

Nematode Control

Nematode control is very important to the production of this crop. See Chapter E "Nematodes" section of Soil Pests-- Their Detection and Control. Use fumigants listed in the "Soil Fumigation" section or use Counter 15G or Mocap 15G. Consult labels for use directions. See seed treatment section below.

Disease Control

Seed Treatment

Request that seed be treated with one or more of the following fungicides for seedling diseases and damping-off: Allegiance, Apron XL, Dynasty, , or Maxim XL. Seed treatment with these fungicides is especially important for early seedings of Super Sweet (sh) varieties. There are several new insecticide/nematicide seed treatments for sweet corn that may be beneficial where soil insects and nematodes may be yield limiting. Request seed treated with Avicta DUO or Poncho/VOTIVO.

Stewart's Bacterial Wilt

Use resistant varieties where bacterial wilt is a problem. It is very important to control flea beetles early in the season. Use insecticide treated seed or an insecticide at seedling emergence. Flea beetles transmit Stewart's wilt and are numerous after mild winters. Use varieties resistant to Stewart's wilt listed in the sweet corn varieties table at the front of this section. More variety information is available at: www.sweetcorn.uiuc.edu/index.html. Treat susceptible varieties at spike stage when 5% of the plants are infested. See Insect Control Section for flea beetle control recommendations.

Maize Dwarf Mosaic Virus (MDMV)

MDMV is most likely to occur on corn planted after July 1. The virus is transmitted by aphids to sweet corn from infected weeds, especially Johnsongrass. For control, keep fields as weed-free as possible, maintain strict aphid control, and plant resistant varieties for fall harvest.

Smut

There is no real resistance to smut in sweet corn. Some varieties seem to escape infection due to differences in silk emergence and weather conditions. Since damaged tissue is more prone to infection, control corn borers as first tassel appears.

Leaf Spots and Blights (Gray leaf spot, Northern corn leaf spot; Southern, Northern and Anthracnose leaf blights)

For optimal control begin sprays before symptoms appear. In most years, chemical control is not needed for these diseases. Apply on a 7 to 14 day schedule.

Alternate:

chlorothalonil (Do not apply to corn to be processed.)--0.75-2.0 pt 6F/A (7 day schedule) or OLF, or mancozeb--1.5 lb 75DF/A (5 to 7 day schedule), or

With one of the following:

Quadris--9.2-15.5 fl oz 2.08SC/A, or
Headline--9.0-12.0 fl oz 2.1EC/A (7 to 14 day schedule), or
Tilt--2.0-4.0 fl oz 3.6 EC/A (7 to 14 day schedule), or
Stratego--10.0 fl oz 2.08 EC/A, or

Quilt--7.0-14.0 fl oz 1.67 SC/A

Do not make more than 2 consecutive applications of one of the above fungicides before rotating to another fungicide from a different FRAC code.

Rust

Rust can occasionally become troublesome on susceptible hybrids. In most years chemical control measures are not warranted. However, corn warrants spraying if infection occurs prior to the whorl stage. Observe fields on a regular basis. If pustules are observed prior to the whorl stage, apply one of the following according to the described schedule:

- Quadris--6.2-9.2 fl oz 2.08SC/A (Apply on a 7 to 14 day schedule and do not make more than 2 consecutive applications without alternating with another fungicide from a different FRAC code)
- chlorothalonil (Do not apply to corn to be processed.)--0.75-2.0 pt 6F/A (7 day schedule) or OLF, or
- Headline--6.0-9.0 fl oz 2.1EC/A (7 to 14 day schedule), or mancozeb--1.5 lb 75DF/A (5 to 7-day schedule) or OLF, or
- Tilt--4.0 fl oz 3.6 EC/A (7 to 14 day schedule), or
- Quilt--10.5-14.0 fl oz 1.67SC/A, (14 day schedule as soon as symptoms are seen), or
- Stratego--10.0 fl oz. 2.08 EC/A (7 to 14 day schedule)

SWEET POTATOES

Varieties

Varieties ¹	DE	MD	NJ	PA	VA	WV
Beauregard ² (FR)(rosy skin)	D	M	N	P	V	WV
Covington	D	M	N	P	V	WV
Evangeline (trial)			N			
Hayman (white flesh)					V	

¹ Varieties listed alphabetically.

² Beauregard sizes rapidly. Plant late and sample fields beginning in early September. Letters in parentheses indicate disease resistance possessed by varieties. See the "Abbreviations" section in front portion of this publication.

Recommended Nutrients Based on Soil Tests

Before using the table below, refer to important notes in Plant Nutrient Recommendations in Section B, Soil And Nutrient Information. These notes provide additional suggestions to adjust rate, timing and placement of nutrients depending on soil type cation exchange capacity and existing fertility levels.

Sweet Potatoes	Soil Phosphorus Level			Soil Potassium Level			
	Pounds N per Acre	Low	Med	Opt.	Low	Med	Opt.
	Pounds P ₂ O ₅ per Acre	Pounds P ₂ O ₅ per Acre			Pounds K ₂ O per Acre		
	50-75 ¹	200 ¹	100 ¹	50 ¹	300 ¹	200 ¹	100 ¹
	25 ²	200 ²	100 ²	50 ²	300 ²	200 ²	100 ²
	25-50 ³	0	0	0	0	0	0

¹Total amount nutrient recommended; growers producing vegetables on soils with high clay contents should reduce the recommended nitrogen and potassium rates by 20% and increase the phosphorus rate by 25%.

²Broadcast and disk-in

³Sidedress when vines start to run

Plant Production

For hard-to-sprout varieties, a presprout procedure started 3 to 4 weeks before normal bedding time is recommended. To presprout, store seed roots at 85°F (29.4°C) and 90 percent relative humidity until the sprouts that appear are 1 to 1½ inches long (20 to 28 days). Seed roots can then be bedded normally.

Bed seed stock about April 1 to 10 in new, clean sand and cover with 2 to 3 inches of clean sand. Fertilize with 5 ounces per square yard 10-10-10 or its equivalent. **A Special Local-Needs label 24(c) has been approved for the use of Devrinol -50DF on sweet potato plant beds in Virginia. See the Weed Control section for details.** Cover beds with floating row cover or clear plastic. Floating row cover may be left on the bed until danger of frost has passed. Clear plastic should be ventilated after 7 days with one, ½-inch hole every 4 linear feet of bed to prevent accumulation of carbon dioxide. Clear or white plastic may also be used over greenhouse hoops with thermostatically controlled fans and vents. Keep beds moist and temperature between 75° to 85°F (23.9° to 29.4°C). About 1,000 sprouts can be produced from 1 bushel of seed stock at a single cutting. One bushel of seed stock requires 11 to 15 square feet of bed area. When sprouts are ready to be transplanted, they should be cut from the beds by snipping at the soil line. This minimizes the transfer of diseased sweet potato tissue. See the "Disease Control" section.

Field Planting

Plant in the field between May 5 and June 15 in warmer, southern areas and between May 20 and June 5 in cooler areas. Well-rooted, 6- to 8-inch long sprouts can be set with the transplanter on ridges 8 to 10 inches high. Row spacing is 30 to 36 inches; distance between plants in the row is 12 to 18 inches. Use a high-phosphate starter solution (15-30-15 or equivalent at the rate of 3 pounds in 50 gallons of water) at transplant time.

Research has shown that the variety "Beauregard" yields a more uniform crop if no nitrogen is applied before or at transplanting. For maximum production, apply the recommended nitrogen as a sidedressing 3 to 4 weeks after transplanting.

Harvesting and Storage

A 4- to 5-month growing season is required for root development. After the roots are dug, they should be cured in the storage house at 80° to 85°F (26.7° to 29.4°C) and 90 percent relative humidity for 6 to 8 days. After curing,

temperature should be lowered to 55°F (12.8°C), but relative humidity should be maintained at 85 percent.

Weed Control

Section 18 Emergency Label requests may be submitted to supplement weed control recommendations in sweet potatoes.

Identify the weeds in each field and select recommended herbicides that control those weeds. See Tables E-2 and E-3.

Match preplant incorporated and preemergence herbicide rates to soil type and percent organic matter in each field.

Apply postemergence herbicides when crop and weeds are within the recommended size and/or leaf stage.

Find the herbicides you plan to use in the Herbicide Resistance Action Committee's (HRAC) **Herbicide Site of Action Table E-7** and follow the recommended good management practices to minimize the risk of herbicide resistance development by weeds in your fields.

Plant Beds

Napropamide--1-1.5 lb/A. **A Special Local-Needs label 24(c) has been approved for the use of Devrinol 50DF on sweet potato plant beds in Virginia.** Apply 2 to 3 pounds per acre Devrinol 50DF to the plant beds immediately after planting and irrigate to ensure herbicide "activation." The field rate of 2 to 3 pounds per acre of Devrinol 50DF is equal to 0.7 to 1.1 ounces of product per 1,000 square feet of plant bed. Annual grasses and certain broadleaf weeds will be controlled.

Pretransplant

Flumioxazin--0.078 lb/A. Apply 2.5 dry ounces of Valor 51WDG after all tillage has been completed, but 2 to 5 days before planting the crop, to control annual broadleaf weeds. Tillage or cultivation after Valor application reduces or eliminates weed control. DO NOT till or cultivate after applying Valor unless weeds emerge. Use in combination with other recommended herbicides to control annual grasses. Valor can be difficult to clean out of a spray tank. Follow tank cleaning recommendations on the label to avoid injury to other crops after spraying valor. DO NOT use prior to planting greenhouse-grown transplants. DO NOT use on any variety other than 'Beauregard' unless the user has tested Valor on the variety and has found crop tolerance to be acceptable.

Preemergence after Transplanting

Clomazone--0.5-1 lb/A. Apply 1.33 to 2.66 pints per acre Command 3ME before weeds emerge. Use the lower rate on coarse-textured soils low in organic matter and higher rates on fine-textured soils and on soils with high organic matter. Cultivate or irrigate after application to reduce the risk of vapor drift. Command 3ME is an excellent herbicide for the control annual grasses and many annual broadleaf weeds, except pigweed sp., carpetweed, morningglory sp., and yellow nutsedge. Some temporary injury, seen as a partial whitening of leaf and/or stem of the crop, may be observed after seedling emergence. Complete recovery from early injury will occur without affecting yield or delaying maturity.

WARNING: Command spray or vapor drift may injure sensitive crops and other vegetation up to several hundred yards from the point of application. DO NOT apply when wind or weather conditions favor spray

drift. Avoid preemergence applications when fields are adjacent to horticultural, fruit, vegetable, or other sensitive crops (see label). Drift injury from off-site Command movement is extremely apparent; therefore, do not use Command on fields near sensitive locations. Herbicide residues may limit subsequent cropping options when Command is used for weed control. See planting restrictions on the label or consult your local Cooperative Extension office for information regarding subsequent cropping options when Command has been used.

DCPA--6-10.5 lb/A. Apply 8 to 14 pints per acre Dacthal 6F at time of transplanting or 10 to 14 days after planting to weed-free, freshly cultivated soil. Cultivation after application may reduce weed control. Moisture following application is essential. Primarily controls annual grasses and certain broadleaf weeds including carpetweed, common purslane, and common lambsquarters.

Napropamide--1-2 lb/A. Apply 2 to 4 pounds per acre Devrinol 50DF after transplanting, but before weed emergence to control annual grasses and certain annual broadleaf weeds. Irrigate or cultivate within 24 hours of application to incorporate the herbicide. Use the lower rate on coarse-textured sandy soils low in organic matter. Use may reduce the stand and yield of fall planted small grains. Moldboard plowing will reduce the injury to small grain cover crops.

Postemergence

Fluazifop--0.125-0.188 lb/A. Apply 0.5 to 0.75 pints per acre Fusilade DX 2E with oil concentrate to be 1 percent of the spray solution (1 gallon per 100 gallons of spray solution) or a nonionic surfactant to be 0.25 percent of the spray solution (1 quart per 100 gallons of spray solution) postemergence to control annual grasses and certain perennial grasses. For best results, treat annual grasses when they are actively growing and before tillers are present. Repeated applications may be needed to control certain perennial grasses. It will not control yellow nutsedge or any broadleaf weed. Do not tank-mix with any other pesticide unless labeled, as the risk of crop injury may be increased, or reduced control of grasses may result. Observe a minimum preharvest interval of 55 days and apply no more than 6 pints per acre in one season. Do not plant corn, sorghum, cereals, or any other grass crop within 60 days of the last application.

Clethodim--0.094-0.125 lb/A. Apply 6 to 8 fluid ounces per acre Select 2EC with oil concentrate to be 1 percent of the spray solution (1 gallon per 100 gallons of spray solution) or 12 to 16 fluid ounces of Select Max 0.97EC with nonionic surfactant to be 0.25% of the spray solution (1 quart per 100 gallons of spray solution) postemergence to control many annual and certain perennial grasses, including annual bluegrass. Select will not consistently control goosegrass. The use of oil concentrate with Select 2EC may increase the risk of crop injury when hot or humid conditions prevail. To reduce the risk of crop injury, omit additives or switch to nonionic surfactant when grasses are small and soil moisture is adequate. Control may be reduced if grasses are large or if hot, dry weather or drought conditions occur. For best results, treat annual grasses when they are actively growing and before tillers are present. Repeated applications may be needed to control certain perennial grasses. Yellow nutsedge, wild onion, or broadleaf weeds will not be controlled. Do not tank-mix with or apply within 2 to 3 days of any other

pesticide unless labeled, as the risk of crop injury may be increased, or reduced control of grasses may result. Observe a minimum preharvest interval of 30 days.

Sethoxydim--0.2-0.5 lb/A. Apply 1 to 2.5 pint per acre Poast 1.5EC with oil concentrate to be 1 percent of the spray solution (1 gallon per 100 gallons of spray solution) postemergence to control annual grasses and certain perennial grasses. The use of oil concentrate may increase the risk of crop injury when hot, humid, cloudy conditions prevail. To reduce the risk of crop injury, omit the additives or switch to nonionic surfactant when grasses are small and soil moisture is adequate. Control may be reduced if grasses are large or if hot, dry weather or drought conditions occur. For best results, treat annual grasses when they are actively growing and before tillers are present. Repeated applications may be needed to control certain perennial grasses. Yellow nutsedge, wild onion, or broadleaf weeds will not be controlled. Do not tank-mix with or apply within 2 to 3 days of any other pesticide unless labeled, as the risk of crop injury may be increased, or reduced control of the grasses may result. Observe a minimum preharvest interval of 30 days and apply no more than 5 pints per acre in one season.

Postharvest

Paraquat--0.6 lb/A. **A Special Local-Needs 24(c) label has been approved for the use of Gramoxone Inteon 2SC or OLF for postharvest desiccation of the crop in Delaware and Virginia.** Apply 2.4 pints per acre Gramoxone Inteon 2SC or OLF as a broadcast spray after the last harvest. Add nonionic surfactant according to the labeled instructions. See the label for additional information and warnings.

Insect Control

NOTE: Copies of specific insecticide product labels can be downloaded by visiting the websites www.CDMS.net or www.Greenbook.org. Also, specific labels can be obtained via web search engines.

Wireworm, Flea Beetle Larvae, Grubs (See Chapter E the "Wireworms" and "Grubs" sections of "Soil Pests--Their Detection and Control")

bifenthrin (at plant-Capture LFR, Brigade EC, Sniper or OLF, or lay-by for **wireworm, rootworms, and grubs only**)

chlorpyrifos (Lorsban 4EC or OLF) (**wireworm, flea beetle larvae, and grubs only**)

ethoprop (Mocap 6EC or OLF) Apply in a 12- to 15-inch band or broadcast 2 to 3 weeks before planting and incorporate into the top 4 inches of soil.

Wireworm Adults (Click Beetles)

bifenthrin (Capture LFR, Brigade EC, Sniper or OLF)

Cutworms (Also see the "Cutworms" section in Soil Pests--Their Detection and Control.)

beta-cyfluthrin (Baythroid XL)

cyfluthrin (Tombstone, Renounce 20WP, or OLF)

imidacloprid + cyfluthrin (Leverage 2.7)

lambda-cyhalothrin (Lambda-Cy, LambdaT, Silencer, Warrior II or OLF)

lambda-cyhalothrin + chlorantraniliprole (Voliam xpress)

lambda-cyhalothrin + thiamethoxam (Endigo ZC)

Flea Beetle Adults

Look for beetles after transplanting. Repeat spray in 10 days if needed:

- acetamiprid (Assail 30SG or OLF)
- beta-cyfluthrin (Baythroid XL)
- bifenthrin (Brigade EC, Sniper or OLF)
- bifenthrin + imidacloprid (Brigadier)
- carbaryl (Sevin 80S or OLF)
- cyfluthrin (Renounce 20WP, Tombstone or OLF)
- endosulfan (Thionex 3EC or OLF)
- imidacloprid (soil–Admire PRO; foliar–Nuprid 1.6F, Provado 1.6F or OLF)
- imidacloprid + cyfluthrin (Leverage 2.7)
- lambda-cyhalothrin (Lambda-Cy, LambdaT, Silencer, Warrior II or OLF)
- lambda-cyhalothrin + chlorantraniliprole (Voliam xpress)
- lambda-cyhalothrin + thiamethoxam (Endigo ZC)
- thiamethoxam (Actara 25WDG)

Note: Mid-summer foliar sprays of carbaryl or endosulfan may aid in wireworm control by killing egg-laying click beetles (the adult stage of the wireworm).

Tortoise Beetles, Cucumber Beetles (CB)

- acetamiprid (**CB only**) Assail 30SG or OLF)
- bifenthrin (**CB only**) (Brigade EC, Sniper or OLF)
- bifenthrin + imidacloprid (**CB only**) (Brigadier)
- carbaryl (Sevin 80S or OLF)
- lambda-cyhalothrin (Lambda-Cy, LambdaT, Silencer, Warrior II or OLF)
- lambda-cyhalothrin + chlorantraniliprole (Voliam xpress)
- lambda-cyhalothrin + thiamethoxam (Endigo ZC)
- zeta-cypermethrin (Mustang Max, Respect or OLF)
- zeta-cypermethrin+ bifenthrin (**CB only**) (Hero EC)

Pesticide	Use Category ¹	Hours to Reentry	Days to Harvest
INSECTICIDE			
acetamiprid	G	12	7
beta-cyfluthrin	R	12	0
bifenthrin	R	12	21
bifenthrin + imidacloprid	R	12	21
carbaryl	G	12	7
chlorpyrifos	R	24	At Plant
cyfluthrin	R	12	21
endosulfan	R	24	1
ethoprop	R	48	Preplant
imidacloprid + cyfluthrin	R	12	7
imidacloprid (soil/foliar)	G	12	21/7
lambda-cyhalothrin	R	24	7
lambda-cyhalothrin+chlorantraniliprole	R	24	14
lambda-cyhalothrin+thiamethoxam	R	24	14
thiamethoxam	G	12	14
zeta-cypermethrin	R	12	1
zeta-cypermethrin+bifenthrin	R	12	21
FUNGICIDE (FRAC code)			
Botran (Group 14)	G	12	0
Mertect (Group 1)	G	12	0
Scholar (Group 12)	G	12	0

See Table D-6.

¹ G = general, R = restricted

Nematode Control

See "Nematodes" section of Soil Pests--Their Detection and Control. Use fumigants listed in the "Soil Fumigation" section or Mocap (60 to 80 pounds per acre of 10G or 1 to 1.5 gallons of 6EC) or Vydate L. Use as recommended on the label.

Disease Control

Black Rot and Scurf

Seedbed soil should be new or sterilized sand, and a bed temperature of 80° to 85°F (26.7° to 29.4°C) should be maintained. Use a 2-year rotation to reduce potential for disease development in the fields. Avoid applying fertilizer after July 1.

Use seed potatoes that are free of scurf scales for sprout production. During bedding, dip "seed roots" for 1-2 minutes in a suspension containing 8 fluid ounces of Mertect 340F per 7.5 gallons of water and plant immediately.

Use sprouts that are cut above the soil line whenever possible to reduce incidence of scurf.

Avoid bruising roots during harvest. Maintain a temperature of 80° to 85°F (26.71° to 29.4°C) during the curing period, and DO NOT allow temperature during storage to drop below 55°F (12.8°C). Maintain a relative humidity of 85 to 90 percent during curing and storage.

Soft Rot (*Rhizopus*)

Use a resistant variety (eg. Beauregard)

During bedding: Just before bedding, use a 10 to 15 second root dip. Use Botran 75WP (1.0 lb per 10 gallons of water).

At harvest: Dip or spray harvested table or seed-stock roots after cleaning and before packaging. Use 1.0 lb of Botran 75WP in 100 gallons of treating solution. Scholar 1.9SC at 16.0 – 32.0 fl oz/100 gallons of dip is also an option.

Pox (Soil Rot)

Maintain a pH between 4.8 and 5.2 to assist in control. Use crop rotation, clean seed, and lean beds. Fumigation prior to planting may also help.

Fusarium Wilt

Use resistant varieties.

Surface Rot

Minimize injury during harvest. Cure as soon as possible under proper storage conditions. Use clean seed for bedding.

TOMATOES

Varieties

Varieties ¹	DE	MD	NJ	PA	VA	WV
Heirloom/specialty: Lg. Fruit						
Mortgage Lifter	D		N			WV
Hawaiian Pineapple	D		N	P		WV
Prudens Purple	D		N	P		WV
Mister Stripy					V	WV

(table continued)