

JOYCE'S VEGGIE TIP – GROWING SWEET POTATOES

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The sweet potato is a vining plant grown for its thick, starchy roots. The plant's foliage is also edible. Young tender leaves can be used as a substitute for spinach or chard, in soups and stews, or stir fried as a vegetable.

Sweet potatoes including varieties called yams (that have moist tasting orange flesh) are tropical plants native to Central and South America. The vines do not tolerate frost and the roots sustain chilling injury at temperatures below 50°F. The plant grows best when the soil is warm (about 70°F) and the maximum day temperature is 85-95°F. In temperate regions sweet potatoes can be grown in summer if there is about 4 months of consistent warm weather.

Buying slips

Sweet potatoes are grown by planting slips, which are leafy shoots about 8-12" long that sprout from roots harvested the previous season. Finding a good source of disease-free slips can be difficult. Most nurseries in other states cannot ship slips to California because of pest quarantine regulations. One exception is the Sand Hill Preservation Center (phone 563-246-2299) in Calamus, Iowa. Visit www.sandhillpreservation.com to read their variety catalog and growing tips. The center ships slips by ground delivery from late May to mid-July.

In California, The Alvernaz Farm in Merced County has been a source of slips for many years. They produce slips in March and April to plant on the farm and sell the surplus in May to small growers. In 2017, the farm grew 4 varieties: Murasaki, Bonita, Covington and Diane. To obtain current information on varieties available and the cost of slips, call Jim Alvernaz (209-756-6970) in early May.

Most retail nurseries do not sell slips. If you live in San Diego and only need a few slips you may be able to buy at City Farmer's Nursery, 3110 Euclid Ave., San Diego CA 92105; phone 619-284-6358. Call in April to find out when slips will arrive, what varieties will be available and the price.

Growing slips

Growing good quality slips is a challenge some gardeners may want to try. If you grew sweet potatoes the previous year, you can use your own saved roots to grow new slips. If you do, be aware that sweet potatoes can acquire insect transmitted viruses during the growing season, and this may reduce the productivity of the next season's crop. Sweet potatoes can be purchased from a retail market. However, they are usually not labeled with the variety name, and if they are, it may not be correct. Also, some sweet potatoes are treated to inhibit sprouting. You may have more success growing slips if you buy organically grown sweet potatoes that have not been treated.

To produce slips, select medium-sized roots that are well shaped, smooth and free of injury. In March or April, plant the roots about 2" deep in a large pot or container that has a hole in the bottom for drainage. Fill the container with a porous media that drains well and retains moisture such as a mixture of peat moss and perlite, potting soil, sawdust or sand.

Place the container in a warm greenhouse or under a sheet of clear plastic, supported on a framework, where the interior temperature will be above 80°F during the day and not below 65°F at

night. If you can, place the container on an electric propagation (heat) mat to keep the planting media 70-75°F. Water often enough to keep the planting media moist but not soggy. Each root can produce several slips. In 6-8 weeks, some slips should be 8-12" tall. Harvest slips by gently pulling them from the sweet potato or cut slips just above the soil. Immediately transplant the slips into a prepared bed.

Sweet potato roots vary in size from small "baby bakers" up to ten pound "monsters". To produce a larger number of medium-sized roots, use slips that do not have roots and transplant them directly into a permanent bed as soon as you receive them. Slips planted in warm moist soil begin to form new roots at each node in about 2 days. Slips that have some roots when planted will produce fewer new roots which will result in a smaller number of large sweet potatoes. This may also occur if rootless slips are temporarily planted and later transplanted into a bed. If planting must be delayed place the slips cut end down in a plastic bag with damp peat moss, shredded newspaper or wood shavings and let the tops stick out of the bag. Slips may rot if they are enclosed in a sealed plastic bag or stored in a jar containing water.

Soil Preparation

Well-drained, sandy and sandy loam soils produce the best crop of well-shaped roots. On soils that contain more clay, both root quality and yield are reduced. If you have heavier soil, mix in well decomposed compost to loosen and aerate the soil. A slightly acidic soil (pH 5.5-6.5) will help suppress pox, a bacterial root disease.

Raised beds are ideal for growing sweet potatoes because the soil drains better and warms faster in spring. You can make a temporary raised bed by moving soil from aisles to form a long mound about 1 foot high and 3-4 feet wide. Dig the bed at least 10 inches deep and break up clods so the soil will be loose and crumbly. Mix in well composted organic matter and a general-purpose fertilizer with a moderate amount of nitrogen and a relatively high level of phosphorous.

Sweet potatoes do not require a lot of nitrogen and too much will result in lush vine growth and poor root production. If you use an organic fertilizer, apply it at the rate recommended on the product label. Organic fertilizers release nutrients slowly as they decompose. Chemical fertilizers can also be used. They contain nutrients that are immediately available for roots to absorb. A 5-10-5 or similar fertilizer can be used at the rate of about 3 pounds for 100 square feet of soil area. Scatter it evenly over the surface of the bed and mix it into the soil 6-10 inches deep. To avoid possible salt injury, mix half of the fertilizer into the soil before planting and apply the remaining half as a side dressing when vines show good growth. To side dress, scatter the fertilizer evenly along both sides of a row 6-8 inches from the plants (under a drip line or soaker hose if used for irrigation) then mix it into the surface soil and water well.

Irrigation

You can water sweet potatoes by hand or place drip tubing/tape (with emitters spaced 12 inches apart) or a soaker hose on top of a bed. Two to four drip lines can be run down the length of a bed. Water the bed before planting to moisten and settle the soil.

Planting slips

Slips can usually be planted from April to June in coastal areas of San Diego County and from May to June in inland areas. Use a thermometer to check soil temperature and plant slips when it is above 65°F at a depth of 8 inches. To warm soil faster in spring and promote better growth, cover the bed with black plastic sheeting and leave a narrow strip uncovered down the middle for planting. The bed

can also be covered with row cover fabric supported on wire hoops to provide extra warmth and exclude insect pests.

Plant new slips about 12 inches apart in a row in moist soil. Use a trowel or shovel to open a space for planting and insert each slip into a hole so only the top 2 or 3 inches of stem and foliage are above ground. Press damp soil against the stem and apply enough water to thoroughly wet the soil. Do not use a fertilizer solution to water new slips as they are very sensitive to salts and may be injured.

Newly planted slips must have adequate moisture during the first 2-3 weeks to initiate and develop new roots. Water often enough to keep the soil around new slips moist, then gradually reduce irrigation frequency as the vines become established. Irrigate as needed to keep the soil evenly moist and not soggy. If the soil stays too wet the roots may rot and if it gets too dry they may become rough or crack.

The vines will grow over the top of the bed and may extend into the aisles. As the vines spread, periodically lift them a little above the ground to keep the stems from rooting in the soil. If the stems form roots they will produce mini sweet potatoes and the roots that form at the main plant will be smaller and yields may decrease. Remove all weeds when they are small.

Harvesting Roots

Depending on the variety grown, sweet potatoes are ready to harvest 90-140 days after slips are planted. Three months after planting check the roots at the base of the plant with your hand (being careful not to nick or bruise any) to determine their size, then check them weekly. Roots can be harvested when slightly immature if they are the desired size or you can wait until they are fully grown and the vines begin to turn yellow. The entire crop can be harvested at one time or only a few plants can be harvested as roots are needed. Ideally sweet potatoes should be harvested while the soil and weather are still warm, even if the vines have not begun to turn yellow. If night temperatures are likely to fall below 50°F or frost is expected, dig up all the roots and move them to a warm place.

About 2-3 weeks before harvest, reduce watering so the vines will begin to dry before roots are dug (too much water late in the season may cause roots to crack). When you are ready to harvest, cut the stems near the base of each plant and remove the vines from the bed. The soil should be slightly moist when roots are dug. Use a spading fork if you have one or shovel to carefully loosen the soil around each plant. Begin by digging about a foot from the main stem and work your way inward. Small wounds can cause roots to rot so be careful not to injure them. The skin on freshly dug sweet potatoes is very thin and easily bruised. Gently lift each clump of roots from the soil and lay them on the surface in the sun for 2-3 hours until the skin is thoroughly dry. If there is soil on the roots wait until the skin is dry then gently brush it off. Wetting roots can promote decay; don't wash them until you are ready to use the roots.

Root Sweetness

Curing and storing freshly harvested sweet potatoes for 1-2 months will let some starch in the roots turn into sugar and improve their flavor. If freshly harvested roots are not sweet enough they can be candied or made into pies. This is a good use for roots damaged during harvest.

Curing Roots

Sweet potatoes that will be stored for a long time should first be cured to reduce losses from decay during storage. The easiest way to cure roots is to carefully lay them (do not toss or drop) in nursery flats or shallow boxes. Place the boxes in a dry, shady, well-ventilated area that is warm and if possible, somewhat humid, for 2-3 weeks, until all wounds on the skin have completely healed. The best way to cure roots requires keeping them for 1-2 weeks in a well-ventilated, warm and very humid environment at a temperature of 80-85°F with relative humidity of 80-90%. The closer you come to providing these ideal conditions, the less time it will take for the roots to cure.

Some suggestions on how to cure a small quantity of roots at home can be found online. If a portable heater, incandescent light bulb or other electrical device is used to heat an enclosed space, check the temperature with a thermometer and take precautions to prevent any flammable material from overheating and catching fire. To increase relative humidity some methods suggest placing a bucket of water in an enclosed space or using a damp towel that does not directly contact the roots. Be aware that a plastic bucket or towel that becomes dry may catch fire if it is near a source of heat. Any curing method should provide adequate air circulation and ventilation to maintain even temperature and humidity.

Storing Roots

Storing cured sweet potatoes for 6-8 weeks will increase their sweetness. Cured roots can be stored in a dry, dark, well-ventilated space at about 60°F for up to several months. Temperatures below 50°F can cause chilling injury (internal browning or root decay) and temperatures above 65°F may cause roots to sprout. Cured sweet potatoes can be carefully wrapped in newspaper and laid in shallow containers, then stored indoors under a bed, in a closet or in a slightly cool room at a temperature of 60-65°F. An unheated garage or storage shed may become too cold at night. Periodically check stored roots and remove any that show signs of deterioration or decay.