

6. The climate is rendered more salubrious, as well as the soil improved.—As this country is opened and drained, diseases both of plants and animals are diminished.

In reference to Canada the thick and thorough system of draining practised in Britain is, perhaps, not required, or cannot be afforded. We should first get off the surface water by open drains, and afterwards make as many under-drains in the wettest portion of the farm, as circumstances allow. The more draining is practised, the better it will be understood, and the cheaper and more effectually done.

Forms of Drains.

1. Open drains merely carry off the surface water; they occupy, if large, considerable space, and are liable to fill in. But they are more or less necessary and useful, particularly in a newly settled country. The first thing to be done on many farms is to improve the natural drainage by deepening or cutting ditches. The system can be refined by degrees.

2. Covered drains have this advantage, that they filter the water charged with manuring substances, leaving the latter available for plants, and they are not generally liable, if properly made, to get filled up.

Depth.—This should vary according to the nature of the soil and distance apart. On tenacious clays 30 or 36 inches may be sufficient. In looser soils, 4 feet. For springs much more is often required.

Form.—Gradually tapering to the bottom, which should be of sufficient width for the material to be tightly laid in.

Distance.—The distance at which drains are to be placed from each other must in great measure depend on the character of the soil, inclination of the surface, and the depth of the drains. The deeper the drain, the more water will be drawn to it. From 24 to 34 feet apart, for drains of 3 feet deep, on moderately tenacious soils, is considered sufficient. It is a good plan to put them wide apart at first, say 48 feet, and if that should prove insufficient to dry the ground perfectly, another can afterwards be made between. Pipes are the best material, and in light soils they should be fitted into collars, preventing the sand getting in at the joints. Draining in this country is an expensive operation; when better understood and practised, the expense will be much reduced. In England it costs much less—from £5 to £6 per acre. It is a permanent and most remunerating improvement, to which in this country far more attention must be given, if our agriculture is to progress.

Question 12.—Enumerate the different substances used as manures;—their properties, modes of action, and general classification.

Answer.—Manures may be divided into three great divisions:—1. *Animal*; 2. *Mineral*; 3. *Vegetable*. *Animal* manures consist of bones, flesh, blood, wool or hair, hoofs, horns, &c., and are exceedingly rich in nitrogen, some of them readily decompose, and therefore act quickly. *Mineral* substances which