

wheat follows as a crop on pea and bean grattans with one ploughing, and on potato and turnip fallows, and is also sown after tares, and on grass lands that have lain for two, three, or more years in pasturage.

A brief mention will be made of each process.

Clay-lands will have been duly prepared and cleaned by repeated ploughings, harrowings, and rollings, and the lime and manure applied and ploughed in by the month of September; and during that month, and very early in October, the seed-furrowing of the land will commence; and where the extent of clay-lands is great, and where the quality of the soil is wet, and the climate precarious, the whole strength of the farm must be combined for this most important purpose. The first day, ploughing only goes on; on the second, a sower enters, followed by two or three pairs of two-horse harrows, which will finish all the land that is ploughed. As soon as any part of a field is finished by harrowing, the water-furrows must be carefully cleaned out, and all cross-cuts drawn by the plough, and cut by the spade, that no water stagnate in any part. This point requires the most serious attention to keep wet lands artificially dry. On the wetter clays, sowing the grain in broadcast is yet found preferable to drilling, owing to the often inconvenient breadth of the ridges, the waxy adhesiveness of the soil, and the great precariousness of the climate. In such soils, it is often necessary to harrow the ridges, by means of harrows attached to a tree stretching across them, and the horses walking in the furrows. Where the ridges are permanently wide, the tree reaches from the furrow to the top of the ridge on which the horse walks, which prevents the poaching of the side of the ridge by the feet of the animal. In every case of wet clay-lands, the water-furrows and cuts must be made with the least possible delay. A dry seed-time is of very great importance on such lands; and yet in wet seasons, when the crop is thinner on the ground, the ears are always found to be plump and heavy. But this may not compensate for the want of number of plants. At the same time, too dry weather does not suit for sowing clay-lands, if the clods, from hardness, do not break with the action of the harrows. A medium state is preferable.

Wheat is sown on the heavier turnip soils after the Swedish turnips are removed in autumn, and on the potato-grounds after the crop is raised. In both cases one ploughing is sufficient, with a previous harrowing, to prepare the ground for the drill machine. The lands that can be made to produce these green crops are of a drier nature, and the attention to water-furrows and cuts may be somewhat relaxed; but in many cases they are still necessary. The same may be said of pea and bean grattans, and of tare stubbels; only in case of foulness, the ground may require a scuffling to clean it of weeds before it is ploughed.

On stiff close-bottomed loams, these crops form an excellent preparative for wheat.

In what is called the Norfolk rotation, viz., turnips, barley, clover, wheat; this latter plant gets one ploughing from grass, and the seed is usually deposited by the drill machine. The decomposition of the roots of the clover is thought to afford very soluble food for the wheat; and the natural looseness of the land is in many cases remedied by the consolidation produced by an implement called the "land-presser," which follows the ploughs, and presses the seams of the furrows by means of cast-iron cylindrical wheels, grooved to suit the interstices. But lands that require this artificial consolidation are not properly wheat soils, and the firmness had better be produced by the land remaining longer in grass. No finer specimen of farming can be seen than the drilled wheats in Norfolk, the rows straight as a line, and not a strayed pickle.

Wheat is, in some cases, sown by dibbling the seed in the ground, by means of prongs making holes in the land, into which the seeds are dropped. Machines are now invented to perform this work very correctly. Much benefit is supposed to be derived to light lands, by the treading of the feet of the work-people employed in performing the process; but, as before observed, lands that require artificial consolidation are not wheat soils, and may better be employed in lighter cropping. On all wet or damp soils, dibbling is altogether unsuitable, and drilling also, where wetness and adhesiveness prevail.

Four single times of harrowing are usually sufficient on proper wheat-lands, in order to cover the seed, and two on lighter loams after the drill-machine. Three bushels of seed to an acre may be stated as an average allowance, and less in early seasons, and on good lands.\*

Previous to being sown, the seeds of wheat are now almost universally steeped in solutions of corrosive substances, in order to destroy the seeds of disease that are supposed to adhere to pickles. Various substances have been recommended, and are used; the most common are, stale urine and common salt in a strong solution, made so powerful as to swim an egg. This liquid, or the stale urine, is put into a close tub: a bushel of seed is put into a smaller vessel, with a thin iron bottom thickly pierced with holes, which is sunk in the close tub, when the liquid rises; and on being strained, the light grain floats on the top, and is very carefully skimmed off. After frequent stirrings, the small vessel is raised, when the liquid escapes downwards into the close tub, and the seed, after being well dripped, is thrown on a boarded floor, encrusted with quick lime, carried to the field, and sown immediately.

\* This quantity of seed is not necessary in Canada: from  $1\frac{1}{2}$  to 2 minots, according to the state and fertility of the soil, is sufficient.—Ed. A. J.