

## Agriculture.

## Seasonable Preparations for Root Crops.

The good farmer is always forehanded in preparing for his crops, and he is pretty sure to reap the benefit of it. From the Country Gentleman we take the following extract on the value of root crops, the timely preparation and the application of manure required. With the increased demand for well fed stock the root crop has become of primary importance:—

Farmers who intend to grow mangolds, &c., next year, should by all means mix up the horse and cow manure with some from the hogs also, and give it a turn over; shaking it all thoroughly together so that it will become a mellow mass of short stuff, which will be food for the young plants at once and force them from the start.

There is a great mistake in the management of manure in general, first of all a fear of the labor of turning and mixing; it is asserted it will last much longer. It is really applied for the purpose of acting immediately, and instead of lasting ought to be used up directly for the production of a heavy crop. In England, instead of scattering broadcast either farmyard manure or concentrated fertilizers, the first is put in ridges straight as a line, 27 inches apart, so that the young plants strike their rootlets into the friable dung which was evenly spread in the open ridges, and then the ridge turned back over it. Often with the same plan superphosphate is run from a separate hopper, and runs in the same channel with the seed, so that the plants are doubly stimulated. By this method of planting roots the crop obtains the full benefit of all the fertility in the applications, and upwards of 20 tons of succulent food are grown per acre, and are converted into manure. When the crops are eaten on the land by sheep the soil is sometimes too rich, and in many instances part of the crop is fed at the homestead to young cattle and fattening ones, and then the portion left gives all the droppings necessary for growing as much barley or oats as can stand on the ground.

In England the root crop is first in importance, every farmer putting all the manure he can make and collect together on the land coming in rotation for that crop, and when it does not hold out there is no hesitation in resorting to artificial manure. A heavy crop of mangels, swedes, and turnips insures good crops of barley, clover and wheat, and a failure gives an opposite result; consequently roots are the mainstay of success, and without them sheep-husbandry and stock-farming could not succeed. It is of no use to ignore roots, for good stock-farming could not be conducted without growing and feeding them. Sheep will not thrive and produce the best quality of wool and mutton without roots. In a few years it will be a matter of surprise that roots were no longer appreciated here. Any farmer's intelligence and capability can be estimated by seeing his root crop, and his standing and good sense may be known by the importance he attaches to growing the best of this nutritious and health-giving food.

Complaints of the existence of red rust in wheat reach us from South Australia—the premier wheat-growing colony which took the first prize for wheat against all comers at the Paris Exhibition—from Queensland, from Victoria, and more recently from New South Wales. The disease is due to the existence of a minute insect parasite, somewhat similar to the phylloxera, the appearance of which on the growing crops has given rise to the expressive name popularly applied to the pest. In one or two instances the red rust-like appearance is said to have been due to the growth of a parasitic fungus, similar to the coffee fungus which has caused the "leaf distress" among the coffee plants of Ceylon. The Queensland Government have offered a reward of £1000 for the discovery of a remedy.

CANADA THISTLES.—Glancing over the schedule of convictions for the county of Wentworth, published in the Dundas Banner, we notice that no less than 76 parties were brought up for allowing Canada thistles to go to seed on their land, and were fined two dollars each and costs. The prosecutor was the same in each case, and appears to be a public functionary.

## The Monster Farms of the West.

The two great facts shown by observations of the monster farms of the West are, that those who have gone into wheat growing upon a large scale, making use of the most improved machinery and cheap labor, are making colossal fortunes at seventy cents per bushel for wheat, limited only by the number of acres cultivated and the skill with which the work is done, and that wheat may be grown at large profit for less than forty cents per bushel; but that, on the other hand, the small farmers, depending mainly on their own labor, with limited capital and less machinery, are not making a comfortable subsistence, but are running behindhand, and must go under, and that a further reduction in the market price for food products must hasten their end.

The development of the large farm interest has the direct and immediate effect of impoverishing the sections in which the farms exist, and skinning the lands without any compensating benefits. Not one dollar of the gross amount or net profit received from the products of the soil is returned and placed upon the land from which it is taken, except in the construction of the fewest buildings necessary to shelter and protect the laborers in the working season, and for the care of the work stock and the tools. On the whole 5300 cultivated acres of the Grandin farm there was not one family finding a permanent home by virtue of title in the soil, where there should have been at least one to every fifty acres of ploughed land, 106 families. This would give 106 houses in place of the five there at present, and 106 barns in place of three, with other buildings in like proportion; and a population of at least 500, where there is now one fixed inhabitant, with all the accessories of household comforts and home improvements that do not now exist in the smallest degree.

The large development of the tenant system of farming is an evil. The effects of the system have been too apparent in Europe to require any discussion in these pages. But with us it has features worse than ever known in Europe. The tenants in England hold leases and occupations that practically run for life, and often are kept in families for generations, which give encouragement for great improvements, and the farms are practically homesteads. But with us the leases are uniformly for short terms, with no encouragement for improvements, and the farms are never homes. In England the rent has rarely reached, and never exceeded, one quarter the gross product; but in the United States it is commonly one-half. Under the English tenant system the land is thoroughly cultivated and improved; with us it is impoverished. There is not one redeeming feature in the whole system in America, and it is in every way worse than in Europe.—[January Atlantic.

The English Journal of Forestry writes as follows as to how to make a worthless quagmire valuable: Upward of forty years ago Mr. Murray, at that time land agent to the Earl of Jersey, planted a bog near the Button Ferry Station, South Wales. This bog was quite useless and even dangerous, as people often lost their cattle in its wet quagmires. Mr. Murray planted it with poplar, and the trees made such extraordinary growth that at the end of 15 years, when they were cut down, the produce realized something like \$65 per annum per acre for the whole period of 15 years during which the crop had occupied the ground; it luckily happening that the poles were just wanted in the neighboring copper-works. However, this was not all the benefit or profit derived from planting the bog with these rapid-growing trees. Their strong roots ran through the underlying clay and thoroughly drained the bog, letting off the water in a way that no other process of draining could accomplish. Beneath all bogs—which are formed of decomposing vegetation—there lies a bed of clay, and below that comes a bed of gravel. The strong roots of the poplar will run down through the soft bog to a depth of many feet, and pierce through the bed of clay some feet thick into the gravel. In these days of great demand for packing cases, etc., the wood of this poplar is very valuable, and the tree has the additional property of arriving at a fit state to be cut down in a man's lifetime. When the timber was removed, a charge of gunpowder was inserted in each stool, which effectually burst them up and rendered their removal easy. After the ground was cleared, a beautiful rich, firm pasture remained.

## Starving Out the Pea-Weevil.

At the annual meeting of the East Middlesex Agricultural Society, in the report submitted by the Secretary, Mr. H. Anderson, was the following suggestion:—

"With regard to peas, we know what is the matter, and we believe if proper means are taken it would not be difficult to provide a remedy. The bugs that have injured our peas for some years past have now become so numerous that they almost entirely destroyed the crop the last year; and we have learnt by experience that there is little hope of getting rid of them unless we cease sowing peas entirely for one season. This, we believe, would be a perfect remedy, as, according to the best authorities, the mature bug only lives one season, and it seems certain that they must be annihilated if there were no peas in which to propagate their young.

But we are aware that this object can never be attained by the voluntary action of the farmers, although the great majority have determined not to sow peas. Still there will always be a few in each township that will sow enough to preserve the breed and perpetuate the pest. We would, therefore, strongly recommend the Legislature of Ontario to pass an Act permitting County Councils to prohibit the sowing of peas in those counties that are infested by the bug. To show the importance of this matter we may mention that at a very low estimate the damage to the pea crop in the county of Middlesex alone the past season has amounted to at least \$100,000. We know that the Government has always shown a desire to do anything in their power to promote the prosperity of the farmers, and if their attention is called to this matter by a report emanating from a body as influential as the Agricultural Society of East Middlesex, we have no doubt they will institute enquiries on the subject that will, most likely, result in securing the object we have in view."

The report was approved of. The meeting was the largest annual meeting of the Society that we have seen.

MUCK.—At a meeting of the Western New York Horticultural Society, Prof. C. H. Dann read an essay on this material, recommending it very highly as a means of fertility. His treatment is as follows:—Draw and store near the stable. After cleaning the stables in the morning cover the floor with half an inch of muck and throw coarse litter above. When muck is to be applied directly to the land it needs to be "waked up" by the action of animal manure, lime and salt or ashes. Prof. Johnson says that muck may be thoroughly decomposed by mixing with it three bushels of a mixture of one bushel of salt to two of dry lime. Some draw muck directly to the land in winter and mix the other manures on the ground by harrowing in the spring.

PROTECTING PLANTS IN WINTER.—Pits dug in the ground and walled up, say to the depth of about four feet, are excellent as a means for preserving tea and Bengal roses, carnations, and other half-hardy things over winter. In the bottom, in a soil containing a good proportion of sand, the plants may be killed in pretty thickly, or the pots plunged up to the rims. Here also plants such as cabbage, cauliflower, lettuce, etc., for early use, may be heeled. They must be kept from hard frost by a covering of glass, and hay or mats, and have ventilation in fine weather, or when it is not freezing. A little care will thus enable you to winter successfully many plants, both for the vegetable and flower garden.

If your cow's teats are sore from any cause, wash them clean with warm water, and then apply glycerine while they are moist. Two or three applications will cure the worst cases and render the teats soft and pliable. For caked bag, use fresh lard as hot as you can handle it. Apply with a rag or brush, and thoroughly rub it in with the hand. It never fails to effect a cure in a few days.

Among the influences that have largely contributed to unfold and expand the husbandry of this country, the steady, earnest and persistent work of our agricultural journals—even if not the most conspicuous—is probably the most valuable and important.