

small, slender undesirable tubers at the nodes. Pruning of 15 cm top vine 75 days after planting is to be done to prevent excessive vine growth and to harden the tuber.

### Intercultural operation :

The first intercultural operation at 30 days after planting along with weeding and earthing-up improves the physical condition of soil. The second intercultural operation and earthing-up should be done 45-60 days after planting followed by turning of vines. The weeds are a problem only during first two months of growth. After that vigorous growth of vine causes rapid and effective coverage of ground surface. It should be rotated with leguminous or non-rhizomatous crops to maintain the fertility of the soil.

### Plant protection:

There is no major disease in sweet potato. Sweet potato weevil (*Cylas spp.*) is the most serious pest. It damages vines and tubers by tunnelling through them and makes unsuitable for marketing. As a prophylactic measure spraying of 0.1% Sumithion or Carbaryl or Endosulphan @ 2 ml/ litre of water at monthly interval starting from one month after planting is found effective in controlling the insect. Moreover clean cultivation and crop rotation minimize weevil attack. Pheromone traps @ 100 traps /hectare area is found effective to control the insects.

Rats are also causing considerable damage to the crop in this region due to cultivation of sweet potato near the forest. Zinc phosphide (2%) is applied as bait in the field in bait stations placed near holes.

### Harvesting:

Maturity of the crop depends on the variety, which ranges from 5-6 months. The vines are cut atleast one week advance of the digging of the tubers. While digging out the tubers, care should be taken to avoid mechanical injuries, which affects the storage and quality. Sweet potato should be harvested at appropriate time because early harvesting leads to low yield and in case of delayed harvesting tuber becomes fibrous, unpalatable, cracked and attacked by several insects. After harvesting tubers are kept under high temperature and high humidity condition for 4-7 days for toughness of outer skin and to minimize the damage.

### Yield:

The yield fluctuates with cultivars, season of planting, soil type and fertility. In general yield of 30-35 t/ha is obtained by adopting improved cultivation practices.

### Prepared by:

Dr. D. S. Yadav, PS& Head, Co-PI  
Dr. R. K. Yadav, Scientist Hort. (Veg.Sci.)  
Dr. S. K. Sanwal Scientist Hort. (Veg.Sci.)  
Dr. N. Rai, Sr. Scientist (Hort.)  
Mr. Pranabjyoti Sarma, Research Associate

### Published by:

#### The Director

ICAR Research Complex for NEH Region  
Umroi Road, Umiam-793103, Meghalaya  
Phone No. 0364-2570257 (O)  
Fax No. 0364-2570363

Designed and printed by **print21**, 3, Ambikagirinagar Path,  
R.G.Baruah Road, Guwahati 781024

# SWEET POTATO

## Package of Practices for Cultivation in Meghalaya



Technology Mission (MM-I)



**DIVISION OF HORTICULTURE**  
**ICAR Research Complex for NEH Region**  
**Umroi Road, Umiam - 793103**  
**MEGHALAYA**

**S**weet potato (*Ipomea batatas*), a dicotyledonous plant belongs to family Convolvulaceae. It occupies an important place among the root and tuber crops in India due to rich source of starch. It is popularly known as Sakarkand in all over India and Meetha Aloo in north eastern region. While in Khasi it is called Phankaro. The crop is cultivated in most of the states of north eastern region.

#### Nutritional value:

It is a good source of carbohydrate. Most of the cultivars are rich in carotene. It contains good amount of ascorbic acid and vitamin B complex. Fresh tuber is baked, boiled and cooked. The tubers along with vines are good source of animal feed. It can be used for starch extraction industries but production cost is high as compare to other sources.

#### Soil and climate:

Sweet potato can be grown in a wide variety of soils having good drainage except clay but it is best suited to fertile sandy loam soil. It is essentially a warm weather crop and growth will be better at temperature above 24°C and retards below 10°C. It is sensitive to frost but can withstand drought to certain extent. It is a sun loving crop, therefore shading should be avoided. Under rainfed condition, it requires a fairly well distributed rainfall of 75 to 150 cm annually. Short day length with low light intensity promotes tuber formation. While long day tends to favour vine development at the expense of root tuber.

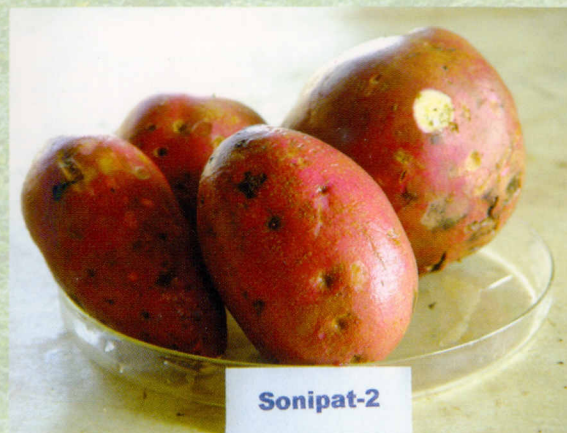
#### Planting season:

The planting is normally done in rainy season. In temperate parts planting is avoided during

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

#### Varieties:

Sonipat-2, Sree Bhadra, H-42, H-620, and S-107 are high yielding and suitable for planting under Meghalaya condition.



**Table 1: Sweet potato varieties found suitable for cultivation under Meghalaya condition.**

Variety	Tuber colour	Leaves	Tuber characteristics		
			Length (cm)	Dia (cm)	Yield (q/ha)
Sonipat-2	Pink	lobed	11.9	7.13	357
Sree Bhadra	Pink	whole	16.4	6.7	375
H-42	White	whole	10.0	7.5	352

#### Planting material and method:

Before planting in main field, nursery is raised by selecting healthy and disease free tubers. The vines are ready for planting in the main field 45 days after sowing. Vine cuttings of 20-25 cm

length are planted on ridges at a distance of 30 to 40 cm between vines. While planting, the central part of the cuttings is buried deep in the soil exposing the two cut ends having at least one node above the ground. About 50,000 to 62,000 cuttings are required to cover one hectare area. Top and middle portion of the vines are the best planting material for high tuber yield. The crop raised from vine cutting produces tuber of uniform size and shape.

#### Land preparation:

The land should be ploughed to a depth of 15 to 20 cm and brought to a fine tilth. The raised beds of 30 cm height are prepared and planting is done in ridge and furrow method on these beds. Planting on ridges is best method for getting high yield.

#### Manure and fertilizer:

FYM 15 t/ha is applied at the time of field preparation. In addition to that 190 kg Urea, 375 kg SSP and 150 kg MOP is also applied per hectare. One third of Urea and full dose of SSP and MOP is to be applied at the time of land preparation and the remaining dose of Urea should be applied in three equal splits at 30, 45 and 60 days after planting. Excessive nitrogen in the soil delays the tuber formation.

#### Training and pruning:

Sweet potato establishes 10 days after planting. It starts growing vigorously after third week. It should be turned 30 days after planting to avoid anchoring the soil at nodes. This is essential to check vegetative growth and to enhance tuber yield. Turning of vines is also done to prevent the diversion of food materials and development of