



The field.

Manufacture and Application of Manure.

MANY of the readers of THE CANADA FARMER, as well as all agriculturists worthy of the name, will have made every possible enquiry on the subject of artificial manures in the hope of finding something that may be less troublesome and more efficacious than the produce of their own cattle-sheds and barn-yards. The serious expense and the trouble of manuring with stable and farm-yard manure often tends to prevent its use, notwithstanding that the farmer may be fully aware of its importance. The carrying out of farm-yard manure seems in our climate always to come at the wrong time. In the winter it is impossible to get at it for the snow and the frost. In the spring we are fully engaged with our preparation of the land for spring crops, and in the seeding of them. Midsummer finds us overwhelmed with haying and harvest; and the autumn with autumnal ploughings and preparations for the winter; so that the only time which can be certainly set apart for emptying the barn-yard, and other depositories of manure, is the short period after spring seeding, and before haying; and even that portion of time with our short-handed farmer is required for various other purposes.

These difficulties naturally divert attention to artificial manures. Could barn-yard manure be got on the land as easily as plaster, the trouble would cease, and every man would bring all he could raise into use; but unfortunately this cannot be done, and the consequence is, that the manure is left in the yard, or is not collected and applied;—the result is, half crops and the cry that farming does not pay.

Now manuring is the soul of farming, and the cheapest, best and most effectual manure is that from the stable, byres and farm-yard. Bones, guano, superphosphates, plaster, lime and salts, of various kinds, all possess separate and great virtues, but barn-yard manure possesses all their virtues combined, and many others which they do not possess, and unless large quantities of it are made, collected, and put on the land, the farm must and will deteriorate. The farmer's thought by day and dream by night ought to be "manure, and how to get it on the land." With the small stocks of animals raised on most Canadian farms, no farmer has enough of it, and if he neglects what little he has, his crops will be light and he will be, and continue to be, poor. There are not through-

out Canada twenty farms where even what manure there is, is all saved,—the liquids are allowed to escape, and the solids are leached by the rain, and evaporated by the sun, until what is left and used is as poor and fusionless as possible. Can this not be amended? Will not people see their own interests? We fear not while the collecting, obtaining and carrying out the manure is essentially such a nasty job. The farmer himself does not like it. The sons won't do it if they can help it. The hired man dirties the house and his clothes, which are often to be washed in the house, and make it redolent of anything but pleasant perfume. In cold weather due care of health will not admit of standing in the wet, and Canadian leather will not keep it out. In warm weather it is still more disagreeable, and according to modern sanitary ideas, possibly unhealthy. To make the job a palatable one, all this must be altered; the aid of machinery must be called in, both to load and unload; proper tanks must be built to save the liquid manure, and to take advantage of all its virtues, and the solids and fluids must be mixed together.

Mech has met these difficulties by reducing all to a watery state, and carrying it to the land through iron pipes. This is hopeless in Canada, but can we not concentrate it, and yet leave it sufficiently fluid to move by mechanical means? If the straw, hay, and all other fibrous food, before being either fed or bedded to the cattle, were cut into chaff, not only would it reduce sooner, but it would be easy to pump or remove from tanks by elevators of different construction moved by animal or steam power. Cannot our carts be made water-tight, and then discharge their contents on the soil without other aid than the moving of the horses over the ground? If tanks were formed, and all the results of the stable, byres, pig-styes, &c., carefully conducted to them, the contents could be moved as well in the winter as the summer. The tanks being under ground and covered, the contents would never freeze, and might well be scattered over the snow from such vehicles as ingenuity could construct; and although doubtless some of the valuable portions would exhale into the air, yet we may be sure that such manuring would be a vast deal better than none. Besides, if the ammonia were fixed by plaster, sulphuric acid, or other chemical means, it is now an established fact, that all losses by exhalation might be done away with. Even should this be objected to (though we own we cannot see the objections), a very small expense would construct manure pits in the fields sufficient to enable the contents of the tanks to be transferred during the winter when otherwise the teams and men would be comparatively idle.

One great advantage of such a system would be the possibility of manuring growing crops of wheat, rye, and other winter crops, and also the meadows and pastures. No one can doubt that a field of winter wheat would be the better of such a dressing, or that the yield of our meadows would be doubled by adopting the course hinted at.

We throw out these hints for adoption to provoke reflection and experiment on the part of those who feel the necessity for a change in the present system. Now everything is hurry-scurry in the growing season, and too often idleness and sloth in the winter season. Cattle are left to shiver and starve round straw and hay-stacks, and to help themselves to their food, when by being stabled not only would their manure pay for their keep, but the cattle instead of becoming stunted and cramped with the cold, would be growing and improving, and the profits of manuring would be saved instead of being wasted. Straw littered to animals during the winter will not rot till the following summer. If the straw were all first chaffed, or cut up small (as it might be by the use of a horse-power cutting box), and found its way with the liquids of the stable to the tanks, it might be moved within a month, and be fertilizing the crops instead of becoming a nuisance round the home premises.

This matter is too important to be dismissed here; we shall resume it from time to time, and discuss it in its various bearings as space and the pressure of other topics will admit.

More about Manure.

In a recent issue the importance of pulverizing manure before applying it to the soil, was urged in a short article entitled, "Fining Manure." The *Country Gentleman*, not long since, had a capital editorial on the same subject, in which the common practice of spreading manure in lumps, or in unbroken masses of fibrous material, and ploughing it into the soil, in this state, is strongly reprobated. Our contemporary justly observes: "It requires but a moment's reflection to perceive that such a coarse conglomerate of large lumps of manure and large clods of earth, must be quite unfit for the fine, delicate, thread-like fibres constituting the rootlets of plants, to extend through in search of nourishment." Composting, mixing, thoroughly rotting, &c., are urged, and an excellent suggestion in reference to the use of straw for litter is given, viz.: that it be passed through a straw cutter before it is scattered as bedding. With a good cutting-box, such as every farmer should have, this is less trouble than might at first be supposed, and will be amply repaid in the improved quality and speedier preparation of the manure.

Many farmers are so alive to the importance of a supply of manure, that they contract with hotel keepers in adjacent towns and villages to bring in their straw, and receive in return the manure made on the premises. So far well. But it is a common practice to team the manure thus obtained direct to the land, a course open to many objections, not the least of which is, that the seeds of all manner of weeds are thus conveyed to the farm, in a state which renders it almost certain that they will germinate at once, and stock the soil with vegetable pests. We know a market gardener who pursued this policy