

THE GROWING OF SWEET POTATOES*

GROWING to perfection in almost all parts of the State, it is pleasing to note that the sweet potato is finding a place in the home gardens of many people, besides an ever-increasing area in the market gardens. This crop might easily play an important rôle in the further development of the diversified agricultural industries of the State, more especially since it affords large returns in money from small areas.

The sweet potato belongs to the morning glory family (*Convolvulaceæ*), and is known botanically as *Ipomoea batatas*. It is a drought-resistant plant and produces a crop of roots with very little moisture.

PREPARING THE GROUND

A sandy loam, in a warm moist climate, is the ideal location in which to grow sweet potatoes, but like almost all crops, they will adapt themselves to many other classes of climate and of land, always, providing they receive proper attention. Given then, a well-drained, moderately fertile, loose sandy soil, maximum yields should result.

Being a deep-rooted crop, they do well on land that has grown lucerne, clover, peas, etc. Where this is not available, the site selected should be well trenched for garden culture, or sub-soiled for field crops, but, in either case, after cultivation and in addition to fertilisation, it will be wise to compress the lower soil, as this will cause the tubers to grow round or cone-shaped, whereas if the lower soil is left loose they will grow ill-shaped and long.

MANURING

The sweet potato is a great feeder, and being a heavy yielder requires liberal manuring.

As it does best in lighter soils, the organic matter in these should be built up and maintained by previous growths of leguminous crops, or by heavy dressings of stable manure. When this practice has been followed and the ground is rich in organic matter in order to supply the nitrogen required by the crop, this plant food constituent need not be included in the fertiliser applied. In such cases the fertiliser recommended is a mixture of

Superphosphate — 4 parts

Sulphate of potash — 1 part,

applied at the rate of 3 to 5 cwt. per acre.

* By W. E. Collins in the *Journal of the Department of Agriculture, Western Australia*, Vol. 11, No. 3, September, 1934.

When the soil is not well supplied with organic matter, and a dressing of stable manure has not been applied, a complete fertiliser is recommended. Potato manure "H" (No. 8), containing nitrogen 4.00, phosphoric acid 12.70, potash 9.00, is a suitable fertiliser. Apply at the rate of 8 to 12 cwt. per acre.

The fertiliser should be sown when the plants are being set out, but owing to the caustic properties of potash and the presence of such in the above mixtures, care should be exercised that the plants do not come into immediate contact with this agent, as it is likely to burn them. After distributing the fertiliser it should be well incorporated with the soil prior to planting.

METHODS OF PROPAGATION

Sweet potatoes are propagated either from vine cuttings or from slips, resulting from the sprouting of shoots from the root. Sets of sweet potato seedlings may be procured from most of the local seedsmen, but when it is desired by the grower to raise the plants himself, it is comparatively easy to do so. Medium-sized, well-shaped tubers are to be preferred, and are obtainable from any vegetable market. One bushel (56 lb.) of tubers should produce about 3,000 plants, or enough for about one-third of an acre.

Place them in a bed of well-rotted stable manure, or leaf mould, mixed with equal quantities of soil — sandy soil for preference — in a warm sheltered position, spacing the roots so that they do not touch one another. After the roots are in place they should be covered with from two to three inches of clean sand.

The bed should be kept moderately moist, and with proper management, vines or slips from four to five inches in height will be ready for the transplanting process in about five or six weeks after placing the roots in the bed. When pulling the slips, place one hand firmly about the soil, so preventing the dislodging of the parent tuber. After removing the first lot of slips, the bed should be well watered; this will induce the tubers to grow a second crop of plants for further transplantings.

In some instances, the slips are allowed to grow to the vine stage, and cuttings are then taken from them. If cuttings are selected, leave about three joints on each, with, if possible, a leaf at one end, and when planting leave one leaf and one joint above ground. If desired the cuttings may be looped, and both ends placed in the soil. Whichever system is followed, the cuttings or slips will soon strike roots and start into leaf.

Some growers put in areas of this crop and propagate direct from small tubers, but this practice is not advised. To strike the plants from slips or cuttings is much more favoured. Plant in rows 2 feet 6 inches apart, and, say, 1 foot 6 inches between the plants.

VARIETIES

There are two general types of sweet potatoes grown in the State — (1) the dry mealy-fleshed varieties of the Jersey group, both yellow and red; and (2) the moist-fleshed sweet potatoes represented by the yam groups.

The dry mealy-fleshed sweet potatoes are the varieties most favoured for culinary purposes, and they keep somewhat better. Unfortunately, but very little attention has been given to improve the strains we have, and much might be done to popularise this very excellent vegetable by the introduction of other varieties.

WHEN TO PLANT

In many parts of the State it is possible to plant the sweet potato from early September till well on in December, and again it may be sown late in February. In the mild districts where frosts are practically unknown, it may be planted in autumn, and left in the ground throughout the winter.

This latter planting would give excellent terminal cuttings for the September crop. Cuttings should be selected from the plants that carry the largest number of roots of good size and uniform shape.

It will soon become apparent to a grower residing in any locality as to when is the correct season of the year in which to put in this crop, and as any hard and fast rule cannot be laid down for the whole State, or as a matter of fact for any one district, local conditions must govern as to when is the best time to plant.

AFTER-TREATMENT

Keep the soil well worked as long as it is possible to do so, and should the vines appear to be making vigorous growth, lift them occasionally to prevent roots striking into the ground from their outer branches. A few applications of liquid manure may be given, but it should be used moderately. Fowl manure, or blood manure, is a good stimulant for this crop, but if not at hand, nitrate of soda or sulphate of ammonia may be used.

HARVESTING AND STORING

Sweet potatoes may be dug fit for use in about ninety days after planting out, but as a general rule it is best to wait until the vines are brown and discoloured. On account of its excellent keeping qualities, the crop may be left in the ground for weeks unharvested, without likelihood of its decaying. A number of sweet potato growers in the Osborne Park district make it a practice to harvest at one time, just enough to supply the current needs of the markets. In this they show an appreciation of the quality and flavour of the freshly-dug root, and a knowledge of how to eliminate the problem of storage.

The small gardener would do well to adopt their practice, and never harvest more than the actual quantity of roots needed to supply the household for the day.

Should the ground be required for other crops, dig the roots carefully and allow to dry for a few days in an airy store room or shed, after which place separately in boxes or crates and cover with dry sand.

YIELD

The yield of sweet potatoes depends largely upon the locality and soil in which the crop is grown, the kind and amount of fertiliser used, the culture given, and finally upon the variety itself. A yield of 10 tons per acre can be secured from a crop that is grown under favourable conditions. If estimated on a small garden plot basis, 100 plants, spaced four by two feet apart, should produce at least 150 lb. of merchantable and 50 lb. of cull roots.

Again, the yield may be increased by the selection, through several seasons, of individual plants producing heavy crops of desirable and well-shaped roots. The most opportune time to select for improvement is when the crop is being harvested. Vine cuttings should be taken from the plants which contain the largest number of roots of good size and uniform shape.

Many plants should be selected for foundation work, because some of them will fail to transmit their prolific characteristics. Within a period of four or five years the grower will be able to establish a desirable strain of fine quality, which he is entitled to call his own, and to give a special name of its characters are sufficiently distinct.

DISEASES AND PESTS

It has been found that this crop grows remarkably free from fungus diseases, and if good clean tubers are used to produce cuttings or slips, there is not much trouble from this source. It is, however, wise to spray occasionally with Bordeaux or Burgundy Mixture as a preventive.

Slugs are sometimes troublesome in this crop, but dusting from time to time with slaked lime and tobacco dust will keep them in check. Should cut-worms or other insects make an appearance, the usual methods of dealing with them must be resorted to, always exercising great care not to apply arsenical or other poisonous substances to the foliage for several weeks prior to using it as stock food, for which purpose it is excellent.