

cutting. Besides, the advantage of shade to the soil is lost. The manure left by stock in feeding off the clover, does not compensate for the loss of these advantages. If this view is correct, it follows that the best method of using clover for enriching the soil would be to let the entire growth remain on the ground, neither pasturing nor mowing it. And this, we think, is sound practice.

HARROWING CORN.—We see many accounts in the Western American agricultural papers of dragging corn, and the plan seems to have been approved of by many of the leading farmers on the other side. W. C. B., of LaSalle, Ill., says:—"About a week after planting, or just before the corn gets out, we go on the field with a forty tooth drag, and give it a thorough dragging; then let it alone until the corn is high enough to cultivate. The farmers here drag their ground after planting, just as much as they drag their wheat ground after sowing." Can any of our Canadian readers give information as to the benefit or safety of such treatment of corn in this latitude?

PLASTER FOR CORN.—A correspondent of the *Rural New Yorker* says:—"The past season I used plaster alone on one piece of corn, skipping two rows, which I harvested separate, and also two rows each side of the unplastered. This was a triangular shaped field of one acre and one-fourth. The corn on the two not plastered weighed 182 pounds; shortest rows, plastered, 224 pounds; longest rows, plastered, 274 pounds; or about 100 pounds of corn by using plaster to 73 pounds where not used. There were 150 bushels of corn on this piece."

The hay crop in North and South Norwich is said to be a failure on account of the drought. The *Woodstock Sentinel* says that pasture too is suffering; in many places it is quite brown and dried up. The quantity of milk delivered at factories is consequently falling off; and unless a good deal of rain comes soon the cheese crop in this quarter must suffer. The spring grain is becoming yellow and unhealthy in appearance on the light soil, but does not appear to suffer much yet on clay lands. The only crop that is really good is fall wheat; it looks remarkably well almost everywhere, and there is a great breadth sown."

Prof. Daniels, of the Wisconsin Agricultural College, who has charge of the experimental farm of that institution, raises the question in the *Western Farmer*, "will it pay to sow potatoes, while potato bugs are so numerous?" He says: "The beetles if left to themselves will destroy the crop, for there were never before as many of them at this season of the year. Paris green, the only successful remedy, is costly when it is applied throughout the year, it injures the potato, and on account of the arsenic it contains ought never to be put upon land. Hand picking is expensive, and will soon amount to more than the value of the crop."

Stock Department.

Root Pulpers.

These useful implements have not yet received sufficient attention from Canadian farmers. In England they are common, and English farmers find that it pays them well to use root pulpers. They are far closer calculators than we are, and the result of repeated experiments show that the use of a root pulper saves at least one ton of roots to each beast fattened, and the contingent advantages are even greater. The course adopted in England is to pulp the roots, whether Swedes or mangels, cut the straw and hay into chaff, mix the pulped roots and the chaffed hay and straw together, and let it stand from twelve to twenty hours. During this period the fibre of the hay and straw becomes thoroughly imbued with the juice of the roots; it becomes softened and easily masticated; it is slightly fermented; and, if mouldy, the mouldiness passes off, and it is greedily eaten by the cattle, without waste, and to the greatest possible advantage. What answers well for a fattening beast answers equally well for a lean one, and the consequence is a great saving of food and a better appreciation by the cattle of what is eaten.

It is quite possible, however, that many farmers do not know what a pulper of roots is; and although no doubt many do know, and have seen the machine, the information here given is for those who want it most.

The pulper is made in many forms and shapes, but all with one end in view, namely, to disintegrate and divide the roots into the smallest possible portions. Cutting up in pieces is not so desirable as the grating and pulping the roots down into something nearly a liquid. Anything that will answer this end will do. Those who can purchase a good pulper will of course get the best they can from the agricultural machine dealer. Those who cannot afford to purchase a good machine can make one for themselves thus:—

Take two inch well seasoned plank, (oak or hardwood will be the best), enough to cut to three feet square; cross it and fasten the plank well together by pins, nails or screws. If you use pins, they must be well wedged at both ends. If nails are used, they should be driven through and clinched; but as the machine should be turned in a kind of lathe, it would be best to begin with wooden pins well wedged at both ends, and after it is finished, nail it well from both sides. Next cut a square hole through the centre, and be careful to cut it straight. Through this hole put a square piece of wood to answer for an axle; wedge it tight and straight, and put enough substance on what will be the back to keep it so. Cut or turn out two journals, one at each end of the shaft, but at about six inches from the end. Take care and make

the shaft stand truly upright from the face of the crossed planks. Make a frame like a grindstone frame; put the double plank and axle in it, having places for the journals of the axle. First finish the journals so as to make them truly round, so that they will work smoothly in the places prepared for them; then turn round the plank, and mark off a circle at three feet in diameter—that is, one foot six from the centre of the axle. Make a good mark, so that you can saw it round; then saw it round, and cut off the corners, and turn the edge with a chisel until it is smooth; then with a rest and the same chisel turn off the face of the crossed boards until it runs truly; then, for a width of about nine inches from the edge, drive in all over it some short stubbed nails, which project about half an inch. Take care and drive them so that they keep a true face; then fix a box to hold the roots on the frame, and let the lower part be open, with as wide a space as the band of teeth, so that the roots can get to the teeth and bear up against them. Put a winch handle to each end of the shaft; fix legs to the frame until it is the right height from the ground, put in the roots, and turn away; one man at each end of the shaft, and you have as useful a root pulper as can be made; although, as a matter of course, the purchased ones will be more lasting, and run with less labour. But any hedge mechanic can make the one, and the other must be purchased and paid for with cash that cannot well be spared by many.

The principle of the pulper is that the greatest possible amount of surface of the crushed root shall come in contact with the stomach of the animal. The animal's teeth, when well used, do this in the natural way, and are all that is sufficient for the wants of nature; but the farmer wants to make a profit over and above what nature would allow in the ordinary course of affairs, and that profit he can only get with cattle by supplying them with food in such manner and quantities that they can not only support nature, but lay on a good coating of fat besides.

In the old country, "the poor man's pig" is a notable example of what can be done in this way. The poor man cannot afford to give, and seldom does give, his pig the same amount of expensive food that his employer the farmer does. The poor man supplements his grain with potatoes, boiled fresh daily; and not only boiled fresh, but most carefully bruised or crushed and strained, or, in other words, pulped. "Jenny, have you creamed them potatoes?" is the constant enquiry; or, "Jenny, the pig's potatoes have not been half creamed," is the constant observation of "Hodge," as he stands looking into the pig's sty. He sees that some of his pieces of potatoes, although small, have passed through the animal in an undigested state, and he knows that thence a loss arises. The animal stomach, either in men or brutes, does not digest and dissolve vegetable substances as it