Growing Sweetpotatoes in Western Washington

Slip Production

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Contents

Growing Sweetpotatoes in Western Washington: Slip Production
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Slips

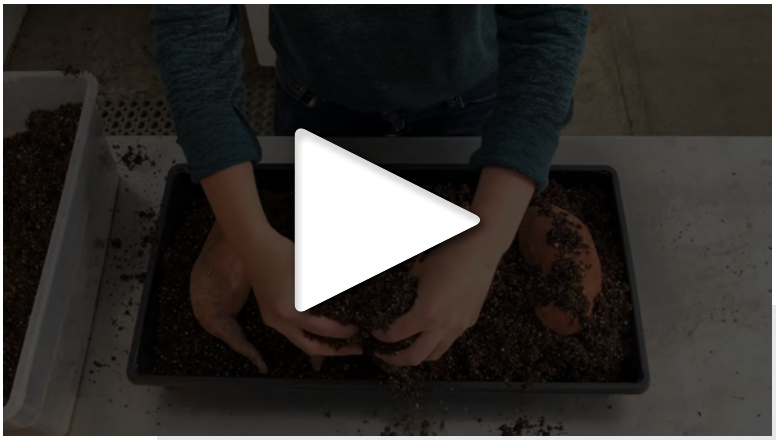
Sweetpotatoes are planted using slips, which are vine cuttings about 6 to 12 inches long with 5 to 8 nodes, taken from sprouted sweetpotato roots (Figure 1). Sweetpotato slips can be purchased from seed catalogs, but producing your own slips can result in healthier slips.

Figure 1. Sweetpotato roots with sprouts (left) and slips ready to be planted (right).

Slip Production

Slip production is relatively easy and can be done on a small or large scale. Growers can save sweetpotato roots after harvest for slip production the following year or purchase roots from certified producers to ensure disease-free and high-quality planting stock. Patented sweetpotato varieties (see Table 1 in *Growing Sweet Potatoes in Western Washington: Varieties*) may not be propagated on the farm.

Sweetpotato roots require heat and humidity to sprout. Select healthy-looking roots with no lesions or disease symptoms. Off-shape and wireworm-damaged roots can be used for slip production. Partially cover roots in moist potting mix and maintain at a temperature of 80-85 °F, using a heat mat or other means (Figure 3). Cooler temperatures will lead to slower sprouting and growth. Loosely cover the propagation tray with a clear plastic dome and water lightly when needed to maintain humidity without causing condensation (Figure 3).



One sweetpotato storage root can produce about 7 to 10 slips depending upon the variety and time allowed for growth. Under optimal slip production conditions, slips are produced in 6 to 8 weeks, though there is some variation by variety (Table 1). In general, early maturing varieties produce more slips faster, late maturing varieties produce fewer slips more slowly, and mid-maturing varieties are in between. If the temperature for slip production is less than 80-85 °F, then 8 to 10 weeks or more may be needed for production, even for early maturity varieties.

Watch!

Video | How to Produce Sweetpotato Slips Indoors

https://youtu.be/H43YsxAAcAw

Table 1. Time required to produce slips, average number of slips produced per root, and percentage of roots that did not produce any slips in a heated greenhouse (set at 80 °F) with heat mats in Mount Vernon, WA in 2024 (unpublished data).

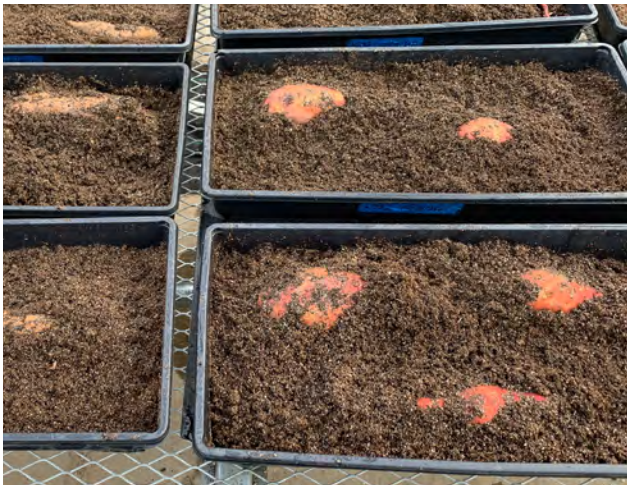
Variety	Weeks for Slip Production	Average Number of Slips per Root	Roots that Produced Zero Slips (%)
Bayou Belle	8	10	5
Beauregard	8	7	15
Cascade	6	15	0
Covington	8	9	0
Monaco	10	5 / 12[a]	55
Orleans	8	10	5

[a]Monaco average number of slips per root was 5 when roots that did not produce slips were included (over half the roots rotted during slip production) and was 12 when only slip-producing roots were included.

Many more slips per root can be obtained by starting the process earlier and cutting slips and rooting them in pots in the greenhouse. Node cuttings or tip cuttings can be used, though tip cuttings grow much faster. Node cuttings are produced by cutting a vine into many short segments with 1 to 2 nodes each (Figure 2). Tip cuttings are produced by cutting 1 to 2 nodes from the tip of a vine. Cuttings can be rooted in a 72-cell tray or 4 inch pots. The original sweetpotato roots will continue to produce more slips, and the rooted slips will grow into vines that can be cut into multiple slips.

Figure 2. Propagating slips in the greenhouse by rooting cuttings in a 72-cell tray (left) and rooted cuttings ready for planting (right).

1. Healthy sweetpotato roots 1.5-3 inches diameter.



2. Place the roots partially covered in flats; keep the potting mix moist.

3. Cover flats partially with clear plastic domes. Maintain greenhouse at 85 °F and/or use heat mats.

4. Sprouting begins in about 2-3 weeks. Slips will be ready in 6-10 weeks.

5. Cut slips when they have 5-8 leaves

6. Transplant the slips directly to the bed.

Figure 3. Overview of sweetpotato slip production.

Sprouting should begin after 2-3 weeks, though some late maturing varieties may take 4-5 weeks or more. Be careful not to overwater especially before roots have started sprouting as it can lead to rotting. Only water trays when soil is dry. Cut slips when they are 6-12 inches long and have 5-8 leaves. Divide longer vines into multiple slips with 5-8 leaves each (Figure 4). Cut slips ½ to 1 inch above the root or soil to prevent transmission of soilborne disease (Figure 3).

Do not strip leaves off the lower nodes of the slips before planting. At WSU NWREC in 2024, sweetpotato root yield was 2.5 times greater when all leaves remained on the slips at planting than when leaves were stripped from the lower nodes (unpublished data).

Slips can be planted immediately, though holding them for 1-4 days in a cool (57-64 °F) and shady location can alter hormone levels within the slip to initiate root development and may increase slip survival and root yield (Hammett 1983; Nakatani et al. 1987). If holding slips prior to planting, place them in stackable, ventilated containers such as plastic bulb crates for storage. Do not tightly pack stored slips or soak them as this can initiate rot. Do not refrigerate slips (Hammett 1985).

Figure 4. Longer vines can be divided into multiple slips with 5-8 leaves each.

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1. Hammett HL. 1983. Effects of holding sweet potato cuttings. Louisiana Agriculture 26(3):6-7.
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