

# Sweet Potato Commercial Production



Sweet potato is potentially a new alternative crop for the Maritimes. With shorter season varieties now available, this crop can successfully be grown in our climate.

## **Soil requirements:**

Sandy and sandy loams are the most suitable soils for sweet potato production. Sweet potato does not belong to the solanaceae family (as potatoes do), and thus it does not cause any rotational restrictions. In Nova Scotia, sandy and sandy loams in the Annapolis Valley are the most suitable for sweet potato production. Soils should be free of perennial weeds. Fields with a history of wireworm should be avoided.

## **Fertility requirements:**

Sweet potatoes need about 60 – 90 kg of Nitrogen per hectare to grow a good crop. There is a negative correlation between nitrogen rate and brix reading (test for sweetness). Fifty percent of Nitrogen may be applied prior to planting and an additional 50 percent three to five weeks after planting. Phosphorus and potash requirements are similar to those of other root crops such as carrots, turnips etc.

## **Planting and Spacing:**

Sweet potato may be grown either on hills or beds. Rows need to be spaced 90-120 cm apart with plants spaced 30-40 cm apart in the row. Black plastic mulch has shown to be beneficial in keeping soil moist, warm and weed-free. Sweet potatoes are generally a drought tolerant crop; however, during prolonged periods of drought, irrigation is essential. If not irrigated, root development may be compromised and on some varieties lack of moisture may cause roots to crack.

Transplants (slips) should be planted in early June once the danger of frost has passed. Two thirds of slips should be in the ground, one third should be above soil level. Irrigation after transplanting helps slips to root. Hot and dry weather after transplanting will compromise plant survival and ultimately crop yielding potential.

## **Cultivars:**

Slips may be produced in a greenhouse environment from selected roots. Alternatively, slips may be imported from a certified nursery in the southern United States. Several varieties have been tested under Nova Scotia growing conditions. The most promising orange-fleshed cultivars are Beauregard, Covington and Carolina Ruby. The most promising white-fleshed cultivars were White Yam and O'Henry.

## **Insect and Diseases:**

The sweet potato plant is not native to a northern climate and, thus, spectrum of insects feeding on this crop is somewhat limited. Under dry conditions early in the growing season, flea beetles may become a concern. Leafhoppers may invade the crop later in the growing season, but at that point, the canopy is too well developed to cause any significant harm. For details on insect control please refer to AgraPoint Pest Management Guide.

Sweet Potato Feathery Mottle Virus poses a real concern to sweet potato production. Virus symptoms include chlorotic spots with purple borders and stunted plants. The disease is transmitted by aphids and other sucking insects. Using clean, virus-free planting material from certified nurseries is the main method of controlling this disease.

Sweet potatoes are susceptible to a number of fungal and bacterial pathogens that enter tubers through wounds infected during harvesting and handling. It is important to reduce root injury during the harvest and also avoid chilling injury by harvesting before the first killing frost.

## **Harvesting, curing and storing**

In order to avoid chilling injury, sweet potatoes must be harvested before the first killing frost occurs. Extra care is needed during the harvests as roots are susceptible to mechanical injury. For fresh market, roots are hand harvested, cured and stored. In Nova Scotia, harvest starts in the middle of September and continues through October.

Curing is the process during which the sweetness in the sweet potato roots is being developed. Starches accumulated in the roots during the growing season will, in a high heat and high humidity environment, turn into sugars. The curing process lasts 5-10 days and the temperature is maintained at 25-28C with a relative humidity of 85-95 per cent. After curing, sweet potatoes can be stored for several months at 12-14C.

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