# F. Commodity Recommendations

## **Pesticide Use Disclaimer**

### THE LABEL IS THE LAW

Before using a pesticide, check the label for up to date rates and restrictions.

**Labels can be downloaded from:** http://www.cdms.net/, https://www.greenbook.net/ or http://www.agrian.com/labelcenter/results.cfm

For more information on Pesticide Safety and the Pesticide Label see chapter D.

**Guide to the Recommended Pesticide Tables in the Following Crop Sections:** 

- Pesticides are listed by group or code number based on chemical structure and mechanism of action, as classified by the Weed Science Society of America (WSSA) for herbicides, the Insecticide Resistance Action Committee (IRAC) for insecticides, and the Fungicide Resistance Action Committee (FRAC) for fungicides.
  If the number is in bold font, the product may have resistance concerns.
- **2.** For **restricted use pesticides**, the restricted active ingredients are labeled with a \*. (See section D 3.2.1 "Restricted Use Classification Statement" for more information).
- 3. In addition to the pesticides listed below, other formulations or brands with the same active ingredient(s) may be available. ALWAYS CHECK THE LABEL: a) to ensure a pesticide is labeled for the same use,

b) to ensure the pesticide is labeled for the desired crop, and

- c) for additional restrictions.
- **4.** All pesticide recommendations are made for spraying a **broadcast area of 1 acre** (43,560 square feet). **Adjust the rate for banded applications** (for more information, see section E 1.3 Calibrating Granular Applicators).
- **5.** Check the label for the maximum amount of pesticide per application and the maximum number of applications per year.
- 6. Bee Toxicity Rating (Bee TR): N=nontoxic; L=minimum impact on bees; M=moderately toxic, can be used if dosage, timing and method of application are correct, but should NOT be applied directly to the crop if bees are present; H=highly toxic, severe losses expected, -- = data not available.

## **Sweet Potatoes**

#### **Recommended Varieties**<sup>1</sup>

Variety	Skin	Flesh	SBR	SRS	RKR	FWR	RZR	BSRR	FRRR
Beauregard B-14 (compact)	Light Rose	Orange	Ι	Ι	S	R	R	S	R
Beauregard B-63 (extended vine)	Light Rose	Orange	Ι	Ι	S	R	R	S	R
Bellevue	Copper	Orange		Ι	R	R	R	S	
Bonita	Light Tan	White		Ι	R	Ι	S		S
Burgundy	Red	Orange		Ι	R	R	S	Ι	
Covington	Rose	Orange		R	R				R
Evangeline	Light Rose	Orange	R	Ι	R	R	R		R
Jewel	Copper	Orange	Ι	S	R	R	Ι	Ι	Ι
O'Henry	Cream	White	Ι	Ι	S	R	R	S	R
Orleans	Light Rose	Orange		Ι	S	R	R	S	R

<sup>1</sup>Listed alphabetically; S Susceptible, I Intermediate Resistant; R Resistant; SBR = Sclerotial blight; SRS = Soil rot (pox); RKR = Root Knot nematode; FWR = *Fusarium* wilt; RZR *Rhizopus* rot; BSRR = Bacterial soft rot; FRRR = *Fusarium* root

#### **Recommended Nutrients Based on Soil Tests**

In addition to using the table below, check the suggestions on rate, timing, and placement of nutrients in your soil test report and chapter B Soil and Nutrient Management. Your state's soil test report recommendations and/or your farm's nutrient management plan supersede recommendations found below.

	Soi	l Phospł	iorus Le	evel	So	il Potass	sium Le	vel	
	Low	Med	High	Very	Low	Med	High	Very	
			(Opt)	High			(Opt)	High	
N (lb/A)		P2O5	(lb/A)			K2O (	(lb/A)		Nutrient Timing and Method
50-75	200	100	50	01	300	200	100	01	Total nutrient recommended.
25	200	100	50	01	300	200	100	01	Broadcast and disk-in
25-50	0	0	0	0	0	0	0	0	Sidedress when vines start to run.
	N (lb/A) 50-75 25 25-50	Soi       Low       N (lb/A)       50-75     200       25     200       25-50     0	Soil Phospi       Low     Med       N (lb/A)	Soil Phosphorus Lo       Low     Med     High (Opt)       N (lb/A)	Soil Phosphorus Level       Low     Med     High     Very       (Opt)     High     Yeigh       N (lb/A)	Soi Phosphorus Level     Soi       Low     Med     High (Opt)     Very High     Low       N (lb/A)		Soil Phosphorus Level     Soil Potassium Level       Low     Med     High (Opt)     Very High     Low     Med (Opt)     High (Opt)       N (lb/A) $- P_2O_5$ (b/A) $- K_2O$ (b/A) $- K_2O$ (b/A) $- K_2O$ (b/A)       50-75     200     100     50 $0^1$ 300     200     100       25     200     0     0     0     0     0     0	Soil Phospheres Level     Soil Potassium Level       Low     Med     High (Opt)     Very High     Med     High (Opt)     Very High       N (lb/A)

<sup>1</sup>In VA, crop replacement values of 25 lb/A of P<sub>2</sub>O<sub>5</sub> and 50 lb/A of K<sub>2</sub>O are recommended on soils testing Very High.

#### **Variety Selection**

Select variety according to market preferences, local adaptation and specific soil problems. Current varieties require 100 to 140 days to achieve maximum yield, depending on cultural practices, irrigation and environmental conditions. Use certified G1 or G2 (generations), virus tested, disease-free "seeds" (storage root used for transplant/slip production) or cuttings (sprouts or slips for field planting) to maximize yield and quality.

#### Site Selection, Soil and Fertilization

Well-drained sandy to sandy loam soils are best for sweet potato, either bedding or production. Avoid heavy soils and soils that will stand water for more than 24 hr. Avoid excessive amount of organic matter (such as fields just broken from hay or pastures). Soils with high levels of organic matter may promote scurf. Use long rotations with grains and soybean to decrease the incidence of soil-borne diseases. Avoid fields with high nematode populations and those that had sweet potato in the past two years. Test the soil for nematodes and fertility. Optimum soil pH is 5.8-6.2. If lime is needed, apply it several months before planting. All P and K can be applied before planting. Apply half of the recommended N before planting (broadcast or band) and apply the rest at layby when vines start to run.

#### **Plant Production**

Sweet potato is propagated vegetatively by sprouts or slips from storage roots ("seed"). Select good quality, certified G1 or G2 "seeds" that are uniform and free from insects and diseases. Before bedding, "seed roots" should be presprouted at 85°F (29°C) and 90% relative humidity for 3-4 weeks until the sprouts are 1-1½ inch long. Make sure "seed roots" are well ventilated because the process requires oxygen. For bedding, avoid sites that had sweet potato in the past 3 years to reduce the risk of diseases. Fertilize with 4-5 lb/100 sqft bed area of 8-8-8 or its equivalent. Bed "seed root" stock the first week of April and use black or clear plastic mulch to warm up the soil. Minimum soil temperature for sweet potato to grow is 60°F (16°C). Treat "seed roots" with appropriate fungicides to reduce decay. Spread "seed roots" (one layer) in beds 2-3 ft wide, cover with 2-3 inches of soil or sand and cover with plastic mulch. After 5-7 days, punch holes every 4 ft on each side of the bed to prevent accumulation of carbon dioxide. When clear plastic mulch is used, apply an herbicide (see the Weed Control section). Remove plastic mulch when sprouts begin to emerge and cover with floating row cover to promote growth and protect against cold temperatures. Remove row covers 5-7 days prior to planting to harden the slips. The warmer conditions in greenhouses and high tunnels (hoop houses) promote sprouting and growth for an early production of slips. For optimal growing conditions keep beds moist and temperature between 75-85°F (24-29°C); however, greenhouse or high tunnel slips are less sturdy than slips from field beds for field planting. One 50-lb bushel of "seed" roots produces 500 to 1,000 sprouts in 10-15 sq ft of bed area. For field planting, best slips are 10-12 inches long and they should be cut (not pulled) from the beds at 1 inch above the soil line to minimize transmission of pests and diseases.

#### **Field Planting**

Sweet potato is cold sensitive and should be planted after all danger of frost is over and the soil temperature at 4 inch-deep is  $>65^{\circ}F$  ( $>18^{\circ}C$ ). The optimum growth temperature is between 70-85°F (21-29°C), although plants can tolerate temperatures between 65-95°F (18-35°C). Plant slips in the field between May 5 and June 15 in warmer, southern areas and between May 20 and June 5 in cooler areas. Slips 12-inch long with 6-8 leaves and well initiated root system are best. Plant slips on moist ridged rows 8-10 inches high. Plant spacing is 12-18 inches along rows and 36-48 inches between rows. Sweet potatoes may also be planted in black plastic mulch covered raised beds with drip irrigation. Water or starter fertilizer solution (1 oz/gal of 15-30-15 or equivalent) at 4-5 oz/slip applied at planting will benefit establishment. If irrigation is available, water field immediately after planting and then as needed.

#### Harvest and Postharvest Considerations

Prior to harvest, scout the field to determine storage root size and appropriate proportion of desired market grade. Pre-harvest conditioning and appropriate harvest handling is critical to reduce bruising of the delicate skin. Bruising, wounding and skinning roots during harvest increase the incidence of diseases. Even if the injury heals, large scars render unappealing storage roots with no fresh market value. Kill vines mechanically (devining) with a flail mower of appropriate design 5-10 d before harvest to improve skin set and facilitate harvest.

Various methods can be used to harvest sweet potato. Growers with small area may harvest by hand using a garden fork. Intermediate sized commercial growers can use a 1 or 2-row modified mold board or disc plow, or middle buster with a notched coulter adjusted just left of the main stems to turn the rows and expose the storage roots. Remove roots from the vines by hand and place them into smooth baskets. Use gloves to keep bruises and abrasions to a minimum. Mechanical diggers patterned after a low flat-bed type potato digger or digger-windrower can facilitate harvest in larger areas. These are 1 or 2-row diggers that incorporate a short separating chain behind a wide blade to dig both soil and roots onto the chain. Soil falls through the chain as the storage roots move up with the chain and drop off to the ground in the back of the digger. Care must be taken to bring enough soil up with the chain to minimize bruises. Storage roots are then picked up by hand and placed in smooth sided baskets. With more advanced harvesters, the storage roots continue on the chain through a platform where they are picked up by hand and placed directly into bins. After the roots are harvested, they should be cured in the storage house at  $85^{\circ}F$  ( $29^{\circ}C$ ) and 85-90% relative humidity for 5-7 days to promote wound healing, reduce disease incidence, and improve sweetness. After curing, temperature should be lowered to  $55^{\circ}F$  ( $13^{\circ}C$ ), but relative humidity should be maintained at 85% for long term storage.

Sweet potato is marketed based on the U.S. Standards for Grades of Sweet Potatoes. U.S. No.1 (roots of 1<sup>3</sup>/<sub>4</sub> to 3<sup>1</sup>/<sub>2</sub> inches in diameter and 3 to 9 inches long) is the preferred grade for fresh market and has the highest price. U.S. No.2 includes smaller root (canner) and larger roots (jumbo), and are accepted by the processing industry. Well-shaped small storage roots free of blemishes have been sold also as fingerling or nuggets in specialty markets.

### Weed Control

# THE LABEL IS THE LAW-see the Pesticide Use Disclaimer on the first page of chapter F. Recommended Herbicides

**1.** Identify the weeds in each field and select recommended herbicides. More information is available in the "Herbicide Effectiveness on Common Weeds in Vegetables" (Table E-2) in chapter E Pest Management.

2. Minimize herbicide resistance development. Identify the herbicide site of action group number and follow recommended good management practices; **bolded group numbers in tables below are herbicides at higher risk for selecting resistant weed populations.** Include non-chemical weed control whenever possible.

1.a. Soil-Applied: Pretransplant										
Group	Product Name	Product Rate	Active Ingredient (*=Restricted Use)	Active Ingredient Rate	PHI (d)	REI (h)				
14	Valor SX 51WDG	2.5 oz/A	flumioxazin	0.078 lb/A		12				
-Apply 2 t	o 5 day pre-transplant after a	all tillage has been complete	d. Limit disturbance of treat	ed soil with transplant equip	ment. T	ïllage				
or cultiva	tion after applying Valor SX	reduces or eliminates weed	control. Valor SX controls n	nany broadleaf weeds, but or	nly supp	resses				
annual gr	asses. Tank mix with Comm	and pretransplant or follow	with a residual grass produc	t to improve control of annu	al grass	es.				
-Do not ap	ply postemergence to sweet	potatoes.								
-Do not us	e on any variety other than	Beauregard unless user has	s tested Valor SX and found	tolerance to be acceptable.						
-Do not us	e on greennouse grown tran	of approx tenk and bases. Fol	low tenk cleaning recommo	n 2 days prior to transplantit	1g.					
-Valor SA	for Valor SX 51WDG: 3 or	of spray tank and noses. For $z/\Delta$ per growing season	now tank cleaning recomme	indations on the label.						
1 b Coil	Applied. After Trope	anlopting								
1.0. 501	-Applied: After Trans		A / • • • • •		DIT	DEL				
Group	Product Name	Product Rate	Active Ingredient (*=Restricted Use)	Active Ingredient Rate	PHI (d)	REI (h)				
3	Dacthal 6F Dacthal W-75	8.0 to 14.0 pt/A 6.0 to 14 lb/A	DCPA	6.0 to 10.5 lb/A		12				
-Apply at t	ransplanting or 10-14 days a	after transplanting. Labeled	for applications directly over	r transplants without injury.						
-If weeds a	re present, the crop should b	be weeded or cultivated prio	r to application. Dacthal cor	ntrols annual grasses and cer	tain bro	adleaf				
weeds. M	aximum application not add	ressed on label.	.1	0.5 ( 1.0 11 / A	05	10				
13	Command 3ME	1.33 to 2.66 pt/A	ciomazone	0.5 to 1.0 lb/A	95	12				
-Apply after	er transplanting and prior to	weed emergence. Use lower	rates on coarse-textured so	ils low in organic matter and	1 higher	rates				
when wee	d pressure is light or to mir	ign organic matter. Ose the l	nower rate when used on coa	arons	game ma	iller,				
-Controls s	in pressure is light, or to him	adleaf weeds depending on u	iat could affect subsequent of	carpetweed morningglory s	n and s	ellow				
nutsedge	Some temporary crop injury	v (partial whitening of leaf of	r stem tissue) may occur. Co	omplete recovery will occur	from m	inor				
early iniu	ry without affecting yield or	delaying maturity.								
-WARNIN	NGS: Command spray or va	por drift may injure sensitive	e crops and other vegetation	up to several hundred yards	from th	ie				
point of a	pplication. <b>Do not</b> apply adj	acent to sensitive crops (see	label) or vegetation, or unde	er unfavorable wind or weath	er cond	itions.				
Command	l may limit subsequent crop	ping options, see the label.	-Maximum number of appli	ications per season is 1.						
15	Devrinol 2-XT 2EC	2.0 to 4.0 qt/A	napropamide	1.0 to 2.0 lb/A		24				
	Devrinol DF-XT 50DF	2.0 to 4.0 lb/A								
-Apply im	mediately after transplanting	and prior to weed emergen	ce. Rainfall or irrigation wit	hin 24 hr after application ir	nproves					
performat	ice ( <sup>1</sup> / <sub>2</sub> inch sprinkler irrigati	on). Annual grasses and cer	tain annual broadleaf weeds	will be suppressed or control	olled. U	se				
lower rate	e on coarse textured or sandy	Soll. Devrinol may reduce a	stand and yield of fall grains	S. Moldboard plowing will react $A = A + A$	educe th	e risk				
	to a sman gram tonow crop.	Maximum Devinior applica	$\frac{1}{2}$	$(D\Gamma - \Lambda T)$ .						
2. Postel	nergence									
Group	Product Name	Product Rate	Active Ingredient (*=Restricted Use)	Active Ingredient Rate	PHI (d)	REI (h)				
1	Select 2EC	6 to 8 fl oz/A	clethodim	0.07 to 0.12 lb/A	30	24				
	Select Max 0.97EC	9.0 to 16.0 fl oz/A								
	Poast 1.5EC	1.0 to 1.5 pt/A	sethoxydim	0.2 to 0.3 lb/A	30	12				
	Fusilade DX 2EC	8 to 12 fl oz/A	fluazifop	0.125 to 0.188 lb/A	14	12				
-Select 2E	C: use crop oil concentrate (	COC) at 1% v/v (1 gal/100	gal of spray solution). Selec	t Max: use nonionic surfact	ant (NIS	5) at				
0.25% v/v	(1 qt/100 gal of spray solut	non). Poast: use COC at 1.0	% v/v. Fusilade DX: use C	OC at 1.0% v/v or NIS at $0.2$	25% v/v	•				
-The use o	of oil concentrate may increase an avaitable to NIC	ease the risk of crop injury	when hot or humid condi	tions prevail. To reduce the	risk of	crop				
Lise lower	labeled retes for ennuel gra	S when grasses are small and	d rotes for perennial grass of	ontrol						
-Use lower	isedge wild onion wild ga	rlic and broadleaf weeds wi	ll not be controlled. Control	s many annual and certain n	erennial					
grasses in	icluding annual bluegrass b	ut Poast is preferred for goo	segrass control For best res	ults treat annual grasses wh	en they	are				
actively g	rowing and before tillers are	present. Control may be red	duced if grasses are large or	under hot or dry weather co	nditions					
-Repeated	applications may be necessa	ry to control certain perenni	al grasses. If repeat applicat	ions are necessary, allow 14	days					
between a	pplications. Rainfastness is	1 h.	~ I II		-					
-Do not ta	nk-mix with or apply within	2 to 3 days of any other pes	ticide, unless labeled, as this	s may increase the risk of cr	op injur	y or				
reduce the	e control of grasses. Do not	apply more than 8 fl oz/A of	f Select 2EC in a single appl	ication and do not exceed 2	pt/A fo	r the				
season; <b>d</b>	o not apply more than 16 fl	oz/A of Select Max in a sing	gle application and <b>do not</b> ex	xceed 4 pt/A for the season.						
-Do not ap	ply more than 1.5 pt/A Poas	t in single application and <b>d</b>	o not exceed 4.5 pt/A for th	e season.						
-Do not ap	ply more than 24 fl oz/A of	Fusilade DX in a single app	lication and <b>do not</b> exceed 3	3 pt/A per season.						
3. Other	Labeled Herbicides	These products are labeled by	ut limited local data are avai	lable; and/or are labeled but	not					
recommen	nded in our region due to po	tential crop injury concerns.								
Group	Product Name		Active Ingredient (*=Res	stricted Use)						
14	Aim		carfentrazone							

### **Insect Control**

# THE LABEL IS THE LAW-see the Pesticide Use Disclaimer on the first page of chapter F. Recommended Insecticides

In the Mid-Atlantic U.S., the primary insect pest concerns for sweet potatoes are a complex of soil-inhabiting beetle larvae including white grubs, wireworms, flea beetles, and southern corn rootworms. In general, very little economic damage occurs to this crop from above-ground insect pests. Pest control mostly occurs at planting.

#### Soil insects: Wireworms, Flea Beetle Larvae, White Grubs, and Rootworms

Apply of	ne of the following form	ulations:				
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee
			(*=Restricted Use)	( <b>d</b> )	(h)	TR
1B	Mocap EC	5.1 to 6.9 fl oz/	ethoprop* - Pre-plant application in a 12-15-	see label	48	Н
		1000 row ft	inch band on the row 2-3 w before planting.			
1B	Lorsban Advanced	4.0 pt/A	chlorpyrifos* - Pre-plant broadcast and	125, at	24	Н
			incorporate.	planting		
3A	Bifenthrin 2EC,	19.2 fl oz/A	bifenthrin* - at-planting in-furrow	21	12	Н
	others		(wireworms)			
3A	Bifenthrin 2EC,	3.2 to 9.6 fl oz/A	bifenthrin* - apply to soil prior to lay-by or	21	12	Н
	others		first cultivation			
3A	Capture LFR	12.75 to 25.5 fl oz/A	bifenthrin*- at-planting in-furrow or to soil	21	12	Η
			prior to lay-by or first cultivation			

#### Cutworms See also section E 3.1. Soil Pests - Detection and Control.

Various species can cause direct damage to sweet potatoes as well as sever plant stems.

Apply on	Apply one of the following formulations:										
Group	Product Name	Product Rate	Active Ingredient(s)		REI	Bee					
			(*=Restricted Use)	( <b>d</b> )	(h)	TR					
3A	Baythroid XL	0.8 to 1.6 fl oz/A	beta-cyfluthrin*	0	12	Н					
3A	Hero EC	2.6 to 6.1 fl oz/A	zeta-cypermethrin* + bifenthrin*	21	12	Н					
3A	Lambda-Cy 1EC, others	1.92 to 3.2 fl oz/A	lambda-cyhalothrin*	7	24	Н					
3A	Mustang Maxx	1.28 to 4.00 fl oz/A	zeta-cypermethrin*	1	12	Н					
3A	Tombstone, others	0.8 to 1.6 fl oz/A	cyfluthrin*	0	12	Н					
3A	Warrior II	0.96 to 1.6 fl oz/A	lambda-cyhalothrin*	7	24	Н					
3A + 28	Besiege	5.0 to 8.0 fl oz/A	lambda-cyhalothrin*+chlorantraniliprole	14	24	Н					

#### Cucumber Beetles, Flea Beetles, Click Beetles and Tortoise Beetle Adults

Well timed foliar applications during the summer months targeting beetle adults can help reduce the number of eggs deposited in fields, which may reduce the amount of larval damage to roots.

Apply one	Apply one of the following formulations:									
Group	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee				
			(*=Restricted Use)	( <b>d</b> )	( <b>h</b> )	TR				
1A	Sevin XLR Plus	1.0 to 2.0 qt/A	carbaryl	7	12	Н				
3A	Baythroid XL	1.6 to 2.8 fl oz/A	beta-cyfluthrin*	0	12	Н				
3A	Bifenthrin 2EC, others	2.1 to 6.4 fl oz/A	bifenthrin*	21	12	Н				
3A	Hero EC	2.6 to 6.1 fl oz/A	zeta-cypermethrin* + bifenthrin*	21	12	Н				
3A	Lambda-Cy 1EC, others	2.56 to 3.84 fl oz/A	lambda-cyhalothrin*	7	24	Н				
3A	Mustang Maxx	1.76 to 4.00 fl oz/A	zeta-cypermethrin*	1	12	Н				
3A	Tombstone, others	1.6 to 2.8 fl oz/A	cyfluthrin*	0	12	Н				
3A	Warrior II	1.28 to 1.92 fl oz/A	lambda-cyhalothrin*	7	24	Н				
3A + 4A	Brigadier	5.1 to 7.7 fl oz/A	bifenthrin* + imidacloprid - foliar	21	12	Н				
3A + 4A	Endigo ZC	3.5 to 4.5 fl oz/A	lambda-cyhalothrin* + thiamethoxam	14	24	Н				
3A + 4A	Leverage 360	2.4 to 2.8 fl oz/A	imidacloprid + beta-cyfluthrin*	7	12	Н				
3A + 28	Besiege	6.0 to 9.0 fl oz/A	lambda-cyhalothrin* + chlorantraniliprole	14	24	Н				
4A	Actara 25WDG	1.5 to 3.0 oz/A	thiamethoxam	14	12	Н				
4A	Admire Pro	1.2 fl oz/A	imidacloprid - foliar	7	12	Н				
4A	Assail 30SG	1.5 to 4.0 oz/A	acetamiprid	7	12	М				
4A	Belay 2.13SC	2.0 to 3.0 fl oz/A	clothianidin - foliar	14	12	Н				

### **Disease Control**

# THE LABEL IS THE LAW-see the Pesticide Use Disclaimer on the first page of chapter F. Recommended Fungicides

**Nematodes** See also sections E 1.5 Soil Fumigation and E 1.6 Nematode Control in chapter E Pest Management. Use fumigants listed in section E.1.5 or below. Consult the label.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee
			(*=Restricted Use)	( <b>d</b> )	(h)	TR
1A	Vydate L	1 to 2 gal/A in at least 20 gal/A preplant in	oxamyl*	AP	48	Н
		furrow treatment. see label				
1B	Mocap 15G	1.1 fl oz/1,000ft row in 12-inch band over the	ethoprop*	AP	48	Н
		row at planting. See label (not for use in WV)				
7	Velum Prime 4.16SC	6.0 to 6.84 fl oz/A	fluopyram	7	12	

#### **Bacterial and Fungal Diseases**

**Streptomyces Soil Rot (Pox)** Use resistant varieties. Maintain a pH between 4.8-5.2 to assist in control. Use crop rotation, clean seed, and clean beds. Fumigation prior to planting may also help.

#### Bacterial Stem and Root Rot (Dickeya dadantii)

Management based on sanitation and handling to prevent wounds and contamination. Select disease-free "seed" roots and cut slips 1 inch above ground. Make holes in the plastic mulch to avoid anaerobic conditions. Use field with good drainage to avoid waterlogging. Maintain dry roots before packing.

#### Damping Off (Pythium and Rhizoctonia)

Code	Product Name	Product Rate Active Ingredient(s)		PHI	REI	Bee
			(*=Restricted Use)	( <b>d</b> )	( <b>h</b> )	TR
4	Ridomil Gold 4SL	1.0 to 2.0 pt/A	mefenoxam	AP	48	Ν
4 + 11	Uniform 3.66SE	0.34 fl oz/1,000 ft row	mefenoxam + azoxystrobin	AP	12	Ν
11	Quadris 2.08F	0.4 to 0.8 fl oz/1,000 ft row	azoxystrobin	AP	4	Ν
22	Elumin 4SC	8 fl oz/A	ethaboxam		12	
43	Presidio 4SC	3 to 4 fl oz/A	fluopicolide	7	12	L

Sclerotial Blight and Circular Spot (*Sclerotium rolfsii*) Also known as southern blight. Plant in fields without a history of the problem. Dip roots in registered fungicides. Remove bed mulch as soon as sprouts start to emerge.

#### Black Rot (Ceratosistis fimbriata) and Scurf (Monilochaetes infuscans)

Sanitation, "seed" root free of diseases, cut slips 1-inch above soil, field rotation, and curing immediately after harvest (see harvest and postharvest considerations) help reduce the incidence of these diseases.

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee
			(*=Restricted Use)	( <b>d</b> )	(h)	TR
1	Mertect 340-F	107 fl oz/100 gal, dip "seed" roots before bedding, see label	thiabendazole	0.5	12	N

#### Fusarium Surface Rot, Stem Canker, and Surface Rot

Use resistant varieties and sanitation. Minimize injury during harvest. Cure immediately after harvest and store under proper conditions (see harvest and postharvest considerations). Field rotation and clean "seed" roots for bedding. Cut slips 1-inch above ground.

Code	Product Name	Product Rate	Active Ingredient(s) (*=Restricted Use)	PHI (d)	REI (h)	Bee TR
1	Mertect 340-F	107 fl oz/100 gal, dip "seed" roots before bedding, see label	thiabendazole	0.5	12	N

#### Postharvest Soft Rot (Rhizopus)

Care handling to reduce wounding. Cure immediately after harvest (see harvest and postharvest considerations).

Code	Product Name	Product Rate	Active Ingredient(s)	PHI	REI	Bee
coue	1 Founder Funite		(*=Restricted Use)	(d)	(h)	TR
12	Scholar 1.9SC	16 to 32 fl oz/100 gal, see label	fludioxonil		12	L

# For Immediate Medical Attention Call 911

## For a Pesticide Exposure Poisoning

## **Emergency Call**



This number will automatically connect you to the poison center nearest to you.

Anyone with a poisoning emergency can call the toll-free telephone number for help. Personnel at the Center will give you first-aid information and direct you to local treatment centers if necessary.

### **For Pesticide Spills**

Small Spills: See the product label for cleanup advice.

**Large spills:** Call the National Response Center at 1-800-424-8802 or CHEMTREC at 800-424-9300 (24 hours) - Industry assistance with emergency response cleanup procedures for large, dangerous spills.

Be aware of your responsibility to report spills to the proper state agency.