

Succulent Food for Live Stock.

The time of sowing is at hand, and now is the time to determine what we intend to grow. To my mind, there are no crops so important as those that will furnish a plentiful supply of succulent food for the stock. If there is to be a profit made out of winter dairying, either by the butter-factory or home-dairy system; if stock is to be raised and turned into beef, mutton and bacon, at a good margin of profit, then succulent food, and plenty of it, is the key to the situation. In Canada, with our long term of winter feeding, it is the secret of success. But some people say: "Oh, but that kind of food is eighty to ninety per cent. water; what's the good of it? Why not get the water from the pump?" Let us examine the subject and reason it out. And first, I would ask: "What is the natural food of our animals; what did nature intend them to live on?" Why, grass and herbage, to be sure. This kind of food produces milk, beef, mutton, and promotes the process of growth in the animals; yet it is nearly ninety per cent. water. But nature intended the animals to live on it, and they are built that way. Now, we place our animals for six months or more on dry food, a condition nature never intended them for; so, if we are to be successful, we must try to get as near nature and natural conditions as we can, and the way to do it is to provide plenty of succulent food. If we feed dry food, we feed an expensive food, because we must feed a much larger grain ration; while with succulent food we get better results with a minimum of grain. And why? Simply because we are getting nearer to natural conditions. The bowels are in laxative condition, and the organs of digestion and assimilation are in a condition to make the very best use of the small quantity of richer food that may be used to balance the ration. By the term, "succulent food," I mean roots and ensilage, and every man who keeps stock should have plenty of both. And if I were asked what kind of roots I prefer to grow, I would say, "mangels." And why? Because, in my experience, I can grow a larger crop of mangels than I can of any other root. I can feed them to milking cows in large or small quantities without any danger of a taint in the butter. I prefer them also for beefing animals and for sheep, and as for hogs, there is nothing better for winter feeding, when fed along with a little meal. As the bulky part of the ration for hogs, they fill the bill. They are not subject to insect pests, like the turnip, and are just as easily and cheaply grown.

And now a few words from my own experience as to varieties and cultivation. Having tried a good many varieties, I have had the best results with the Giant Yellow Intermediate. The Mammoth Red will, on strong land, give a little larger yield, but does not keep as well and is not of as good quality. The Giant Yellow Intermediate keeps as fresh and crisp as a swede turnip. Some years I have planted half of each and fed the red ones first. Last year the yellow ones gave the largest yield, as well as the best quality, and I will sow only that variety this year.

The ground for mangels should be manured in the fall, though I have mostly in my own practice put the manure on in the spring, but do it early, as early as it is possible, using the shortest manure available. Having worked the manure in, I leave it till it is time to sow, then harrow and make the drills. I do not like sowing on the flat; I always like a drill for any kind of roots. But I do not make them high. I usually sow about four pounds to the acre. I put the seed into a cotton bag and rub it well, then pour it into a dish and pick out all the pieces of stalk, etc., so it will feed freely through the holes in the drill. It is a good plan to try the drill first on a barn floor or a smooth place on the road, to see how it sows, before putting it on the drills. (I use the ordinary double-drill seeder, drawn by a horse.) Loosen the set-screw and set the shear a little lower than it is used for turnips. Watch the machine closely, and examine it often, so as to be sure it is sowing regularly. After sowing, put on the land-roller. Here is one secret of success in getting a good catch of mangels. It is a rough seed, and requires to have the moist soil firmly compacted around it in order to germinate, and the little rollers attached to the drill are not heavy enough. The land-roller leaves all the drills nice and even on top. In thinning, I leave them a little closer than turnips, but they will not stand knocking about in thinning like turnips. After thinning, I do the rest with the scuffer. I seldom have to hoe them after that. They must be harvested before hard frost. They will not stand a hard freeze like turnips will. If other work presses and there is danger of hard frost, I pull them and throw them in piles about six feet square, with the tops on, placing those around the sides of the pile with the roots in and tops out, so that the tops hang down on the outside. This forms a thatch on the outside. Cover the tops of the piles with pea straw, and they are safe for a couple of weeks. Then about the first week of November I top them and take them in. The advantages of this plan are that it is very quickly done; the roots will be cleaner; they will not be injured by frost. The tops will twist off twice as easy after lying in the piles a few days. Mangels should always be topped by hand.

Now, to sum up: Manure in the fall, if possible. Sow the varieties that will give the best results in quality and quantity. Sow plenty of seed, and go over the drills with the land-roller after sowing. Sow about the first week of May. A dressing of salt, 300 or 400 pounds to the acre, is said to increase

the yield greatly, but as I am using it this year for the first time, I cannot speak of it from experience. I have tried sugar beets, but the yield was not nearly up to that of the mangels, and it costs more to harvest them. And while they are more valuable for hogs and milk cows, it is a question whether the difference in yield and cost of harvesting will be made up in the quality.

With respect to the other source of succulent food, viz., the ensilage, so much has been said and written that one cannot add anything new, and yet, how few avail themselves of this important stock food! However, there are a few points I would like to emphasize, from experience, and one of the most important is: Do not attempt to grow a variety of corn that will not mature in your locality; you must use a variety that will be well up to the glazing stage before frost. Quality counts in ensilage every time. Compton's Early and Salzer's North Dakota will mature almost anywhere in the older sections of the Province. By all means grow a crop of corn and put it in a silo, for an abundant supply of roots and ensilage is the basis of economical and profitable feeding in this country.

Simcoe Co., Ont.

G. C. CASTON.

An Officer Wanted in Western Ontario.

In addition to the recognition by the U. S. authorities of the certificates issued by Dr. J. G. Rutherford, V. S., representing the Canadian Government in Great Britain for the purpose of testing cattle intended for export, the following memorandum of agreement was arrived at between the Dominion Minister of Agriculture and Dr. McEachran, representing the Department of Agriculture of Canada, and Secretary Wilson and Dr. Salmon, of the United States Department of Agriculture:

1st. The certificates issued by inspectors specially selected and duly appointed as officials of the Government of Canada will be accepted for breeding cattle and dairy cows over six months old, at United States ports.

2nd. The certificates of Canadian veterinaries, of cattle tested by them in Great Britain, accepted at Canadian quarantines, when endorsed by the chief inspector of veterinary superintendents of the quarantine, will be accepted at United States points of entry. The following are the veterinary surgeons who are official veterinaries of the Department of Agriculture to apply the tuberculin test to cattle exported to the United States: W. H. Pethick, Central Bedouque, P. E. I.; W. M. Jakeman, V. S., Halifax, N. S.; J. H. Frink, V. S., St. Johns, Que.; J. A. Couture, V. S., Quebec; A. E. Moore, V. S., Montreal; Chas. H. Higgins, V. S., Montreal; V. T. Danbigny, V. S., Montreal; Geo. W. Higginson, V. S., Rockland, Ont.; William Stubbs, V. S., Toronto; Chas. Little, V. S., Winnipeg; J. C. Stargrave, V. S., Medicine Hat, N.-W. T.; J. B. Hart, V. S., British Columbia.

From the foregoing, it would seem that the Departmental Inspectors appointed have been needlessly bunched in the vicinity of Montreal, from whence few animals are exported, while the districts mainly drawn upon by Americans in search of breeding stock are contiguous to such Ontario points as Whitby, Toronto, Hamilton, Guelph, London, and Walkerton. Why should not the convenience of the Western Ontario breeders be considered in this matter? Several complaints from Western Ontario breeders have already reached us of the inconvenience of the present arrangement, and as we go to press a letter is received from a breeder who states that he has been waiting for two weeks for a Canadian vet to test some cattle sold to the United States, and is satisfied it would have been done a week sooner by American officers.

Light and Ventilation in Stables.

SIR,—The question of providing light and ventilation in bank barns and basement stabling is very important to the health of the stock. The stable must be kept dry and fresh, as well as warm. For the supply of fresh air, pipes leading from the outside, under the foundation and up to a few inches above the floor, are the best. The foul air can be best carried off by wooden pipes, 10 to 11 inches square, leading from the ceiling of the stable up through the barn, to discharge at the outside, under the eave, or, better, at top or ridge of the barn roof. These pipes should have slides, which can be closed if the stable gets too cold. There should be as many windows as the beams and wall will allow, each not less than 3x4 feet, set at least one foot below the top of the wall. I prefer a single sash, to slide into a pocket in the center of the wall. Have the wall sloped away from the frame of windows on the inside, to allow the sunshine to fall as much on the cattle as possible. The walls should be not less than 11 feet clear in height. The manner and dimensions for arranging stalls are so many and varied that it is best for each one to make them to suit his own circumstances. With plenty of fresh air and sunlight, people are not apt to have cattle too crowded. For large cattle, each one should have a space of 3x10 feet.

Halton Co., Ont.

ROBERT NOBLE.

A Beauty.

JENNIE HOOVER, Norfolk Co., Ont.:—"I received my prize watch, and think it a little beauty. I have had it two weeks, and it has kept good time. We have taken the FARMER'S ADVOCATE for several years, and, really, we would not like to do without it, and I shall try to do all for the paper that I can."

Feed Value of Oat Dust and Pea Bran.

A number of inquiries having been received regarding the feeding value of oat dust and pea bran, we decided to undertake a digestion experiment to obtain information in reference to the feeding value of the above fodders.

For this experiment, we obtained, early in the spring, 5 bags of oat dust from the Flavell Milling Co., Lindsay; 6 bags of pea bran and 6 bags of oat dust from the Tillson Co., Tilsonburg; and 5 bags of pea bran from Walter Thompson, Mitchell. The Tillson Company write: "We are selling, at the mill, oat dust at \$7 per ton, and pea bran at \$13 per ton. The local demand is taking all we can produce." The Flavell Company write: "We sell a large quantity of this oat dust to the farming community in our county at a price equal to about two-thirds the value of bran. At present we are getting \$10 per ton in bulk for same. We shall be exceedingly glad if you can give us any information in reference to its analysis, and how it will compare with bran for feeding purposes." Mr. Walter Thompson, Mitchell, writes: "We should appreciate a special report giving percentage composition, especially protein and fat, and also your estimate as to the feeding value of these fodders. Last year we sold to farmers 417 tons oat dust at an average of \$7 per ton, and 56 tons pea bran at an average of \$12 per ton. If a practical test is made, we shall appreciate a statement regarding results."

Three thrifty wethers, being selected for the experiment, were fed Flavell oat dust and a little cut hay from April 6th to 12th, inclusive, then oat dust alone till 20th. Commencing at 5:30 p.m. on the 20th, the solid excrement was carefully collected till 5:30 p.m. on the 25th April. The sheep had free access to water and salt. On April 6th the weights were as follows: No. 1, 106 lbs.; No. 2, 110 lbs.; No. 3, 106 lbs.; while on April 26th their weights were respectively 103, 108, and 104.

The sheep were again given cut hay, with Tillson Company's oat dust for six days, after which the hay was discontinued and the oat dust alone fed seven days longer. Commencing at 5:30 p.m. on May 8th, the solid excrement was again collected till 5:30 p.m. on May 13th. At this date they were again weighed, but it was found the sheep neither lost nor gained any in weight.

During these above two periods, the animals ate oat dust heartily at the rate of 300 grams three times daily.

The three sheep were at once given Tillson Company's pea bran without any cut hay. The solid excrement was collected from 5:30 p.m., May 20th, till 5:30 p.m., May 25th. Sheep No. 2, refusing to eat, was dropped out of the experiment. Sheep No. 3 continued to eat heartily, but No. 1, though eating heartily, showed a tendency to scour. During these twelve days, while fed on Tillson Company's pea bran, sheep No. 1 gained 2 pounds, and sheep No. 3, 3 pounds.

Sheep No. 2 having recovered, all three were given Thompson's pea bran, and at the end of the seventh day excrement was collected from 5:30 p.m., June 2nd, till 5:30 p.m., June 7th. During these twelve days, while fed on Thompson's pea bran, sheep No. 1 gained 4 pounds; No. 2, 4 pounds; and No. 3, 1 pound.

During the above two periods on pea bran, the animals, except No. 2, as above stated, ate heartily, each receiving 300 grams three times daily.

By an analysis of the oat and pea brans, and of the solid excrement collected as above noted, the following data on digestibility have been obtained:

	Organic matter.	Nitrogenous substances.	Soluble carbohydrates.		Crude fiber.
			Fat.	Drates.	
Flavell's oat dust...	63.5	66.0	76.2	76	40.3
Tillson Co.'s oat dust	58.1	70.2	81.8	62.9	34.5
Tillson Co.'s pea bran	68.9	59.3	93.6	81.8	64.1
Thompson's pea bran	71.9	72.9	68.2	73.4	72.2

These feeds are evidently of higher nutritive value than may have been generally believed. Pea bran particularly is clearly a valuable feed, which alone not merely maintained the animals for nearly a month in a normal condition, but produced a slight increase in weight.

Further tests in the feeding value of other samples of the above varieties of feed must be made before definite conclusions can be drawn regarding the average comparative composition and nutritive value of oat dust and pea bran.

Pea bran is just the outside covering of the grain, which is removed by the shelling-stones. Tillson Company's pea bran was much freer of inside portions of the pea than that of Thompson's, which bran contained more or less pea meal intermixed. Oat dust is obtained from the husks after shelling.

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[EDITORIAL NOTE.—In many sections of the country adjacent to the mills, oat dust and oat bran are extensively fed to dairy cows, much more so than to other stock. Some dairymen have been using these feeds for years, and think highly of them. Since the use of such by-products is likely to still further increase, we are pleased to note that Dr. Shuttleworth has begun investigations as to their value, and would suggest the propriety of a test of the two oat by-products, as well as the pea bran, in order to show their value in milk production, compared with such a grain ration as wheat bran or oats.]