

Sugar-beet Pulp Feeding: 2nd-prize Essay.

By James Early, Peel Co., Ont.

This is the first season that I have had any experience in feeding sugar-beet pulp, but the results have been so satisfactory that I consider it an excellent subject for your competition. I received a carload of pulp from the factory about the 1st of November last, and have been feeding it since that date. As I believe in doing a little experimenting for myself, and have watched rather carefully the results obtained from this new food, I will try to reply to your questions, and point out what I have learned in connection with it.

1st—The storing of the pulp cost us very little trouble. We piled it in the open air, against the side of the barn, where the feed-room was situated. From what I have observed and been told I think this is the best way. As the pulp is very wet, it should be put in some place where the water can run off. If it is put inside, it will have to be put in the stable to be easy of access, and it will be a difficult matter to get the water away, and will also make the stable damp and unhealthy for the stock; it is also likely to heat and spoil. In fact, I know of several cases where it has done so when stored inside.

Of course when it is piled outside it will freeze to some extent in winter; but by putting a door in the wall and piling the pulp up to a height of ten or twelve feet, there need be no difficulty on that point. A solid frozen crust will form on the top, and will prevent the pulp underneath from freezing, and all that is wanted can easily be got without disturbing the frozen layer at the top. We have had no trouble in getting at our pulp all winter, and it is as fresh and good now as when we received it last fall.

2nd—We have fed the pulp to milch cows, steers, pigs and hens. For the cows we mixed it with cut straw and ensilage, and fed it with grain twice a day, and hay alone once a day. For the steers we mixed it with cut straw only, and fed it and grain twice a day, and hay once. The pigs were fed the following three times a day: One part mixed grain, three parts clover chaff, and three parts pulp. The hens received pulp, mixed with an equal quantity of bran and grain.

3rd—While feeding our cows on pulp we have received the most gratifying results. They milk well, and no unusual taste or odor is imparted to the milk. At the time we got the feed, four months ago now, we commenced to feed it to a pair of steers. This pair got the rations described in number "2," and have done well the whole time, gaining four hundred and eighty pounds in the four months. They were very thin when we commenced to feed them in the fall, but, with the addition of a half gallon of grain twice a day, from now on will make grand shippers by 1st May next, or sooner; in fact, a dealer offered to buy them for shipping purposes last week. This, I think will show the benefit derived from feeding pulp to cattle. We fed four hogs on the mixture described in number "2," for the three and one-half months prior to the time when they were sold. They were sold when six and one-half months old, and weighed nine hundred and thirty pounds, live weight. I think the last is the best result that we have ever obtained in feeding hogs, and one very hard to beat. The pulp also seemed to agree well with our hens, and they appeared to relish it. In fact, all our stock soon got to like it, and they never were in a better or healthier condition than they have been this winter.

4th—I think the pulp is worth about the same as ensilage for feed. For milch cows I would rather have pulp and hay than ensilage and hay. To test its value as compared with roots, we tried an experiment. For two weeks we fed our milch cows roots instead of pulp, and we found that they milked as well and kept in as good condition when they were getting the pulp as when they got roots. The roots fed were turnips and carrots. I prefer pulp to roots, as it is ready to feed all the time, and requires far less work in handling. I do not compare it with dry corn fodder, as I consider it much superior to it in every way.

5th—The pulp should not be fed to stock in too large a quantity before they become used to it, or they will turn against it. It is also liable to make them scour if fed in too large a quantity.

6th—Two dollars per ton when in the wet state—that is, just after removing from the cars—would be about the value of the pulp then, I think. After the water has drained off, if piled as stated in number "1," the value should be about four dollars per ton. This is about the value of a ton of roots on the farm, and I think that the pulp is worth as much as the roots for feeding purposes, and it has the advantage of being more easily handled.

It is Practical.

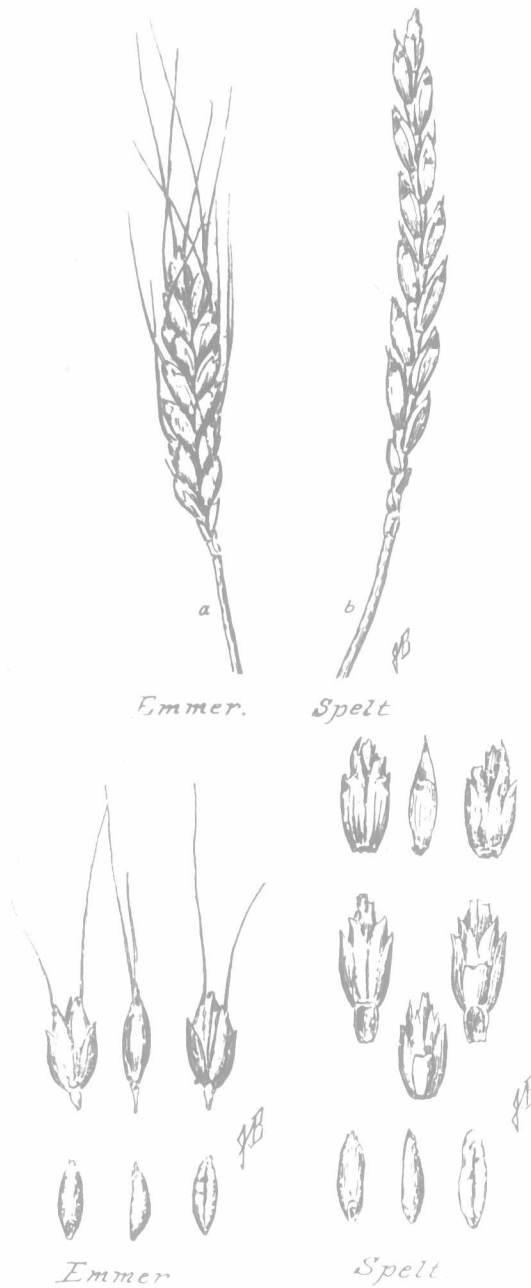
Among the many farm journals published, the "Farmer's Advocate" is the most practical and up-to-date. The progressive farmer cannot afford to do without it. JOHN J. PRESTON, Bruce Co.

Markets and Veterinary Answers of Great Value.

Enclosed please find \$1.50 for one year's subscription to the "Farmer's Advocate and Home Magazine." I like the paper better every day I read it. I think the Markets and Veterinary Department of great value. JAMES M. HILL, Middlesex Co., Ont.

Difference Between Emmer and Spelt.

In view of the success which seems to attend the growing of emmer in many parts of Canada, it is well that we should bear clearly in mind the difference between it and spelt; which is not nearly so productive. They are two distinct types of wheat, and there are a number of varieties of each. The distinguishing characteristics are pretty well illustrated by the accompanying cuts. They are alike in that the grain of each is tightly enclosed within the chaff, from which only a small portion is separated in threshing. The heads of emmer are short, compact and nearly always bearded, while those of spelt are long, narrow, open, and usually bald. The spikelets of emmer overlap each other, like shingles on a



roof, making the head close, smooth and regular. That part of the stem which adheres to the spikelets after threshing is much smaller and more pointed in emmer than in spelt. The spikelets of emmer are flattened on the inner side, while those of spelt are arched. In the case of emmer, the grain is harder and the chaff softer than in spelt. Emmer is considered particularly hardy, and is worth trying in districts where barley cannot be depended upon. In co-operative experiments over Ontario, it has given excellent results, while favorable reports as to yield and feeding value have been published in the "Farmer's Advocate" from time to time. We should be pleased to hear further experience with either of these grains, particularly the varieties of emmer, which have been found most satisfactory in the respective localities where grown.

Mixture for Pasture Crops.

By Prof. C. A. Zavitz.

A large number of varieties of grasses and clovers have been grown in the Experimental Department of the Ontario Agricultural College, both singly and in combination, for pasture and hay. The mixture of seed now used for the production of pasture for a two years' stand in the short rotation on the College farm, is as follows: Red clover, 7 pounds; alsike clover, 2 pounds; timothy, 4 pounds; and orchard grass, 5 pounds, making a total of 18 pounds per acre. This mixture can also be used for hay, but when the chief aim is the production of hay, the orchard grass is not included, and only fifteen pounds of seed per acre are sown.

When pasture crop is likely to be deficient in the coming season, we find that we can get better

returns from a combination of varieties than from any one variety sown by itself. The following mixture, when sown in the spring, is likely to be ready for use at about six weeks after the seed is sown and to give good satisfaction in furnishing pasture throughout the summer: Oats, one and one-half bushels; Early Amber sugar cane, thirty pounds; and common red clover, seven pounds; thus making a total of eighty-eight pounds of seed per acre.

From twenty years' results in testing different varieties of grasses and clovers, both singly and in combination, we would suggest the following mixture for permanent pasture on an average soil: Orchard grass, 4 pounds; meadow fescue, 4 pounds; tall oat grass, 3 pounds; timothy, 2 pounds; meadow foxtail, 2 pounds; lucerne, 5 pounds; alsike clover, 2 pounds; and white clover, 2 pounds; thus making a total of 24 pounds of seed per acre. Some of these varieties produce grass very early in the spring, while others are later, and furnish a good bite during the hot dry weather which occurs frequently in the months of July and August. The seed can be sown in early spring, either with or without a grain crop.

Harrowing Spring Grain.

To the Editor "Farmer's Advocate":

A question was asked recently, through the columns of your paper, as to the advisability of harrowing spring grain after it was up. To my mind this system should be discouraged, because it is the opposite to the methods of tillage which are recognized as being the best.

One of the essential features of crop growing is the growing of clover. All cultivation and rotation of crops should be planned with this feature in the forefront. Clover increases the capacity of the farm for stock-raising, and while growing adds to the fertility of the land in nitrogen, and at the same time improves its condition mechanically, we must not lose sight of this in all our farming operations, and whatever means are suggested as a help to the other crops, if they are not conducive to the growth of the clover, they must not be given a place in the routine.

When we come to consider a system which, in nine cases out of ten, must prove detrimental if not fatal to this all-important crop, we should not encourage its adoption.

Harrowing a spring crop may not be so bad on land where there is no clover sown, but this is the point, clover should be sown with every spring or fall grain crop, whether it is wanted for an after-crop or not. The catch of clover in preventing the growth of weeds and keeping the ground moist and mellow for fall plowing would be sufficient to make it pay, and often a little extra pasture can be had from a stubble well filled with new, fresh clover, though pasturing it extensively is not good practice.

The principal thing I wish to point out is that by following the above plan (sowing clover always) the farm will soon be in condition that harrowing the grain crop will not need to be resorted to, for the land will be less liable to bake, and having the increased amount of humus will hold the moisture better, resulting in greatly increased crops.

The time taken in harrowing is worth about as much as the clover seed to sow the ground would cost. If the field is seeded by the drill when the grain is sown, it will be buried deeply enough so that any later harrowing would not benefit it in that way. If the seed is sprouted, or up at all, the harrowing would probably kill it altogether. Good farmers run and clean out the furrows, in all but light sand, and it would be a great loss of time to do this and then turn round in a couple of weeks and harrow them full again. On most land, especially in wet seasons, the absence of clean furrows to carry off the water would have a most damaging effect, doing more harm than any possible good that could be done by harrowing. The harrow would only be beneficial to certain kinds of land, and on these sometimes impracticable. For instance, the clay which had got baked would be most of all benefited, but a harrow would not break this crust; the only thing which would break it up would be a cultivator, and this method would prove fatal to the crop. Then on light land, if the surface soil is stirred lightly, the result would doubtless be beneficial, but any harrow in general use would be too heavy for this condition of soil, sinking so deeply as to uproot the whole crop. If anything be done on this kind of land it should be treated with what is called a weeder. This implement is excellent for running over corn and potato ground for some time after the crop is up, stirring the surface, conserving the moisture, and disturbing the rooting of many troublesome weeds; and will not damage the corn and potatoes, as they both will stand a lot of hardship.

In the Northwest there is an abundance of weeds, such as wild buckwheat, lamb's-quarter and fireweed, which come from very small seeds, and the plants are very tiny at first appearance, so the least disturbance on a warm day is generally fatal to them. But in this Province there is not so much trouble with these weeds, and it is very doubtful if much could be gained from harrowing a grain crop with this end in view. By adopting the best methods of cultivation the condition of the soil can easily be so improved as to make harrowing unnecessary. J. R. H. Wentworth Co., Ont.