

always with the same result. When sold by public roup, the Skirving variety generally brought £4 to £6 per acre more price than any other. I have been told that this arises from their showing more bulb above ground than some other varieties; but I have often tested their weight, and generally found an excess in their favor to justify the difference of price." Then as regards the feeding quality of turnips:—"I am satisfied the varieties most suitable for cattle-feeding in this district are Globe and Yellow for the months of September and October, and Skirving's Swede thereafter. I have generally found cattle feed better after the first two months, on Swedes alone than they do upon the other varieties, even with the addition of 5 lb. per day of oil-cake. When the turnips are to be eaten on the ground by sheep, the varieties I sow are, Purple-top Yellow, Hardy Green-top Globe, Dale's Hybrid, and Skirving's Swede, consuming the Swede's last, and the earliest sown of the other varieties first." Feeding off in this way is not suited to our Nova Scotia seasons.

The precise feeding value of different varieties of turnip and the influence of soil and culture in modifying the same, have not been so fully investigated as appears to be desirable. The Marquis of Tweeddale, conducted a series of important experiments at Yester, with a view to the improvement of the turnip root, and came to the conclusion that density was the true index of value in turnips for cattle, and the United East Lothian Agricultural Society seconded his Lordship in working out the subject. "To illustrate the correctness of this principle," says the Marquis, "it will be suitable to divide the constituent parts of a turnip into those heavier and those lighter than water—the former are woody fibre, albuminous compounds, sugar, gum, and other allied principles, phosphates and other salts; the latter consist of oil and air.—All the useful compounds of the root (with the exception of oil) are denser than water, and accordingly in those turnips that are lighter than water, the low density must mainly be attributable to the amount of air present." After entering into many other details as to the small amount of oil, &c., in turnips, his Lordship arrives at the conclusion that, bulk for bulk, there is a greater weight of nutritious matter in the heavier of two turnips, both of which are lighter than water. And he thinks that a similar conclusion must be extended to Swedes, which are generally heavier than water. He further thinks that there is good evidence to show in regard to seed produced from roots of a given density, that the qualities of the parent will be certainly transmitted to its offspring. In France, the percentage of Beet-root having been nearly doubled by selecting, for a series of years, roots of

the greatest density for seed, there seems reason to hope that good results may attend the progress of turnip-improvement in this direction.

In the case of a plant whose esculent properties depend so much upon a high state of cultivation, it is of great importance that not only a selection of suitable varieties be made, but likewise that two conditions shall have been carefully observed in the saving of the seed. The first of these is that the variety shall have been grown apart from other Brassicaceae, which is necessary to insure its coming true to kind, these plants being extremely liable to sport, from hybridizing taking place by "natural" means, such as the carrying of pollen by a bee from one variety to the flower of another. Secondly, that the crop, from which the seed has been saved, has received high cultivation, calculated to sustain the character of the variety, and prevent any tendency of reversion to the parent weed. For more effectually securing this, and conducing to the formation of good bulbs, seed-raisers are in the habit of carefully selecting and transplanting the roots intended for seed-bearing; this operation is attended with highly beneficial results, the seedlings of transplanted bulbs being likewise, we believe, less liable to Anbury and other maladies, than those of plants not so treated. Here it may be remarked that an economical method of raising turnip seeds has been recommended by a correspondent of "The Scottish Agricultural Journal." He found that by cutting off the bulbs of Swedish Turnips in December, and planting the leafy tops, the latter pushed forth new roots, and bore a heavy crop of seeds during the following season. By these means he calculated a saving according to the value of the turnip bulbs.

Even with the greatest care, by the transplanting of bulbs, and their seclusion from other varieties with which they might be contaminated, the seed-raiser cannot always depend upon results in all respects satisfactory. Under the best of treatment, seed will sometimes prove spurious. So much, indeed, is this the case that seedsmen are in the habit of setting apart a field for the purpose of sowing every season, samples of all the turnip seeds sent out from their establishments, that the accuracy of the sorts may thus be tested under their own eye. This is likewise a safe guard against roguish customers, who might take advantage of the fickle character of turnips, to prefer unfounded charges against them for selling spurious seed.

The turnip crops are liable to various maladies. The "turnip fly" (*Halicta nemorum*) is its great pest. This insect attacks the infant plant so soon as it expands its cotyledons, and sometimes destroys whole fields. Various remedies

have been proposed, such as burning the stubble, application of odorous manure distasteful to the "fly," mixing the seeds with sulphur, excessively thick sowing in the drill to provide for the insect and have a crop left, steeping the seeds in water to promote rapid germination, sowing hot lime over the young plants, watering every other day 5 or 6 times if necessary, catching the flies with a tarred cloth, fumigation by burning rubbish to windward of the field, drawing freshly painted boards over the field, an application of wormwood infusion, powdered sulphur strewed over the seed leaves, snuff, heavy rolling, &c. We believe, however, that the only remedy is to dust over the seminal leaves of the young turnips with quick-lime, a bushel of which is sufficient to dust an acre. Lime-dust and road-dust have proved good substitutes, the latter probably from the lime which it contains. Powdered plaster would answer better. These substances should be applied in the morning when the dew is on the leaves.

The disease called Anbury or Fingers-and-toes, is also very injurious in Britain, showing itself in the sudden flagging of the plant and the formation of excrescences on its root. It is most prevalent in dry seasons, but its cause has not been well accounted for. A maggot is occasionally found in the deformed roots, but whether the cause or consequence of the disease has not been determined. No remedy is known.

The wire-worm, swarms of Aphides, and numerous other farm pests, affect this crop, but not so seriously as the two preceding ones.

In conclusion, we would briefly remark that the introduction of turnip cultivation has speedily brought about a complete revolution in British husbandry, and that its extension in Nova Scotia is likely to be followed by the best results. As we have already seen, it has been instrumental in creating fertile fields, where all before was bleak and barren, while it has enabled the farmer to carry out improvements in the culture of other crops. To the turnip crop indeed, is due the eminence of modern British farming. In the words of Professor Low, it "has enabled British farmers to carry the practice of breeding and feeding domestic animals to a state of perfection in which no other country has yet been able to rival Great Britain." Let the farmers of Nova Scotia imitate so good an example.