

turity, and better able to resist frosts. It yields an excellent crop; but some have objected to this variety that it is not relished by cattle. On this, however, there is a difference of opinion; and Sir John Sinclair relates an instance where Swedish, yellow, and Norfolk, were sown indiscriminately over a field, and it was observed that the stock selected the yellow after being used to them. The preference which cattle show for particular kinds may depend very much upon the season of the year, for some sorts being later in growth than others, may not have attained that sweetness and nourishment which the cattle relish. There are many kinds of the yellow Aberdeen, some being nearly red in colour, or approaching to purple, others assume a greenish shade and others again verge to white. The Swedish, which was comparatively late of being introduced into this country, has stood the severest scrutiny as to its merits, and it is acknowledged that no other turnip so well resists the frosts of winter, or retains its juices in the spring. The only objection which some farmers have to them is, that they are of so hard a nature as to be hurtful to the teeth of stock, particularly the very young, when shunning their teeth or the very old. They are best adapted for a low situation and good soil, and on this account few farmers, in the more exposed districts, attempt their cultivation, preferring rather one or other of the yellow Aberdeen sorts. They require more manure than any of the other sorts, but this is amply compensated by a weightier crop, and the length of time they may be eaten by cattle, they being in good condition till nearly the end of May. On being weighed, the difference between a Winchester bushel of Swedish, and another of the Norfolk turnip, was found to be 28 lbs. in favour of the Swedish. This turnip also possesses the great advantage of bearing transplanting, by which means any blank space in a field can be easily filled up. The operation may be performed any time in the month of June, the earlier the better; and the roots which have been transplanted ought to be consumed first, as it is found that they have a tendency to shoot early in spring.

The time of sowing varies in the different sorts, according as they are early or late in arriving at maturity; it also depends upon the climate, and the elevation or exposure of the ground.—Those which are most nutritive require the longest time to grow, and consequently they ought to be earliest in the ground. On this account, the Swedish are sown as early as possible, from the beginning of April to the end of May, but never later, or if the season is not very favourable, the crop will be decidedly inferior, both as regards bulk and weight. The yellow sorts are sown next in order, and then the white, which may be put into the ground any time from the middle of May to the end of June.

These periods of sowing, however, must depend upon the nature of the ground as well as its elevation. If the soil be of a moist clayey texture, or the season give indications of being wet, the seed must be early sown; and if the season should appear to be very dry, it is advantageous to have the seed early in the ground, in order that the plants may be sufficiently braided before the sun's rays attain strength enough to injure the crop.—May, or early in June, should, in this case, be considered as the best time of sowing, for if the plants do give way, there is still time for another braiding. It is thought an advisable plan to sow portions at different periods, which will divide the labour when hoeing and thinning are necessary.

The quantity of seed sown should always be liberal, for by sowing too little the crops have frequently failed, and the attacks of the fly are uniformly found to be more severe upon a thin than upon a thick crop. Two pounds per acre is about the quantity generally sown, but Mr. Coke of Holkham, a celebrated cultivator of turnips, allows three pounds per acre, and his crops are uniformly good. If the plants are too thick, it is easy to take out the supernumerary ones, and this ensures a more equal crop throughout a field. When the plants are braiding, it will be found of great advantage if the leaves of the seedlings touch each other, for if too thin, the plants will be uniformly found to be tardy and stunted in their growth.

The quality of the seed is also a matter of the first importance, and as there are no rules for knowing the seeds of the different sorts, to ensure its being good and of the right sort, every farmer should grow his own. Care must be taken, however, when plants are cultivated for seed, that they do not grow in the vicinity of

cabbages, colewort, or even wild mustard and charlock, for these being of the same class with turnips, the pollen from their flowers is apt to spoil the turnip seed, being carried from the one plant to the other by the wind or bees. The best way of collecting seed is to select samples of such sorts as bear a good character, and sow them in different lots. The best roots can be chosen when they arrive at maturity, and planted out in good soil of considerable depth, at from fourteen to eighteen inches apart. The different varieties should be grown at considerable distances from each other, to prevent the possibility of their mixing, and thus producing hybrid sorts. In July or August following, the seeds will be ripe, and can be thrashed in any convenient method. The stalks should not be too ripe when cut, or a loss of seed will be sustained, both from shaking and the depredations of birds. The stems of the Swedish kind are sometimes so long that they require to be supported by stakes. This plan of procuring seed is very often neglected, although it is the only way of obtaining it really good.

Turnips are regarded as a complete fallow crop, and on this account are introduced into that part of the rotation which closes one course and commences another. When drill-sown, the land is ploughed with a deep furrow early in the autumn, when the grain crop is removed. Some farmers give the ground three ploughings, one in the direction of the former furrows, the next across, and the third as the furrows are wished to lie. This must depend upon the nature of the soil, however; heavy clay lands requiring more work than those of a lighter description. The harrow and roller are also used to pulverise the ground, and the use of the latter especially is thought to improve the crop. The weight of the roller must depend upon the nature of the soil and weather; care being taken that it is of sufficient weight to break any lumps that may occur. A heavy roller has been recommended to be used after the second ploughing, as it is said to prevent moisture from escaping too rapidly. If the land is rolled after the second ploughing, and allowed to stand for a week or more, numbers of annual weeds will spring up, which are destroyed by the third ploughing and other operations. All perennial roots should be carefully picked out, and, unless the land is very foul, these three ploughings will be found sufficient. The ground is next formed into ridgelets, and the manure applied between the rows.

If lime is used as a manure for turnips, it will be applied in either of the modes recommended when treating of that manure. Well-rotted dung is of the greatest importance, and is given in quantities varying from twelve to twenty tons per acre, as the state of the ground or variety of turnip may require. In carting the manure, single-horse carts should be used, as they do least damage to the ridges. The manure is laid down in small heaps, at equal distances. Care should be taken to spread the manure equally; and to ensure this, some farmers are in the habit of sending an experienced workman before the spreaders, whose duty it is to make the heaps as uniform in size as possible, and divide the manure equally between each row. The spreaders then lay it evenly at the bottom of the drills, and the plough immediately follows, reversing the ridgelets, and forming new ones over the dung, which effectually covers it.

When the soil is light, and the land is only to receive one ploughing for the grain crop which is to follow, it is sometimes the practice to make the drills for the turnips in a contrary direction to that in which the ridges for the grain are to lie. By this cross ploughing the manure is spread very equally; but it cannot be easily accomplished on soils of a wet, retentive nature. No crop which is raised is so well adapted for the application of any kind of manure as turnips. Ashes, rape-dust, bone-dust, oil-cake, sea-weeds, and numberless other manures, are all admirably calculated to produce large crops of this vegetable, which, when consumed upon the ground by sheep, must communicate a high degree of fertility to the soil.

The seed should be sown as soon after the manure is covered in as possible, and while the land is fresh and moist. Drill-sowing is almost uniformly practised, although the broadcast method is used, in spite of all experience. Turnip seed requires to be as near the manure as possible, and it is only by drilling that this can be accomplished. It is a matter of great importance that the working of the ground, the laying in of the manure, and