



**Southern**  
Illinois University  
Carbondale

## Horticulture Production Guides

# Sweetpotato

College of Agricultural Sciences  
Department Plant, Soil, and Agricultural Systems

Alan Walters  
SIUC Horticultural Factsheet 3

Locally grown sweetpotatoes are popular produce items at farmer's markets and other similar markets in the lower Midwest. Sweetpotatoes are an excellent crop to include in local market venues during the fall months as consumers identify with their uses during the fall and early winter holiday seasons. The sweetpotato (*Ipomea batatas*) is a member of the morningglory family (*Convolvulaceae*) and produces an elongated root with tapered ends having smooth, thin skin. They provide several nutritional and other benefits:

1) Low amount of calories as well as many significant health benefits. Sweetpotatoes are fat-free, cholesterol-free, and provide high amounts of vitamins A, B-6, and E. An averaged-sized medium sweetpotato is low in sodium and only contributes about 140 calories to a diet.

2) High amounts of iron and potassium along with many other important vitamins and minerals.

3) An excellent source of dietary fiber, which lowers the risk for colon and rectal cancer, heart disease, diabetes and obesity.

4) Antioxidants, such as beta-carotene, that provide protection against heart disease, stroke, cancer, and delaying the progression of Alzheimer's disease.

The sweetpotato is one of the easiest vegetables to grow in the lower Midwest due to the lack of significant disease and insect pest problems, as well as their ability to effectively scavenge nutrients from the soil. It is also a good competitor with weeds, as sweetpotato plants tend to form a vine-like growth over the soil surface suppressing weed growth.

Sweetpotatoes are highly adaptable to sustainable production or organic systems due to the low inputs required, as adequate crops can be produced with little added fertilizers or pesticides. The crop has the potential to provide lower Midwest growers substantial returns on small investments, since few off-farm inputs are required to produce the crop. There is great potential to add this easily grown, highly sustainable crop to local direct marketing systems. Although consumer demand for this crop is high during the late fall and early-winter holiday season, many consumers do not know (especially younger consumers) how to prepare sweetpotatoes. Research has indicated that sweetpotato sales in local markets would increase if the product was marketed along with recipes and/or samples of sweetpotato foods.



# Sweet Potato Preparation

The sweetpotato is a versatile, tasty vegetable and can be prepared in many different ways to suit everyone's taste. Due to its high nutritional value and high fiber content, it should be added to almost all diets. For

example, citrus (such as lime, lemon or orange) will add a great flavor to the taste of a baked sweetpotato. There are several ways to add more sweet potatoes to a diet including, baking sweet potato chips in the oven with

your favorite seasonings, cooking and using mashed sweetpotatoes in your favorite cakes or muffins, and peeling and cutting into strips to eat with your favorite dip.

## Production Tips for Sweetpotatoes:

- 1) Transplant production
  - a. Sweetpotatoes are vegetatively propagated by transplants (or slips) produced from previous years roots.
    - i. The primary cultivar grown is 'Beauregard' due to its high quality roots and yields, as well as short growing period (90 days). Other cultivars grown include 'Hernandez' and 'Covington'.
    - ii. Roots that are bedded can be saved from previous years crops or purchased from seed sources in Louisiana or North Carolina
    - iii. Small- to medium-sized roots placed in beds and covered with soil in early spring
    - iv. Plants can be pulled continually once they reach ~ 6 to 8 leaves for about 4 to 6 weeks
    - v. Transplants can also be purchased from growers in Louisiana or North Carolina
  - b. Growers will use a three-point middle-buster plow or a chain-driven, one-row harvester
  - c. Handle the sweetpotatoes as little as possible to prevent bruising and skinning
  - d. Do not wash the sweetpotatoes until they are ready to be marketed
- 2) Planting of sweetpotatoes
  - a. Form raised beds (about 8 inches high and 3 feet wide) on about 6 ft centers
  - b. Best to plant before mid- to late-June in lower Midwest
  - c. Transplants (slips) should be planted three to four nodes deep (3 to 4 inches deep)
  - d. Plant about 12 inches apart in the row, increase percentage of number one roots by planting 2 rows per bed with about 9 inches between offset rows
  - e. Most use vegetable transplanter
  - f. Generally, need about 10,000 plants per acre
  - g. Use well-drained field soils (as sweetpotatoes do not like waterlogged conditions) and avoid planting into a field that was previously in sod as this increases the likelihood of white grub and wireworm problems
- 3) Fertilization
  - a. Apply about 30 to 50 lbs N per acre at 30 days after transplanting
  - b. Excessive nitrogen will result in excessive vine growth, with few sweetpotato roots produced
- 4) Irrigation
  - a. Greatest moisture needs in August into September when roots are rapidly growing (apply about 1" of water per week), otherwise somewhat drought tolerant
  - b. Moisture stress during root enlargement will reduce yields
- 5) Pesticide applications
  - a. Insects and Diseases
    - i. Wireworms, white grubs and flea beetle larvae can be controlled with Lorsban 15G at 13.5 lb/acre
    - ii. For diseases-like scurf, fusarium wilt, and nematodes, use disease-free planting material
  - b. Weeds
    - i. Cultivate before vines overlap rows
    - ii. For grass control, the herbicide-Select (Clethodium, 8-10 fl oz/acre) can be applied post-emergence
    - iii. For broadleaf weed control, the herbicide-Command (Clomazone, 1.5 pt/acre) can be applied pre-transplant or right after transplanting
- 6) Harvesting, curing, and storage
  - a. Check several plants in field to make sure roots are optimal size
    - i. Most sweetpotato varieties are ready to harvest anywhere from 90 to 120 days after transplanting (harvest date is dependent on cultivar)
    - ii. Mow vines 2 to 3 days before digging to toughen skin as this helps to reduce skinning of sweetpotatoes
    - iii. For digging of roots, most smaller growers will use a three-point middle-buster plow or a chain-driven, one-row harvester
  - b. Curing and storage of sweetpotato roots
    - i. Place in a warm (~85° F), humid (~ 95% relative humidity) environment for about 1 week to increase sugar levels, and to heal cuts and bruises that occurred during harvest
    - ii. Store in boxes or bins at 55° to 60° F with ~ 90% relative humidity until marketing or bedding for transplant production
    - iii. Under optimal conditions, sweetpotatoes can be stored for 8 to 10 months
    - iv. Do not refrigerate sweetpotatoes

*Support provided by the College of Agricultural Sciences, the Department of Plant, Soil and Agricultural Systems, and the Illinois Council on Food and Agricultural Research (C-FAR).*

*Published June 2007*



**Southern**<sup>™</sup>  
Illinois University  
Carbondale