring his interest in things earthly, probably there is nothing better than a nail or other vessel of water heated to about 95 to 98 degrees F., in which his body and limbs can be submerged for 10 to 20 minutes. In many instances it will well-nigh revive the dead. If, after this hot bath, Mr. Pig is dried, and placed where he can suck a well-filled teat, his outlook on the future will be much improved.—[From Coburn's "Swine in America."]