



DONALD DANFORTH
PLANT SCIENCE CENTER

Integrated Plant Growth Facility
Donald Danforth Plant Science Center, St. Louis, MO
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Sweet Potato Protocol

Planting Cuttings

1. Put an 1801 deep insert into a flat with holes. If there are fewer than 18 plants needed, break off the extra pots.
2. Pro-Mix HP is the recommended potting soil. Fill pots with soil. Do not compact the soil, and brush off any extra that is above the top of the pots.
3. Moisten the soil until it has become fully saturated.
4. The exposed cut at the bottom of each vine cutting should be treated with rooting hormone (e.g. Hormodin 3).
5. For each cutting, place at least 1 node below the soil surface. It is important to make sure each slip has a minimum of 3 nodes.
6. Flats will then go into their designated greenhouses until the plants are ready for transplanting.

Transplanting

1. Most sweet potatoes are transplanted 3-4 weeks after sticking un-rooted cuttings.
2. Fill a 1-gallon pot $\frac{3}{4}$ full with Pro-Mix HP soil.
3. Take plant out of 1801 deep and place into 1-gallon pot.
4. Backfill pot close to the rim making sure not to press the soil down while doing this. The top of the soil should be even or slightly above the plants root ball.
5. Water in the pots until the soil is saturated. If done correctly the soil should now be close to 1-inch below the rim of the pot to allow for watering space.

Care

Sweet potatoes can be cut back when they become over grown. Some researchers prefer to have three to four vines with new growth at the ends, while others want the vines cut back to the height of the stakes to keep them under control.

Watering

Plants are checked twice a day for watering needs. They should be allowed to dry down before adding more water.

Fertilizer

Sweet Potato plants are fertilized on Monday, Wednesday, and Friday with 10-30-20 fertilizer. Clear tempered water is used all other days of the week. Optimum soil pH is between 5.8 and 6.0.



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Pest Management

Two preventative applications to control **mites/thrips/aphids** are Acephate 97UP and Kontos. When using **Acephate**, 3 to 4 granular should be placed in each pot. **Kontos** is used as a drench at a rate of .5ml/gallon. Both of these can be repeated monthly.

Growing Conditions

Plants yield best when night temperatures remain above 72°F and soil temperatures are between 70°F and 80°F.

Temp: 26°C day/ 23°C night (79°F/73°F)

Humidity: 30% minimum

Light: The Supplemental lights turn on when the sunlight is below 300 W/m² and to maintain 14 hour day length.

Shading: The shade curtain automatically closes to 50% when the sunlight level is over 800 W/m² and it pulls to 100% when the sunlight is over 900 W/m².