Sweet Potato

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Varieties
Beauregard, Centennial, Jewel, Vardaman

Soil Preferences
Deep sandy loam, fine sandy loam or loamy fine sand (pH 5.0 - 7.5) underlain by a firm friable heavier soil.

Optimum Growing Conditions
Hot days and warm nights. Sweet potatoes are extremely heat tolerant, mean summer temperature above 72°F. They can tolerate frosts if the soil temperature stays above 55°F.

Establishment Methods

Planting Method	Transplants (slips)
Optimum Time	Soil temperature at planting depth > 65°F (150 days prior to anticipated 55°F soil temperature in fall)
Seeding rate	15,680 - 19,600 slips/acre
Seeding depth	4-5" (Cover several nodes)
Spacing	8-14" in-row on 38-42" wide raised beds

Fertility/Fertilization
Rates presented as actual lbs/acre N_2, P_2O_5, and K_2O (base actual rates applied on soil test results).

Generalized rate: 50 - 70 - 70 lb/acre	
N*	40-80 lbs 1/3 applied pre-plant Remaining amount applied 3-4 weeks post-plant (do not apply within 60-80 days of anticipated harvest)
P	50-120 lbs applied pre-plant
K	60-120 lbs applied pre-plant
Lime	0.5 - 1.0 ton/acre (fall applied if need indicated by soil test)

Starter Solution	1 cup of high phosphate solution per slip

* Ammonium nitrate is very stable and least likely to evaporate. Urea and ammonium sulfate evaporate if not incorporated.

Water/Irrigation
10-20". Critical period is during slip establishment. Apply uniformly during growing season, and discontinue 2-3 weeks prior to anticipated harvest.

Pest Management

Sweet Potato Diseases and Common Name of Fungicidal Controls

DISEASE	FUNGICIDE*	OMRI LISTED FUNGICIDE**
Leaf spots		Clove, Rosemary and Thyme Oil, Neem Oil, Sulfur
Nematodes	1,3-Dichloropropene, Chloropicrin, Ethoprop, Metam-Potassium, Metam-Sodium, Sesame Oil, Aldicarb	Azadirachtin
Scurf and black rot	DCNA Dicloran, Thiabendazole	
Soil pox or soil rot	1,3-Dichloropropene	

Sweet Potato Insect Pests and Common Name of Insecticidal Controls

INSECT	INSECTICIDE*	OMRI LISTED INSECTICIDE**
Beetle		Azadirachtin, Garlic Juice Extracts, Pyrethrins
Cutworm	Beta-Cyfluthrin, Carbaryl, Cyfluthrin, Deltamethrin, Lambdacyhalothrin, Methoxyfenozide, Zeta-Cypermethrin	Azadirachtin, *Bacillus thuringiensis*
Weevil	Lambdacyhalothrin	Azadirachtin, Garlic Juice Extracts
Wireworm	1,3-Dichloropropene, Bifenthrin, Chloropicrin, Chlorpyrifos, Diazinon, Ethoprop, Phosmet, Thiamethoxam	

Weeds and Common Name of Herbicidal Controls

WEED	HERBICIDE*	OMRI LISTED HERBICIDE**
Preplant incorporated	Clomazone, DCPA, Napropamide	Corn Gluten Meal
Preemergence	Flumioxazin, DCPA, Napropamide	
Postemergence	Carfentrazone, Flumioxazin, Fluazifop, Sethoxydim, Glyphosate, Pelargonic Acid, Clethodim	D-Limonene, Clove Oil, Cinnamon and Clove Oil

* The above is a partial listing of controls intended as examples. Some labels may have been revoked since the publication of this guide. Refer to product labels for specifics and use accordingly. Ensure that products with one of the listed active ingredients are registered for the crop it is to be used on. Failure to do the above may result in crop injury, death and/or citation for law violation. Humans, animals and the environment may also be adversely affected by misuse.

** As stated in §205.206 of the National Organic Standards, pest management decisions should follow a hierarchical approach, which should be defined in a farm's organic systems plan. Please ensure that you have followed the appropriate steps and any product to be used in certified organic production systems has been approved by your certifying agent.

Harvest

Days after planting	90-150 days
Normal method	Mechanical (can be hand harvested with potato plow or turn plow)
Optimum Stage	When foliage starts yellowing and tubers are appropriate size
Containers	Crates
Grades	Grades based on root diameter, uniformity, and freedom from defects: • U.S. Extra No. 1 • U.S. No. 1 • U.S. Commercial • U.S. No. 2. • Canner • Jumbo • Culls
Packaging/Handling	40 or 50 lb crates
Anticipated yield/acre	400-800 40 lb crates

Transit Conditions
55-60°F at 85% RH with good ventilation; shelf life 3-6 months. Susceptible to chilling injury below 55°F if stored for prolonged periods. Store roots dry.

Comments/Production Keys

- Low pH (5.0 - 5.5) desirable to reduce soil rot
- Weed control critical, especially until plants cover rows
- Sweet potato weevil populations can be reduced by:
    - Plowing fields twice during the winter
    - Use weevil free stocks for plant production
    - Cut slips above ground (do not pull slips)
    - Destroy crop residue in field immediate after harvest
    - Use clean storage areas
- Excessive soil nitrogen can reduced yields and quality
- Exercise extreme care during harvest and handling to prevent bruising of roots (treat roots as if they were eggs)
- Vine removal facilitates harvest and reduces incidence of root injury, and is accomplished with shredders or flail choppers
- Excessive soil moisture at harvest can cause root souring
- Prevent harvested roots from sun exposure (as little as 30 minutes exposure during hot weather can cause sun scalding
- Cure roots at 80-85°F and 85-90% RH for 7-10 days right after harvest to prevent decay from wound injuries and to preserve root quality
- Sweet potato storage roots will continue to grow in size until frost kills vines
- Wrap cartons and crates with perforated polyethylene to reduce moisture loss or drying during storage and transit