

SWEET POTATO (*Ipomea batatas*)

Sweet potato occupies an important place among root and tuber crops due to its rich starch content. They contain good amount of ascorbic acid and vitamin B complex. The yellow cultivars are rich sources of beta-carotene. The tubers also form an industrial raw material for the production of starch, alcohol, pectin etc. The vines form an excellent source of green fodder. The crop is cultivated in most of the states of north eastern region.



Varieties

Sonipat -2, Sree Bhadra, H-42, H-620, Gauri, ST -14 and S-1 07

Soil and Climate

It can be grown on a wide range of soils, but grows best in sandy loam soils with good drainage facilities. Clay soils are not favorable for growth. Sweet potato is a warm season crop. Growth is best at temperatures above 24°C and retards below 10C. It is sensitive to frost but can withstand drought to certain extent. Short day length with low light intensity promotes tuber formation.

Time of Planting

Last week of May to first week of June is the best planting time.

Planting Material

Vine cuttings are used for planting which are prepared from growing good quality disease free tubers in nursery bed. 25-30cm long vine cuttings from stem apex are preferred for planting. There are two methods of planting. In first method, 21yd of the cuttings are kept inside the soil. In the other method, the cutting is made into a circular ring and the middle portion is buried in soil keeping both ends outside.

Land Preparation

The land should be well prepared by thorough ploughing and by making it friable. It should be free from clods, stones, etc. Raised beds of 30 cm height are prepared. Planting is done in ridge and furrow method in these beds.

Manures and Fertilizers

15 t FYM /ha, 90:60:90 kg NPK /ha is required by the crop. Half of N and full doses Of FYM, P and K are applied at the time of transplanting and the remaining half dose of N should be applied after 30 days of transplanting.

Spacing

The vine cuttings of 25-30 cm are generally planted at a spacing of 50 cm between rows and 30 cm between plants on raised beds.

Intercultural Operations

The first intercultural operation should be done at 30 days after planting along with weeding and earthing up. The second intercultural operation should be done 45-60 days after planting.

Training and Pruning

Sweet potato starts growing vigorously after third week of planting. So, it should be turned 30 days after planting to avoid anchorage of the soil at nodes. This is essential to check vegetative growth and to enhance tuber yield. Pruning of 15 cm top vine 75 days after planting is to be done to prevent excessive vine growth and to harden the tuber.

Plant protection

Any severe disease and pest, except sweet potato weevil, which causes a great loss to this crop, do not affect it. The adult lays eggs at the base of stem and leaves and causes considerable damage by feeding on the tubers. Monocrotophos @ 0.55 % solution can be used for tuber dipping before planting. Pheromone traps can also be applied @ 1 trap in 100 m² area. As a prophylactic measure spraying of 0.15 % Sumithion or Carbaryl or Endosulphan @ 2ml/l of water at monthly interval starting from one month after planting is found effective in controlling the insect.

Harvesting and Yield

The crop takes about 5-6 months to mature depending upon varieties when yellowing of leaves takes place. However, in north eastern conditions, it is harvested 7-8 months after planting. The vines are cut at least one week prior to digging of tubers. While digging the tubers, care should be taken to avoid any mechanical injury, which affects the storage and quality. After harvesting, tubers are kept under high temperature and high humidity conditions for 4-7 days for toughness of the outer skin and to minimize the damage.

A good crop may yield around 30-35 t/ha by adopting improved cultivation practices.