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Growing Sweetpotatoes in New Hampshire

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Sweetpotato (*Ipomoea batatas)* is a member of the morning glory (*Convolvulaceae*) family. The sweetpotato is not related to the Irish potato, which belongs to the nightshade (*Solanaceae*) family. Unlike potatoes, which are tubers, sweetpotatoes are roots.

Growth Requirements

To produce a crop, the sweetpotato requires 90-120 frost-free days. The plants and roots are very sensitive to chilling. They grow best if the soil temperature is above 65F before planting. Sweetpotatoes 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. A soil test will identify any major nutrient deficiencies and recommend how to correct them.

Starting Materials

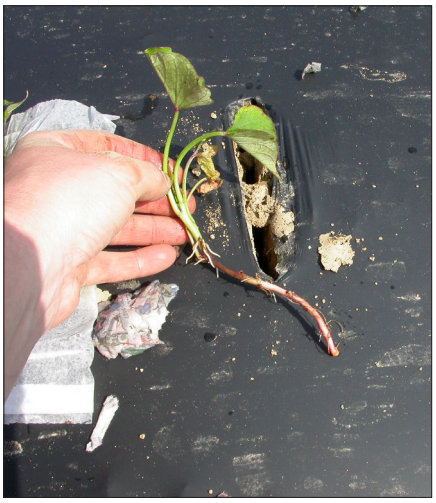
Sweetpotatoes are started from 'slips', or plants, rather than from pieces of roots. Slips can be purchased from many seed companies or other plant suppliers. While you can start your own slips, roots from a grocery store are not usually identified by variety, so you don't know what you are starting with.

To produce your own slips: Place sweetpotato roots on their sides in trays of soil 6-8 weeks before you want to transplant them outside. Cover the roots with 2 inches of moist sand and keep the soil in the trays between 75-80 degrees F. When the sprouts are 4-6 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.

'Covington' Sweetpotato, grown in New Hampshire.

If you purchase slips, you will have to specify the ship date. In Durham, soil temperatures under black plastic mulch are typically 65F by June 1. If your site is cooler or if you are not using plastic mulch, you may want to delay this date by 1-2 weeks.

Slips should be spaced 9-12 inches apart in rows 3-6 feet apart. Typically, a slip will have several nodes, where roots or shoots could emerge. Try to bury at least 2-3 nodes, leaving the growing point above ground.



Healthy sweetpotato slip, ready to be planted through black plastic mulch.

Sweetpotato with chilling injury

Did You Know?

Never put sweetpotatoes in the refrigerator! Both the roots and the plants are damaged by temperatures lower than 50F.

Transplanting conditions are important for success. If poorly rooted slips are planted in sunny, hot conditions, a large number of slips may desiccate and die before roots can establish. It's best to wait until overcast conditions, and to make sure to water slips in immediately after planting. If slips arrive long before you are able to plant them, place the entire bundle of slips in a pot and pack potting mix loosely around the bundle, and water as any other plant. This 'heeling in' can successfully hold slips for a week or more prior to planting.

Mulching

Sweetpotatoes 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.

Pests

Typical pests of potato (Colorado potato beetle, potato leafhopper, etc.) do not bother sweetpotatoes. However, they do have some pests:

- Deer love sweetpotato foliage, and will browse it 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 electric fence may successfully keep the deer at bay.

- Voles also love sweetpotatoes. Some NH farmers have reported that voles have eaten their entire harvest. Keeping weed populations under control and keeping the area around the planting mowed and/or tilled can help reduce vole damage.

- Scurf is a soil-borne 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 than others.

- Wireworms can be an issue for sweetpotatoes grown in fields that were sod (or that were weedy with perennial grasses) in the previous year. Wireworms travel through roots early in summer, leaving unsightly holes that are difficult to peel around.

- Viruses can infect sweetpotatoes, and they can reduce yields. Purchasing slips from reputable sources that have produce planting stock from virus-tested stock can avoid this problem.

Harvesting and Storing

Sweetpotatoes 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 mow and remove the vines before digging, to provide easier access to the roots. After digging, sweetpotatoes should be 'cured' by placing them

in a warm (80-85F) place for 4-7 days. This heals any wounds on their skins, and increases their storage life. Sweetpotatoes should be stored in moderately warm (55-60F) and humid conditions. The roots are easily damaged by temperatures lower than 50F.

For best eating quality, it is important to wait a few weeks before eating roots once they have been dug. Our research has shown that percent soluble solids (primarily sugars) can more than double in three weeks, dramatically increasing sweetness and overall eating quality.

Varieties

Sweetpotato varieties perform very differently, so it's important to test performance in your situation. Varieties that we have evaluated in New Hampshire include the following:

Beauregard - Orange flesh and copper skin, good flavor. Early, produces high yields. Highly recommended.

Covington - Orange flesh and copper skin, excellent flavor. More uniform shape, higher marketable yields and better flavor than Beauregard. Highly recommended.

Georgia Jet - Orange flesh and rose colored skin. Very susceptible to cracking and storage losses. High yield potential and good flavor. Cracking may depend on moisture level in soil. Not recommended for commercial use.

Japanese - White flesh with purple skin. Unique smooth texture, good flavor. Non-uniform size and shape.

O'Henry and White Yam - White/cream-colored flesh and skin. These are both high yielding, with good flavor. White Yam produces smaller tapered roots, and O'Henry produces larger roots with shape similar to Beauregard.

Carolina Ruby - Deep orange flesh, garnet-colored skin. Skin has unusual rough texture. Moderate yields.

Vardaman - Light orange flesh and skin. Excellent flavor. Produces small slender roots, and low yields.

Updated: April 2016

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Did You Know?

For best quality, wait a few weeks after digging the sweetpotato roots to eat them. During this time, starches convert to sugars, making the roots sweeter.

About the Author

Dr. Becky Sideman is an Extension Professor in the Dept. of Biological Sciences at UNH, and is the state specialist for Sustainable Horticulture for UNH Cooperative Extension. Her program emphasizes vegetable and berry crop production including season extension for Northern New England.

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