

Agriculture.

Too Much Farming.

We believe that one of the greatest evils among our farmers is that they try to cultivate too much land. Too large a number never stop to think that it takes more time and considerable more expense to half cultivate a large farm than it does to well cultivate a small one. One of the richest and most successful men in this section told us recently that for twenty years he never cultivated more than twenty acres, but he made it a point to cultivate it well.

We have seen farmers put in sixty or seventy acres of wheat with one team. As a consequence, it would be put in in a very poor condition, and of course it would be a poor crop. Well, it takes a good while to drive a reaper over that amount of ground; it takes more time to drive over the ground to bind and shock it; still more time to haul it in to the stack, besides having only half a crop. Suppose he puts in twenty acres of ground; he has time to plow it well, harrow it two or three times to get the ground mellow and fine, and drill it down, and, if necessary, top-dress part of it with manure, reserving only a small piece to drill. Then he can cut, bind and shock it at a great deal less expense, and he gets a good crop.

The farmer we have spoken of said he never raised less than twenty bushels of wheat to the acre, if he only had fifteen acres. Any one can see how much money he would make clear if he got three hundred bushels off his fifteen acres. More than the man who had thirty acres and got ten bushels to the acre. The saving in seed, plowing, harrowing, &c., would be considerable.

What we need is closer farming. To raise big crops, manure your land and cultivate your crops well. What is said of wheat can be said of corn, oats, hay, potatoes, fruit and stock. A great many farmers never stop to think that it costs as much to feed a poor hog, horse or cow as it does a good one. But that style of farming doesn't pay now. Every business man has to manage on the closest basis possible to obtain a profit, and the farmer who now expects to make anything must work everything to the very best advantage. It is better to leave half your land idle, or use it as a pasture, than to half cultivate and raise half a crop, when by close cultivation and manuring you can raise the same quantity of grain on half the land, and in doing it have a better quality.

Raise a variety of crops. Keep good stock and good tools, and farm what you farm to the very best advantage. Make what land you cultivate yield every cent it will, and it will pay twice better than double the number of acres poorly cultivated.—[N. J. S., in Rural World.]

Our opinions—Cultivate fewer acres, cultivate well, make every acre pay its utmost.—Ed. F. A.

Animal Refuse as Manure.

Attention is being directed to the importance of torrefied animal refuse, such as bones, horns, leather clippings, hair, woolen rags, blood, &c. By special contrivances these matters are so scorched as to retain their organic richness, though reduced to a state of powder. This powder ferments—in other terms, dissolves—easily and gradually; the phosphates are assimilated with facility, and the humus in the soil economized. This torrefied refuse peculiarly favors a large return per acre of beet, in addition to the juice being markedly rich in sugar, because less alkaline salts or nitrogenous matters are present. Beet thus raised has been sold as high as twenty-four francs the ton, or six francs more than usual rates. It is admitted that the manure ensures the uniform germination of the seeds in a remarkable manner, and keeps off insects, owing to the offensive odor of the compound. It is most efficacious when employed in moist weather, autumn or spring.

FLAX CULTURE IN ONTARIO.—A correspondent writes that there is no section in Ontario so well adapted to the growing of flax as about seventy square miles of country south and west from Watford, between the Great Western and Canada Southern Railways. The soil is clayey loam, and there is some little gravel—rather low at present, but as it is being drained it will make one of the finest agricultural sections in Ontario. It is well worthy the attention of any party intending to do a large continuous business in flax.

Experiments with Potatoes.

A French agricultural journal, the *Basse-Cour*, describes the result of some experiments in potato growing recently conducted by scientific men in Germany. The principal conclusions to which these sages have come seem to be two in number. The first one of them is that the vigor of the potato plant is always in direct proportion to the weight of the tuber used for sets, a theory which certainly finds some support in common sense alone, considering that the young shoots for some time draw their sole nourishment from the mother potato.

The second conclusion is that there is a great variety in the productive power, not only of different eyes in the same potato. It is found that the eyes at the top of the potato produce a much more vigorous offspring than those in the lower part, and the consequence is that those agriculturists who cut their potatoes in half before planting them are not well advised in cutting vertically, but should always divide them horizontally, planting the upper half and using the other as food for cattle.

But the best plan of all is to plant the tuber whole, cutting out, nevertheless, all the eyes except those in the top part. Experiments were conducted in a garden soil by Prof. Gantz, the amount of crop produced by several different settings of potatoes being accurately estimated in statistical tables. It appeared that from tubers divided vertically, only five tons were produced per acre, and from whole potatoes seven and a half tons.

In this particular, however, some of the other professors do not agree with Herr Gantz, but maintain that, other things being equal, the whole potatoes will always produce more than halves, however cut. On the fourth, however, all agree, the lower eyes having been cut out, produce eleven and one-half tons per acre, or more than double the result by the sets first mentioned.

Ashes and Bone.

In 1866 I had a worn farm that needed renovation, and not being able to procure manure enough by ordinary farming, I bought leached ashes. They cost, delivered two and a half miles from home, twenty-five cents per bushel. I applied them at the time of seeding, at the rate of one hundred and fifty bushels to the acre, in connection with other manure, the whole being well harrowed in. This practice was continued for ten years, having used in that time seventeen thousand bushels. My soil was a hard gravel, and in some cases hard clay loam. The ashes produced both a mechanical and chemical effect on the soil. They made the soil finer, and in my opinion set at liberty latent plant-food by breaking down the minerals in the soil; it was darker in color after the application. The effect was to largely increase the hay crop. As this course was begun before the high price of hay in 1870-71, it proved very profitable. Hay then sold at thirty dollars per ton at the barn, twenty tons being taken from seven acres in the latter year at a single cutting. When the crop showed signs of failure we plowed and seeded with ashes and manure as before, but with hardly as good results as at first. It took more ashes for the second than for the first application to produce the same amount of hay. This is the general verdict of those who have used them extensively. The ashes induced the growth of red clover, which continued from year to year. We cut our fields twice in a season, often getting more at the second time than at the first cutting. Our fields came to be known far and near for their productiveness. We had continued this course so long that a change was thought desirable. We have taken bone, using half a ton to the acre with manure, with satisfactory results. It is much easier to apply, having sown about ten tons the present year. Some of the large farmers in Salisbury, Mass., who formerly used large quantities of ashes, have for years given up their use and substituted bone in place, with the very best success. An Irishman who had worked for one of them bought an old run-out farm in a town miles away, and surprised the natives considerably by buying a number of tons of bone-dust. They predicted that it would never pay and that they would look a long time at fifty dollars before paying it for a ton of bone. After several years' trial I find on making inquiry that it has proved a successful and paying experiment.—[Letter to Germantown Telegraph.]

Plowing Table.

The following table, that appeared some time since in the *Scientific Farmer*, will be a matter of interest to our readers, showing the distance traveled by a horse in plowing an acre of land:

Breadth of furrow slice.	Space traveled in plowing an acre
7 inches.	14½ miles.
8 " "	12½ " "
9 " "	11 " "
10 " "	9-10 " "
11 " "	9 " "
12 " "	8½ " "
20 " "	4-10 " "
24 " "	4 " "

From this table can be seen the gain in the labor account with a crop which comes from the use of a broad furrow in plowing. If we call 16 miles a day the day's work for the horses, we plow but 1½ acres a day by making a 9-inch furrow; nearly 2 acres by making a 12-inch furrow; and when a gang plow is used, which plows a 24-inch furrow, the acreage is increased to nearly 4.

The use of an improved plow, which turns a broad furrow and pulverizes, is therefore an economy on land suited to its use, and there is great gain from the use of a gang plow under circumstances where it is applicable.

Cheap Manure.

The question of cheap sources of manure is always interesting and important. It seems to us that sufficient attention has not been given to the manure to be obtained from stock fed on good rich food, either purchased or raised upon the farm. Dr. Lawes, of Rothamsted, England, has given this matter very serious attention, and has published a table worthy of the careful study of every feeder of stock; it will be noticed that in the case of wheat bran the value of the manure is estimated to be \$14.50 for every ton of the bran fed; now this same bran is usually worth only \$15 to \$18 per ton, and there would therefore seem to be a good margin in feeding in either to milch cows or to store pigs.

Linseed cake and cotton seed cake also offer inducements in the very rich character of the manure obtained by feeding them, and it would seem that these materials ought to be used to the full extent that the stock are able to digest them and maintain their health.

The price of linseed cake is about \$40 per ton, and nearly all that is made in this country is shipped to England, where it is fed to cattle and sheep with profit. Is there not an equally good margin for feeding it here?

The manure made from a ton of corn-meal is estimated as worth \$6.65, and as the meal is now worth only \$20 per ton, the value for feeding would be reduced to \$13.35 per ton, at which price it would almost pay to feed to hogs even at the very low price of pork.

The manure from a ton of clover hay is estimated worth \$9.64, or about as much as the hay is worth in many places; it should be well understood that clover hay ought to be fed on the farm and never sold; if any hay is to be sold let it be the English meadow, the manure from which is worth only about half as much.

The values given in this table are based upon the market value of the nitrogen, potash and phosphoric acid in each case at such prices as they can be purchased in standard fertilizers such as sulphate of ammonia, superphosphate of lime and potash salts.

With this table before him any farmer will be able to make up his mind whether he will find his account in buying the fertilizers ready made, or in buying the food and the stock, and feeding with the double purpose of increasing the manure heap and of selling fattened stock or milk or dairy products to pay for the trouble and expense. We believe the skillful feeder will find a handsome margin even at the present low market value of dressed meats.—[Ploughman.]

—Mr. Harle, speaking of roots alone being of very little use as a feeding material, he might say that it was a common practice in the North of England for large flocks of sheep, about 18 months old, to be put on to turnips without any dry food whatever, and they ate turnips out of the ground up to January, and got fat upon them. In the north they consider roots the main stay of their land in producing manure. He thought one of the weak points of farming, in some other places, was the quality of the farm-yard manure. He thought sufficient cattle were not kept on roots and good feeding materials to produce the best manure.