

Growing Sweetpotatoes at Home



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The sweetpotato is a tropical, warm-season crop originating from South America. It is a member of the morning glory family (Convolvulaceae) and is grown for its enlarged storage roots (Figure 1).

Sweetpotatoes are broadly divided into two categories: those with moist flesh and those with drier

flesh. Moist-flesh varieties are often referred to as “yams,” but sweetpotatoes and true yams are botanically different. Yams are grown for their tubers, originate from West Africa, and are from an entirely different plant family than sweetpotatoes (Dioscoreaceae).

Sweetpotatoes make an excellent addition to Southern gardens and provide gardeners with a delicious source of fiber, vitamins, minerals, and complex carbohydrates. With some help, you can grow sweetpotatoes at home.

Site Selection

Sun Exposure

Sweetpotato plants require full sunlight to fully develop. Plants should receive at least 8 hours of full sun each day. Sweetpotato plants are vines, and they trail along the ground. In a mixed vegetable garden, avoid planting sweetpotatoes near taller vegetable plants with more upright growth habits. Taller plants typically block sunlight from the low-growing sweetpotato vines. If space is limited, plant sweetpotatoes on the south or west side of taller plants to allow for more direct sunlight.

Soil

Well-drained, sandy, or loamy soils provide the best environment for storage roots to develop. Planting sweetpotatoes in heavy clay or rocky soil will result in misshapen sweetpotato roots. Soil that does not drain well may result in lower yields and rotten sweetpotato roots. Sweetpotatoes are fairly tolerant of a wide range of soil pH but will grow best in soils with a pH of 5.5 to 6.5. Sweetpotatoes do not require large quantities of organic matter in the soil but do benefit from soil with organic matter. If you add animal manure to the soil, be sure to add it well before planting to allow for decomposition.



Figure 1. Sweetpotato storage roots.

Production

Starting Material

The starting material for sweetpotatoes is different from most other home vegetable garden crops. Sweetpotatoes are produced from vegetative stem tip cuttings, or “slips.” Slips are produced from sprouted sweetpotato storage roots saved from the previous year’s crop. Slips may or may not have roots when they are cut. A good sweetpotato slip should be firm, green, and 8 to 12 inches long, preferably with one or two leaves (Figure 2).

You can produce slips at home or purchase them from a reputable vendor. Information about sources for sweetpotatoes and sweetpotato plants is available from the Mississippi Sweetpotato Council at www.mssweetpotato.org.



Figure 2. Sweetpotato slips are cut 1 inch above the soil surface from slip production beds.

Growing Your Own Slips

Eight weeks before you plan to plant slips, place smaller sweetpotato roots (approximately 1 1/2 inch wide) from the previous year’s crop into hotbeds and cover with 1 to 2 inches of soil. You can also plant sweetpotato roots in raised beds, cover with 1 to 2 inches of soil, and cover the entire bed with black or clear plastic mulch. Plastic mulch should contain a 2-inch ventilation hole every 4 linear feet of plant bed. Plant beds should remain between 75 and 85°F. Remove the plastic mulch when shoots begin to emerge from the soil (approximately 2 to 4 weeks after bedding). Slips are ready to cut when the growing point of the shoot extends 9 to 13 inches above the soil surface.

Planting

Sweetpotatoes should be grown in ridged rows 12 inches wide and 8 to 10 inches tall. Plant after soils have warmed and all danger of spring frost has passed (Figure 3). In Mississippi, sweetpotato slips can be transplanted from early May through June. Plant slips with the cut end down 4 to 5 inches deep and 9 to 15 inches apart. Rows should be 3 to 4 feet apart. Planting slips farther apart in a row will often provide a gardener with an earlier harvest or larger sweetpotato roots.

Fertilization

Proper nutrient management begins with a soil test. Test results will include recommendations for fertilizer application rates. In the absence of a soil test, apply 5-10-10 fertilizer at a rate of 15 to 30 pounds per 1,000 square feet. Incorporate prior to ridge formation and planting.

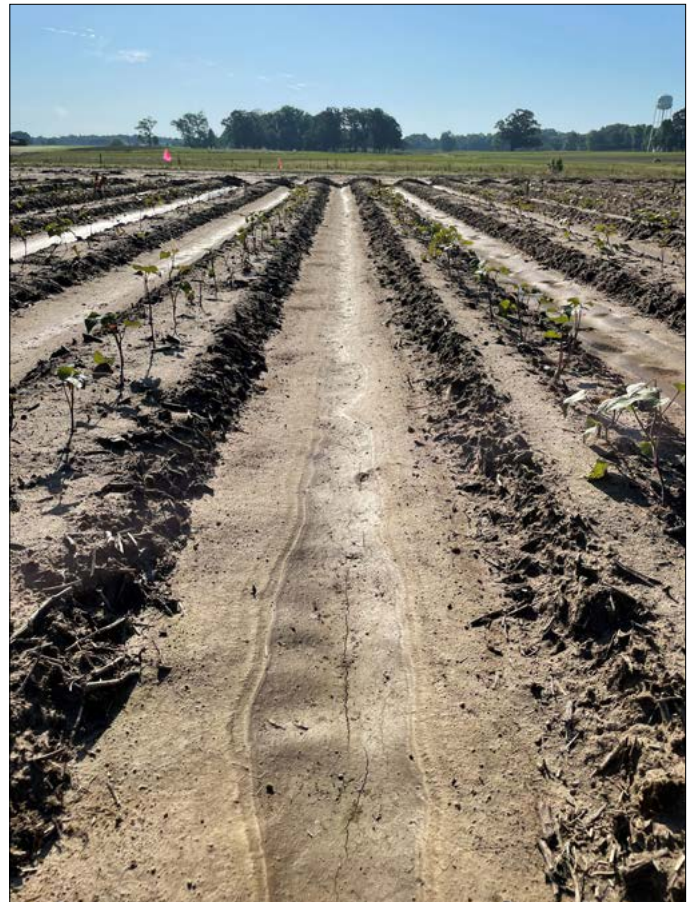


Figure 3. Sweetpotato plants growing in ridged planting beds.

Water

Sweetpotatoes are tough plants and are generally considered to be drought tolerant; however, the best quality and greatest quantity of sweetpotato storage roots are produced when plants receive timely and sufficient

watering. Plants should be watered immediately after they are transplanted in order to allow roots to form on slips. Maintain even soil moisture during the first two weeks after planting. After plants are established, sweetpotatoes should receive approximately 1 inch of rainfall or irrigation per week.

Pests

Like most garden plants, sweetpotatoes have their share of pests. The best way to control weeds in the home garden is by shallow hoeing, hand removal, and mulch. A layer of mulch 1 to 2 inches thick should suppress most weed species and help maintain even soil moisture during the growing season. Using herbicides on sweetpotato plants in a home garden is generally not recommended as many broad-spectrum herbicides can injure sweetpotato plants.

In south Mississippi, sweetpotato weevils can be problematic. Throughout the state, beetle larvae that burrow into the developing sweetpotato roots and caterpillars that eat sweetpotato foliage can also threaten sweetpotatoes. In addition, deer find sweetpotato leaves to be very palatable and will graze on sweetpotato plantings if there is no barrier. Deer repellents and fences can deter deer but may not eliminate feeding completely.

Diseases in sweetpotatoes are not common in home gardens. You can minimize disease by cutting sweetpotato slips instead of pulling them, acquiring plant material from reputable vendors, and rotating crops to avoid planting sweetpotatoes where they have been grown within the last two years. For more information on weed, insect, and disease control in sweetpotatoes, consult your county Extension office.

Harvest

Unlike most crops, sweetpotatoes never truly ripen or reach a stage of maturity. Young sweetpotato storage roots are formed within the first two weeks of planting and continue growing larger. Sweetpotato varieties vary in days to maturity, but most range between 90 and 120 days. Sweetpotatoes should be harvested in the late summer to early fall before soil temperatures drop below 60°F. Carefully place a shovel or garden fork into the ground far enough away from where the vine enters the ground to avoid cutting through the sweetpotato storage roots. Use the shovel or fork to lift up each individual hill. Exercise care not to damage the sweetpotato skin excessively while digging and handling them. Excessive skinning or abrasion will shorten the time roots can be stored and may cause roots to spoil or shrivel (Figure 4). Harvesting sweetpotatoes when the soil is dry will result in increased skinning and should be avoided if possible.

Curing

Cure sweetpotatoes immediately after harvesting them. To cure them, place them in an environment with temperatures of 80 to 85°F and 85 to 90 percent relative humidity for 7 to 10 days. Curing helps to heal wounds that occur during harvest, preventing shriveling and reducing the risk of rot during storage. Curing also makes the sweetpotato more palatable by converting starches to sugars and improving aroma and texture.

Storage

Under the right conditions, properly cured sweetpotatoes can be stored for months. Sweetpotatoes should be stored in a dark, cool place. Temperatures should remain between 55 and 60°F. Remember that sweetpotatoes have tropical origins, and a raw sweetpotato should never be stored in the refrigerator. When stored below 55°F for extended periods of time, roots can experience chilling injury, resulting in hard cores and altered taste when they are cooked. If roots are stored above 60°F for extended periods, sprouts may begin to appear from the top of the root.



Figure 4. Skinning injury can occur during harvest.

Table 1. Sweetpotato varieties

Variety	Days to Maturity	Skin Color	Flesh Color	Yield	Notes
Beauregard	90–100 days	light rose	moderately deep orange	high-yielding	leading commercially grown variety in Mississippi
Centennial	90–100 days	orange	deep orange	variable depending on soil-borne disease pressure	susceptible to soil pox disease; avoid soils that have resulted in little or no storage root formation in the past
Covington	110–120 days	rose	orange	high-yielding	root shapes tend to be round to blocky when grown in heavier soils
Okinawan	110–130 days	dark purple	bright purple	lower yielding than newer varieties	unique and vibrant flesh color
Jewel	110–120 days	copper	orange	variable depending on soil-borne disease pressure	avoid soil with a history of soil-borne diseases
Murasaki-29	100–110 days	dark purple	cream-white	yields in north Mississippi have been below expectations	flesh has a drier texture than typical sweet potato varieties and a mildly sweet, nutty flavor
Nancy Hall	100–110 days	light orange	creamy orange	lower yielding than newer varieties	an old favorite
O’Henry	90–100 days	cream	white	acceptable yield	a mutation of Beauregard
Evangeline	90-100 days	rose	deep orange	high-yielding	high sugar content

Photos courtesy of Mark A. Hall, Research Associate, Pontotoc Ridge-Flatwoods Branch Experiment Station, Plant and Soil Sciences.

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