



Growing Sweet Potatoes in New Hampshire

Sweet potatoes (*Ipomea batatas*) are members of the morning glory (*Convolvulaceae*) family. The sweet potato is not related to the Irish potato, which belongs to the nightshade (*Solanaceae*) family. Unlike potatoes, which are tubers (fleshy underground stems), sweet potatoes are roots.



Growth requirements

To produce a crop, the sweet potato requires 90-150 days of frost-free weather. The plants are very sensitive to chilling. They grow best if the soil temperature is above 65°F before planting. Sweet potatoes prefer well-drained loam soils that are not too fertile. Over-fertilization causes vigorous leaf growth and long, skinny roots. If grown in heavy clay soils, roots can be small or misshapen, and will be hard to dig. Soil tests will identify any major nutrient deficiencies and recommend ways to correct them.

Starting materials

Sweet potatoes are planted as 'slips' (started plants), rather than by planting roots or pieces of root. Slips can be purchased from many seed companies or other plant suppliers. You can start your own slips, too, but grocery store varieties available to you may not grow well in this area and may have been treated with sprout inhibitors.

If you do want to experiment with growing your own slips, place sweet potato roots on their sides in trays of soil about a month before you want to transplant them outside. Cover the roots with two inches of moist sand and keep the soil in the trays between 75°F-80°F. When the sprouts are four to six inches long, remove them with a twisting tug. The root will continue to produce more sprouts. Sprouts can be planted directly in well-prepared ground, or you can place them in a jar of water for a few days to produce a rooted slip and/or to delay planting.

If you purchase slips, you will have to specify the ship date. In Durham, soil temperatures under black plastic mulch are typically 65°F by June 1. If your site is cooler or if you aren't using warming mulches, you may want to delay this date.

Mulching and rowcovers

Sweet potatoes respond well to ground-warming black plastic mulch. The sheet of plastic is laid tight against the soil, and slips are planted into holes cut in the plastic. It is possible to produce good yields without plastic mulch, but the warming mulch extends the growing season by a few weeks, which can increase yields dramatically.

Some heat-loving crops respond well to polyester rowcovers that can increase temperatures, but we don't have enough information to know whether sweet potato yields are significantly increased using various rowcover materials.

Pests

Deer love sweet potato foliage, and will browse it down to the ground. While this won't kill the plants, it will reduce yields significantly. Since there is plenty of other food for deer in midsummer, a lightweight baited electric fence may successfully keep the deer at bay. String a single strand about 30 inches high, and every 20 to 50 feet, hang a "sandwich" of aluminum foil and peanut butter over the wire. Deer quickly learn that the wire can hurt them and feed elsewhere.

Voles also love sweet potatoes. Some N.H. farmers have reported that voles have eaten their entire harvest. We haven't had enough experience growing sweet potatoes in New Hampshire to recommend specific vole control techniques. Installing six-inch-high wire fences of quarter-inch (or less) mesh hardware cloth, with the bottom edge of the fence buried at least six inches down, around the planting area may prevent voles from entering. A weed-free barrier on the outside of the fence will help increase its effectiveness.

Scurf is a soilborne fungal disease. It discolors the skin of the root, so that the root is covered with rough black patches, but does not harm the root. Some varieties are more susceptible to scurf than others.

Harvesting and storing

Sweet potatoes should be dug as late as possible in the fall, but before a hard freeze. The vines can tolerate a light frost. It can be helpful to cut and remove the vines before digging, to provide easier access to the roots.

After digging, allow sweet potatoes to "cure" by placing them in a warm (80°F-85°F) place for four to seven days. This heals any wounds on their skins and increases their storage life. Sweet potatoes should be stored in moderately warm (55°F-60°F) and humid conditions. The roots are easily damaged by cooler temperatures.

Varieties

Sweet potato varieties perform very differently, so it's important to test performance in your situation. Based on 2006 variety trial results in Durham, the varieties that stand the best chance of doing well in N.H. are listed below:

Beauregard – Highest yields of quality roots (as much as 30 lbs. per 12 plants). Beauregard is a variety that is commonly available in supermarkets. Slips are widely available. An early variety, the safest bet for commercial-scale production.

Georgia Jet – Very susceptible to cracking, which reduces marketable yield and storability. Yield potential was high (20 lbs per 12 plants), and flavor was very good. Slips are widely available. Early to mature. May be a good choice for home use.

Japanese – Unusual white flesh with pinkish skin; several tasters rated it their favorite. Smooth texture was also unique. Highly variable size and shape, and roots seemed to be easily damaged during harvest. May have niche-market appeal.

Frazier White – Best of the white varieties. Roots fattened early. Very sweet, excellent flavor. Aesthetic limitations include scurf on the outer skin, and flesh of some roots had an unappealing green/gray color when cooked. Limited slip availability.

O’Henry and **White Yam** – Both high-yielding white varieties. O’Henry skin had tendency to green in sunlight and had skin blemishes, and White Yam was more starchy than sweet.

Regal – Roots were very attractive, nice shape and red skin color. Very good flavor. Later than Beauregard and Georgia Jet, so perhaps better in areas where early planting is possible.

Carolina Ruby – Very attractive brilliant orange flesh, deep garnet-colored skin. Skin has unusual rough thick texture and roots tend to have unusual shapes, but color and yields are excellent.

Vardaman – Outstanding flavor. Roots tended to be very small, and many had very minor cracks. With a longer, drier season this might do very well in N.H.

Not Recommended – Centennial, Nancy Hall, Bush Porto Rico, Darby, Tainung 65, and Hernandez. All of these produced lots of undersized or very few oversized roots.

For more information on growing sweet potatoes or UNH trial results, please contact your local UNH Cooperative Extension Educator *or* UNH Cooperative Extension Sustainable Horticulture Specialist Becky Grube at 603-862-3203 or becky.grube@unh.edu.

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