

Breeding and Feeding Beef Cattle.

[An Ontario Farmers' Institute address by Thomas McMillan.]

The study of the Agricultural industry of this Province leads us to believe that in order to be thoroughly successful we must make a specialty of some particular department of the farm. In this respect we are simply following the example set by manufacturers. In these times the march of invention has been so rapid, and competition so keen, that, in order to succeed, manufacturers must concentrate their forces, and confine themselves to certain particular lines. So it is with the farmer. It is an old saying, and a true one, that if we would wish to succeed, we require to have some definite object in view, and in our operations endeavor to attain that object. The first thing which every farmer must decide for himself is, in what particular line shall I engage? There is plenty of room for a choice. In glancing over this Province we find some farmers engaged in sheep rearing, some in hog rearing, some in dairying, some in beefing, and so on; and we find men in all these departments who have been successful. Therefore, I consider the first great requisite to success depends upon ourselves, and requires that we must carry into our business the necessary skill and attention which, when properly directed, is certain to give satisfactory returns. In the department of breeding and feeding cattle, we first require to put ourselves in the possession of a number of good, serviceable, healthy cows—cows which will not only return a profit at the pail, and produce a well-formed and healthy offspring, but which, when no longer required for these purposes, will possess the inherent quality of taking on flesh easily and rapidly, and of making a satisfactory return at the block. Some of the main characteristics of such an animal are the fine, clean-cut head, and full, mild eye, which indicates a good and profitable feeder; good and straight in the back, broad, full and deep in the chest, well-sprung and deep in the ribs, full in the flank and fore flank, smooth over the kidneys, with the buttocks reaching well down to the hocks, and that fineness of bone which indicates a fineness and smoothness of the carcass generally. Apart from these features, one of the main points in a good beefing animal is what is called a good handler (an animal with a nice soft skin, covered with a fine coat of mossy hair).

Once having secured a few such animals, our aim should always be to increase the quality of their excellence and never allow them to deteriorate. To accomplish this, we must never breed from any but pure-bred males—animals of good individual merit, with pedigrees which can be traced back to a long line of notable ancestors—as such animals are much more likely to possess to a greater degree that potent power to transmit their own excellent qualities to their offspring.

With many farmers it seems to be a common practice to settle in their own minds from which cows they intend keeping their next year's stock of calves; these they may perhaps mate with a good male animal, and the balance of the herd is often bred to a scrub for the sake of fifty cents or one dollar in the service fee. This is a most ruinous practice, and will never yield the most satisfactory returns, as it is a settled principle in stock breeding that "like begets like," and that any one conception must affect a succeeding one, either beneficially or injuriously, as the case may be. Another great mistake, and one which is not confined to the general farmer, but often pursued by breeders of thoroughbred stock, is that of breeding from young males from one to three years old, and then, just when they have reached an age of sufficient maturity when we might expect they would be able to transmit to their offspring that health and vigor of constitution which is most desirable to have, they are sold to the butcher. This practice I believe to be one of the causes of the general complaint among farmers, that their animals are not so healthy and vigorous as they were years ago. Once having decided to follow a proper system of breeding, in order to hold and improve the good name which we have for the quality of our beef, we must determine to make war upon all scrub animals. They are a positive sign of want of thrift in every barnyard where they are to be found. They are an unprofitable commodity to have, and the narrowing margin of profit will not allow us to handle them. We must not close our eyes to the fact that there is still room for vast improvement in the quality of our herds; and when we know that the same quantity of food which will put two pounds additional weight on a scrub animal will put three pounds on a well-bred grade, it is a matter of the first importance that farmers should endeavor to rid themselves of all poor animals. Let me cite one experiment in support of this contention. Mr. Britton, at one time a feeder of cattle in Toronto, gave evidence before the Agricultural Commission in 1873 regarding some experiments he had carried on. In one he bought 103 scrubs north of Peterboro, paying for them two and a-half cents per pound; he bought another lot of well-bred grades near Goderich for from three and a-half to three and three-quarters per pound. He fed the two lots for a period of seven months. Although he did not weigh their feed, he stated the scrubs consumed much more than the grades. At the end of seven months he found the scrubs had gained an average of 130 pounds each, while the grades had gained an average of 270 pounds each. When selling he obtained \$1.63 per hundred pounds for the scrubs, and \$5.37 for the grades; so that notwithstanding the fact that the grades cost him from one to one and a-quarter cents per pound more than the scrubs, they were

the more profitable animals to handle. Mr. Hobson, of Mossboro, and Mr. Clay, who was for a lengthy time connected with the Bow Park Farm, have each given similar testimony; and I may also say that this testimony is borne out by our own experience during the past twelve or fifteen years.

Although good breeding will do a great deal, yet a judicious system of feeding will do just as much; and if we wish to attain the best results we must adopt such a system of feeding as will bring our animals to maturity as early as possible. Therefore the one great point which farmers should never grow weary of impressing upon each other is the great folly of allowing young animals to lose flesh. There is no mystery in the growth and rearing of animals. Every pound of additional weight put upon an animal represents so much food, and is a certain cost to its owner. In fact, whether the animal is allowed to increase, remain stationary, or decrease in weight, it is costing its owner so much each day. Thus it is evident that the only profit to be obtained from the food consumed is through the increase in weight which we may be able to obtain. Hence the utter ruin which must and does result from the current practice of allowing our young animals to run on bare pasture during summer, and run around straw stacks in winter. Such a system not only retards the present growth of the animal, but it so injures their digestive system as to render them unable to digest their food profitably when being fattened. And this, too, is the great reason why very many farmers are compelled to feed their beefing cattle such heavy grain rations while stall-feeding them. If our young beefing animals are kept and fed properly they should, in a measure, be nearly ready for the butcher at any time, and when we know that more gain can be obtained from the same amount of food the younger the animal it is, becomes our duty to furnish our young animals with such full and appropriate rations as will bring them to maturity as early as possible. Every individual who knows anything of the nature of animals knows well that while the animal is young, and in the rapid stage of its growth, its digestive and assimilative functions are most active; its percentage of waste in its system is much less than after it reaches maturity, and that the older it becomes, even before it reaches maturity, the more food it requires to supply this waste. Therefore the same amount of food will produce so much more weight when the animal is young than afterwards, and here it is our duty to mature our animals as early as possible, as early maturity offers the only safe system of profitable beef production.

In outlining a system of feeding to be followed, let us start with the young calf, which we like to have dropped some time from the month of November on till spring. Although, no doubt, the sleekest and best calves can be obtained when they are allowed to suck the dam, yet I believe the more profitable method is to milk the dam and feed the calf from the pail. We separate the calf from its dam at birth, as it can be done with less trouble and annoyance than at any future time. Keep the calves separate until they have been taught to feed well, as we invariably find if two or more young calves are allowed to run together they will learn to suck each other after receiving the usual milk ration. In the case of the male calves which we intend to castrate, we do so as soon after birth as possible. We have never found any injurious results from performing the operation at this time, whereas if we wait till the animal is three or four weeks old, as is generally the practice, it will often be eight or ten days in coming round to be as frisky as usual again. For the first two or three weeks we feed the young calf upon new milk; then we introduce a skim milk ration at noon, in which is mixed a little boiled flax or oatmeal. We also gradually change from the new milk ration, morning and evening, by mixing with a little skim milk supplemented with a little boiled flax or oatmeal, care being taken always to heat to new milk temperature, as we consider it very injurious to feed cold milk. We also keep clover hay (if available) in their stall, and crushed peas and oats in a box to which they have access. If they do not take readily to the meal, feed it from the hand, and when they have learned to eat the dry meal withdraw the grain mixture from the milk. Gradually supplement their meal ration with roots and corn silage. In all our experience we have found no fodder to which young calves will take more readily than corn silage. It seems to give them a fine, sleek skin and develops their digestive system admirably. In fact, our experience in the feeding of silage to calves leads me to believe Mr. Stewart, in his notable work on feeding animals, when he says: "Corn silage must take the place of the steaming and cooking of foods, which is largely practiced in the older countries; that its succulence is greater than can ever be attained by the steaming of food; and it must approach in digestibility very nearly that of green grass eaten in pasture." When the spring growth starts, so that we have grass, let the calves have some. If we have a grass plot near the barn we let the calves on it; if not, cut the grass and feed them in a loose box. Young calves should never be allowed to roam over large fields, or be exposed to the scorching heat of a summer sun, or have their usual grain ration neglected. When the fall season comes round they should never be exposed to inclement weather, but by this time be comfortably placed in winter quarters. Feed judiciously the first winter a ration of grain, with roots, or corn silage, cut feed and clover hay. If the young animal is well fed and properly cared for the first year of its exist-

ence, its growth and condition as a thriver is determined; it forms the habit of laying on fat, and with proper treatment we have very little trouble in keeping it in good condition after this time. During the second summer, turn upon grass, and if, on account of drought or other cause, there is not a plentiful supply of pasture, this must be supplemented by some soiling food; thus we will invariably find our animals coming to their winter quarters in good condition, and with liberal feeding over winter they can easily be made ready to ship to the British market at from two to two and one-half years of age. In fact, the best feeders in our country who fatten cattle of their own breeding, make a practice of having them ready to ship not later than this age; although there is still a great many—I may well say a large percentage of our farmers—who still persist in raising their animals to two and one-half, and often three and one-half years of age, and then sell them as stockers. I need scarcely say this is a most ruinous system. All these farmers require to do to have their animals right enough for the beef market is to feed a little more liberally, and they would be doubly repaid for the extra amount of food supplied; for when we know that it takes about two-thirds of a full ration for the food of support, or to supply the waste of the system, it becomes evident that the only profit to be found is by feeding the remaining third. To show how much cheaper beef can be produced the younger the animals are, let me quote an experiment carried on by the Groff Bros., of Elmira, who in their day were among the most successful feeders in Ontario, carrying off the highest premiums, both in this country and Chicago:—

"Two steers, bred by Groff Bros., weighed at 12 months, 1,000 lbs. each, and cost \$34.67, or \$3.46 per 100 lbs. The same steers gained during second 12 months, 500 lbs. each, and cost \$52.13, or \$8.68 per 100 lbs. The same steers gained during the third 12 months, 650 lbs. each, and cost \$81.50, or \$12.53 per 100 lbs."

To corroborate the above, I take one statement from Mr. Stewart "On feeding Animals":—

"Average cost per 100 lbs., of nine animals, at 12 months of age, \$3.39. Do., from 12 to 24 months, \$7.97. Do., from 24 to 36 months, \$12.54."

To show another phase of the ruinous practice of raising animals to two and a-half and three and a-half years of age and selling them as stockers, careful analysis and experiment proves that a young, growing animal will take from 25 to 50 per cent. of the elements of fertility which its food contains to build up its system in the shape of bone and muscle; while after this time, during the fattening period, it will return fully 95 per cent. (almost all) of the elements of fertility which its food contains back to the soil through the manure; so that farmers who follow such a system are simply manufacturing so many machines out of the fertility of their farms and then handing them over to their more fortunate neighbors to use for a most beneficial purpose. Although, as I have stated, we have raised a few animals each year, yet our practice largely has been to buy these very animals which other farmers persist in selling. In pursuing such a system great care must be taken in selection. Buy good animals, and those in good condition. Stockers which have grown to be two or three years old and have not formed a habit of taking on fat are undesirable and seldom prove remunerative. Care must also be taken to have them stabled before it gets too late in the fall or they will lose flesh. When the weather is such that we are subjected to a succession of light frosts, it is time to have the animals stabled. Every farmer should have some settled system of feeding which he intends to pursue, and for this purpose have his fodder prepared so that his animals can be fed regularly and liberally from the start. When feeding, we should study the nature of the animals we feed. All ruminants are possessed of large stomachs, calculated to digest bulky and fibrous food; therefore they should never be fed upon concentrated grain alone, but always have it mixed with bulky fodder, such as cut hay or straw, corn silage, etc. In the feeding of grain it is much more profitable to give a mixture rather than confine our stock to a single variety. For instance, experiments have proven that eight pounds of bean meal will give one pound increase in live weight; eight pounds of pea meal, ditto; five or six pounds of linseed cake, ditto. But four and a-half pounds linseed cake and peas, in equal proportion, will give one pound increase in live weight; and three and a-half pounds linseed cake and beans, in equal proportion, will give one pound increase in live weight; therefore it is evident how much more profitable will our results be by feeding a judicious mixture than by confining our operations to a single variety. Great regularity should be maintained in feeding. It is surprising how readily animals will learn to know just when to expect their different rations. If any of these are withheld for an hour or so they will rise and remain restless until their food is supplied. Cleanliness and tidiness should also be encouraged and enforced. Animals should be given at each feeding only what they will lick up clean. As far as possible the same feeder should be allowed to feed the animals continually; and above and beyond all, if we desire to obtain the most profitable results from the food consumed, we must accompany the food with the kindest and most humane treatment. There is no place in a cattle stable for a passionate man. Animals do not thrive if excited and irritated. They must be taught to regard their feeder as their best friend.