

AGRICULTURAL.

From the Complete Farmer.

MANGEL-WURTZEL.

Field Culture of the Mangel-wurtzel Beet and the Sugar Beet. Soil and Preparation. The soil for these roots should be a loam, inclining to clay, in good tilth, well manured, and made fine to a good depth. John Hare Powell, Esq., corresponding secretary to the Pennsylvania Agricultural Society, in giving an account of his mode of cultivating this crop, says, "My soil was not naturally strong; it has been gradually so much deepened as to enable Wood's plough, No. 2, drawn by four oxen, to plough fourteen inches deep. Fresh barn-yard manure is equally spread upon the surface, and ploughed under in the early part of April, in quantities not larger than are generally used for potatoe crops in this country. Early in May the land was twice stirred with Beaton's swarder, harrowed, rolled; after stirred, harrowed and rolled again in the opposite direction." The soil on which Messrs Tristram Little and Henry Little, of Newbury, Massachusetts, raised their premium crop in 1824, is a clay loam. In 1823, about three fourths of the same was sowed with onions, and manured with about eight cords of compost manure to the acre. The other quarter was sowed with wheat without manure. In the fall of 1823 there were about ten cords of compost manure drawn on the lot, and put in a heap. Most of the said compost was drawn from the salt marshes, when ditching the same; the other part was from the barn yard. In the month of April, 1824, the heap was thrown over, and well mixed.

Planting. Colonel Powell says, "The holes for the seeds were made by a wheel, containing pegs in its circumference, which penetrated the ground about an inch, leaving intervals of four inches. The rows were made two feet asunder; two capsules were dropped into each hole; the wheel of a common barrow was passed over them, thus compressing the earth and leaving a slight rut for the retention of moisture."

Messrs Tristram and Henry Little observe that, "Between the 8th and 11th of May, the land was ploughed and sowed in the following manner:—After one deep ploughing the land was furrowed two and a half feet apart, and the manure put into the furrows, and covered with a double mould-board plough; a roller was then passed on the top of the ridge, and the seed dibbled in with the finger over the manure, about six or eight inches apart." The quantity of seed, according to English writers, is four pounds to an acre. Mr David Little, in obtaining a premium crop, sowed 4 pounds, but observed that he thought half that quantity would have been sufficient.

Cultivation. In raising Colonel Powell's crop, "A small cultivator, which I had contrived for the purpose, was drawn between the rows soon after the weeds appeared: a three inch triangular hoe remove like alternate plants—leaving the others at distances varying from eight to twelve inches asunder. The cultivator was twice used before the 25th of July. The heavy rains of August made another hoeing necessary, and surcharged the ground so much with moisture, that all roots increased much less in that month than during the same month in the two last years." The Messrs Little, "in the course of the season, thinned their plants, and left them from six to twelve inches apart in the rows. They were once hoed, and ploughed three times between the rows." Mr Powell, in raising a previous crop, had placed the rows three inches apart, and left the plants six inches apart in the rows. He says, "I this year desired smaller roots, which might grow

so closely as by their leaves to protect the soil as much as possible from the rays of the sun. My cultivator, by its peculiar form, enabled me to cut off the weeds when the plants were so young, that, if I had applied the plough, their crowns must have been covered in many instances by earth occasionally falling from its land side. The failure which attends the cultivation of most root crops in drills, proceeds from the neglect of weeds in their early stages. Four or five days of delay frequently make the difference of fifteen days in the labor of making clean an acre of ground. The same weeds which a boy with a sharp shingle could remove at the commencement of one week, may before the end of the next require the application of an instrument drawn by a horse.

"I ascribe my success in great measure, to the use of Wood's extraordinary plough, which enters the soil more deeply, and pulverizes it more perfectly, than any other I have ever seen, with equal force, in any country; to the use of cultivators, which complete the production of fine tilth; to the destruction of the weeds on their first appearance—leaving the smallest space upon which a horse can walk between the rows; and, above all, to planting the seeds of a proper kind upon a surface which is kept perfectly flat."

General Remarks. Agriculturists have not agreed whether it is most expedient to plant the seeds of this root on ridges or on a level. Colonel Powell condemns planting on ridges in this country, as a practice not adapted to our soil and climate, in which vegetables are very liable to suffer by drought. He says, "Among the various practices into which we have been seduced by the plausible theories of the advocates of European husbandry, there is none which appears to me more absurd than that which has led us to drill or dibble our crops on ridges. The English farmer wisely contends with the evils produced by too much rain; the American husbandman should as anxiously guard against his most formidable enemy, drought. I am inclined to think that there is no crop cultivated in this state (Pennsylvania) which ought not to be put on a flat surface." The climate of New England, especially its northern part, is not so warm and dry as that of Pennsylvania, and in that part of the United States, perhaps, the nature of the soil should decide the question; if dry, level planting, or if moist, ridge planting should be adopted.

We have heard complaints from American farmers, that the seed of this root is slow and uncertain in coming up. Perhaps the seed or soil, or both, may be too dry at the time of sowing. A writer in the English Farmer's Journal says, "I have of late years steeped my seed at least forty-eight hours. I made the experiment with twenty sound seeds not steeped, twenty steeped 24 hours, and the same number steeped 48 hours; every seed of the latter produced plants, which came up two or three days sooner than either of the others, and some of those not steeped did not come up at all." Mr Cobbett, in treating of the culture of the common garden beets, (American Gardener, p. 198.) directs to soak the seed four days and nights in rain water before it is sowed; and observes, that the mangel-wurtzel should be cultivated in the same manner as the other kinds of beets. American writers, so far as we have observed, give no directions for soaking the seeds of this vegetable before planting; and it is possible that the omission of this part of the process may cause the slowness and uncertainty of vegetation complained of. The capsule, or husk, which contains the seeds, is dry, and it requires a long time for the moisture which it may derive from the earth to penetrate this integument, so as to cause the seed to sprout. But if the soil be

very moist at the time of sowing, soaking the seed had better be omitted.

Much has been said and written on the subject of stripping these plants of their leaves for feeding cows and other economical purposes. An English writer observes, that six or seven crops of leaves or stocks may be taken off during the growth of the root. Women and children can take off the leaves, which is done as follows: they should place their hands on each side of the root, at the foot stalks of the leaves, leaving about six of the smallest central leaves between the forefinger and thumb of each hand; (the small leaves are to be left on the root to grow, to make a fresh top;) then, spreading the hands flat with their face downwards, push them both at the same time towards the ground, and thus, by one motion, will the whole of the top of each root, except the small leaves to be left to form a fresh head, be removed without unsettling the root or its fibres, which would check its growth. Some affirm that stripping the plant of its leaves is no injury to the root, and others are of opinion that the root is injured by this means. We have doubts, whether in field cultivation, it will often be deemed expedient to expend time and labor in this manner. The thinnings or superfluous plants, however, should be preserved, as they make excellent food for milch cows or store swine.

Some cultivators affirm that it is never worth the trouble to transplant these roots to fill vacancies. "I have seen," says an English writer, "much labor and expense employed in transplanting into vacant spots, when the seed has not been dibbled thick enough, but have never seen the transplanted roots worth half the trouble; the tap root being broken in the drawing, nothing but the top and useless rough roots and fangs are produced." It has been remarked by other writers, that the most common cause of failure in transplanting this root is the taking them up when too small, before the plants have obtained strength and size sufficient to bear the operation of transplanting.

Use. The following remarks are from a paper communicated to the trustees of the Massachusetts Agricultural society, by J. Lowell, Esq., president of said society. They are derived principally from a French publication, by the Abbe Rosier.

"This root is very little affected by the changes of weather. It is attacked by no insect; drought affects but little its vegetation. It prepares the land extremely well for other crops. It may be sown and treated precisely like the common beet, except that it ought to stand eighteen inches asunder.

"In good land they often weigh eight or nine pounds, and are stripped eight or nine times. In a light, sandy, but well manured soil, they sometimes weigh fourteen, and even sixteen pounds each.

"The first crop of leaves in France is taken off in the latter end of June, or the beginning of July. In this country, probably, the latter period would be preferable. The lower leaves, those which incline towards the ground, are those which are taken away, and care must be taken to preserve the top leaves, or the crown of the plants. The leaves may be taken off every fifteen days after the first gathering. Oxen, cows, and sheep, devour them greedily, and fatten readily upon them. All domestic poultry eat them readily, when chopped fine and mixed with straw. Hogs also fatten upon them.

"Cows fed upon this root solely give a greater quantity of milk and cream, and of better quality for the first fifteen days, after which they grow too fat, and the milk lessens. The food of cows must therefore be varied. Oxen and sheep fatten very well upon them.