

land, near the homestead, and having ploughed it deeply in the autumn, apply a good dressing of manure in the early spring turned down by two ploughs following one another in the same furrow. There is no fear of going too deep, as the roots of this plant have been traced six feet below the surface. We may observe that the proper time for deep ploughing is in the fall, and in preparation for a manured green crop; *never* for a straw crop; with this proviso borne in mind, ploughing cannot be too deep, as the wonders of spade culture on the barren sands and clays of the labourers' allotments in England clearly prove. Hops, on the soil of the "Upper Green Sand" at Farnham, Surrey, have been traced 24 feet deep in the shattered semi-rock; and it is easy to see that, in our burning climate, 12 inches of soil will retain moisture longer than 6 inches.

Twenty pounds of seeds will be required per acre, sown broadcast, with the usual quantity of barley, and harrowed in. After the young shoots appear, a good rolling completes the operation. When the grain crop is carried, a dressing of loose, light manure should be given to preserve the lucerne from the frost. In the following spring pass a set of *light* harrows over it, for the land will be all the better for a stirring, and it will destroy some few weeds that may be showing themselves. About the end of May, the first cutting will, in average year, be ready for the scythe, but the crop *should* be in bloom before it is begun; still, if "green-meat" is very much wanted, it may be cut as soon as it will give a swath worth carrying home. This, as well as all other forage crops should lie for 3 or 4 hours after mowing, to wilt a little, lest, the cattle suffer from "blowing," or "hoven."

At the end of the season, say in October, the land should be harrowed, with the common harrows, several times. There is no fear of disturbing the roots, as by this time they will be down too deep to be pulled out. This will keep the land clean, if repeated each spring and autumn.

According to the treatment it receives, Lucerne will give three or four cuttings in the season. It is most useful for horses, and, when out in bloom, they will require no oats, if they have plenty of it.

We presume the reason why more *clover* is not sown is that, as *generally made into hay*, it is considered, and with some plausibility, to be of small value. But, as a forage crop, everybody

who has tried it must approve of it. The yield is great, and the quality rich. It will bear constant cutting, and strange as it may seem, the greater the quantity carried on the land, the more is the soil enriched; and for this reason: the roots, which constitute the manure of the succeeding crop of grain, grow in proportion to the growth of the stem and leaves. If the clover is kept cropped off short by sheep, horses, etc., the roots will be short and scanty, but, if the stock are kept off, and the plant allowed to get well up after each cutting, the roots will be long, thick and abundant, and, when turned down in the autumn, their decomposition will afford the most suitable food to the wheat or oats during the following season. We cannot agree with the idea derived, we believe, from the United States, that the second crop should be ploughed in. It seems to us that, in our climate, the practice is most wasteful. The horses will be only too glad of it, and if placed in a good yard, with a shed to run under, will do much better than in the pastures, besides saving their manure.

Clover is, in reality, an annual, but the usual system pursued in its cultivation has converted it into a biennial. According to Von Thaer, clover never fails to show a good plant when sown with buckwheat. This might be worth a trial in this country. In England, many thousands of acres have become, what it technically called "clover-sick." There, the strict "four-course," or "Norfolk" rotation, in which clover was sown every fourth year, has been practised so long, that the soil refuses to grow it, and, in consequence, the farmers have been compelled to substitute Alsike, Dutch, or Hop trefoil, so that, now, the true, or red clover is only sown once in 12 years, to the great detriment of the wheat crop, which, almost invariably succeeds after clover. We incline to think that a few pounds of "Cocksfoot" or "Orchard grass" (*Dactylis glomerata*) might be advantageously added in place of part of the 14 pounds of clover seed sown to the acre. Rye-grass, which accompanies it in Scotland, and successfully, in some parts of the east of England has completely ruined the land. If tried here, great caution should be used. Rye-grass is a true *cereal*, and, therefore, necessarily unfits the land for the production of the grain. One of the finest farms in Cambridgeshire, a farm with which we are well acquainted, fell off in yield at least 40 per cent in the grain crop, after the introduction of rye-