

of growing parsnips, and indeed green crops generally, which I shall describe; these are, in drills and in beds.

When the first method is adopted, which will be the case if horse labour is employed, the drills will be opened from twenty-two inches to two feet apart. If manure has not been ploughed in, as already directed, it must now be laid down in small heaps along the drills; immediately afterwards shaken out, and spread equally in the hollows between the drills; and as soon as it is spread, the plough must return and cover the manure by splitting the previously formed drills. When manure has been previously ploughed in, and when the farmer is able to procure guano, a little of this (say, at the rate of one and a half to two cwt. per statute acre), may be sown broadcast before the drills are formed; or mixed with five or six times its bulk of dry earth, and dibbled into holes along the top of the drills. Into these holes the seed will also be sown, but care must be taken that the guano and the seed do not come into contact, otherwise the vitality of the latter will be destroyed. Whether guano is applied or not, the seed is sown into holes about one inch or one and a half inch deep, seven inches apart, and two or three seeds in each hole. A light roller is then passed along the drills. From six to seven pounds will be required to sow a statute acre; and the best variety is the Jersey hollow-crowned.

Drill culture may also be adopted by the small farmer, whose only implement is the spade. The drills may be raised by a shovel, a garden line being used to keep the drills straight and at equal distances apart. But by farmers of this class, it will be found more advisable to cultivate their parsnips and other green crops in beds—a mode originally introduced by Mr. Kelly, of Portrane, and which is admirably adapted for green crop culture.

In following this method, the land is dug, or otherwise prepared in winter, as already described. In spring it receives another ploughing or digging, and is then levelled and marked into beds  $4\frac{1}{2}$  feet wide, with a division of about eighteen inches by two feet (according to the depth of the soil) between each bed. If the manure has not been early applied, it is now spread equally over the beds, and covered with earth taken from the intermediate alleys. Mr. Kelly's plan, a line is stretched along the centre of the bed, and the seed dibbled in, as already directed, along the line. This central row will be 27 inches distant from each side of the bed. After this is done, set the line 20 inches from the centre on one side, and again dibble in the seeds; and, in like manner, shift it again 20 inches on the other side of the centre row, and sow again. There would thus be three rows in each bed. But I have found it much more convenient, especially for the after culture of the crop, to dibble in the seeds in rows across the beds, as

the whole after operations can be carried on by persons standing in the alleys, without putting a foot on the beds.

The after cultivation of parsnips consists in regularly taking out all weeds as they appear, in thinning out the plants to one in each hole, when they are about three inches high, and in digging, forking, or grubbing the spaces between the rows or drills, so as to keep the land always free and open, and to prevent any crust forming on the surface. It is absolutely necessary that these operations be carefully performed, otherwise a crop cannot be expected; but in general these are operations which we find either entirely neglected, too long delayed, or very imperfectly performed when done.

Parsnips, when boiled, are excellent feeding for pigs, milch cows, and poultry, and bread of the best quality is made when they are mixed with wheaten or barley meal. They may be given raw to cows, and they impart a very pleasant flavour to milk and butter, besides giving the latter as good a colour as that produced by cattle fed on the richest natural pastures. Altogether the parsnip is a most excellent vegetable, and well worthy of being much more extensively cultivated than it is at present. The only practical objection which is made to its culture is, that owing to the early period at which the seeds must be got in, the land cannot, in wet seasons, be sufficiently cleared of weeds; but this objection can be obviated by clearing the land properly in autumn, which those who use the spade can very easily accomplish.—*Farmer's Gazette*.

#### CHEAP AND EFFECTIVE SUBSOIL PLOUGH.

SIR,—In one of your late numbers I saw the price of a subsoil-plough, which is higher than the price of a very excellent and efficient plough, of which I send you a description:—

A wooden or iron beam of usual length and substance, a moveable wheel, to regulate teens; first leg is of flat iron, sharpened at front and studded at point, like a coulter, and answering to a pick; substance  $3\frac{1}{2}$  inches on flat, by three-fourth inch at back; and second leg, with foot answering to strong hoe, edged like first leg, and of same substance. The plough is drawn from first leg, and the draft bar or rod is raised or lowered by a screw in or on beam; legs fixed in their mortice by screws; legs or teens about 2 feet long.

I have a Smith's plough, which cost me £6 6s., and I find I can do as good work with three horses as could be done with Smith's with six or eight horses, and the price is only 26s. with oak beam, and 34s. iron. It is a most useful tool, and I have made many and sent away from my village. It may be worked with one, two, or three horses. It acts as a horse-shoe in