

the drilled turnip husbandry in 1764, growing nearly 100 acres yearly; he fixed upon 30 inches for the best interval for the purpose, and his practice has been followed in all the border counties. Stevens remarks, "It is not an unusual practice in England to sow turnips broadcast in the flat ground, instead of on drills, and the reason I have heard stated in vindication of the broad-cast method is, that it resisted the bad effects of drought, but for my part, I cannot see how a broad-cast crop can screen the ground from drought more effectually than one in rows, since the plants have to grow and be thinned out to proper distances, and the ground stirred to get rid of the weeds, in both cases, and as the weeding is done by hand instruments in the case of the broad-cast crop, it is not so effectually done," and I may include economically done, "as with horse hoe, in the crop in rows. And I think it cannot admit of doubt that the same quantity of manure placed immediately under the seed should promote the growth of the young plant more rapidly than when spread over a large surface of ground." I trust we shall have some remarks by some of the gentlemen present on this point, also with regard to preparing the land in the fall. The after culture of the turnip consists in thinning or singling the plants to the proper distances, and in a series of operations for destroying weeds and stirring the soil. The first is generally done by a horse hoe, when the plants have acquired the rough leaf, or are about two inches high. A few days after this operation the hand hoes go to work, and so hoe the turnip plants as to leave them standing singly at the distance from each other of not less than 12 inches between the plants of Swedish turnips and 9 inches between those of the white. This operation of singling is most important; much must be left to the judgment of the farmer. To show how important careful attention to this point is, it has been shown that the difference of one or two inches between the turnips has influenced the weight of a crop by several tons per acre. It is a delicate operation and requires the superintendence of the master and the hand of a skilful laborer. The raising of stock in this country is an important and interesting question; is sufficient attention directed to this important point? It was likewise a difficult task in Britain to support live stock through the winter months, and the practice of feeding cattle and sheep for market was hardly ever attempted until turnip husbandry commenced. The Canadian farmer experiences the same difficult task; and why, because he affords his stock nothing but dry food. How many cattle are there in this country who, from the time the snow falls on the ground in, December, until the month of April, never partake of any vegetable food? Is it possible to maintain the milch cows and other stock in a healthy condition, without a portion of roots with their dry food? I heard a gentleman, an agriculturist, not, however, a Canadian, say at a public meeting held during the time of the Provincial Exhibition at London, "that turnips were a nasty cold food,—that he was surprised to see the farmers of Canada grow them." In Mr. Hall Maxwell's Report from the Highland Society of Scotland, presented to the Commissioners of Privy Council for Trade, he reports, that the total average under crops was, in 1856, 3,545,721½; wheat, 263,328; turnips, 459,741½ acres. What has not root-culture effected in Scotland? what has not the same system wrought in England? England, by maintaining a considerable area in crops, maintains the fertility of her soil; and according to the Journal of the Royal Agricultural Society, produces four times more wheat per acre than France; yet the climate of England is not particularly adapted for growing wheat. In the United Kingdom there are 35,000,000 sheep. France has only an equal number: and a French sheep is only half the size of an English sheep. I confess, I view these facts as showing the importance of root cultivation. The land is cultivated, an abundance of food is provided for man and beast, the fertility of the soil is maintained, the land is cleaned by this preparatory crop, and a bed is provided for grass seed, in which they grow and thrive with greater vigour than after any other mode of preparation. There are many persons here present who saw the Toronto Christmas Market. Was it a show of Canadian beef? The Canadian farmer appears to be giving up raising stock—arising from his neglecting his root crop. I have stated that in England, by attention to green crops and raising cattle, four times as much wheat per acre is raised as in France. We import our beef—soon we may have to import our wheat. Every Canadian farmer could, with perfect ease, devote every year a portion of his land to roots; five acres, at least, to every hundred in cultivation; by so doing, he will be able to maintain more stock, obtain more manure, and produce more wheat per acre, than under the present system. The nutritive matter contained in an acre of turnips is great; in a crop of 20 tons, or 45,000 lbs., there were 900 lbs. of thick or woody fibre, 4,000 lbs. of starch, sugar, gum, 670 lbs. gluten, 130 lbs. of fat or oil, and 300 lbs. of saline matter—total, 6,000 lbs. A crop of 25 tons, or 56,000 lbs. per acre of carrots, contains 1,680 lbs. husk, or woody fibre, 5,600 lbs. of sugar, 840 lbs. gluten, 200 lbs. of fat,