



## 2008 Florida Plant Disease Management Guide: Chemical Control Guide for Diseases of Vegetables, Revision No. 19<sup>1</sup>

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Ken Pernezny, Amanda Gevens, Tim Momol, Aaron Palmateer, Natalia Peres, Richard Raid, Pam Roberts, Gary Vallad, and Shousan Zhang<sup>2</sup>

This publication is a guide to lawful use of sprayable chemicals intended for control of plant diseases affecting vegetables grown in Florida.

Control of plant diseases is achieved by utilizing numerous cultural, biological, regulatory and chemical tactics. The performance of a chemical can be enhanced through various non chemical tactics to reduce inocula. Additionally, within chemical control, numerous variables can influence the performance of a chemical. Some examples of variables affecting success of chemical-application technology include the following: time of applications, nozzle arrangement, spray dilution, chemical rate per unit area, adjuvants, and rainfall. Beginning spray programs prior to or at first sign of disease is best.

USE A SPRAY ADJUVANT WITH A SPREADER AND A STICKER IN CONJUNCTION WITH SOME WETTABLE POWDER AND SOME FLOWABLE FORMULATIONS. SPREADER-STICKER ADJUVANTS ARE USEFUL, PARTICULARLY ON SLICK LEAF AND VERTICALLY LEAF-ORIENTED CROPS, SUCH AS ONIONS, CRUCIFERS AND SWEET CORN. DO NOT USE SPRAY ADJUVANTS IF THE LABEL INDICATES THAT ADJUVANTS SHOULD NOT BE USED. FOR EXAMPLE, SEVERAL LABELS WARN AGAINST USE OF SILICON ADJUVANTS WITH THOSE PRODUCTS.

The listing that follows does not include all legally available chemicals sold in Florida for the purpose of plant-disease control. For a

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  2. Ken Pernezny, professor, Plant Pathology Department, Everglades Research and Education Center--Belle Glade, FL; Amanda Gevens, assistant professor, Plant Pathology Department; Tim Momol, professor, Plant Pathology Department, and extension director, Central Florida District; Aaron Palmateer, assistant professor, Plant Pathology Department, Tropical Research and Education Center--Homestead, FL; Natalia Peres, assistant professor, Plant Pathology Department, Gulf Coast Research and Education Center--Wimauma, FL; Richard Raid, professor, Plant Pathology Department, Gulf Coast Research and Education Center--Wimauma, FL; Pam Roberts, assistant professor, Plant Pathology Department, Southwest Florida Research and Education Center--Immokalee, FL; and Shousan Zhang, assistant professor, Plant Pathology Department, Tropical Research and Education Center--Homestead, FL, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

**The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication does not signify our approval to the exclusion of other products of suitable composition.**

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comprehensive list, contact the Florida Department of Agriculture and Consumer Services (FDACS), Division of Agricultural Services, Bureau of Pesticides – <http://www.flaes.org/Pesticide/>.

Chemicals listed in this guide are the following:

1) those for which data from the State of Florida are available for the active ingredient;

2) chemicals for which no other compound(s) is (are) known to be available, but use is lawful according to the United States Environmental Protection Agency (EPA);

3) chemicals that are legal to use and lack data from FDACS, but would be expected to perform satisfactorily based upon professional judgement.

**It may seem rhetorical, but read the label; you paid for it.** Read labels for information about crop-rotational limitations with fungicides. Also note within this publication the crop groupings for tolerance establishment. Keep in mind, too, that REENTRY into fields treated with any pesticide is restricted by the use of a time interval, as well as by type of clothing worn, and necessary protective wear. For example, labels of products containing chlorothalonil state a 12-hour reentry interval. However, if adequate eye protection is not used, the reentry interval is seven days. Label information supersedes all other sources of information. If, for example, the label does not prohibit greenhouse use, the material can be used in the greenhouse.

**Rotate unrelated chemicals in your spray program for resistance management.** Continued use of the same or related chemicals can result in insensitivity (resistance) of the target pest to that chemical or to other chemicals in the same group. For example, all strobilurin fungicides are in Group 11 as indicated on the fungicide labels. Group 11 fungicides include the following: Flint, Quadris, Quardris Opti, Amistar, Headline, Cabrio, and Pristine.

Crop	Chemical	Fungicide Group	Maximum Rate Per Acre Per Application Season	Min. Days To Harvest	Pertinent Diseases	Remarks
<b>Artichoke (globe)</b>	Amistar 80 DF (azoxystrobin)	11	5.0 oz	14	Ramularia leaf spot	
	Quadris 2.08 FL (azoxystrobin)		15.4 fl oz			
<b>Asparagus*</b> Rate/ season= rate/year for asparagus	Dithane F45 or Manex II 4 FLs	M3	1.6 qt	180	Cercospora leaf spot Rust	Use after harvest of spears.
	Penncozeb, Dithane M45 or Manzate 80 WPs		8.0 lb*	180	Cercospora leaf spot Rust	Use after harvest of spears.
	Dithane F45 or Manex II 4 FLs		0.8 qt/100 gal		Crown rot	Planting stock dip
	Manzate, or Dithane 75 DFs		1.0 lb/100 gal		Crown rot	Planting stock dip
	Ridomil Gold 4 EC (mefenoxam)		1 pt/trtd acre	1	Pythium blight Phytophthora blight	See label.
<b>Beans</b>	Dithane, Manzate, or Penncozeb 75 DFS	M3	2 lb	180	Cercospora leaf spot Rust	Use after harvest of spears.
	Amistar 80 DF (azoxystrobin)		5 oz	100	Stemphylium purple spot	Limit is 4 total appl/season & alternate with non-strobilurin fungicide.
	Quadris 2.08 FL (azoxystrobin)		15.4 fl oz			
	Echo Ultimate or Bravo Ultrex 82.5 WDGs		3.6 lb	190	Same as Dithane products	
	Ridomil Gold EC Ridomil Gold SL (mefenoxam)		4	1 pt/treated acre	0	Pythium seedling blight
Ridomil Gold PC GR (mefenoxam, PCNB)	4 & 14	0.75 lb/100 ft of row	0	Seedling blight		
Apron XL LS (mefenoxam)	4	0.64 fl oz/100 lb of seed	0	Pythium Phytophthora Damping off	Seed treatment only	

Applause 720, Bravo ZN, Bravo Ultrex, Bravo Weatherstik, Chloronil 720, Equus DF, Equus 720 SST Echo 720, Echo 90 DF, Echo ZN (chlorothalonil)	M5	See label	See label	See label	7 or 14 See label	Rust Gray mold Botrytis blight	Do not use on crops for livestock.
Endura (boscalid)	7	11 oz	22 oz	7 (succule nt)	7	Ascophyta blight Botrytis gray mold White mold	Limit 2 appl/crop & alternate chemistry.
Topsin M 70 WP, Topsin 4.5FL, Topsin M 70 WDG, Topsin M WSB (thiophanate methyl)	1	See label	See label	14 (snap) 28 (lima)	14	Gray mold White mold Anthracnose	Apply once at 50-70% bloom or twice (max.=1 1/2 lbs/appl.) with first at 10-30% bloom and second at peak bloom.
Rovral 4 F (iprodione)	2	2 pt	4 pt	0	0	Gray mold white mold	Limit 2 appl/ crop. Not for use as livestock feed.
Nova 40 W Rally 40 WSP (myclobutanil)	3 & 11	5 oz/treated acre	1.25 lb/acre	0	0	Rust Rhizoctonia pod rot	30-day plant back restriction
Amistar, Dynasty, Heritage, Quadris (azoxystrobin)	11	See label	See label	0	0	Rust Web blight Southern blight Anthracnose Rhizoctonia diseases	Limit 4 appl/crop & alternate chemistry.
Botran 75-W (dichloran)	14	4 lb (pole) 3 lb (bush)		2	2	Sclerotinia diseases	Do not use on crops for livestock.
Defiant (thiram)	M5	1.3 fl oz/ 100 lb of seed		0	0	Damping off Seed decay Seed blight	Seed protection
Headline (pyraclostrobin)	11	9 fl oz	18 fl oz	7	7	Rust Powdery mildew Cercospora leaf spot	Limit 2 appl/crop & alternate chemistry.

Amicarb 100 Milstop (potassium bicarbonate)	33	5 lb 3 lb/treated acre		0	Anthraxnose Alteraria leaf spot Gray mold Rhizoctonia root rot White mold	Avoid tank mixing with highly acidic pesticides as this practice may reduce efficacy. Apply to seed furrow and covering soil. Do not spray seed directly. See label.
Blocker 4F (PCNB)	14	2 pt		0		
Copper formulations including, but not limited to: Badge SC, Basic Copper 53, Champ DP, Champ Formula 2 F, Champion WP, COC DF, COC WP, Nordox, Copper-Count-N, Copper-Z 4/4, Kentan DF, Nu Cop, Kocide, Cuprofix Ultra 40 Disperss, Stretch, Tenn-Cop 5E (Copper hydroxide; Copper oxychloride; Cuprous oxide)	M1	See label	See label	See label	Bacterial blights	Use with caution when used in a program containing phosphonic fungicides.
Phosphonic fungicides including, but not limited to: Fosphite, Fungi-phite, Prophyt, Topaz (Potassium phosphite or potassium derivative)	33	See label	See label	0	Pythium and Rhizoctonia diseases	Use with caution when used in a program containing copper fungicides.
Iprodione 4L AG (iprodione)	2	2 pt	4 pt	0	White mold Gray mold	
Kaligreen (Potassium bicarbonate)		3 lb		1	Powdery mildew	Avoid tank mixing with highly acidic pesticides as this may reduce efficacy.

		12	0.16 fl oz/ 100 lb			0	Seedling and damping off diseases	Seed treatment
Maxim 4FS (fludioxonil)		12				0		
Oxidate (hydrogen dioxide)		M2	9 gal			0	See label	
Turficide (PCNB)		14	15 oz/1000 ft of row			0	Rhizoctonia stem and root rot	
Serenade ( <i>Bacillus subtilis</i> strain QST713)			4 pt			0	Rust White mold Powdery mildew	
Sonata ( <i>Bacillus pumilis</i> strain QST2808)		Biological	8 pt			0	Rust Powdery mildew	
Sonata 40 WSP ( <i>Bacillus pumilis</i> strain QST2808)		Biological	5 oz/treated acre	5 lb/treated acre		0	Rust Pod tip rot Powdery mildew	
Sulfur formulations including, but not limited to: Kumulus DF, Micro Sulf, Micronized Gold, Microthiol Disperss, Sulfur 90W, Super-Six, Wettable Sulfur, Yellow Jacket Wettable Sulfur (sulfur)		M2	See label	See label		See label	See label	Do not apply during periods of warm weather or phytotoxicity may occur.
Switch 62.5 WG (cyprodinil; fludioxonil)		9 & 12	14 oz	56 oz		7	White mold Gray mold	After 2 appl. of Switch, alternate with another fungicide with a different mode of action for 2 appls.
Terrachlor 2E (PCNB)		14	6.6 fl oz/1000 ft of row			0	Rhizoctonia root rot	Soil application only
Thiophanate-methyl 85 WDG (thiophanate methyl)		1	1.6 lb/treated acre	3.2 lb/treated acre		14 (snap)	Gray mold White mold Anthracnose	First application at 10-30% bloom

T-methyl 70 W WSB (thiophanate methyl)	1		2 lb/treated acre	4 lb/treated acre	14			
Cabrio 20 EG (pyraclostrobin)	11		16 oz	48 oz	0			Limit 3 appl/crop & alternate chemistry.
Copper compounds including Badge, Basic Copper 53, Basicop, Champ, COC, Copper Count-N, Cuprofix Disperss, Kocide, Nordox, Nu Cop, Stretch, Tenn Cop	M1		See label		0			Cercospora leaf spot Rhizoctonia diseases  Cercospora leaf spot Brown spot Bacterial blight
Top Cop with Sulfur	M1 & M2		4 pt/treated acre		0			Rust Powdery mildew Bacterial blight
Sporan EC (rosemary oil, clove oil, thyme oil)			3 pt/treated acre		0			See label  Use of adjuvants is highly recommended.
Trilogy (neem oil)			2 gal/treated acre or 2 gal/100 gal water		0			See label
Phosphonics (derivatives of phosphoric and phosphorous acids including, but not limited to: Fosphite, Fungi-Phite, Helena Prophyt, Phostrol, Topaz)	33		See label					
<b>Beets</b>								
Ridomil Gold 4 EC (mefenoxam)	4		2 pt/trtd acre					Pythium seedling blight
Ridomil Gold SL (mefenoxam)	4		2 pt					Pythium root rot
								Apply in water or liquid fertilizer and incorporate into top 2 inches of soil.  Pre-plant incorporated only

	Amistar 80 DF (azoxystrobin)	11	5 oz	2.5 lb	0	Cercospora leaf spot	See label for <i>Rhizoctonia</i> control.
	Apron XL 3LS (difenconazole + mefenoxam)	3 & 4	0.64 fl oz/100 lb seed			Pythium damping-off	Seed treatment only
	Cabrio 20 EG (pyraclostrobin)	11	16 oz	48 oz	0	Cercospora leaf spot	Limit is 3 appl/crop & alternate chemistry.
	Various copper compounds (see ind. labels), including Badge, Basic Copper 53, Basicop, Champ, COC, Copper Count-N, Cuprofix Disperss, Kocide, Nordox, Nu Cop, Stretch, Tenn Cop)	M1	SEE INDIVIDUAL LABELS			Cercospora leaf spot	
	Flint 50 WGD (trifloxystrobin)	11	3 oz	12 oz	7	Cercospora leaf spot	No more than 3 sequential appls.
	Quadris 2.08FL (azoxystrobin)	11	15.4 oz	3.75 qt	0	Cercospora leaf spot	See label for <i>Rhizoctonia</i> control.
	Ultra Flourish (mefenoxam)	4	4 pt		0	Pythium and Phytophthora seedling diseases	Soil treatment at planting only.
	Phosphonics (various derivatives of phosphoric and phosphorous acids including but not limited to Fosphite, Fungi-Phite, Helena Prophyt, Phostrol, Topaz)						
	SEE INDIVIDUAL LABELS						
<b>Black-eyed peas</b>	Various copper compounds (see ind. Labels), including Badge, Basic Copper 53, Basicop, Champ, COC, Copper Count-N, Cuprofix Disperss, Kocide, Nordox, Nu Cop, Stretch, Tenn Cop)	M1				Cercospora leaf spot	
<b>Bok choy &amp; other choy types</b>	Flint 50 WGD (trifloxystrobin)	11	3 oz	12 oz	7	Cercospora leaf spot Leaf blight Powdery mildew Rust	No more than 3 sequential applications



Broccoli (includes Chinese broccoli)	Applause 720 (chlorothalonil)	M5	1.5 pt	16 pt	7	Alternaria leaf spot Downy mildew	See label for details.
	Equus, Echo 720 or Chlorogold 6 FLS (chlorothalonil)		1.5 pt	16 pt	7		
	Echo 90DF or Equus DF (chlorothalonil)		1.25 lb		7		
	Bravo Ultrex 82.5WDG (chlorothalonil)		1.4 lb	14.5 lb	7		
	Bravo Weather Stik 6F (chlorothalonil)		1.5 pt	16 pt	7		
	Maneb 80WP (maneb)	M3	2 lb	12 lb	0		
	Maneb 75DF (maneb)		2 lb	12.8 lb	7		
	Manex 4F (maneb)		1.6 qt	9.6 qt	7		
	Basicop (elemental copper)	M1	3 lb				
	Bonide Liquid Copper (copper salts)		1 tsp/gal				
	Tenn-Cop 5E (copper salts)		0.75 pt				
	Ridomil Gold Bravo 76.4 WP (chlorothalonil + mfenoxam)	M5 & 4	1.5 lb	8 lb	7		
	Alliette 80WG (fosetyl-al)	33	5 lb	35 lb	3		
	Nu Cop 50WP (copper hydroxide)	M1	1 lb				
	Revus (mandipropamid)	40	8 fl oz	32 fl oz	1		
Ridomil Gold SL (mefenoxam)	4	2 pt (soil) 0.25 pt (foliar)	2 pt (soil) 1 pt (foliar)	7	Pythium and Phytophthora diseases (soil) Downy Mildew	See label for details.	
Rovral 4F (iprodione)	2	2 pt	4 pt	0	Black leg ( <i>Leptosphaeria maculans</i> )	Limit is 2 appl/crop.	

Kocide 2000, Kocide DF (copper hydroxide)	M1	0.75-2 lb	1	Higher rate may cause reddening of older leaves. See label for details.	Alternaria leaf spot Black rot Downy mildew		
						10 lb	
						1.25 lb	
						0.66 lb	
Cuprofix Disperss (copper sulfate)	P	1 oz	7	Apply preventively; limit is 4 appl/crop on a 7-day schedule. See label for details.	Downy mildew Black rot		
Cuprofix Ultra 40 Disperss (copper sulfate)							
Champ DP (copper hydroxide)							
Actigard 50 WG (acibenzolar-S-methyl)							
Endura (boscalid)	7	9 oz	0	Limit is 2 appl/crop. See label for details.	Alternaria blight Gray mold Sclerotinia rot Powdery mildew Rhizoctonia rot		
Switch 62.5WG (cyprodinil + fludioxonil)	9 & 12	14 oz	7	See label for details.	Alternaria blight Cercospora leaf spot Powdery mildew		
Terraclor 75WP, Terraclor 15G (PCNB)	14	See label		See label for details.	Clubroot Rhizoctonia rot		
Amistar 80 DF (azoxystrobin)	11	5 oz	0	No more than 1 sequential appl. See label for details.	Alternaria leaf spot Downy mildew		
Quadris (azoxystrobin)						30 oz	30 lb a.i.
Cabrio EG (pyraclostrobin)						15.5 fl oz	93 fl oz
		16 oz	64 oz	Limit is 2 sequential appl/crop.	Alternaria leaf spot Anthracnose Black leg Cercospora leaf spot Downy mildew Powdery mildew Rhizoctonia leaf blight Ring spot White rust White leaf spot		

Reason 500SC (Fenamidone)	11	8.2 oz	24.6 oz	2	Downy mildew ( <i>Peronospora parasitica</i> ) Cercospora leaf spot ( <i>Cercospora brassicicola</i> ) White rust ( <i>Blumeria caroliniana</i> ) <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> <i>Xanthomonas campestris</i> Anthracnose Downy mildew Powdery mildew	Limits are no more than 1 sequential application.
K-phite 7LP Fosphite Fungi-phite Helena Prophyte Phostrol Topaz (mono-and di-potassium salts of phosphorous acid)	33	See label		0		Do not apply with copper-based fungicides. See label for restrictions and details.
Oxidate (hydrogen dioxide)	M2	1:100 dilution			Alternaria leaf spot Downy mildew Powdery mildew	See label for details.
Various brands of sulfur					Powdery mildew	See label for details.
Amicarb 100 Kaligreen Milstop (Potassium bicarbonate)	33	See label			Powdery mildew Downy mildew Alternaria leaf spot <i>Botrytis</i> Phoma blackleg and leafspot Anthracnose	See label for details. See label for details.
Serenade ASO Serenade Max Sonata ( <i>Bacillus</i> sp.)	Biological material	See label	See label	0	Xanthomonas leaf spot Alternaria leaf spot Downy mildew Powdery mildew	See label for details.
Brussels sprouts	Applause 720 (chlorothalonil)	1.5 pt	16 pt	7	Alternaria leaf spot Downy mildew	See label for details.
	Equus FL, Chlorogold or Echo 720 6FLS (chlorothalonil)	1.5 pt	16 pt	7		
	Echo 90DF or Equus 82.5DF or Bravo Ultrex 82.5 WDG (chlorothalonil)	1.3 lb	14.5 lb	7		

Manex 4F (maneab)	M3	1.6 qt	9.6 qt	7				Slight reddening of older leaves may occur.
Maneb 80WP (maneab)		2 lb	12 lb					
Maneb 75DF (maneab)		2 lb	12.8 lb					
Basicop (elemental copper salts)	M1	3 lb						
Basicop Liquid Copper		1 tsp/gal						
Tenn-Cop 5E (copper)		0.75 pt						
Revus (chlorothalonil + mfenoxam)	M5 & 4	1.5 lb	12 lb a.i. chlorotal onil	7				Limit is 4 appl/crop.
Aliette 80WG (fosetyl-al)	33	5 lb	35 lb	3			Downy mildew	Limit is 7 appl/crop. Do not tank mix with copper fungicides. See label for details.
Nu Cop 50WP (copper hydroxide)	M1	1lb						
Revus (mandipropamid)	40	8 fl oz	32 fl oz	1				Limit is no more than 2 sequential appl. or 4 total appl. See label for restrictions and details. See label for details.
Bravo Weather Stik 6F (chlorothalonil)	M5	1.5 pt	16 pt	7			Alternaria leaf spot	See label for details.
Kocide 2000, Kocide DF (copper hydroxide)	M1	0.75-2 lb		1			Alternaria leaf spot Black rot Downy mildew	See label for details.
Cuprofix Disperss (copper sulfate)		10 lb						
Cuprofix Ultra 40 Disperss (copper sulfate)		1.25 lb						
Champ DP (copper hydroxide)		0.66						
Ridomil Gold SL (mefenoxam)	4	2 pt (soil) 0.25 pt (foliar)	2 pt (soil) 1 pt (foliar)	7			Pythium and Phytophthora diseases (soil) Downy mildew	See label for details.
Actigard 50 WG (acibenzolar-S-methyl)	P	1 oz	4 oz	7			Downy mildew Black rot	Apply preventively; limit is 4 appl/crop on a 7-day schedule. See label for details.

Endura (boscalid)	7	9 oz	18 oz	0	Alternaria blight Gray mold Sclerotinia rot Powdery mildew Rhizoctonia rot	Limit is 2 appl/crop. See label for details.
Switch 62.5WG (cyprodinil + fludioxonil)	9 & 12	14 oz	56 oz	7	Alternaria blight Cercospora leaf spot Powdery mildew	See label for details.
Terraclor 75WP, Terraclor 15G (PCNB)	14	See label	30 lb a.i.		Clubroot Rhizoctonia rot	See label for details.
Amistar 80 DF (azoxystrobin)	11	5 oz	30 oz	0	Alternaria leaf spot Downy mildew	No more than 1 sequential appl. See label for details.
Quadris (azoxystrobin)	11	15.5 fl oz	93 fl oz	0		
Cabrio EG (pyraclostrobin)	11	16 oz	64 oz	0	Alternaria leaf spot Anthracnose Black leg Cercospora leaf spot Downy mildew Powdery mildew Rhizoctonia leaf blight Ring spot White rust White leaf spot	Limit is 2 sequential appl/crop.
Reason 500SC (Fenamidone)	11	8.2 oz	24.6 oz	2	Downy mildew ( <i>Perenospora parasitica</i> ) Cercospora leaf spot ( <i>Cercospora brassicicola</i> ) White rust ( <i>Albugo candida</i> )	Limits are no more than 1 sequential appl.

	K-phite 7LP Fosphite Fungi-Phite Phostrol Topaz (mono- and di-potassium salts of phosphorous acid)	33	See label	0	<i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> <i>Xanthomonas carpestris</i> Anthracnose Downy Mildew Powdery Mildew	Do not apply with copper-based fungicides. See label for restrictions and details.
	Oxidate (hydrogen dioxide)	M2	1:100 dilution		Alternaria leaf spot Downy mildew Powdery mildew	See label for details.
	Various brands of sulfur	M2			Powdery mildew	See labels for details.
	Amicarb 100 Kaligreen Milstop (Potassium bicarbonate)	33	See label		Powdery mildew Downy mildew Alternaria leaf spot <i>Botrytis</i> Phoma blackleg and leafspot Anthracnose	See label for details.
	Serenade ASO Serenade Max Sonata ( <i>Bacillus</i> sp.)	Biological material	See label	0	Xanthomonas leaf spot Alternaria leaf spot Downy mildew Powdery mildew	See label for details.
<b>Cabbage (also see Chinese cabbage)</b>	Applause 720 (chlorothalonil)	M5	1.5 pt	7	Alternaria leaf spot Downy mildew	See label for details.
	Bravo Ultrex 82.5WDG (chlorothalonil)		1.4 lb	7		
	Bravo Weather Stik 6F (chlorothalonil)		1.5 pt	7		
	Ridomil Gold Bravo 76.4WP (chlorothalonil + mfenoxam)	M5 & 4	1.5 lb	6 lb	7	
	Equus 82.5DF or Echo 90DF (chlorothalonil)	M5	1.6 lb	13.3 lb	7	
	Manex 4F (maneb)	M3	1.6 qt	9.6 qt	7	



Amistar 80 DF (azoxystrobin)	11	5 oz	30 oz	0	Alternaria leaf spot Downy mildew	No more than 1 sequential appl. See label for details.
Quadris (azoxystrobin)	11	16 oz	64 oz	0	Alternaria leaf spot Anthracnose Black leg Cercospora leaf spot Downy mildew Powdery mildew Rhizoctonia leaf blight Ring spot White rust White leaf spot	Limit is 2 sequential appl/crop.
Cabrio EG (pyraclostrobin)						
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K-white 7LP Fosphite Fungi-Phite Helena Prophyte Phostrol Topaz (mono- and di-potassium salts of phosphorous acid)	33	See label		0	<del>Alternaria leaf spot</del> <del>Anthracnose</del> <del>Botrytis</del> <del>Downy mildew</del> <del>Powdery mildew</del> <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> <i>Xanthomonas campestris</i> Anthracnose Downy Mildew Powdery Mildew	Do not apply with copper-based fungicides. See label for restrictions and details.
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Amicarb 100 Kaligreen Milstop (Potassium bicarbonate)	33	See label			Powdery mildew Downy mildew Alternaria leaf spot Botrytis Phoma blackleg and leafspot Anthracnose	See label for details.



Serenade ASO Serenade Max Sonata ( <i>Bacillus</i> sp.)		Biological material	See label	See label	0	Xanthomonas leaf spot Alternaria leaf spot Downy Mildew Powdery Mildew	See label for details.
<b>Cantaloupe (Muskmelon)</b> Acrobat 50WP (Dimethomorph)	40		6.4 oz	32 oz	When spray is dry	Downy mildew, Phytophthora blight	Limit is 5 appl/crop. Tank mix with another fungicide.
Aliette 80WDG, Linebacker WDG (Fosetyl-AI)	33		5 lb	35 lb	12 hr	Downy mildew	Limit is 7 appl/crop. Do not tank mix with copper fungicides.
Amistar 80DF, Quadris 2.09FL (azoxystrobin)	11		5 oz or 3.2 pt	1.88 lb	1	Downy mildew Powdery mildew Gummy stem blight Anthracnose Alternaria leaf spot Certain leaf spots	Limit is 4 appl/crop for all QoI fungicides. Do not make more than 2 consecutive appl.
Cabrio 20EG (Pyraclostrobin)			16 fl oz	64 fl oz	0	Same as Amistar	4 appl maximum. Same as Amistar. Max rate for downy mildew is 12 oz.
Curzate 60DF (Cymoxanil)	27		3.2 oz	See remarks	3	Downy mildew	Use only with labeled rate of protectant fungicide. No more than 9 appl/12 months.
Applause 720, Bravo Ultrex, Bravo Weather Stik, Bravo ZN, Chloronil 720, Echo 720, Echo 90DF, Echo ZN, Equus DF, Equus 720 SST, Initiate 720 (Chlorothalonil)	M5		See label	See label	0	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight Powdery mildew	Recommended maximum rate is less for certain diseases, including downy mildew. Follow label recommendations on watermelon after fruit set.
Dithane DF Rainshield, Dithane F45 Rainshield, Dithane M45, Manzate 75DF, Manzate Flowable 4F, Manzate Pro-Stick, Penncozeb 4FL, Penncozeb 75DF, Penncozeb 80WP (mancozeb)	M3		See label	See label	5	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight	

	Manex 4F (Maneb)	M3	1.6 qt	12.8 qt	5	Same as Dithane F45	
	Maneb 80WP (maneb)		2 lb	16 lb			
	Maneb 75DF (maneb)		2 lb	17.1 lb			
	Flint 50WP (trifloxystrobin)	11	2 oz	8 oz	0	Powdery mildew Downy mildew	Limit 4 appl/crop and alternate chemistry. Max rate is higher for downy mildew suppression (4 oz). Same as Amistar.
	Forum (dimethomorph)	40	6 oz	30 oz	When spray is dry	Downy mildew Phytophthora blight	Limit is 5 appl/crop. Apply with another fungicide that has a different mode of action. Min gal/A required.
	Gavel 75DF (mancozeb & zoxamide)	M3 & 22	2 lb	16 lb	5	Alternaria leaf spot Downy mildew	Limit is 8 appl/crop.
	Heritage (azoxystrobin)	11	8.0 oz	3.0 lb	1	Downy mildew Powdery mildew Gummy stem blight Anthracnose Alternaria leaf spot Certain leaf spots	Do not make more than 2 consecutive appls. Do not make more than 6 appl/crop. Same as Amistar.
	JMS Stylet Oil		3 qt		4 hr	Aphid-transmitted viruses Powdery mildew	See label for specific appl. techniques required (ie: use of 400 psi).
	Fosphite, Fungi-Phite, Prophyt, Topaz (Potassium phosphate)	33	See label	See label	0	<i>Phytophthora</i> <i>Pythium</i> <i>Fusarium</i> <i>Rhizoctonia</i> Downy mildew	Check label for required min gal/A. Restrictions are for use following copper application, plant and environmental conditions that restrict use, and compatibility with other materials.
	ManKocide 61DF (Copper hydroxide & Mancozeb)	M1 & M3	2.66 lb	128 lb	5	Angular leaf spot Downy mildew Bacterial fruit blotch	
	Nova 40W (Myclobutanil)	3	5 oz	1.5 lb	0	Powdery mildew	Note that a 30-day plant back restriction exists.

	Oxide (Hydrogen dioxide)	M2							See label for specific instructions for use with cucurbits.
	Presidio (Fluopicolide)	43	4 fl oz	12 fl oz	2	Downy mildew <i>Phytophthora</i>	Max rate is 4 fl oz/A/appl and 12 fl oz/A per season. Apply no more than 2 sequential appls before alternating to a fungicide of a different chemistry.		
	Previcur Flex (Propamocarb hydrochloride)	U	1.2 qt	6 pt	2	Downy mildew <i>Pythium</i>	Use a tank mix partner. See label for directions using a contact fungicide and Pythium suppression.		
	Procure 50WS and 480SC (Triflumizole)	3	8 oz	40 oz	0	Powdery mildew			
	Pristine 38WG (boscalid & pyraclostrobin)	7 & 11	18.5 oz	74 oz	0	Same as Amistar	Limit is 4 appl/crop and alternate chemistry. Same as Amistar.		
	PREVAM (Sodium tetraborohydrate decahydrate)		50 fl oz/100 gal			Downy mildew Powdery mildew	See label for specific information.		
	Quadris 2.08FL (azoxystrobin)	11	15.4 fl oz	2.88 qt	1	Same as Amistar	Limit is 4 appl/crop and alternate chemistry. Same as Amistar.		
	Quadris Opti (azoxystrobin & chlorothalonil)	11 & M5	3.2 pt	1.0 lb ai 15.75 lb ai	1	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight Powdery mildew	Limit is 4 appl/crop for all QoI fungicides. Do not make more than 2 consecutive applications		
	Quintec (Quinoxifen)	13	6 fl oz	24 fl oz	3	Powdery mildew	Do not make more than 4 appls. Do not make more than 2 consecutive appls.		

Revus 2.08 F (mandipropamid)	40	8 oz	32 fl oz	0	Phytophthora blight Downy mildew	Max of 4 appls during one crop cycle. Apply no more than 2 sequential appls before alternating to a fungicide of a different chemistry. An adjuvant is recommended for best control. Do not use in transplant production. 30-day plant back restriction unless plant appears on label.
Ranman (Cyazofamid)	21	2.75 fl oz	16.5 fl oz	0	Downy mildew Phytophthora blight	Limit is 6 appl/crop. Follow resistance-management guidelines on label.
Reason (Fenamidone)	11	5.5 fl oz	22 fl oz	14	Downy mildew Alternaria leaf spot	Limit is 4 appl/crop and alternate chemistry.
Ridomil Gold Bravo 76.4W (chlorothalonil & mefenoxam)	M5 & 4	3 lb	12 lb	7	Downy mildew Certain leaf spots Gummy stem blight	Limit is 4 appl/crop.
Ridomil MZ 68WP (mancozeb & mefenoxam)	M3 & 4	2.5 lb	10 lb	5	Downy mildew	
Ridomil/Copper 70W (copper hydroxide & mefenoxam)	M1 & 4	2 lb	8 lb			
Ridomil gold 4EC and Ridomil Gold SL (mefenoxam)	4	2 pt/treated A	See label	See label	Pythium seedling blight	Apply at seeding in a 7-12" band on soil over seed furrow.
Ultra Flourish (mefenoxam)	4	4 pt/treated A	See label	See label	Same as Ridomil Gold 4EC.	Same as Ridomil Gold 4EC.
Kumulus DF, Micro Sulf, Micronized Gold, Microthiol Dispers, Sulfur 90W, Thiolux Jet, Wettable Sulfur	M2	See label	See label		Powdery mildew	See label. Do not use in warm weather.
Phosphody ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt/100 gal		0	Powdery mildew Gummy stem blight Bacterial leaf blotch Downy mildew Certain leaf spots	Do not use product alone; apply with registered fungicide.

Soilgard 12G ( <i>Gladiolium virens</i> )			See label		0	Damping off Root Rot pathogens such as <i>Pythium</i> and <i>Rhizoctonia</i>	Must be incorporated or drenched into the soil.
Serenade ASO ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt	0	Downy mildew Gummy stem blight	0		Do not use product alone; apply with registered fungicide.
Serenade Max ( <i>Bacillus subtilis</i> strain QST 713)		3 lb					
Sonata ( <i>Bacillus pumilus</i> strain QST 2808)		4 qt					
Sovran (Kresoxim methyl)	11	4.8	19.2	0	0	Powdery mildew Gummy stem blight	Follow resistance-management guidelines for Qol fungicides as per the label
Sporan EC (clove, rosemary, thyme oil)		4 pt		0		Powdery mildew Alternaria leaf spot Downy mildew	
Tanos 50DF (Cymoxanil & famoxadone)	27 & 11	8 oz		3		Downy mildew Anthracnose	Limit is 4 appl/crop. Must tankmix with a contact fungicide. Limit is 72 oz/A/max/year.
Thiophanate methyl 85WDG (Thiophanate methyl)	1	0.4	2.5	1		Anthracnose Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
Topsin M WSB and Topsin M70WP (Thiophanate methyl)	1	0.5 lb	3 lb	1		Anthracnose Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
Topsin 4.5 FL (Thiophanate methyl)	1	10 oz	60 oz	1		Anthracnose Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
Trilogy (Neem oil)		See label		0		Powdery mildew	

Carrot	Various copper formulations (Badge SC, Basic Copper 53, Champ DP Dry Prill, Champ Formula 2 FL, Champion WP, COC WDG, COC DF, COC WP, Copper-Count-N, Cuprofix Ultra 40 Disperss, Cuprofix MZ Disperss, Kentan DF, Kocide 101, Kocide 2000, Kocide 4.5LF, Kocide DF, Nordox, Nordox 75 WG, Nu-Cop 3L, Nu-Cop 50 WP, Nu-Cop 50 DF, Stretch, Tenn-Cop 5E)	M1	See label	See label	See label	Bacterial diseases (See individual label)	See label
		4	2 pt/trrd acre			Pythium seedling blight Cavity spot	Apply in water or liquid fertilizer & incorporate into top 2 inches of soil.
	Chlorothalonil (various products, including Bravo, Echo, Applause, Equus)	M5	SEE INDIVIDUAL LABELS			Cercospora blight Alternaria blight	
		4 & M1	2 lb	8 lb	7	Pythium-induced diseases	Limit is 4 appl/crop
		2	2 pt	2 qt	0	Alternaria blight Black crown rot	Limit is 4 appl/crop
		11 & 7	10.5 oz	63 oz	0	Alternaria blight Cercospora blight Powdery mildew Southern blight (suppression only)	Limit is 6 appl/crop & alternate chemistry
		11	8.5 fl oz	24.6 fl oz	14	<i>Pythium</i> spp. (Cavity spot)	Do not make more than 1 appl of Reason before alternating with a fungicide from a different resistance-management group

Amistar 80 DF (azoxystrobin)	11	5 oz	2 lb	0	Cercospora blight Alternaria blight Powdery mildew Pythium disease Rhizoctonia diseases <i>Sclerotium rolfsii</i>	Limit is 4 appl/crop & alternate with different chemistry.
Quadris Opti (azoxystrobin + chlorothalonil)	11 & M5	2.4 pt	14.4 pt	0	Early blight	Limit is 6 appl/crop & alternate chemistry.
Cabrio 20 EG (pyraclostrobin)	11	12 oz	48 fl oz	0	Alternaria leaf spot Cercospora leaf spot	Limit is 3 appl/crop & alternate chemistry.
Endura 70 WDG (boscalid)	7	4.5 oz	22.5 oz	0	Alternaria leaf spot	Limit is 5 appl/crop & alternate chemistry.
Flint 50 WGD (trifloxystrobin)	11	3 oz	12 oz	7	Leaf blight ( <i>Alternaria dauci</i> ) Leaf spot ( <i>Cercospora carotae</i> ) Powdery mildew Rust	Do not make more than 4 appl. of Flint or other strobilurins/crop or more than 3 sequential appl. of Flint or other strobilurins.
Iprodione/Rovral 4F 4L (iprodione)	2	2 pt	8 pt	0	Alternaria blight ( <i>A. dauci</i> ) Black crown rot ( <i>A. radicina</i> )	
Quadris 2.08 FL (azoxystrobin)	11	15.4 oz	3.75 qt	0	Alternaria blight Cercospora blight Rhizoctonia diseases <i>Sclerotium rolfsii</i>	Alternate with other chemistries.
Serenade Max (QST 713 strain of <i>Bacillus subtilis</i> )	Biological	3 lb		0	Bacterial blight Black crown rot White mold	
Sonata ( <i>Bacillus pumilus</i> strain)	Biological	4 qt		0	White mold Powdery mildew	Begin appl. soon after emergence or transplant and when conditions are conducive to disease development. Repeat appl at 7 -14 day intervals or as needed. Use higher rates and shorter appl. intervals under heavy disease pressure.

	Ultra Flourish (mefenoxam)	4	4 pt					Pythium & Phytophthora seedling diseases		
	Switch 62.5 WG (cyprodinil/fludioxanil)	9 & 12	14 oz	56 oz	7			Alternaria blight	After 2 appls of Switch, a/w another fungicide with a different mode of action for 2 applications.	
	Various copper compounds (see ind. labels), including Badge, Basic Copper 53, Basicop, Champ, COC, Copper Count-N, Cuprofix Disperss, Kocide, Nordox, Nu Cop, Stretch, Tenn Cop	M1	SEE INDIVIDUAL LABELS						Alternaria leaf spot Cercospora leaf spot	
	Phosphonics (various derivatives of phosphoric and phosphorous acids including but not limited to Fosphite, Fungi-Phite, Helena Prophyt, Phostrol, Topaz)	SEE INDIVIDUAL LABELS								
<b>Cassava (Bitter sweet)</b>	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	3.75 qt	0 of 14			Various, see label	Limit is 4 appl/crop & alternate chemistry.	
	Amistar 80 DF (azoxystrobin)	11	5 oz	2.5 lb	0 or 14			Various, see label	Limit is 4 appl/crop & alternate chemistry.	
	Maneb 75DF (maneb)	M3	2 lb	17.1 lb	7			Alternaria leaf spot	See label for details.	
<b>Cauliflower</b>	Maneb 80WP (maneb)	M3	2 lb	12 lb	7			Downy mildew		
	Manex 4F (maneb)		1.6 qt	9.6 qt						
	Applause 720 (chlorothalonil)	M5	1.5 pt	16 pt	7					
	Equus or Echo 720 FLS (chlorothalonil)		1.5 pt	16 pt						
	Bravo Ultrex 82.5 WDG (chlorothalonil)		1.4 lb	14.5 lb						
	Bravo Weather Stik 6F (chlorothalonil)		1.5 pt	16 pt						
	Basicop (elemental copper)	M1	3 lb							



Tenn-Cop 5E (copper salts)		0.75 pt							Slight reddening of older leaves may occur. Limit is 4 appl/crop.
Ridomil Gold Bravo76.4WP (chlorothalonil + mefenoxam)	M5 & 4	1.5 lb	6lb	7					
Aliette 80WDG (fosetyl-a)	33	5 lb	35 lb	3					Limit is 7 appl/crop. Do not tank mix with copper fungicides. See label for details.
Nu Cop 50WP (copper hydroxide)	M1	1 lb							
Revus (mandipropamid)	40	8 fl oz	32 fl oz	1					Limit is no more than 2 sequential appl. or 4 total appl. See label for restrictions and details.
Ridomil Gold SL (mefenoxam)	4	2 pt (soil) 0.25 pt (foliar)	2 pt (soil) 1 pt (foliar)	7					See label for details
Kocide 2000, Kocide DF (copper hydroxide)	M1	0.75-2 lb		1					See label for details
Cuprofix Disperss (copper sulfate)		10 lb							
Cuprofix Ultra 40 Disperss (copper sulfate)		1.25 lb							
Champ DP (copper hydroxide)		0.66 lb							
Endura (boscalid)	7	9 oz	18 oz	0					Limit is 2 appl/crop. See label for details.
Switch 62.5WG (cyprodinil + fludioxonil)	9 & 12	14 oz	56 oz	7					See label for details.
Terracolor 75WP, Terracolor 15G (PCNB)	14	See label	30 lb a.i.						See label for details.

Amistar 80 DF (azoxystrobin)	11	5 oz	30 oz	0	Alternaria leaf spot Downy mildew	No more than 1 sequential appl. See label for details.
			93 fl oz			
Quadris (azoxystrobin)	11	15.5 fl oz	64 oz	0	Alternaria leaf spot Anthracnose Black leg Cercospora leaf spot Downy mildew Powdery mildew Rhizoctonia leaf blight Ring spot White rust White leaf spot	Limit is 2 sequential appl/crop.
Cabrio EG (pyraclostrobin)						
Reason 500SC (Fenamidone)	11	8.2 oz	24.6 oz	2	Downy mildew ( <i>Peronospora parasitica</i> ) Cercospora leaf spot ( <i>Cercospora brassicicola</i> ) White rust ( <i>Albugo candida</i> )	Limits are no more than 1 sequential application.
Actigard 50 WG (acibenzolar-S-methyl)	P	1 oz	4 oz	7	Downy mildew Black rot	Apply preventively; limit is 4 appl/crop on a 7-day schedule. See label for details.
K-phite 7LP Fosphite Fungi-Phite Helena Prophyte Phostrol Topaz (mono- and di-potassium salts of phosphorous acid)	33	See label		0	<i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> <i>Xanthomonas campestris</i> Anthracnose Downy mildew Powdery mildew	Do not apply with copper-based fungicides. See label for restrictions and details.
Oxidate (hydrogen dioxide)	M2	1:100 dilution			Alternaria leaf spot Downy mildew Powdery mildew	See label for details.
Various brands of sulfur	M2				Powdery mildew	See labels for details.

	Amicarb 100 Kaligreen Milstop (Potassium bicarbonate)	33	See label				Powdery mildew Downy mildew Alternaria leaf spot <i>Botrytis</i> Phoma blackleg and leafspot Anthracnose	See label for details.
	Serenade ASO Serenade Max Sonata ( <i>Bacillus</i> sp.)	Biological material	See label	See label	0		Xanthomonas leaf spot Alternaria leaf spot Downy Mildew Powdery Mildew	See label for details.
<b>Cavalo broccoli</b>	Amistar 80 DF (azoxystrobin)	11	5 oz	0.93 lb	0		Alternaria leaf spot White rust Cercospora leaf spot Downy mildew	Alternate with different chemistry & limit is 3 total appls.
	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	2.88 qt	0		Alternaria leaf spot White rust Cercospora leaf spot Downy mildew	Alternate with different chemistry & limit is 3 total appls.
	Cabrio 20 EG (pyraclostrobin)	11	16 oz	64 oz	0		Same as Quadris	Same as for broccoli.
<b>Celery</b>	Alliette WDG	33						
	Amistar 80DF (azoxystrobin)	11	5 oz or 0.25 oz/1000 row ft	20 oz	0		Various (see label)	Do not exceed 1 sequential and 4 total appl. of Amistar or other QoI fungicides. See label for soil appl.
	Apron XL LS (mefenoxam)	4	0.64 fl oz/ 100 lb seed				Pythium seedling blight	Seed treatment only
	Agri-mycin 17 Bac-Master (Streptomycin)	25	220 ppm				Bacterial Blight	Apply first spray when seedlings are in the 2-leaf stage at 4 - 5 day intervals. Continue appls until celery is transplanted in the field.

	Copper fungicides (See individual labels) including Badge SC, Basic Copper 53, COCS WDG, Champ DP, Champ Formula 2, Champ WP, COC DF, COC WP, Copper Count N, Cuprofix Ultra, Kentan DF, Kocide DF, Kocide 101, Kocide 2000, Kocide 3000, Kocide 4.5 LF, Nordox 75 WG, NuCop 50WP, NuCop 3L, NuCop DF, Stretch, Tenn-Cop 5E	M1			1	Bacterial blight	
	Botran 75W (Dichloran)	14	2 lb	5.33 lb	7	Pink rot ( <i>Sclerotinia</i> )	Direct spray to base of plant.
	Chlorothalonil fungicides (See individual labels) including Applause 720, Bravo Ultrex, Bravo Weather Stik, Chloronil 720, Echo 720, Echo 90DF, Equus 720, Equus DF	M5			7	Early blight ( <i>Cercospora</i> ) Late blight ( <i>Septoria</i> ) Stalk rot ( <i>Rhizoctonia</i> )	
	Bumper 41.8EC (propiconazole)	3	4 fl oz	16 fl oz	14	Early blight ( <i>Cercospora</i> ) Late blight ( <i>Septoria</i> )	Do not exceed 4 total applications.
	Cabrio EG (pyraclostrobin)	11	16 oz	64 oz	0	Various (see label)	Do not exceed 2 sequential and 4 total appls. of Cabrio or other QoI fungicides.
	Contans WG		6 lb			Sclerotinia diseases	Apply to soil surface and incorporate prior to planting, at planting, or at <del>transplanting</del>
	Dusting Sulfur – IAP (Sulfur)	M2	12 lb			Early and late blight	Do not apply during periods of warm weather. Do not apply within 2 weeks of an oil spray.

Flint (Trifloxystrobin)	11	3 oz	12 oz	7	Early blight ( <i>Cercospora</i> ) Late blight ( <i>Septoria</i> ) Stalk rot ( <i>Rhizoctonia</i> )	Do not apply more than 3 sequential or 4 total appl. of Flint or another QoI fungicide.
Potassium phosphite fungicides (See individual labels) including Fosphite, Fungi-Phite, Prophyt, Phostrat (Potassium phosphite)	33	3 qt	18 qt		<i>Pythium</i> <i>Rhizoctonia</i> <i>Fusarium</i>	Do not exceed 6 appl/crop. Caution should be used when applying in a management program including copper fungicides. See label for details concerning foliar, root dip and irrigation application.
Kaligreen (Potassium bicarbonate)		3 lb		1	Powdery mildew	Apply in a minimum spray volume of 25 GPA.
Maxim 4FS (Fludioxonil)	12	0.16 fl oz/ 100 lb of seed			Various seedling diseases	Seed treatment only
Presidio (Fluopicolide)	43	3-4 fl oz	12 fl oz	2	Downy mildew White rust	Must be tank-mixed with a fungicide of different mode of action. Do not exceed two sequential appls. See label for soil applications.
Propimax EC (propiconazole)	3	4 fl oz	16 fl oz	14	Early blight ( <i>Cercospora</i> ) Late blight ( <i>Septoria</i> ) Stalk rot ( <i>Rhizoctonia</i> )	Do not apply more than 4 appl/season.
Quadris (azoxystrobin)	11	15.4 fl oz or 0.8 fl oz/1000 row ft	2.88 qt	0	Various (see label)	Do not exceed 1 sequential and 4 total appl. of Quadris or other QoI fungicides. See label for soil applications.
Revus 2.08 F (mandipropamid)	40	8 fl oz	32 fl oz	1	Downy mildew	Do not exceed 2 sequential applications. See label for soil applications.
Ridomil Gold EC (mefenoxam)	4	2 pt			Pythium seedling diseases	Apply at seeding in a 7-12" band on soil over seed furrow.

	Ridomil Gold GR (mefenoxam)	4	40 lb			Pythium seedling diseases	See label for specifics regarding preplant incorporated appls & surface appls at the time of planting.
	Serenade Max ( <i>Bacillus subtilis</i> strain QST 713)	Biological	3 lb	0	0	Pink rot ( <i>Sclerotinia</i> )	Begin appl approx. 8 wks prior to harvest and repeat on 14-day interval. Direct spray at base of plants and surrounding soil surface.
	Sonata ( <i>Bacillus pumilis</i> strain QST 2808)		4 qt	0	0	Powdery mildew	For suppression or use as a preventative in a program with other registered fungicides.
	Sporan (Clove Oil, Rosemary Oil, and Thyme Oil)		1.5 qt	0	0	Powdery mildew	Sporan is a concentrated oil-based product. It requires the use of an approved adjuvant to improve spreading and sticking. OMRI listed.
	Sulfur 90W (Sulfur)	M2	10 lb			Powdery mildew	Do not apply during periods of warm weather. Do not apply within 2 wks of an oil spray.
	Tilt 3.6E (propiconazole)	3	4 fl oz	16 fl oz	14	Early blight ( <i>Cercospora</i> ) Late blight ( <i>Septoria</i> ) Stalk rot ( <i>Rhizoctonia</i> )	Do not apply more than 4 appl/season.
	Trilogy (Neem Oil)		2 gal				Apply at a rate of 0.5% - 1.0% in 25-100 gall water/acre or at 2 pt in a min of 5 GPA for low-volume application.
<b>Chayote</b>	Quadris 2.08 FL (azoxystrobin)	11	Same as for cantaloupe, but if root is used, the PHI is 14 days				
	Amistar 80 DF (azoxystrobin)	11					

Chinese cabbage	Applause 720 (chlorothalonil)	M5	16 pt		7	Alternaria leaf spot Downy mildew	See label for details.
			1.5 pt	13.3 lb			
	Equus 82.5DF or Echo 90DFS (chlorothalonil)		1.25 lb				
	Equus, Echo 720 or Chlorogold 6 FLS (chlorothalonil)		1.5 pt	16 pt			
	Manex 4F <sup>1,2</sup> (maneb)	M3	1.6 qt	9.6 qt	7		
	Maneb 80WP <sup>1</sup> (maneb)		1.5 lb	12 lb	7		
	Maneb 75DF (maneb)		2 lb	12.8 lb	7		
	Bravo Weather Stik 6F <sup>1</sup> (chlorothalonil)	M5	1.5 pt	16 pt	7		
	Bravo Ultrex 82.5 WDG <sup>1</sup> (chlorothalonil)		1.4 lb	14.5 lb			
	Ridomil Gold Bravo 76.4WP (chlorothalonil + mfenoxam)	M5 & 4	1.5 lb	6 lb	7		
	Aliette 80WDG <sup>3</sup> (fosetyl-al)	33	5 lb	35 lb	3	Downy mildew	Limit is 7 appl/crop. Do not tank mix with copper fungicides.
	Revus (mandipropamid)	40	8 fl oz	32 fl oz	1		Limit is no more than 2 sequential appl. or 4 total appl. See label for restrictions and details.
	Ridomil Gold SL (mefenoxam)	4	2 pt (soil) 0.25 pt (foliar)	2 pt (soil) 1 pt (foliar)	7	Pythium & Phytophthora diseases (soil) Downy Mildew	See label for details.
	Ridomil Gold Bravo 76.4 WP <sup>1</sup> (chlorothalonil + mfenoxam)	M5 & 4	1.5 lb	6 lb	7	Alternaria leaf spot	Limit is 4 appl/crop.
	Endura <sup>3</sup> (boscalid)	7	9 oz	18 oz	0 (Napa) 14 (Bok Choy)	Alternaria blight Gray mold Sclerotinia rot Powdery mildew Rhizoctonia rot	Limit is 2 appl/crop. See label for details.
	Switch 62.5WG (cyprodinil fludioxonil)	9 & 12	10-14 oz	56 oz		Alternaria blight Cercospora leaf spot Powdery mildew	See label for details.

Terraclor 75WP, Terraclor 15G (PCNB)	14	See label	30 lb a.i.		Clubroot Rhizoctonia rot	See label for details.
Amistar (azoxystrobin)	11	5 oz	30 oz	0	Alternaria leaf spot Downy mildew	No more than 1 sequential appl. See label for details.
Quadris (azoxystrobin)	11	15.5 fl oz	93 fl oz (napa) 46.5 fl oz (bok choy)	0		
Cabrio EG (pyraclostrobin)	11	16 oz	64 oz	0	Alternaria leaf spot Anthracnose Black leg Cercospora leaf spot Downy mildew Powdery mildew Rhizoctonia leaf blight Ring spot White rust White leaf spot	Limit is 2 sequential appl/crop.
Reason 500SC (Fenamidone)	11	8.2 oz	24.6 oz	2	Downy mildew ( <i>Peronospora parasitica</i> ) Cercospora leaf spot ( <i>Cercospora brassicicola</i> ) White rust ( <i>Albugo candida</i> )	Limits are no more than 1 sequential application.
Actigard 50 WG (acibenzolar-S-methyl)	P	1 oz	4 oz	7	Downy mildew Black rot	Apply preventively, limit is 4 appl/crop on a 7-day schedule. See label for details.
K-phite 7LP Fosphite Fungi-Phite Phostrol Topaz (mono- and di-potassium salts of phosphorous acid)	33	See label		0	<i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> <i>Xanthomonas campestris</i> Anthracnose Downy mildew Powdery mildew	Do not apply with copper-based fungicides. See label for restrictions and details.



Various brands of sulfur	M2			Powdery mildew	See labels for details
<sup>1</sup> Tight headed varieties only. <sup>2</sup> For loose headed types, maximum is 1.2 qts/application and 7.2 qts/crop <sup>3</sup> Bok Choy and Napa Cabbage					

Chinese waxgourd	Amistar 80DF & Quadris 2.08 FI (azoxystrobin)	11	Same as for cantaloupe				
Cole crops	Switch 62.5 WG (cyprodinil+ fludioxonil)	9 & 12	14 oz	56 oz	7	Alternaria leaf spot ( <i>Alternaria</i> spp.) Powdery mildew ( <i>Erysiphe polygoni</i> )	Use on some cole crops. See label for specific information.
	Endura 70 WG (boscalid)	7	9 oz	18 oz	0 (Head and stem brassica) 14 (Leafy brassica greens)	Alternaria leaf spot ( <i>Alternaria</i> spp.) Sclerotinia stem rot ( <i>Sclerotinia</i> spp.) Gray Mold ( <i>Botrytis cinerae</i> )	Use on some cole crops. See label for specific information.
	Acrobat 50 WP (dimethomorph)	15	6.4 oz	32 oz	0	Downy mildew ( <i>Peronospora parasitica</i> )	Use only on leafy brassica greens, see label for details.
	Forum (dimethomorph)	15	6 oz	30 oz	0		
	Amistar 80 DF (azoxystrobin)	11	5 oz	30 oz	0	Alternaria leaf spot ( <i>Alternaria</i> spp.) Downy mildew ( <i>Peronospora parasitica</i> )	Head and stem brassicas, see label for details No more than 1 sequential application.
				15 oz		White rust ( <i>Albugo candida</i> ) Black spot ( <i>Alternaria</i> spp.) Cercospora leaf spot ( <i>Cercospora</i> spp.)	Leafy green brassicas, see label for details. No more than 1 sequential application.

Revus (mandipropamid)	40		8 fl oz	32 fl oz	1	Downy mildew ( <i>Peronospora parasitica</i> )	All head and stem and leafy brassicas greens; no more than 2 sequential appl. or 4 total appl. See label for restrictions and details
K-phite 7LP Fosphite Fungi-Phite Helena Prophyte Phostrol Topaz (mono- and di-potassium salts of phosphorous acid)	33		See label		0	<i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> <i>Xanthomonas campestris</i> Anthracnose Downy Mildew Powdery Mildew	Do not apply with copper-based fungicides. See label for restrictions and details.
Actigard 50 WG (acibenzolar-S-methyl)	P		1 oz	4 oz	7	Downy mildew ( <i>Peronospora parasitica</i> ) Black rot ( <i>Xanthomonas campestris</i> ; suppression only)	Apply preventively; no more than 4 apps on a 7-day schedule. Do not apply to plants that are stressed. See label for details.
Copper products	M1					Alternaria leaf spot Downy mildew Black rot	Several copper products are available on some cole crops. See label for specific information.
Amicarb 100 Kaligreen Milstop (Potassium bicarbonate)	33		See label			Powdery mildew Downy mildew Alternaria leaf spot <i>Botrytis</i> Phoma blackleg and leafspot Anthracnose	See label for details.

Serenade ASO Serenade Max Sonata ( <i>Bacillus</i> sp.)	Biological material	See label	See label	0	Xanthomonas leaf spot Alternaria leaf spot Downy Mildew Powdery Mildew	See label for details.
<b>Collards</b> Aliette 80WDG (fosetyl-al)	33	5 lb	35 lb	3	Downy mildew	Limit is 7 appl/crop. Do not tank mix with copper fungicides.
Acrobat 50WP (dimethomorph)	15	6.4 oz	32 oz	0		Tank mix with other fungicides. Limit is no more than 2 sequential appl. and 5 total appl/crop.
Forum (dimethomorph)		6 oz	30 oz			
Nu Cop 50WP (copper hydroxide)	M1	1 lb				See label for .
Revus (mandipropamid)	40	8 fl oz	32 fl oz	1		Limit is no more than 2 sequential appl. or 4 total appl. See label for restrictions and details.
Kocide 2000, Kocide DF (copper hydroxide)	M1	1.5-2 lb			Alternaria leaf spot Black rot	See label for details.
Champ DP (copper hydroxide)		0.66 lb			Downy mildew	
Cuprofix Ultra 40 Disperss (basic copper sulfate)		1.25lb				
Switch 62.5WG (cyprodinil + fludioxonil)	9 & 12	14 oz	56 oz	7	Alternaria blight Cercospora blight Powdery mildew	See label for details.
Amistar 80 DF (azoxystrobin)	11	5 oz	15 oz	0	White rust Black spot Cercospora leaf spot	See label for details
Quadris (azoxystrobin)		15.5 fl oz	46.5 fl oz			
Terraclor 75WP, Terraclor 15G (PCNB)	14	See label	30 lb a.i.		Club root Rhizoctonia rot	See label for details

Endura (boscalid)	7	9 oz	18 oz	14	Alternaria blight Gray mold Powdery mildew Rhizoctonia bottom rot Sclerotinia stem rot	Limit is 2 appl/crop
Cabrio EG (pyraclostrobin)	11	16 oz	64 oz	3	Alternaria leaf spot Anthracnose Cercospora leaf spot Powdery mildew Rhizoctonia stem rot Sclerotinia stem rot Southern blight Ring spot	Limit is 2 sequential appl/crop
Reason 500SC (Fenamidone)	11	8.2 oz	24.6 oz	2	Downy mildew ( <i>Peronospora parasitica</i> ) Cercospora leaf spot ( <i>Cercospora brassicicola</i> ) White rust ( <i>Albugo candida</i> )	Limits are no more than 1 sequential appl.
Actigard 50 WG (acibenzolar-S-methyl)	P	1 oz	4 oz	7	Downy mildew Black rot	Apply preventively; limit is 4 appl/crop on a 7-day schedule. See label for details
K-phite 7LP Fosphite Fungi-Phite Phostrol Topaz (mono- and di-potassium salts of phosphorous acid)	33	See label		0	<i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> <i>Xanthomonas campestris</i> Anthracnose Downy mildew Powdery mildew	Do not apply with copper-based fungicides. See label for restrictions and details
Oxidate (hydrogen dioxide)	M2	1:100 dilution			Alternaria leaf spot Downy mildew Powdery mildew	See label for details

	Various brands of Sulfur	M2			See label				Powdery mildew Rust	See labels for details
	Serenade ASO Serenade Max Sonata ( <i>Bacillus</i> sp.)	Biological material	See label	See label	0				Xanthomonas leaf spot Alternaria leaf spot Downy mildew Powdery mildew	See label for details
<b>Cucumber</b>	Acrobat 50WP (Dimethomorph)	40	6.4 oz	32 oz	When spray is dry				Downy mildew Phytophthora blight	Limit is 5 appl/crop. Tank mix with another fungicide
	Aliette 80WDG, Linebacker WDG (Fosetyl-AI)	33	5 lb	35 lb	12 hr				Downy mildew	Limit is 7 appl/crop. Do not tank mix with copper fungicides
	Amistar 80DF, Quadris 2.09FL (azoxystrobin)	11	5 oz or 3.2 pt	1.88 lb	1				Downy mildew Powdery mildew Gummy stem blight Anthracnose Alternaria leaf spot Certain leaf spots	Limit is 4 appl/crop for all QoI fungicides. Do not make more than 2 consecutive appl.
	Cabrio 20EG (Pyraclostrobin)	11	16 fl oz	64 fl oz	0				Same as Amistar	4 appl maximum. Same as Amistar. Max rate for downy mildew is 12 oz
	Curzate 60DF (Cymoxanil)	27	3.2 oz	See remarks	3				Downy mildew	Use only with labeled rate of protectant fungicide. No more than 9 appl/12 months
	Applause 720, Bravo Ultrex, Bravo Weather Stik, Bravo ZN, Chloronil 720, Echo 720, Echo 90DF, Echo ZN, Equus DF, Equus 720 SST, Initiate 720 (chlorothalonil)	M5	See label	See label	0				Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight Powdery mildew	Recommended maximum rate is less for certain diseases, including downy mildew. Follow label recommendations on watermelon after fruit set

	Dithane DF Rainshield, Dithane F45 Rainshield, Dithane M45, Manzate 75DF, Manzate Flowable 4F, Manzate Pro-Stick, Penncozeb 4FL, Penncozeb 75DF, Penncozeb 80WP (Mancozeb)	M3	See label	See label	5	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight		
		M3	1.6 qt	12.8 qt	5	Same as Dithane F45		
			2 lb	16 lb				
			2 lb	17.1 lb				
	Flint 50WP (Trifloxystrobin)	11	2 oz	8 oz	0	Powdery mildew Downy mildew	Limit 4 appl/crop and alternate chemistry. Max rate is higher for downy mildew suppression (4 oz). Same as Amistar	
	Forum (Dimethomorph)	40	6 oz	30 oz	When spray is dry	Downy mildew Phytophthora blight	Limit is 5 appl/crop. Apply with another fungicide that has a different mode of action. Min gal/A required	
	Gavel 75DF (Mancozeb & Zoxamide)	M3 & 22	2 lb	16 lb	5	Alternaria leaf spot Downy mildew	Limit is 8 appl/crop	
	Heritage (Azoxystrobin)	11	8.0 oz	3.0 lb	1	Downy mildew Powdery mildew Gummy stem blight Anthracnose Alternaria leaf spot Certain leaf spots	Do not make more than 2 consecutive appls. Do not make more than 6 appl/crop. Same as Amistar	

JMS Stylet Oil			3 qt		4 hr	Aphid-transmitted viruses Powdery mildew	See label for specific appl. Techniques required (ie: use of 400 psi)
Fosphite, Fungi-Phite, Prophyt, Topaz (Potassium phosphate)	33		See label	See label	0	<i>Phytophthora</i> <i>Pythium</i> <i>Fusarium</i> <i>Rhizoctonia</i> Downy mildew	Check label for required min gal/A. Restrictions are for use following copper appl, plant and environmental conditions that restrict use, and compatibility with other materials
ManKocide 61DF (Copper hydroxide & Mancozeb)	M1 & M3		2.66 lb	128 lb	5	Angular leaf spot Downy mildew Bacterial fruit blotch	
Nova 40W (Myclobutanil)	3		5 oz	1.5 lb	0	Powdery mildew	Note that a 30 day plant back restriction exists
Oxidate (Hydrogen dioxide)	M2						See label for specific instructions for use with cucurbits
Presidio (Fluopicolide)	43		4 fl oz	12 fl oz	2	Downy mildew <i>Phytophthora</i>	Max rate is 4 fl oz/A/appl and 12 fl oz/A per season. Apply no more than 2 sequential appls before alternating to a fungicide of a different chemistry
Previcur Flex (Propamocarb hydrochloride)	U		1.2 qt	6 pt	2	Downy mildew <i>Pythium</i>	Use a tank mix partner. See label for directions using a contact fungicide and <i>Pythium</i> suppression
Procure 50WS and 480SC (Triflumizole)	3		8 oz	40 oz	0	Powdery mildew	

Pristine 38WG (boscalid & pyraclostrobin)	7 & 11	18.5 oz	74 oz	0	Same as Amistar	Limit is 4 appl/crop and alternate chemistry. Same as Amistar
PREVAM (Sodium tetraborohydrate decahydrate)		50 fl oz/100 gal			Downy mildew Powdery mildew	See label for specific information
Quadris 2.08FL (azoxystrobin)	11	15.4 fl oz	2.88 qt	1	Same as Amistar	Limit is 4 appl/crop and alternate chemistry. Same as Amistar
Quadris Opti (azoxystrobin & chlorothalonil)	11 & M5	3.2 pt	1.0 lb ai 15.75 lb ai	1	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight	Limit is 4 appl/crop for all Qol fungicides. Do not make more than 2 consecutive applications
Revus (mandipropamid)	40	8 oz	32 fl oz	0	<del>Downy mildew</del> Downy mildew	Max of 4 appls during one crop cycle. Apply no more than 2 sequential applications before alternating to a fungicide of a different chemistry. An adjuvant is recommended for best control. Do not use in transplant production. 30 day plant back restriction, unless plant appears on label
Ranman (Cyazofamid)	21	2.75 fl oz	16.5 fl oz	0	Downy mildew Phytophthora blight	Limit is 6 appl/crop. Follow resistance management guidelines on label



Reason (Fenamidone)	11	5.5 fl oz	22 fl oz	14	Downy mildew Alternaria leaf spot	Limit is 4 appl/crop and alternate chemistry
Ridomil Gold Bravo 76.4W (chlorothalonil & <del>fenamidone</del> ) WP (Mancozeb & <del>fenamidone</del> ) WP	M5 & 4	3 lb	12 lb	7	Downy mildew Certain leaf spots Gummy stem blight	Limit is 4 appl/crop
<del>Ridomil Gold</del> 70W (Copper hydroxide & mefenoxam)	M3 & 4	2.5 lb	10 lb	5	Downy mildew	Limit is 4 appl/crop
<del>Ridomil Gold</del> 70W (Copper hydroxide & mefenoxam)	M1 & 4	2 lb	8 lb	5	Downy mildew	Limit is 4 appl/crop
Ridomil gold 4EC and Ridomil Gold SL (mefenoxam)	4	2 pt/treated A	See label	See label	Pythium seedling blight	Apply at seeding in a 7-12" band on soil over seed
Ultra Flourish (mefenoxam)	4	4 pt/treated A	See label	See label	Same as Ridomil Gold 4EC	<del>Apply as</del> Ridomil Gold 4EC
Kumulus DF, Micro Sulf, Micronized Gold, Microthiol Disperss, Sulfur 90W, Thiolut Jet, Wettable Sulfur (Sulfur)	M2	See label	See label		Powdery mildew	See label. Do not use in warm weather
Rally 40 WSP (Myclobutanil)	3	5.0 oz	1.5 lb	0	Powdery mildew	Note that a 30 day plant back restriction exists
Rhapsody ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt/100 gal		0	Powdery mildew Gummy stem blight Bacterial leaf blotch Downy mildew Certain leaf spots	Do not use product alone. Apply with registered fungicide
Soigard 12G ( <i>Gliocladium virens</i> )		See label		0	Damping off, Root rot pathogens, such as Pythium and <i>Rhizoctonia</i>	Must be incorporated or drenched into the soil

Serenade ASO ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt			0	Downy mildew Gummy stem blight	Do not use product alone. Apply with registered fungicide
Serenade Max ( <i>Bacillus subtilis</i> strain QST 713)		3 lb			0	Downy mildew Gummy stem blight	Do not use product alone. Apply with registered fungicide
Sonata ( <i>Bacillus pumilus</i> strain QST 2808)		4 qt			0	Downy mildew Gummy stem blight	Do not use product alone. Apply with registered fungicide
Sovran (Kresoxim methyl)	11	4.8	19.2		0	Powdery mildew Gummy stem blight	Follow resistance management guidelines for Qol fungicides as per the label
Sporan EC (clove, rosemary, thyme oil)		4 pt			0	Powdery mildew Alternaria leaf spot Downy mildew	
Tanos 50DF (Cymoxanil & famoxadone)	27 & 11	8 oz			3	Downy mildew Anthracnose	Limit is 4 appl/crop. Must tankmix with a contact fungicide. Limit is 72 oz/A/max/year
Thiophanate methyl 85WDG (Thiophanate methyl)	1	0.4	2.5		1	Anthracnose Powdery mildew Gummy stem blight	Follow resistance management guidelines on label
Topsin M WSB (Thiophanate methyl)	1	0.5 lb	3 lb		1	Anthracnose Powdery mildew Gummy stem blight	Follow resistance management guidelines on label
Topsin 4.5 FL (Thiophanate methyl)		10 oz	60 oz			Anthracnose Powdery mildew Gummy stem blight	Follow resistance management guidelines on label
Topsin M70WP (Thiophanate methyl)		0.5 lb	3 lb			Anthracnose Powdery mildew Gummy stem blight	Follow resistance management guidelines on label
Trilogy (Neem oil)		See label			0	Powdery mildew	

	Various copper formulations (Badge SC, Basic Copper 53, Champ DP Dry Prill, Champ Formula 2 FL, Champion WP, COC WDG, COC DF, COC WP, Copper-Count-N, Cuprofix Ultra 40 Disperss, Cuprofix MZ Disperss, Kentan DF, Kocide 101, Kocide 2000, Kocide 4.5LF, Kocide DF, Nordox, Nordox 75 WG, Nu-Cop 3L, Nu-Cop 50 WP, Nu-Cop 50 DF, Stretch, Tenn-Cop 5E)	M1	See label	See label		Bacterial diseases (See individual label)	See label
<b>Dasheen (Taro)</b>	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	3.75 qt	14	Various, see label	Limit is 4 appl/crop & alternate chemistry
	Amistar 80 DF (azoxystrobin)	11	5 oz	2.5 lb	14		
	Headline 2.09F (pyraclostrobin)	11	12 fl oz	72 fl oz	3	Various, see label	Same as sweetpotato
	Reason 500 SC (fenamidone)	11	8.2 fl oz	24.6 fl oz	14	Phytophthora blight	Alternate chemistries
<b>Eggplant</b>	Acrobat 50 WP (dimethomorph)	40	6.4 oz	32 oz	0	Phytophthora blight	Refer to label
	Evito 480 SC (fluoxastrobin)	11	5.7 fl oz	22.8 fl oz	3	Phytophthora blight	
	Flint (trifloxystrobin)	11	3.8 -5.7 fl oz			Early Blight	
			4 oz	16 oz	3	Phytophthora blight	
			2.0 -3.0	16 oz		Early Blight	
	Heritage (azoxystrobin)	11	3.2 -8.0 oz	32 oz	0	Powdery Mildew	
	PlantShield HC (Trichoderma harzianum Rifai strain KRL-AG2)		3.0 -5.0 oz		0	Pythium diseases	
	Rally 40 WSP (myclobutanil)	3	2.0 -5.0 oz	20.0 oz	0	Powdery Mildew	
	Reason 500 SC (fenamidone)	11	8.2 fl oz	24.6 fl oz	14	Phytophthora blight	
			5.5-8.2 fl oz			Early Blight	

	Revus (mandipropamid)	40		8.0 fl oz	32.0 fl oz	1	Phytophthora blight	Refer to label
	Rhapsody ( <i>Bacillus subtilis</i> strain QST 713)	Biological						
	Sporan EC (Rosemary oil, Clove oil, Thyme oil)			1.0-3.0 pt	Spray as needed	0	Early Blight Powdery mildew	Refer to label
<b>Endive &amp; Escarole</b>	Manex 4 F (maneab)	M3		1.6 qt	9.6 qt	10	Same as Maneb 80WP	
	Botran 75W	14		2 2/3 lb	5 1/3 lb	14	<i>Botrytis</i> <i>Sclerotinia</i>	Limit is 2 appl/crop. Some leaf bronzing may occur
	Botran 5 F			1 3/5 qt	3 1/5 qt	half mature plants	<i>Botrytis</i> <i>Sclerotinia</i>	Limit is 2 appl/crop. Some leaf bronzing may occur
	Quadris 2.08 FL (azoxystrobin)	11		15.4 fl oz	2.88 qt	0	Downy mildew Alternaria leaf spot Various, see label	Limit is 4 appl/crop & alternate chemistry
	Amistar 80 DF (azoxystrobin)	11		5 oz	1.88 lb			
	Cabrio 20 EG (pyraclostrobin)	11		16 oz	64 oz	0	Same as Quadris	Same as Quadris
	Ridomil Gold 4 EC (mefenoxam)	4		2 pt/trtd acre			Pythium blight	Apply at seeding in a 7-12" band on soil after seeding
	Aliette/Maneb 2+2	33 + M3		See label for mixing instructions		14	Downy mildew	Limit is 6 applications
	Maneb 75 DF (maneab)	M3		2 lb	12.8 lb		Same as Maneb 80WP	
	Maneb 80 WP			2 lb	12 lb	10	Downy mildew Alternaria leaf spot	
<b>Garlic (see onion)</b>	Label restrictions for garlic overrides onion information. If label states dry bulb only, the material can not be used on garlic.							
<b>Ginger</b>	Quadris 2.08 FL (azoxystrobin)	11		15.4 fl. oz	3.75 qt	14	Various, see label	Limit is 4 appl/crop & alternate chemistry
	Amistar 80 DF (azoxystrobin)			5 oz	2.5 lb	1		
	Headline 2.08 FL (pyraclostrobin)			12 fl oz	72 fl oz	3		Same as sweet potato

<b>Ginseng</b>	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	3.75 qt	0	Various, see label	Limit is 4 appl/crop & alternate chemistry
	Amistar 80 DF (azoxystrobin)		5 oz	2.5 lb			
<b>Gourds</b>	Same as for cantaloupe						
<b>Ground cherry</b>	Endura 70 WP (boscalid)	7	12.5 oz	25 oz	0	Early blight <i>Botrytis</i>	Limit is 6 appl/crop

<p><b>Herbs (broad labels) these include but not limited to</b>                  angelica,                  balm, basil,                  borage,                  burnet,                  camomile,                  catnip, dried                  chervil, chive,                  cilantro, clary                  sage,                  costmary,                  curry leaves,                  dillweed,                  horehound,                  hyssop,                  lavender,                  lemongrass,                  lovage,                  marigold,                  marjoram,                  nasturtium,                  pennyroyal,                  rosemary, rue,                  sage, summer                  and winter                  savory, sweet                  bay, tansy,                  tarragon,                  thyme,                  wintergreen,                  woodruff,                  wormwood</p>	<p>Several fungicides with broadly written labels including but not limited to Quadris, Amistar, Switch, and several phosphonics</p>	SEE INDIVIDUAL LABELS					
<p><b>Honeydew</b></p>	<p>Same as for cantaloupe</p>	<p>11</p>	<p>15.4 fl oz 5 oz</p>	<p>2.88 qt 2.5 lb</p>	<p>0</p>	<p>Various, see label</p>	<p>Limit is 4 appl/crop &amp; alternate with different chemistry</p>
<p><b>Horseradish</b></p>	<p>Quadris 2.08 FL (azoxystrobin) Amistar 80 DF (azoxystrobin)</p>						

Kale	Manex 4F (maneb)	M3	1.6 qt		3.2 qt		10	Alternaria leaf spot Downy mildew	See label for details
			2 lb	2 lb	4 lb	4.2 lb			
	Maneb 80WP (maneb)						7		
	Maneb 75DF (maneb)								
	Champ 57.6DP (copper hydroxide)	M1	0.66 lb				1	Downy mildew	See label for details
	Champ Formula 2 4.6F (copper hydroxide)		0.66 pt						
	Aliette 80WDG (fosetyl-a)	33	5 lb				3		Limit is 7 appl/crop. Do not tank mix with copper fungicides
	Acrobat 50WP (dimethomorph)	15	6.4 oz		32 oz		0		Tank mix with other fungicides. Limit is no more than 2 sequential appl. and 5 total appl/crop
	Forum (dimethomorph)		6 oz		30 oz				
	Revus (mandipropamid)	40	8 fl oz		32 fl oz		1		Limit is no more than 2 sequential appl. or 4 total appl. See label for restrictions and details
	Endura (boscalid)	7	9 oz		18oz		14	Alternaria blight Gray mold Sclerotinia rot Powdery mildew Rhizoctonia rot	Limit is 2 appl/crop. See label for details
	Switch 62.5WG (cyprodinil + famoxonil)	9 & 12	14 oz		56 oz		7	Alternaria blight Cercospora leaf spot Powdery mildew	See label for details
	Amistar 80 DF (azoxystrobin)	11	5 oz		15 oz		0	White rust Black spot Cercospora leaf spot	No more than 1 sequential appl. See label for details
	Quadris (azoxystrobin)		15.5 fl oz		46.5 fl oz				

Endura (boscalid)	7	9 oz	18 oz	14	Alternaria blight Gray mold Powdery mildew Rhizoctonia bottom rot Sclerotinia stem rot	Limit is 2 appl/crop
Cabrio EG (pyraclostrobin)	11	16 oz	64 oz	3	Alternaria leaf spot Anthracnose Cercospora leaf spot Powdery mildew Rhizoctonia stem rot Sclerotinia stem rot Southern blight Ring spot	Limit is 2 sequential appl/crop
Reason 500SC (Fenamidone)	11	8.2 oz	24.6 oz	2	Downy mildew ( <i>Peronospora parasitica</i> ) Cercospora leaf spot ( <i>Cercospora brassicicola</i> ) White rust ( <i>Albugo candida</i> )	Limits are no more than 1 sequential application
Actigard 50 WG (acibenzolar-S-methyl)	P	1 oz	4 oz	7	Downy mildew Black rot	Apply preventively; limit is 4 appl/crop on a 7-day schedule. See label for details
K-phite 7LP Fosphite Fungi-Phite Phostrol Topaz (mono- and di-potassium salts of phosphorous acid)	33	See label		0	<i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> <i>Xanthomonas campestris</i> Anthracnose Downy mildew Powdery mildew	Do not apply with copper-based fungicides. See label for restrictions and details
Various brands of sulfur	M2				Powdery mildew	See labels for details



	Serenade ASO Serenade Max Sonata ( <i>Bacillus</i> sp.)	Biological material	See label	See label	0	Xanthomonas leaf spot Alternaria leaf spot Downy mildew Powdery mildew	See label for details
<b>Leafy vegetables (broad labels) including but not limited to</b> amaranth, arugula, cardoon, celeriac, chervil, edible chrysanthemum, corn salad, cress, dandelion, dock, endive, fennel, orach, puslane, radicchio, rhubarb, salisify, Swiss chard	Several fungicides with broadly written labels including but not limited to Quadris, Amistar, Presidio, Switch, Serenade Max, Sonata, and several phosphonics	SEE INDIVIDUAL LABELS					
<b>Leeks</b>	Same as onions or green onions with possibly specific modifications unless label restricts use to dry bulb only.						
<b>Lettuce</b>	Acrobat 50WP (Dimethomorph)	40	6.4 oz	32 oz	0	Downy mildew	
	Aliette 80WDG (Fosetyl Al)	33	5 lb	35 lb	3	Downy mildew	
	Amistar 80DF (Azoxystrobin)	11	5 oz	20 oz	0	Alternaria leaf spot Cercospora leaf spot Downy mildew Powdery mildew Septoria leaf spot	
	Apron XL LS (mefenoxam)	4	0.64 fl oz/ 100 lb seed			Pythium seedling blight	

Armcarb 100 (Potassium bicarbonate)			5 lb			0	Powdery mildew Alternaria leaf spot Septoria leaf spot Gray mold
Basic Copper 53 (Basic copper sulfate)	M1	3 lb					Downy mildew Bacterial leaf spot
Botran 75W (Dichloran)	14	5.33 lb	5.33 lb		14		Botrytis rot Sclerotinia
Cabrio EG (Pyraclostrobin)	11	16 oz	64 oz		0		Alternaria leaf spot Cercospora leaf spot Downy mildew Powdery mildew
Champ 77 WP (Copper hydroxide)	M1	2 lb			2		Botrytis leaf spot Bacterial leaf spot
Champ DP Dry Prill (Copper hydroxide)		1.33 lb			1		Downy mildew Bacterial leaf spot
Champ Formula 2 F (Copper hydroxide)		1.33 pt			1		Downy mildew Bacterial leaf spot
COCs WDG (Copper oxychloride sulfate)	M1				1		Downy mildew Bacterial leaf spot
Contans WG		6 lb					Lettuce drop
Dusting Sulfur – IAP (Sulfur)	M2	15 lb					Powdery mildew
Endura 70WG (boscalid)	7	11 oz	22 oz		14		Lettuce drop Rhizoctonia Botrytis rot
Forum (Dimethomorph)	40				0		Downy mildew
Fosphite (Potassium phosphite)	33	3 qt	18 qt				Downy mildew Pythium Rhizoctonia Fusarium
Helena Prophyt (Potassium phosphite)	33	4 pt	18 qt		0		Downy mildew Pythium
Iprodione 4L AG (iprodione)	2	2 pt	6 pt		14		Rhizoctonia bottom rot Sclerotinia drop

Kaligreen (Potassium bicarbonate)							1	Powdery mildew
Kumulus DF (Sulfur)	M2							Powdery mildew
Maneb 80WP (Maneb)	M3		12 lb				10	Downy mildew
Maneb 75DF (Maneb)			2 lb					Downy mildew
Manex 4F (Maneb)			2 lb					Downy mildew
Maxim 4FS (Fludioxonil)	12		0.16 fl oz/ 100 lb of seed					Various seedling diseases
Micro Sulf (Sulfur)	M2		6 lb					Powdery mildew
Microthiol Dispers (Sulfur)			10 lb					Powdery mildew
Milstop (Potassium bicarbonate)			5 lb					Downy mildew Powdery mildew
Nordox (Cuprous oxide)	M1		2 lb					Downy mildew Bacterial leaf spot
Nordox 75WG (Cuprous oxide)			2.5 lb					
Nu-Cop 3L (Copper hydroxide)	M1		2.66 pt					Downy mildew Bacterial leaf spot
Nu-Cop 50DF (Copper hydroxide)	M1		2.0 lb					
Nu-Cop 50WP (Copper hydroxide)								
Oxidate (Hydrogen dioxide)	M2							
Previcur Flex (propamocarb)			2 pt				2	Downy mildew
Quadrif (azoxystrobin)	11		15.4 fl oz	2.88 qt			0	Alternaria leaf spot, Cercospora leaf spot Downy mildew Powdery mildew

Septoria leaf spot

Quintec (Quinoxifen)	13											
Presidio (Fluopicolide)	43	3-4 fl oz	12 fl oz	2	Downy mildew White rust	Must be tank-mixed with a fungicide of different mode of action. Do not exceed two sequential applications. See label for soil applications						
Reason (Fenamidone)	11											
Revus 2.08 F (mandipropamid)	40	8 fl oz	32 fl oz	1	Downy mildew	Do not exceed 2 sequential appls. See label for soil appls						
Rhapsody ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt		0	Downy mildew Powdery mildew Sclerotinia drop							
Ridomil Gold EC (mefenoxam)	4	2 pt			Pythium seedling diseases							
Ridomil Gold GR (mefenoxam)	4	40 lb			Pythium seedling diseases							
Rovral 4F (iprodione)	2	2 pt	6 pt	14	Rhizoctonia bottom rot Sclerotinia drop							
Serenade Max ( <i>Bacillus subtilis</i> strain QST 713)	Biological	3 lb		0	Downy mildew Powdery mildew Sclerotinia drop							
Sonata ( <i>Bacillus pumilus</i> strain QST2808)		4 qt		0	Downy mildew Powdery mildew							
Sporan (Clove, Rosemary, and Thyme Oils)		1.5 qt		0	Botrytis gray mold Powdery mildew							
Stretch (copper hydroxide)	M1	4 pt			Downy mildew Bacterial leaf spot							

	Tanos (Cymoxanil, famoxadone)	27 & 11	8 oz	24 oz	3	Downy mildew	
	Tenn-Cop 5E (Copper tallate)	M1	3 pt			Downy mildew Bacterial soft rot	
	Topaz (Potassium phosphite)	33					
	Trilogy (Neem Oil)						
	Ultra Flourish (mefenoxam)	4					
<b>Melons (See cantaloupe &amp; watermelon)</b>	Melons include: cantaloupe, casabas, crenshaws, honey dew, honey balls, muskmelon, Persion melons, watermelons and hybrids of these.						
<b>Mint</b>	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	1.44 qt	0 0 for fresh & 7 for processed	Rust Powdery mildew <i>Rhizoctonia</i> diseases Various	Limit is 3 appl/crop & alternate chemistry
	Amistar 80 DF (azoxystrobin)	11	5 oz	0.93 lb	14		Limit is 4 appl/crop
	Headline 2.09 FL (pyraclostrobin)	11	12 fl oz	48 fl oz			
<b>Mizuna</b>	Cabrio 20 EG (pyraclostrobin)	11	16 oz	64 oz	3	Same as for collards	Limit is 4 appl/crop & alternate chemistry
	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	1.44 qt	0	Same as for collards	Limit is 3 appl/crop & alternate chemistry
<b>Muskmelon</b>	Same as for cantaloupe		1pt	4 pt	10	Alternaria leaf spot	
<b>Mustard</b>	Rovral 4F (iprodione)	2	1pt	4 pts	10	Alternaria leaf spot	Chinese mustard only. Limit is 4 appl/crop.
	Aliette 80 WDG (fosetyl-al)	33	5 lb		3	Downy mildew	Limit is 7 appl/crop. Do not tank mix with copper fungicides

Acrobat 50WP (dimethomorph)	15	6.4 oz	32 oz	0	Tank mix with other fungicides. Limit is no more than 2 sequential appl. and 5 total appl/crop
		6 oz	30 oz		
Forum (dimethomorph)		8 fl oz	32 fl oz	1	Limit is no more than 2 sequential appl. or 4 total appl. See label for restrictions and details
Revus (mandipropamid)	40				
Kocide 2000, Kocide DF (copper hydroxide)	M1	0.75-2 lb		1	Alternaria leaf spot Black rot Downy mildew
Champ DP (copper hydroxide)		0.66 lb			
Cuprofix Ultra 40 Dispers (basic copper sulfate)		1.25 lb			
Top Cop with Sulfur (sulfur + tri basic copper sulfate)	M2 & M1	2 qt			
Endura (boscalid)	7	9 oz	18 oz	14	Limit is 2 appl/crop. See label for details
Switch 62.5WG (cyprodinil + fludioxonil)	9 & 12	14 oz	56 oz	7	See label for details
Amistar 80 DF (azoxystrobin)	11	5 oz	15 oz	0	No more than 1 sequential appl. See label for details
Quadris (azoxystrobin)		15.5 fl oz	46.5 fl oz		
Terraclor 75WP, Terraclor 15G (PCNB)	14	See label	30 lb a.i.		See label for details

	Cabrio EG (pyraclostrobin)	11		16 oz	64 oz	3	Alternaria leaf spot Anthracnose Cercospora leaf spot Powdery mildew Rhizoctonia stem rot Sclerotinia stem rot Southern blight Ring spot White rust	Limit is 2 sequential appl/crop
	Reason 500SC (Fenamidone)	11		8.2 oz	24.6 oz	2	Downy mildew ( <i>Peronospora parasitica</i> ) Cercospora leaf spot ( <i>Cercospora brassicicola</i> ) White rust ( <i>Albugo candida</i> )	Limits are no more than 1 sequential appl.
	Actigard 50 WG (acibenzolar-S-methyl)	P		1 oz	4 oz	7	Downy mildew Black rot	Apply preventively; limit is 4 appl/crop on a 7-day schedule. See label for details
	K-phite 7LP Fosphite Fungi-Phite Phostrol Topaz (mono- and di-potassium salts of phosphorous acid)	33		See label		0	<i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> <i>Xanthomonas campestris</i> Anthracnose Downy Mildew Powdery Mildew	Do not apply with copper-based fungicides. See label for restrictions and details
	Various brands of sulfur	M2					Powdery mildew	See labels for details
	Serenade ASO Serenade Max Sonata ( <i>Bacillus</i> sp.)	Biological material		See label	See label	0	Xanthomonas leaf spot Alternaria leaf spot Downy mildew Powdery mildew	See label for details

<b>Okra</b>	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	1.92 qt	0 <sup>1</sup>	Powdery mildew	Limit is 4 appl/crop & alternate chemistry
	Amistar 80 DF (azoxystrobin)	11	5 oz	1.25 lb	0	Powdery mildew	
	JMS Stylet Oil		3 qt		4 hrs	Powdery mildew	See label for specific appl. techniques required
<b>Onion</b>	Ridomil Gold 4 EC (mefenoxam)	4	1 pt/irred acre			Pythium seedling blight	Apply at seeding in a 7-12" band on soil over seed furrow
	Amistar 80 DF (azoxystrobin)	11	5 oz	30 oz	0	Cladosporium leaf blotch Purple blotch Rust White rot Downy mildew Botrytis leaf blight	
	Cabrio 20 EG (pyraclostrobin)	11	12 oz	72 oz	7	Purple blotch Powdery mildew Downy mildew Rust	Do not make more than 6 appl. of Cabrio or other group 11 fungicides/season
	Iprodione 4L AG (iprodione)	2	1.5 pt	7.5	7	Botrytis leaf blight Botrytis neck rot Purple blotch	
	Various chlorothalonil products such as Bravo, Echo, Equus, Applaus	M5	SEE INDIVIDUAL LABELS		7	Botrytis leaf blight Purple blotch	See individual labels
	Phosphonics (various derivatives of phosphoric and phosphorous acids including but not limited to Fosphite, Fungi-Phite, Helena Prophyt, Phostrol, Topaz)		SEE INDIVIDUAL LABELS			Purple blotch Downy mildew	
	Manex 4 F (maneb)	M3	2.4 qt	24 qt	7	Botrytis leaf blight Purple blotch	Do not apply to exposed bulbs
	Maneb 80 WP (maneb)	M3	3 lb	30 lb	7	Botrytis leaf blight Purple blotch	Do not apply to exposed bulbs



	Forum/Acrobat (dimethomorph)	40	6 oz	30 oz	0	Downy mildew	Rotate chemistries
	Botran 75 W (dichloran)	14	5 1/3 lb	5 1/3 lb		Botrytis	Limit is 1 appl/crop
	Pencozeb, Dithane M45, or Manzate 80 WPs (Dry bulb only) (mancozeb)	M3	3 lb	30 lb	7	Botrytis leaf blight Purple blotch	Do not apply to exposed bulbs
	Quadris 2.08 FL (azoxystrobin)	11	15.5 fl oz	5.8 pt	0	Cladosporium leaf blotch Botrytis leaf blight Purple blotch Rust White rot Downy mildew	Rotate chemistries
	Quadris Opti FL (azoxystrobin + chlorothalonil)	11 & M5	7 pt	12 pt	14	Purple blotch Botrytis	Limit is 3 appl/crop & alternate chemistry. For green bunching, leeks & shallots
	Quilt (azoxystrobin + propiconazole)	11 & 3	27.5 fl oz	55.3 fl oz	14 dry bulb 0 green	Cladosporium leaf blotch Purple blotch Rust Botrytis leaf blight (Suppression only)	Make only 1 appl. before alternating to a non-group fungicide
	Reason 500 SC (fenamidone)	11	5.5 fl oz	22 fl oz	7	Downy mildew Purple blotch	Use only 1 spray before alt/w fungicide from different group
	Dithane F-45 or Manex II 4 FLs (Dry bulb only) (mancozeb)	M3	2.4 qt	24 qt	7	Botrytis leaf blight Purple blotch	Do not apply to exposed bulbs
	Maneb 75 DF (maneb)	M3	3 lb	32 lb	7	Botrytis leaf blight Purple blotch	Do not apply to exposed bulbs
	Pencozeb, Dithane, or Manzate 75 DFs (mancozeb)	M3	3 lb	32 lb	7	Botrytis leaf blight Purple blotch	Do not apply to exposed bulbs

Pristine 38 WG (pyraclostrobin/ boscalid)	11 & 7	18.5 oz	111 oz	7	Botrytis leaf blight Purple blotch Stemphylium leaf blight	Limit is 6 appl/crop & alternate chemistry
Rovral 4 FL (iprodione)	2	1.5 pt	7.5 pt	7	Botrytis leaf blight Purple blotch Botrytis neck rot	Max 5 appl/crop
Ridomil Gold/Bravo (chlorothalonil/ mefenoxam)	M5 & 4		2 lb	7 dry bulb 21 green	Downy mildew Purple blotch <i>Botrytis</i>	
SEE INDIVIDUAL LABELS						
Other Ridomil Gold products available						
Endura 70 WP (boscalid)	7	6.8 oz	41 oz	7	Purple blotch Rust Downy mildew Cladosporium leaf blight <i>Botrytis</i>	Limit is 6 appl/crop & alternate chemistry
Acrobat 50WP (dimethomorph)	40	6.4 oz	32 oz	0	Downy mildew	Must be applied in a tank mix with another fungicide active against downy mildew. Do not make more than 2 sequential appl.
Aliette WDG (fosetyl-AI)	33	3.0 lb	21lb	7	Downy mildew Purple blotch	Do not tank-mix with copper compounds
Various copper compounds (see ind. Labels), including Basic Copper 53, Champ, COC, Copper Count-N, Cuprofix Disperss, Kocide, Nordox, Nu Cop.	M1	SEE INDIVIDUAL LABELS			Bacterial blight Downy mildew Purple blotch	See individual labels
Iprodione 4L (iprodione)	2	1.5 pt	7.5 pt	7	<i>Botrytis</i> Purple blotch	
Scala SC (pyrimethanil)	9	18 oz	54 oz	7	<i>Botrytis</i> Purple blotch	

Switch 625WG (cyprodinil/fludioxonil)	9 & 12	14 oz	56 oz	7	Botrytis Purple blotch Stemphylium blight Black mold (suppression only)	After 2 appl. of Switch, a/w another fungicide with a different mode of action for 2 applications
Serenade Max (biofungicide) (QST 713 strain of <i>Bacillus subtilis</i> )	Biological	3 lb		0	Botrytis Downy mildew Purple blotch Rust	
Sonata (biofungicide) (QST 2808 strain of <i>Bacillus pumilis</i> )	Biological	4 qt		0	Downy mildew Powdery mildew Rust	
Topsin M 70WDG (other formulations available) (thiophanate-methyl) and other thiophanate-methyl products available)	1	2 lb			White rot	Spray in open furrows at seeding. Not to be used in any irrigation system
Tilt (propiconazole)	3	8 fl oz	16 fl oz	0 dry bulb 14 green	Purple blotch Botrytis leaf blight (suppression only)	
Ultra Flourish 2EC (mefenoxam)	4	2 pt/trtd acre			Pythium damping-off	Soil treatment at planting only
Revus 2.08 F (mandipropamid)	40	8 fl oz	32 fl oz (dry bulb) 24 fl oz (green)	7	Downy mildew	Begin appl. prior to disease development and continue throughout the season at 7-10 day interval. Make no more than 2 consecutive appl. before switching to a non-group 40 fungicide. A silicon-based adjuvant <u>must</u> be added at recommended rates

Parsley	Aliette 80WDG (Fosetyl AI)	33	5 lb	35 lb	3	Downy mildew	Do not mix with copper fungicides.
	Amistar 80DF (azoxystrobin)	11	5 oz	20 oz	0	Alternaria leaf spot Powdery mildew Septoria leaf spot	Do not exceed 1 sequential and 4 total appl. of Amistar or other Qol fungicides.
	Apron XL LS (mefenoxam)	4	0.64 fl oz/ 100 lb seed			Pythium seedling blight	Seed treatment only
	Badge (Copper hydroxide, Copper oxychloride)	M1					
	Cabrio EG (pyraclostrobin)	11	16 oz	64 oz	0	Alternaria leaf spot, Cercospora leaf spot, Downy mildew, Powdery mildew, Septoria leaf spot	Do not exceed 2 sequential and 4 total appl. of Cabrio or other Qol fungicides.
	Champ 77 WP (Copper hydroxide)	M1	2 lb		2	Bacterial blight	Do not apply in a solution with a pH of less than 6.5.
	Champ DP Dry Prill (Copper hydroxide)	M1	2 lb		1	Bacterial blight	Do not apply in a solution with a pH of less than 6.5.
	Champ Formula 2 F (Copper hydroxide)	M1	2 pt		1	Bacterial blight	Do not apply in a solution with a pH of less than 6.5.
	Contans WG		6 lb			Sclerotinia diseases	Apply to soil surface and incorporate prior to planting, or at transplanting.
	Copper-Count-N (Copper ammonium complex)	M1	3 qt			Bacterial blight	
	Cuprofix Disperss (Basic copper sulfate)	M1	4 lb			Bacterial blight	
	Flint (Trifloxystrobin)	11	3 oz	12 oz	7	Alternaria leaf spot Cercospora leaf spot	Only for turnip-rooted parsley.
	Fosphite (Potassium phosphite)	33	3 qt	18 qt		Downy mildew Pythium Rhizoctonia Fusarium	Do not exceed 6 appl/crop. Caution should be used when applying in a management program, including copper fungicides.



	Phostral (Potassium phosphite)	33	5 pt		35 pt	Downy mildew	Do not exceed 7 appl/season. To avoid possible phytotoxicity, see label cautions regarding conditions during application.
	Presidio (Fluopicolide)	43	3-4 fl oz	12 fl oz	2	Downy mildew White rust	Must be tank-mixed with a fungicide of different mode of action. Do not exceed two sequential applications. See label for soil applications.
	Quadris (azoxystrobin)	11	15.4 fl oz	2.88 qt	0	Alternaria leaf spot Cercospora leaf spot Powdery mildew Septoria leaf spot	Do not exceed 1 sequential and 4 total appl. of Quadris or other Qol fungicides. To avoid possible phytotoxicity, see label for cautions regarding tank mixtures.
	Revus 2.08 F (mandipropamid)	40	8 fl oz	32 fl oz	1	Downy mildew	Do not exceed 2 sequential applications. See label for soil applications.
	Rhapsody ( <i>Bacillus subtilis</i> strain AST 713)	Biological	6 qt		0	Powdery mildew Sclerotinia drop	For suppression or use as a preventative in a program with other registered fungicides. For <i>Sclerotinia</i> , apply as a banded spray (see label for placement and timings).
	Ridomil Gold EC (mefenoxam)	4	2 pt			Pythium seedling diseases	Apply at seeding in a 7-12" band on soil over seed furrow.
	Ridomil Gold GR (mefenoxam)	4	40 lb			Pythium seedling diseases	See label for specifics regarding preplant incorporated appl. and surface appl. at time of planting.

Serenade Max ( <i>Bacillus subtilis</i> strain 713)	Biological	3 lb		0	Powdery mildew Sclerotinia diseases	For suppression or use as a preventative in a program with other registered fungicides. For <i>Sclerotinia</i> , apply as a banded spray (see label for placement and timings). For suppression or use as a preventative in a program with other registered fungicides
Sonata ( <i>Bacillus pumilis</i> strain 2808)	Biological	4 qt		0	Powdery mildew	For suppression or use as a preventative in a program with other registered fungicides
Sporan (Rosemary, Thyme, and Clove Oil)		1.5 qt		0	Botrytis gray mold Powdery mildew	Sporan is a concentrated oil-based product. It requires the use of an approved adjuvant to improve spreading and sticking. OMRI listed.
Stretch		6 pt			Bacterial leaf spot	
Sulfur 90W (Sulfur)	M2	6 lb			Powdery mildew	Do not apply during periods of warm weather. Do not apply within 2 weeks of an oil spray.
Super-Six (Sulfur)	M2	12 pt			Powdery mildew	Do not apply during periods of warm weather. Do not apply within 2 weeks of an oil spray.
Switch (Cyprodinil, Fludioxonil)	9 & 12	14 oz	56 oz	7	Alternaria leaf spot Botrytis leaf blight Fusarium blight	Minimum of 30 GPA recommended
Topaz (Potassium phosphite)	33	3 qt	18 qt		<i>Pythium</i> <i>Fusarium</i> <i>Rhizoctonia</i>	
Trilogy (Neem Oil)		2 gal				Apply at a rate of 0.5% - 1.0% in 25 - 100 gallons of water/acre or at 2 pt in a minimum of 5 GPA for low-volume applications.

Ultra Flourish (mefenoxam)	4	4 pt				Pythium seedling disease	See label for specifics regarding preplant and surface appl. at the time of planting.
<b>Pepper</b>							
<b>* For best-possible available chemical control of bacterial spot, a copper fungicide should be tank-mixed with a maneb fungicide</b>							
Ridomil Gold 4 EC (mefenoxam)	4	1 pt/trtd acre	3 pt/trtd/A			Pythium seedling blights Phytophthora blight	Soil spray broadcast or band. Apply in a minimum of 20 gal water per acre preplant or prior to emergence.
Apron XL 3LS (difenconazole + mefenoxam)	3 & 4	0.64 fl oz/100lb seed				Pythium damping-off	Seed treatment only
Agrimycin (Streptomycin sulfate and other streptomycin products)	17	200 ppm				Bacterial spot	For use on transplants only. Apply first spray when seedling is in 2-leaf stage. Apply at 4-5 day intervals until transplanting.
Cabrio 2.08 F (pyraclostrobin)	11	16 fl oz	96 fl oz	0		Powdery mildew Anthracnose Early blight <i>Botrytis</i> (suppression)	No more than 6 appl. of Cabrio or other Group 11 fungicides/season.
Forum/Acrobat (dimethomorph)	40	6 oz (Forum) 6.4 oz (Acrobat)	30 oz	0		Phytophthora blight (suppression only)	Apply with another fungicide not in Group 40.
Maneb 80 WP (maneb)	M3	3 lb	18 lb	7		Bacterial spot* Frogeye leaf spot Anthracnose Phytophthora blight	*Bacterial spot when tank mixed with a copper fungicide. Use of 1 lb Maneb/A per appl. is sufficient
Maneb 75 DF (maneb)	M3	3 lb	19.2 lb	7		Bacterial spot* Frogeye leaf spot Anthracnose Phytophthora blight	*Same as Maneb 80 WP
Quadris 2.08 FL (azoxystrobin)	11	15.5 fl oz	1.92 qt	0		Powdery mildew Anthracnose	Limit is 4 appl/crop & alternate chemistry.



Amistar 80 DF (azoxystrobin)	11	5 oz	1.25 lb	0	Powdery mildew Anthracnose	Limit is 4 appl/crop & alternate chemistry.
Manex 4 F (maneb)	M3	2.4 qt	14.4 qt	7	Bacterial spot* Frogeye leaf spot Anthracnose Phytophthora	Same for Maneb 80 except adequate rate/A is 0.8 qt.
Ridomil Gold Copper 64.8 W (mefenoxam/copper hydroxide)	4 & M1	2.5 lb	10 lb	7	<del>Phytophthora</del> Phytophthora Pythium diseases	Use Ridomil Gold EC on soil preplant or at planting. Make up to 2 additional appl. Use 1 pt/A and apply at a 30-day interval.
Presidio (Fluopicolide)	43	4 fl oz		2	Phytophthora blight	For resistance management, a tank mix including a labeled rate of another labeled fungicide with a different mode of action on the target pathogen must be used with Presidio. Recommended spray interval 10 days.
Revus 2.08 F (mandipropamid)	40	8 fl oz (in tank mix with a copper fungicide)	32	1	Phytophthora blight (suppression only)	A non-ionic surfactant, crop-oil concentrate or blend is recommended.
JMS Stylet Oil		3 qt		NTL	Potato Virus Y Tobacco etch virus Pepper mottle virus	See label for specific app. techniques required (e.g. 400 psi essential).
Various copper compounds (see ind. labels), including Badge, Champ, COC, Copper Count-N, Copper Z4/4, Kocide, Nordox, Nu Cop, Cuprofix Disperss, etc.	M1	SEE INDIVIDUAL LABELS			Bacterial spot Frogeye leaf spot	
Flint 50 WGD (trifloxystrobin)	11	4 oz	16 oz	3	Powdery mildew Anthracnose (disease suppression)	Maximum of 4 appl/season & alternate chemistries.

	Kaligreen (82% potassium bicarbonate)	33	3 lb		1	Powdery mildew Anthracnose (disease suppression)	Greenhouse only
	Milstop (85% potassium bicarbonate)	33	5 lb		0	Powdery mildew <i>Pythium</i>	Greenhouse only
	Serenade Max (QST 713 strain of <i>Bacillus subtilis</i> )		3 lb			Bacterial spot Early blight Powdery mildew Gray mold	Use with copper bactericide for bacterial spot control.
	Sonata (QST 2808 strain of <i>Bacillus pumilus</i> )	Biological	4 qt			Bacterial spot Powdery mildew	Tank mix with copper bactericide for bacterial spot control.
	Tanos (famoxadone/cymoxanil)	11 & 27	10 oz	72 oz	3	Anthracnose Bacterial soft rot (suppression only) Bacterial spot (suppression only) Phytophthora blight (suppression only)	Tank mix with contact fungicides. Do not tank mix or rotate with other Group 11 fungicides. Tank mix with copper fungicides for suppression of <i>Phytophthora</i> blight, bacterial spot, and bacterial soft rot.
	Ultra Flourish (mefenoxam)	4	1 qt/trtd acre	3 qt		Phytophthora blight Pythium diseases	At planting and directed sprays at crown-see label.
	Previcur Flex (6 lb a.i./gal) (propamocarb)	28	12.8 oz/100 gal water			<i>Phytophthora</i> <i>Pythium</i>	Greenhouse only
<b>Pimiento</b>	Same uses as for Pepper						
<b>Pipino</b>	Endura 70 WP (boscalid)	7	12.5 oz	25 oz	0	<i>Botrytis</i> Early blight	Limit is 6 appl/crop & alternate chemistry.
<b>Potato</b>	Acrobat 50WP (Dimethomorph)	40	6.4 oz	32 oz	4	Late blight	
	Agri-tin (Triphenyltin hydroxide)	30	3.75 oz	11.5	7	Early blight Late blight	
	Agri-Mycin 17, Bac-Master, Firewall (Streptomycin)	25	100 ppm				Seed treatment

Amistar 80DF (azoxystrobin)	11	5 oz	2.5 lb	14	Early blight Late blight (Various: See label)	Apply in rotation with non-Group 11 fungicides.
Blocker 4F (Pentachloronitrobenzene (PCNB))	14	10 pt/A	20 lb		Stem canker Black scurf	Apply at planting
Endura 70WP (boscalid)	7	10 oz	20.5 oz	10	Early blight See label	Do not make more than 4 appls at low rate or 2 appls at high rate.
Curzate 70DF (Cymoxanil)	27	3.2 oz	22.4 oz	14	Late blight	Limit is 7 appls/year. Use in combination with a protectant fungicide. It is best to alternate Curzate with other fungicides, such as mancozeb or chlorothalonil.
Dithane M45, Dithane DF Rainshield, Dithane F45 Rainshield, Manzate Flowable, , Manzate Pro-Stick, Nubark Mancozeb, Penncozeb 4FL, Penncozeb 80WP, Penncozeb 75DF (Mancozeb)	M3	See label	See label	3	Early blight Late blight (see label)	See label for seed piece treatment.
Distinguish 480SC (Pyrimethanil; Trifloxystrobin)	9 & 11	10 fl oz	50 fl oz	7	Early blight	Apply in rotation with non-Group 11 fungicides.
Manex (maneb)	M3	1.6 qt	11.2 qt	3	Early blight Late blight	0.8 qt/10 gal of water for seed piece treatment. Allow to dry and do not use as livestock feed.
Maneb 75DF (maneb)	M3	2 lb	14.9 lb	3	Early blight Late blight	Same as for Maneb 80 WP
Maneb 80WP (maneb)	M3	2 lb	14 lb	3	Early blight Late blight	1 lb/10 gal water for seed piece treatment. Allow to dry and do not use as livestock feed.

Evito 480SC (Fluoxastrobin)	11	3 fl oz	22.8 fl oz	7	Early blight Late blight	Apply in rotation with non-Group 11 fungicides
Forum (Dimethomorph)	15	6 oz	30 oz	4	Late blight	Tank mix with another chemistry. Do not make more than 2 sequential applications before alternating to a non-Group 15 fungicide.
Gavel 75DF (Mancozeb; Zoxamide)	M3 & 22	2.0 lb	12 lb	3	Early blight Late blight	This product contains 66.7% mancozeb so do not exceed maximum allowed for mancozeb, considering this and other mancozeb-containing products.
Gem 500SC (Trifloxystrobin)	11	3.8 fl oz	23 fl. oz	7	Early blight Late Blight	Limit is 6 appl/crop and alternate chemistry.
Headline 2.09F (pyraclostrobin)	11	12 fl oz	72 fl oz	3	Early blight Late blight (See label)	Alternate with non-group 11 chemistry between applications.
Heritage (azoxystrobin)	11	10.5 oz Use 3.2 oz product/A rate for early and late blight	4.0 lb	14	Early blight Late blight (See label)	Alternate with non-Group 11 chemistry between applications.
Ridomil Gold Copper 64.8W (Copper hydroxide; mefenoxam)	M1 & 4	See label	See label	14	Late blight	Limit is 3 appl/crop of this product & other Ridomil products. Add protectant fungicide, see label.
Ridomil Gold Bravo SC (chlorothalonil; mefenoxam)	M5 & 4	2.5 lb	See label	14	Late blight Early blight (See label)	Limit is 4 appl/crop.

Applause 720, Bravo Ultrex, Bravo ZN, Equus 720SST, Bravo Weather Stik 6L, Chloronil 720, Echo 90DF, Echo 720, Echo ZN, Equus DF, Initiate 720 (chlorothalonil)	M5	See label	See label	7	Late blight Early blight See label	Read label for application directions.
Rovral 4F and Iprodione 4L (iprodione)	2	2 pt	8 pt	14	Early blight <i>Sclerotinia</i>	Limit is 4 appl/crop.
Polyram 80DF (Metiram)	M3	2 lb	14 lb	3	Late blight Early blight	Limit is 7 appl/season.
Quadris 2.08FL (azoxystrobin)	11	15.5 fl oz	2.0 lb ai/A	14	Late blight Early blight (See label)	Alternate with non-Group 11 chemistry between applications.
Quadris Opti (azoxystrobin; Chlorothalonil)	11 & M5	1.6 pt	See label	14	Late blight Early blight (see label)	Alternate with non-Group 11 chemistry between applications.
Quadris Ridomil Gold (azoxystrobin; mefenoxam)	11 & 4	0.82 fl oz./1000	See label		Rhizoctonia canker <i>Pythium</i> (See label)	Apply at planting.
Fosphite, Fungi-Phite, Topaz, Propylte (Potassium phosphite)	33	See label	See label	0	Late blight	Check label for required minimum gallons per acre, restrictions for use following copper application, plant and environmental conditions that restrict use, and for compatibility with other materials.
Oxidate (hydrogen dioxide)	M2					See label for specific instructions for use with cucurbits.
ManKocide 61.1DF (Copper hydroxide; Mancozeb)	M1 & M3	5 lb	74.66 lb	3	Early blight Late blight	Seed treatment. Must be made using specific equipment. See label.
Maxim 4FS (Fludioxonil)	12	0.16 oz/100 lb seed				

Maxim MZ (Fludioxonil and Mancozeb)	12 & M3	0.5 lb/100 lb seed				See label	Seed treatment
Maxim Potato Seed Protectant (Fludioxonil)	12	0.5 lb/100 lb seed				See label	Seed treatment
Moncut 70DF (Flutolanil)	7	1.1 lb				<i>Rhizoctonia</i>	In-furrow use only
Omega 500F (Fluazinam)	29	8 oz	3.5 pt	14		Late blight White mold	
Potato Seed Treater 6% and Potato Seed Treater PS (Mancozeb)	M3	1 lb/100 lb seed				Fusarium	Seed treatment
Ranman (Cyazofamid)	21	2.75 fl oz/A	27.5 fl oz	7		Late blight (See label)	Between applications, alternate with non-Group 11 chemistry.
Reason 500SC (Fenamidone)	11	8.2 fl oz	24.6 fl oz	14		Late blight Early blight (See label)	Between applications, alternate with non-Group 11 chemistry.
Previcur Flex (Promocarb hydrochloride)	U	1.2 pt	6.0 pt	14		Late blight Early blight	Use with a tank mix. See label for seed piece treatment.
Ridomil Gold SL (mefenoxam)	4	Apply 0.42 oz/1000 linear ft				<i>Pythium</i> and <i>Phytophthora</i> damping-off	Apply at planting.
Ridomil Gold MZ (mancozeb; mefenoxam)	M3 & 4	2.5 lb	10 lb	3		Late blight Early blight (See label)	
Revus Top (difenoconazole; mandipropamid)	3 & 40	7 fl. oz	28 fl. oz.	14		Early blight Late blight (See label)	Do not make more than 2 consecutive appls.
Scala SC (Pyrimethanil)	9	7 fl. oz	35 fl. oz	7		Early blight (See label)	

Serenade ASO ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt		0	Early blight Late blight	Tank mix with other fungicide for late blight.
Serenade Max ( <i>Bacillus subtilis</i> strain QST 713)		3 lb		0	Early blight Late blight	Tank mix with other fungicide for late blight.
Sonata ( <i>Bacillus pumilus</i> strain QST 2808)	Biological	4 qt		0	Early blight Late blight	Tank mix with other fungicide for late blight.
Sulfur (Dusting sulfur, Kumulus DF, Micro Sulf, Microthiol Disperss, Sulfur 90W, Super Six, Thiosperse 80%, Wettable Sulfur, Yellow Jacket Wettable Sulfur) (Sulfur)	M2				See label	Do not apply in warm weather. Do not apply within 2 weeks of an oil spray.
Super Tin 80WP (Triphenyltin hydroxide)	30	3.75 oz	11.25 oz	7	Early blight Late blight	For use with closed tractor cabs only. Super Tin should be tank-mixed with a mancozeb fungicide (e.g. Manex, Dithane, Manex, Manzate or Penncozeb)
Tanos (Cymoxanil; famoxadone)	27 & 11	8 oz	48 oz	14	Early blight Late blight (See label)	Do not make consecutive applications. Rotate to material with different mode of action.
Terraclor 75WP (Pentachloronitrobenzene (PCNB))	14	6.66 lb			Rhizoctonia	At planting.
Terraclor F (Pentachloronitrobenzene (PCNB))	14	10.4 fl oz 1000 linear ft 10 pt	pt	45	<i>Rhizoctonia</i> White mold	At planting or see label for white mold.
Thiophanate Methyl 85WDG (Thiophanate-methyl)	1	1.2 lb	3.2 lb	21	White mold	
Topsin M WSB, T-Methyl (Thiophanate-methyl)	1	1.5 lb	4 lb	21	White mold	

	Topsin 4.5FL (Thiophanate-methyl)	1	30 fl oz	80 fl oz	21	White mold	
	Topsin M 70WP (Thiophanate-methyl)	1	1-1 1/2 lb/A	4 lb	21	White Mold ( <i>Sclerotinia</i> )	May be tank mixed with other fungicides labeled for control of early and late blight. Aerial application is not recommended.
	Ultra Flourish (mefenoxam)	4	0.84 oz/1000 linear ft			<i>Pythium</i> and <i>Phytophthora</i> - cause seed decays	At planting.
	Tops 2.5D (Thiophanate-methyl)	1	1 lb/100 lb seed			<i>Fusarium</i> and <i>Rhizoctonia</i> - cause seed decays	
	Various copper compounds (Badge SC, Basic Copper 53, COC DF, COC WP, COC WDG, Champ DP Dry Prill, Champ 2 FL, Champion, Cuprofix Ultra 40 Disperss,, Copper-Count-N, Cuprofix MZ Disperss, Copper sulfate crystals, Copper Sulfate Instant Powder, Kentan DF, Kocide 101, Kocide 2000, Kocide 4.5LF, Kocide DF, Kocide 3000, Nordox, Nu Cop 50WP, Nu-Cop 3L, Nu-Cop 50DF, Nu-Cop HB, Quimag Copper Sulfate Crystal, Tenn-Cop 5E, Stretch.)	M1		See individual labels.	See individual labels	Early blight Late blight (see individual label)	See individual labels.
<b>Pumpkin</b>	Acrobat 50WP (Dimethomorph)	40	6.4 oz	32 oz	When spray is dry	Downy mildew <i>Phytophthora</i> blight	Limit is 5 appl/crop. Tank mix with another fungicide.



Aliette 80WDG, Linebacker WDG (Fosetyl-Al)	33	5 lb	35 lb	12 hr	Downy mildew	Limit is 7 appl/crop. Do not tank mix with copper fungicides.
Amistar 80DF Quadris 2.09FL (azoxystrobin)	11	5 oz or 3.2 pts	1.88 lb	1	Downy mildew Powdery mildew Gummy stem blight Anthracnose Alternaria leaf spot	Limit is 4 appl/crop for all QoI fungicides. Do not make more than 2 consecutive appl.
Cabrio 20EG (pyraclostrobin)	11	16 fl oz	64 fl oz	0	Same as Amistar Certain leaf spots	4 appl maximum. Same as Amistar. Max rate for downy mildew is 12 oz.
Curzate 60DF (cymoxanil)	27	3.2 oz	See remarks	3	Downy mildew	Use only with labeled rate of protectant fungicide. No more than 9 appl/12 months.
Applause 720, Bravo Ultrex, Bravo Weather Stik, Bravo ZN, Chloronil 720, Echo 720, Echo 90DF, Echo ZN, Equus DF, Equus 720 SST, Initiate 720 (chlorothalonil)	M5	See label	See label	0	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight Powdery mildew	Recommended maximum rate is less for certain diseases, including downy mildew. Follow label recommendations on watermelon after fruit set.
Dithane DF Rainshield, Dithane F45 Rainshield, Dithane M45, Manzate 75DF, Manzate Flowable 4F, Manzate Pro-Stick, Penncozeb 4FL, Penncozeb 75DF, Penncozeb 80WP (mancozeb)	M3	See label	See label	5	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight	
Manex 4F (maneb)	M3	1.6 qt	12.8 qt	5	Same as Dithane F45	
Maneb 80WP (maneb)		2 lb	16 lb			
Maneb 75DF (maneb)			17.1 lb			

Flint 50WP (Trifloxystrobin)	11	2 oz	8 oz	0	Powdery mildew Downy mildew	Limit 4 appl/crop and alternate chemistry. Max rate is higher for downy mildew suppression (4 oz). Same as Amistar.
Forum (dimethomorph)	40	6 oz	30 oz	When spray is dry	Downy mildew Phytophthora blight	Limit is 5 appl/crop. Apply with another fungicide that has a different mode of action. Min gal/A
Gavel 75DF (mancozeb & zoxamide)	M3 & 22	2 lb	16 lb	5	Alternaria leaf spot Downy mildew	Limit is 5 appl/crop. Apply with another fungicide that has a different mode of action. Min gal/A
Heritage (azoxystrobin)	11	8.0 oz	3.0 lb	1	Downy mildew Powdery mildew Gummy stem blight Anthracnose Alternaria leaf spot Certain leaf spots	Do not make more than 2 consecutive appls. Do not make more than 6 appl/crop. Same as Amistar.
JMS Stylet Oil		3 qt		4 hr	Aphid-transmitted viruses Powdery mildew	See label for specific appl. techniques required (ie: use of 400 psi).
Fosphite, Fungi-Phite, Prophyl, Topaz (Potassium phosphate)	33	See label	See label	0	Phytophthora Pythium Fusarium Rhizoctonia Downy mildew	Check label for required min gal/A. Restrictions are for use following copper application, plant and environmental conditions that restrict use, and compatibility with other materials.
ManKocide 61DF (Copper hydroxide & mancozeb)	M1 & M3	2.66 lb	128 lb	5	Angular leaf spot Downy mildew Bacterial fruit blotch	
Nova 40W (myclobutanil)	3	5 oz	1.5 lb	0	Powdery mildew	Note that a 30-day plant back restriction exists.
Oxidate (Hydrogen dioxide)	M2					See label for specific instructions for use with cucurbits.

Presidio (fluopicolide)	43	4 fl oz	12 fl oz	2	Downy mildew <i>Phytophthora</i>	Max rate is 4 fl oz/A/appl and 12 fl oz/A per season. Apply no more than 2 sequential appls before alternating to a fungicide of a different chemistry.
Previcur Flex (propamocarb hydrochloride)	U	1.2 qt	6 pt	2	Downy mildew <i>Pythium</i>	Use a tank-mix partner. See label for directions using a contact fungicide and Pythium suppression.
Procure 50WS and 480SC (Triflumizole)	3	8 oz	40 oz	0	Powdery mildew	
Pristine 38WG (boscalid & pyraclostrobin)	7 & 11	18.5 oz	74 oz	0	Same as Amistar	Limit is 4 appl/crop and alternate chemistry. Same as Amistar.
PREVAM (Sodium tetraborohydrate decahydrate)		50 fl oz/100 gal			Downy mildew Powdery mildew	See label for specific information.
Quadris 2.08FL (azoxystrobin)	11	15.4 fl oz	2.88 qt	1	Same as Amistar	Limit is 4 appl/crop and alternate chemistry. Same as Amistar
Quadris Opti (azoxystrobin & chlorothalonil)	11 & M5	3.2 pt	1.0 lb ai 15.75 lb ai	1	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight Powdery mildew	Limit is 4 appl/crop for all Qol fungicides. Do not make more than 2 consecutive appls.
Revus 2.08 F (mandipropamid)	40	8 oz	32 fl oz	0	Phytophthora blight Downy mildew	Max of 4 appls during one crop cycle. Apply no more than 2 sequential applications before alternating to a fungicide of a different chemistry. An adjuvant is recommended for best control. Do not use in transplant production. 30- day plant back restriction unless plant appears on label.

Ranman (cyazofamid)	21	2.75 fl oz	16.5 fl oz	0	Downy mildew Phytophthora blight	Limit is 6 appl/crop. Follow resistance-management guidelines on label.
Reason (fenamidone)	11	5.5 fl oz	22 fl oz	14	Downy mildew Alternaria leaf	Limit is 4 appl/crop and alternate chemistry.
Ridomil Gold Bravo 76.4W (chlorothalonil & mancozeb & mefenoxam)	M5 & 4	3 lb	12 lb	7	Downy mildew Certain leaf spots Gummy stem	Limit is 4 appl/crop.
Ridomil Gold SL (mefenoxam)	M3 & 4	2.5 lb	10 lb	5	Downy mildew	Limit is 4 appl/crop.
Ridomil Gold SL (mefenoxam)	M1 & 4	2 lb	8 lb	5	Downy mildew	Limit is 4 appl/crop.
Ridomil gold 4EC and Ridomil Gold SL (mefenoxam)	4	2 pt/treated A	See label	See label	Pythium seedling blight	Apply at seeding in a 7-12" band on soil over seed furrow.
Ultra Flourish (mefenoxam)	4	4 pt/treated A	See label	See label	Same as Ridomil Gold 4EC	Same as Ridomil Gold 4EC
Kumulus DF, Micro Sulf, Miconized Gold, Microthiol Disperss, Sulfur 90W, Thiolux Jet, Wettable Sulfur (Sulfur)	M2	See label	See label		Powdery mildew	See label. Do not use in warm weather.
Rally 40 WSP (myclobutanil)	3	5.0 oz	1.5 lb	0	Powdery mildew	Note that a 30-day plant back restriction exists.
Rhapsody ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt/100 gal		0	Powdery mildew Gummy stem blight Bacterial leaf blotch Downy mildew Certain leaf spots	Do not use product alone; apply with registered fungicide.
Soigard 12G ( <i>Gliocladium virens</i> )		See label		0	Damping off Root Rot pathogens such as <i>Pythium</i> and <i>Rhizoctonia</i>	Must be incorporated or drenched into the soil.

	Serenade ASO ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt			0	Downy mildew Gummy stem blight	Do not use product alone; apply with registered fungicide.
	Serenade Max ( <i>Bacillus subtilis</i> strain QST 713)		3 lb			0	Downy mildew Gummy stem blight	Do not use product alone; apply with registered fungicide.
	Sonata ( <i>Bacillus pumilus</i> strain QST 2808)		4 qt			0	Downy mildew Gummy stem blight	Do not use product alone; apply with registered fungicide.
	Sovran (Kresoxim methyl)	11	4.8	19.2		0	Powdery mildew Gummy stem blight	Follow resistance-management guidelines for Qol fungicides as per the label.
	Sporan EC (clove, rosemary, thyme oil)		4 pt			0	Powdery mildew Alternaria leaf spot Downy mildew	
	Tanos 50DF (cymoxanil & famoxadone)	27 & 11	8 oz			3	Downy mildew Anthracnose	Limit is 4 appl/crop. Must tankmix with a contact fungicide. Limit is 72 oz/A/max/year.
	Thiophanate methyl 85WDG (Thiophanate methyl)	1	0.4	2.5		1	Anthracnose, Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
	Topsin M WSB (Thiophanate methyl)	1	0.5 lb	3 lb		1	Anthracnose Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
	Topsin 4.5 FL (Thiophanate methyl)	1	10 oz	60 oz		1	Anthracnose Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
	Topsin M70WP (Thiophanate methyl)	1	0.5 lb	3 lb		1	Anthracnose Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
<b>Radish &amp; Oriental radish</b>	Amistar 80DF (azoxystrobin)	11	5 oz or 0.25 oz/1000 row ft	20 oz		0	Various (see label)	Do not exceed 1 sequential and 4 total appl. of Amistar or other Qol fungicides. See label for soil applications.
	Apron XL LS (mefenoxam)	4	0.64 fl oz/ 100 lb seed				Pythium seedling blight	Seed treatment only

Cabrio EG (pyraclostrobin)	11	16 oz	48 oz	0	Various (see label)	Do not exceed 2 sequential and 3 total appl. of Cabrio or other Qol fungicides. Apply to soil surface and incorporate prior to planting, at planting, or at transplanting.
Contans WG		6 lb			Sclerotinia diseases	
Fosphite (Potassium phosphite)	33	3 qt	18 qt		<i>Pythium</i> <i>Rhizoctonia</i> <i>Fusarium</i>	Do not exceed 6 appl/crop. Caution should be used when applying in a management program including copper fungicides. See label for details on foliar and irrigation application.
Kaligreen (Potassium bicarbonate)		3 lb		1	Powdery mildew	Apply in a minimum spray volume of 25 GPA.
Maxim 4FS (Fludioxonil)	4	0.16 fl oz/ 100 lb of seed			Various seedling diseases	Seed treatment only
Micro Sulf (sulfur)	M2	10 lb			Powdery mildew	Do not apply during periods of warm temperatures (>90) or within 14 days of applying a crop oil.
Micronized Gold (Sulfur)	M2					
Microthiol Dispers (Sulfur)	M2					
Quadris (azoxystrobin)	11	15.4 fl oz or 0.8 fl oz/1000 ft of row	3.75 qt	0	Various (see label)	Do not exceed 1 sequential and 4 total foliar applications of Quadris or other Qol fungicides. See label for soil applications.
Rhapsody ( <i>Bacillus subtilis</i> strain QST 713)	Biological					

Ridomil Gold EC (mefenoxam)	4	2 pt/ trtd acre	8 lb			Pythium seedling diseases Downy mildew	Apply at seeding in a 7-12" band on soil over seed furrow. Limit of 4 appl/crop.
Ridomil Gold/Copper (mefenoxam, Copper hydroxide)	4	2 lb		7		Downy mildew	
Serenade Max ( <i>Bacillus subtilis</i> strain QST 713)	Biological	3 lb		0		Various (see label)	
Sonata ( <i>Bacillus pumilis</i> strain QST 2808)		4 qt		0		Downy mildew Powdery mildew	
Sporan (clove, rosemary, and thyme oil)		1.5 qt		0		Powdery mildew	Sporan is a concentrated oil-based product. It requires the use of an approved adjuvant to improve spreading and sticking.
Sulfur 90W (Sulfur)	M2	10 lb				Powdery mildew	Do not apply during periods of warm weather. Do not apply within 2 weeks of an oil spray.
Topaz (Potassium phosphite)	33						
Trilogy (Neem oil)		2 gal					Apply at a rate of 0.5% - 1.0% in 25 - 100 gallons of water per acre or at 2 pt in a minimum of 5 GPA for low-volume applications.
Ultra Flourish (mefenoxam)	4						
<b>Shallots</b> Same as for onions or green onions with possible restrictions on the label. Not for use on shallots if label states dry bulb only.							

<b>Skirret</b>	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl. oz	3.75 qt	0	Downy mildew Various, see label	Limit is 4 appl/crop & alternate chemistry.	
	Amistar 80 DF (azoxystrobin)	11	5 oz	2.5 lb	0			
	Cabrio 20 EG (pyraclostrobin)	11	16 oz	48 oz	0	Various, see label	Limit is 4 appl/crop & alternate chemistry.	
<b>Spinach</b>	Ridomil Gold 4 EC (mefenoxam)	4	2 pt/trtd acre			Pythium seedling blight	Apply at seeding in a 7-12" band on soil over seed furrow.	
	Actigard (Acibenzolar-s-methyl)	21	0.75 oz	2.25 oz	7	Downy mildew White rust	Do not apply to young seedlings.	
	Alliette 80 WDG	33	5 lb		3	Downy mildew	Limit is 7 appl/crop. Do not tank mix with copper fungicides.	
	Amistar 80 DF (azoxystrobin)	11	5 oz	1.5 lb	0	Downy mildew		
	Cabrio 20 EG (pyraclostrobin)	11	16 oz	64 oz	0	Various, see label	Limit is 4 appl/crop & alternate chemistry.	
	Armicarb 100, Kaligreen, Milstop, (Potassium bicarbonate)	33	10 lb		0	Downy mildew Anthracnose	Final spray solution should not be below 7 pH. Do not exceed 5 lb/100 gal of spray.	
	Various copper compounds (see individual labels), including Badge SC, Basic Copper 53, Blueshield, COCS WDG, Champ DP, Champion WP, Copper Count N, Cuprofix Ultra, Kentan, Kocide, Nordox, Nu Cop	M1				1	Downy mildew White rust Anthracnose Cercospora leaf spot	Flecking on leaves may occur.
	Various Potassium phosphite compounds (see individual labels), including Fosphite, Fungi-phite, Prophyt, Phostral,	33						



	Presidio (fluopicolide)	43	3-4 fl oz	12 fl oz	2	Downy mildew White rust	Must be tank-mixed with a fungicide of different mode of action. Do not exceed two sequential applications. See label for soil applications.
	Revus 2.08 F (mandipropamid)	40	8 fl oz	32 fl oz	1	Downy mildew	Do not exceed 2 sequential applications. See label for soil applications.
	Various sulfur compounds (see individual labels), including Dusting Sulfur-IAP, Micro Sulf, Micronized Gold, Microthiol disperss						
	Oxidate (Hydrogen dioxide)	M2					
	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	2.88 qt	0	Downy mildew Stemphylium leaf spot Various, see label	For restrictions and use patterns, see celery for foliar diseases and onions for soilborne diseases.
	Rhapsody ( <i>Bacillus subtilis</i> strain QST 713)	Biological					
<b>Spinach, New Zealand</b>	Cabrio 20 EG (pyraclostrobin)	11	16 oz	64 oz	0	Various, see label	Limit is 4 appl/crop & alternate chemistry.
<b>Squash</b>	Acrobat 50WP (dimethomorph)	40	6.4 oz	32 oz	When spray is dry	Downy mildew Phytophthora blight	Limit is 5 appl/crop. Tank mix with another fungicide.
	Aliette 80WDG, Linebacker WDG (fosetyl-AI)	33	5 lb	35 lb	12 hr	Downy mildew	Limit is 7 appl/crop. Do not tank mix with copper fungicides.
	Amistar 80DF, Quadris 2.09FL (azoxystrobin)	11	5 oz or 3.2 pts	1.88 lb	1	Downy mildew Powdery mildew Gummy stem blight Anthracnose Alternaria leaf spot Certain leaf spots	Limit is 4 appl/crop for all Qol fungicides. Do not make more than 2 consecutive appl.

Cabrio 20EG (pyraclostrobin)	11	16 fl oz	64 fl oz	0	Same as Amistar	4 appl maximum. Same as Amistar. Max rate for downy mildew is 12 oz.
Curzate 60DF (cymoxanil)	27	3.2 oz	See remarks	3	Downy mildew	Use only with labeled rate of protectant fungicide. No more than 9 appl/12 months.
Applause 720, Bravo Ultrex, Bravo Weather Stik, Bravo ZN, Chloronil 720, Echo 720, Echo 90DF, Echo ZN, Equus DF, Equus 720 SST, Initiate 720 (chlorothalonil)	M5	See label	See label	0	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight	Recommended maximum rate is less for certain diseases, including downy mildew. Follow label recommendations on watermelon after fruit set.
Dithane DF Rainshield, Dithane F45 Rainshield, Dithane M45, Manzate 75DF, Manzate Flowable 4F, Manzate Pro-Stick, Penncozeb 4FL, Penncozeb 75DF, Penncozeb 80WP (Mancozeb)	M3	See label	See label	5	Downy mildew Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight	
Manex 4F (Maneb)	M3	1.6 qt	12.8 qt	5	Same as Dithane F45	
Maneb 80WP (Maneb)	M3	2 lb	16 lb	5	Same as Dithane F45	
Maneb 75DF (Maneb)	M3	2 lb	17.1 lb	5	Same as Dithane F45	
Flint 50WP (trifloxystrobin)	11	2 oz	8 oz	0	Powdery mildew Downy mildew	Limit 4 appl/crop and alternate chemistry. Max rate is higher for downy mildew suppression (4 oz). Same as Amistar.
Forum (dimethomorph)	40	6 oz	30 oz	When spray is dry	Downy mildew Phytophthora blight	Limit is 5 appl/crop. Apply with another fungicide that has a different mode of action. Min gal/A required.

Gavel 75DF (mancozeb & zoxamide)	M3 & 22	2 lb	16 lb	5	Alternaria leaf spot Downy mildew	Limit is 8 appl/crop.
Heritage (azoxystrobin)	11	8.0 oz	3.0 lb	1	Downy mildew Powdery mildew Gummy stem blight Anthracnose Alternaria leaf spot	Do not make more than 2 consecutive appls. Do not make more than 6 appl/crop. Same as Amistar.
JMS Stylet Oil		3 qt		4 hr	Apple-transmitted Virus leaf spots Powdery mildew	See label for specific appl. techniques required (ie: use of 400 psi).
Fosphite, Fungi-Phite, Prophyt, Topaz (Potassium phosphate)	33	See label	See label	0	<i>Phytophthora</i> <i>Pythium</i> <i>Fusarium</i> <i>Rhizoctonia</i> Downy mildew	Check label for required min gal/A. Restrictions are for use following copper application, plant and environmental conditions that restrict use, and compatibility with other materials.
ManKocide 61DF (Copper hydroxide & Mancozeb)	M1 & M3	2.66 lb	128 lb	5	Angular leaf spot Downy mildew Bacterial fruit blotch	
Nova 40W (myclobutanil)	3	5 oz	1.5 lb	0	Powdery mildew	Note that a 30-day plant back restriction exists.
Oxidate (Hydrogen dioxide)	M2					See label for specific instructions for use with cucurbits.
Presidio (fluopicolide)	43	4 fl oz	12 fl oz	2	Downy mildew <i>Phytophthora</i>	Max rate is 4 fl oz/A/appl and 12 fl oz/A per season. Apply no more than 2 sequential appls before alternating to a fungicide of a different chemistry.
Previcur Flex (propamocarb hydrochloride)	U	1.2 qt	6 pt	2	Downy mildew <i>Pythium</i>	Use a tank mix partner. See label for directions using a contact fungicide and <i>Pythium</i> suppression.
Procure 50WS and 480SC (triflumizole)	3	8 oz	40 oz	0	Powdery mildew	

Pristine 38WG (boscalid & pyraclostrobin)	7 & 11	18.5 oz	74 oz	0	Same as Amistar	Limit is 4 appl/crop and alternate chemistry. Same as Amistar.
PREVAM (Sodium tetraborohydrate decahydrate)		50 fl oz/100 gal			Downy mildew Powdery mildew	See label for specific information.
Quadris 2.08FL (azoxystrobin)	11	15.4 fl oz	2.88 qt	1	Same as Amistar	Limit is 4 appl/crop and alternate chemistry. Same as Amistar.
Quadris Opti (azoxystrobin & chlorothalonil)	11 & M5	3.2 pt	1.0 lb ai 15.75 lb ai	1	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem	Limit is 4 appl/crop for all QoI fungicides. Do not make more than 2 consecutive applications.
Revus 2.08 F (mandipropamid)	40	8 oz	32 fl oz	0	Phytophthora blight Downy mildew	Max of 4 appls during one crop cycle. Apply no more than 2 sequential applications before alternating to a fungicide of a different chemistry. An adjuvant is recommended for best control. Do not use in transplant production. 30-day plant back restriction unless plant appears on label.
Ranman (Cyazofamid)	21	2.75 fl oz	16.5 fl oz	0	Downy mildew Phytophthora blight	Limit is 6 appl/crop. Follow resistance-management guidelines on label.
Reason (Fenamidone)	11	5.5 fl oz	22 fl oz	14	Downy mildew Alternaria leaf spot	Limit is 4 appl/crop and alternate chemistry
Ridomil Gold Bravo 76.4W (chlorothalonil & mefenoxam)	M5 & 4	3 lb	12 lb	7	Downy mildew Certain leaf spots Gummy stem blight	Limit is 4 appl/.
Ridomil MZ 68WP (Mancozeb & mefenoxam)	M3 & 4	2.5 lb	10 lb	5	Downy mildew	Limit is 4 appl/crop.

Ridomil/Copper 70W (Copper hydroxide & Mefenoxam)	M1 & 4	2 lb	8 lb	5	Downy mildew	Limit is 4 appl/crop.
Ridomil Gold 4EC and Ridomil Gold SL (mefenoxam)	4	2 pt/treated A	See label	See label	Pythium seedling blight	Apply at seeding in a 7-12" band on soil over seed furrow.
Ultra Flourish (mefenoxam)	4	4 pt/treated A	See label	See label	Same as Ridomil Gold 4EC	Same as Ridomil Gold 4EC.
Kumulus DF, Micro Sulf, Micronized Gold, Microthiol Disperss, Sulfur 90W, Thiolux Jet, Wettable Sulfur (sulfur)	M2	See label	See label		Powdery mildew	See label. Do not use in warm weather.
Rally 40 WSP (Myclobutanil)	3	5.0 oz	1.5 lb	0	Powdery mildew	Note that a 30-day plant back restriction exists.
Rhapsody ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt/100 gal		0	Powdery mildew Gummy stem blight Bacterial leaf blotch Downy mildew Certain leaf spots	Do not use product alone; apply with registered fungicide.
Soigard 12G ( <i>Gliocladium virens</i> )		See label		0	Damping off Root rot pathogens, such as <i>Pythium</i> and <i>Rhizoctonia</i>	Must be incorporated or drenched into the soil.
Serenade ASO ( <i>Bacillus subtilis</i> strain QST 713)		6 qt		0	Downy mildew Gummy stem blight	Do not use product alone; apply with registered fungicide.
Serenade Max ( <i>Bacillus subtilis</i> strain QST 713)		3 lb		0	Downy mildew Gummy stem blight	Do not use product alone; apply with registered fungicide.
Sonata ( <i>Bacillus pumilus</i> strain QST 2808)		4 qt		0	Downy mildew Gummy stem blight	Do not use product alone; apply with registered fungicide.

Sovran (Kresoxim methyl)	11	4.8	19.2	0	Powdery mildew Gummy stem blight	Follow resistance-management guidelines for QoI fungicides as per the label.
Sporan EC (clove, rosemary, thyme oil)		4 pt		0	Powdery mildew Alternaria leaf spot	Limit is 4 appl./crop. Must tankmix with a contact fungicide. Limit is 72 oz/A/max/year.
Tanos 50DF (Cymoxanil & famoxadone)	27 & 11	8 oz		3	<del>Powdery mildew</del> Anthracnose	Follow resistance-management guidelines on label.
Thiophanate methyl 85 WDG (Thiophanate methyl)	1	0.4	2.5	1	Anthracnose Powdery mildew Gummy stem	Follow resistance-management guidelines on label.
Topsin M WSB (Thiophanate methyl)	1	0.5 lb	3 lb	1	<del>Anthracnose</del> Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
Topsin 4.5 FL (Thiophanate methyl)		10 oz	60 oz			
Topsin M70WP (Thiophanate methyl)		0.5 lb	3 lb			
Trilogy (Neem oil)		See label		0	Powdery mildew	See label.
Various copper formulations (Badge SC, Basic Copper 53, Champ DP Dry Prill, Champ Formula 2 FL, Champion WP, COC WDG, COC DF, COC WP, Copper-Count-N, Cuprofix Ultra 40 Disperss, Cuprofix MZ Disperss, Kentan DF, Kocide 101, Kocide 2000, Kocide 4.5LF, Kocide DF, Nordox, Nordox 75 WG, Nu-Cop 3L, Nu-Cop 50 WP, Nu-Cop 50 DF, Stretch, Tenn-Cop 5E)	M1	See label	See label		Bacterial diseases (See individual label)	See label.

<b>Strawberry</b>	Abound (azoxystrobin)	11	15.4 fl oz	1.92 qt	0	Anthracoise Powdery mildew <i>Botrytis</i> (suppression only)	Do not make more than 2 sequential appl. and no more than 4 appl/crop year. See label for instructions on dipping transplants.
	Aliette WDG (fosetyl-AI)	33	5 lb	30 lb	12 hr	Phytophthora diseases	Do not tank mix with copper fungicides.
	1..Bumper 41.8 EC (propiconazole)	2..3	3..4 fl oz	4..16 fl oz	5..0	6..Anthracoise 7..Powdery mildew	8..Do not make more than 2 consecutive applications
	Cabrio EG (pyraclostrobin)	11	14 fl oz	70 fl oz	0	Anthracoise Leaf spot Powdery mildew <i>Botrytis</i> (suppression only)	Do not make more than 2 sequential applications and no more than 5 appl/crop year.
	Captan 50 WP (captan)	M3	6 lb	48 lb	1	Anthracoise <i>Botrytis</i> fruit rot Leaf spot	Rate per treated acre. Special label for FL allows up to 24 applications per season.
	Captan 80 WDG (captan)	M3	3.75 lb	30 lb	1	Anthracoise <i>Botrytis</i> fruit rot Leaf spot	Rate per treated acre. Special label for FL allows up to 24 appl/season.
	Captac 4L (captan)	M3	3 qt	24 qt	1	Anthracoise <i>Botrytis</i> fruit rot Leaf spot	Rate per treated acre. Special label for FL allows up to 24 appl/season.
	Captivate 68 WDG (captan + fenhexamid) (copper) many brands <sup>1</sup>	M3 & 17 M1 or M9	5.25 lb varies	21 lb varies	0 1-2	<i>Botrytis</i> fruit rot Anthracoise Angular leaf spot	Do not make more than 2 consecutive applications. Frequent use of copper fungicides may cause foliar burn.
	Elevate 50 WDG (fenhexamid)	17	1.5 lb	6 lb	0	<i>Botrytis</i> fruit rot	Do not make more than 2 consecutive applications.
	9..Iprodione 4L AG (iprodione)	10..3	11..2 pt	12..2 pt	13..N/A	14..Anthracoise (suppression) 15.. <i>Botrytis</i> fruit rot 16..Phomopsis soft rot 17..Leaf spot 18..Stem end rot	19..Do not make more than 1 application per season. Do not apply after first fruiting flower.

Nova 40W (myclobutanil)	3	5 oz	30 oz	0	Powdery mildew Leaf spot Leaf blight	Do not plant rotational crops until 30 days after last application.
20..Orbit (propiconazole)	21..3	22..4 fl oz	23..16 fl oz	24..0	25..Anthracnose 26..Leaf Spot 27..Powdery mildew	28..Do not make more than 2 consecutive applications.
Quintec (quinoxifen)	13	6 fl oz	24 fl oz	1	Powdery mildew	Do not make more than 2 consecutive applications.
(potassium bicarbonate ) many brands <sup>2</sup>	33	varies	varies	1	Powdery mildew	Do not mix with highly acid products.
(potassium phosphite ) many brands <sup>3</sup>	33	varies	varies	0	Phytophthora diseases	May cause foliar burn if applied with copper-based products.
Pristine (pyraclostrobin + boscalid)	11 & 7	23 oz	115 oz	0	Botrytis fruit rot Anthracnose Powdery mildew Leaf spot	Do not make more than 2 consecutive appl. and no more than 5 appl/ crop.
Procure 50WS (triflumizole)	3	8 oz	32 oz	1	Powdery mildew	Do not plant leafy vegetables within 30 days or root vegetables within 60 days or rotational crops not on label for one year after application.
Ridomil Gold EC 29..Ridomil Gold SL (metalaxyl-M)	4	1 pt/trtd acre	1 1/2 qt/trtd acre	0	Phytophthora diseases	See label for use in drip irrigation.
Rovral 4 (iproctione)	2	2 pt	2 pt	N/A	Botrytis fruit rot Stem end rot Phomopsis soft rot Leaf spot	Do not make more than 1 appl/season. Do not apply after bloom initiation.
Scala SC (pyrimethanil)	9	18 fl oz	54 fl oz	1	Botrytis fruit rot	Do not make more than 2 consecutive applications. Do not use more than 2 of 6 appl. in any one season..
Serenade Max ( <i>Bacillus subtilis</i> )	Biological	3 lb		0	Powdery mildew Botrytis fruit rot Anthracnose	Should to be used in combination with other fungicides.



30..Sonata 31..( <i>Bacillus pumilus</i> )	32..Biologica I	33..4 qt	34..	35..0	36..Powdery mildew (suppression)	37..Use in a tank mix or rotational program with other registered fungicides.
38..Sonoma 40 WSP (myclobutanil)	39..3	40..5 oz	41..30 oz	42..0	43..Powdery mildew 44..Leaf spot 45..Leaf blight	46..Do not plant rotational crops until 30 days after last appl.
(sulfur) many brands <sup>4</sup>	M1 or M9	varies	varies	1	Powdery mildew	Do not use during hot weather.
Switch 62.5 WG (cyprodinil + fludioxonil)	9 & 12	14 oz	56 oz	0	Botrytis fruit rot Anthracnose	Do not make more than 2 consecutive appl. Do not plant crops not on the label for 30 days after last appl. See special label for instructions on dipping transplants.
Thiram 65 WSB (thiram)	M2	5 lb	25 lb	3	Botrytis fruit rot	Do not rotate treated crops with other crops for which Thiram is not registered.
47.. Thiophanate-methyl 85 WDG 48..(thiophanate-methyl)	49..1	50..0.8 lb	51..3.2 lb	52..1	53..Botrytis fruit rot 54..Leaf scorch 55..Leaf blight	56..Fungicides from different chemical groups should be used in spray program for disease-resistance management.
57.. T-Methyl 70 W WSB 58..(thiophanate-methyl)	59..1	60..1 lb	61..4 lb	62..1	63..Botrytis fruit rot 64..Powdery mildew 65..Leaf scorch 66..Leaf blight	67..Fungicides from different chemical groups should be used in spray program for disease resistance management
Topsin 4.5 FL (thiophanate-methyl)	1	20 fl oz	80 fl oz	1	Botrytis fruit rot Colletotrichum crown rot Leaf scorch Leaf blight Powdery mildew	Fungicides from different chemical groups should be used in spray program for disease-resistance management.

	Topsin M 70 WP Topsin M WSB (thiophanate-methyl)	1	1 lb	4 lb	1	Botrytis fruit rot Colletotrichum crown rot Leaf scorch Leaf blight Powdery mildew	Fungicides from different chemical groups should be used in spray program for disease-resistance management.
	<p>68..1 e.g. Kocide 2000, Kocide 3000, Kocide 4.5LF, Kocide 101, Kocide DF, Champion Wettable Powder, Champ DP Dry Prill, Champ Formula 2 Flowable,          69..Cuprofix Ultra 40 Disperss, Copper Count-N, Nu Cop 50 WP, Nu Cop 3L, Nu Cop 50 DF, Nu Cop HB, Badge SC, Basic Copper 53, C-O-C-S WDG, COC DF, COC WP, Kentan DF, Nordox,          70..Nordox 75WG, Stretch, Tenn-Cop 5E, Top Cop with sulfur          71 ..2 e.g. Kaligreen, Armicarb 100, Milstop          72..3 e.g. Fosphite, Helena Prophyt, Fungi-Phite, Phostrol, Topaz          4 e.g. Micro Sulf. , Sulfur 90W, Super-Six, Microthiol Disperss, Wettable Sulfur, Kumulus DF, Dusting Sulfur-IAP, Thioparse 80%, Yellow Jacket Dusting Sulfur, Yellow Jacket Wettable sulfur</p>						
<b>Sweet Corn</b>	Amistar 80DF (azoxystrobin)	11	5 oz	2.5 lb	7	Common and southern rust Northern corn leaf blight Southern corn leaf blight	Do not exceed 1 sequential and 6 total appl. of Amistar or other Qol fungicides.
	Apron XL LS (mefenoxam)	4	0.64 fl oz/ 100 lb seed or 2.2 fl oz/ 100 lb seed			Pythium seedling blight Downy mildew	Seed treatment only. Use the higher rate if treating seed for prevention of systemic downy mildew.
	Chlorothalonil products (see individual labels), including Applause 720, Bravo Ultrex, Bravo Weather Stik, Chloronil 720, Echo 720, Echo 90DF, Equus 720, Equus DF, 82.5 WDG (chlorothalonil)	M5			14	Common and southern rust Northern corn leaf blight Southern corn leaf blight	Do not use crop for livestock feed.
	Contans WG		6 lb			Scierotinia diseases	Apply to soil surface and incorporate prior to, at planting.



Headline EC (pyraclostrobin)	11	12 fl oz	72 fl oz	7	Common and southern rust Northern corn leaf blight Southern corn leaf blight	Do not exceed 2 sequential and 6 total appl. of Headline or other QoI fungicides.
Maxim 4FS (Fludioxonil)	12	0.16 fl oz/ 100 lb of seed			Various seedling diseases	Seed treatment only
Miconized Gold (Sulfur)	M2					
Propiconazole products (see individual labels), including Bumper 41.8EC, Tilt 3.6EC Propimax EC	3	4 fl oz	16 fl oz	14	Common and southern rust Northern corn leaf blight Southern corn leaf blight	Do not apply more than 4 appl/season.
Quadris (azoxystrobin)	11	15.4 fl oz	3.75 qt	7	Common and southern rust Northern corn leaf blight Southern corn leaf blight	Do not exceed 2 sequential and 6 total appl. of Quadris or other QoI fungicides.
Quilt (azoxystrobin/ propiconazole)	11 & 3					
Serenade Max ( <i>Bacillus subtilis</i> strain QST 713)	Biological	3 lb		0	Common and southern rust Northern corn leaf blight Southern corn leaf blight	
Sonata ( <i>Bacillus pumilus</i> strain QST 2808)		4 qt			Common and southern rust Northern corn leaf blight Southern corn leaf blight	

Stratego EC (Trifloxystrobin/ propiconazole)	11 & 3							
Sulfur 90W (Sulfur)	M2							
Topaz (Potassium phosphite)								
Trilogy (Neem oil)			2 gal					Apply at a rate of 0.5% - 1.0% in 25 - 100 gallons of water per acre or at 2 pt in a minimum of 5 GPA for low-volume applications.
Yellow Jacket Wettable Sulfur (Sulfur)	M2							

<b>Sweetpotato</b>	Mertect 340-F (thiabendazole)	1		107 fl oz/100 gal water	0	Black rot Scurf Root rot	Dip seed roots for 1-2 min.
	Ridomil Gold EC Ridomil Gold SL (mefenoxam)	4		2 pt/treated acre	0	<i>Pythium</i> Phytophthora root rot	Apply in water or liquid fertilizer & incorporate into top 2 inches of soil.
	Ultra Flourish (mefenoxam)	4		4 pt/ treated acre	0	<i>Pythium</i> Phytophthora root rot	
	Heritage (azoxystrobin)	11		10.5 oz/treated acre	0	Control many diseases including Alternaria leaf spot See label	Do not apply directly to water except as specified on the label.
	Micro Sulf (sulfur)	M2		45.5 lb/treated acre	0	Septoria leaf spot	Do not use within 2 weeks of an oil spray treatment.

	Botran 75-W (dichloran)	14	2 lb/15 gal water 3.75 lb/15 gal water/1000 sq ft of plant		0	Scurf Sclerotinia Blight	Dip seed sweet potatoes 10 - 15 seconds. Spray potatoes in bed before covering with soil.
			1.18 lb/100 gal water for spray, 0.5lb/ 100 gal for dip			Rhizopus Rot	See label for information on making new suspensions.
	Quadris (azoxystrobin)	11	Various, see label	Various, see label	See label	Control many soil-borne diseases; see label	See label.
	Amistar 80 DF (azoxystrobin)	11	Various, see label	2 lb	0 or 14, see label	Control many diseases; see label	See label.
	Headline (pyraclostrobin)	11	12 oz treated	1.18 lb/ treated acre	3	Botrytis; see label.	See label.
	Armicarb 100 (potassium bicarbonate)	33	5.05 lb/100 gal water		0	Alternaria Septoria leaf spot Botrytis gray mold	
	Armicarb (potassium bicarbonate)	33	3 lb/treated acre		0	Alternaria leaf spot Botrytis gray mold	
	Serenade Max (biofungicide) (QST 713 strain of <i>Bacillus Subtilis</i> )	Biological	3 lb/treated acre		0	Botrytis gray mold	124..
	Trilogy Neem oil (clarified hydrophobic extract)		2 lb/100 gal water per treated acre		0	Various; see label	Do not apply this product through any type of irrigation system.
	Topaz (potassium phosphite)	33	See label		0	Control many diseases; see label	Do not apply foliarly to plants treated with copper-based compounds at less than 20-day intervals unless instructed to do so.

	Fosphite (potassium phosphite)	33	See label		0	Control many diseases; see label	Do not apply foliarly to plants treated with copper-based compounds at less than 20-day intervals unless instructed to do so.
	Fungi-Phite (potassium phosphite)	33	Various, see label		0	<i>Pythium</i> Phytophthora root rot	
<b>Tanier (new cocoyam)</b>	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	3.75 lb	14	Various; see label	Limit is 4 appl/crop & alternate chemistry.
	Amistar 80 DF (azoxystrobin)	11	5 oz	2.5 lb	14	Various; see label	
	Headline 2.09 F (pyraclostrobin)	11	12 fl oz	72 fl oz	3	Various see label	6 appl max. A/w other fungicide types whenever using Headline or Quadris.
<b>Taro</b>	See Dasheen						
<b>Tomato</b>	Manex 4 F (maneb)	M3	2.4 qt	16.8 qt	5	Early blight	See label for details.
	Dithane, Manzate or Penncozeb 75 DFs (mancozeb)	M3	3 lb	22.4 lb	5	Late blight Gray leaf spot Bacterial spot <sup>3</sup>	
	Maneb 80 WP (maneb)		3 lb	21 lb			
	Dithane F 45 or Manex II 4 FLs (mancozeb)		2.4 pt	16.8 qt			
	Dithane M-45, Penncozeb 80, or Manzate 80 WPs (mancozeb)		3 lb	21 lb			
	Maneb 75 DF (maneb)		3 lb	22.4 lb			
	Bonide Mancozeb FL (mancozeb)	M3	5 tsp/ gal			5	Anthrachnose Early blight Gray leaf spot Late blight Leaf mold Septoria leaf spot
Ziram (ziram)	M3	4 lb		24 lb	7	Anthrachnose Early blight Septoria leaf spot	Do not use on cherry tomatoes. See label for details.

Equus 720 <sup>4</sup> , Echo 720, Chloro Gold 720 6 Fls (chlorothalonil)	M5	3 pt or 2.88 pt	20.1 pt	2	Early blight Late blight Gray leaf spot Target spot	Use higher rates at fruit set and lower rates before fruit set; see label.
Echo 90 DF or Equus 82.5DF (chlorothalonil)	M5	2.3 lb		2		
Ridomil Gold Bravo 76.4 W (chlorothalonil + mefenoxam)	4 & M5	3 lb	12 lb	14	Early blight Late blight Gray leaf spot Target Spot	Limit is 4 appl/crop, see label
Amistar 80 DF (azoxystrobin)	11	2 oz	12 oz	0	Early blight Late blight <i>Sclerotinia</i> Powdery mildew Target spot <del>Buckeye rot</del>	Limit is 6 appl/crop. Must alternate or tank mix with a fungicide from a different FRAC group; see label.
Quadris (azoxystrobin)	11	6.2 fl oz	37.2 fl oz	0		
Cabrio 2.09 F (pyraclostrobin)	11	16 fl oz	96 fl oz	0	Early blight Late blight <i>Sclerotinia</i> Powdery mildew Target spot Buckeye rot	Only 2 sequential appl. allowed. Limit is 6 appl/crop. Must alternate or tank mix with a fungicide from a different FRAC group; see label.
Flint (trifloxystrobin)	11	4 oz	16 oz	3	Early blight Late blight Gray leaf spot	Limit is 5 appl/crop. Must alternate or tank mix with a fungicide from a different FRAC group; see label.
Evito (fluoxastrobin)	11	5.7 fl oz	22.8 fl oz	3	Early blight Late blight Southern blight Target spot	Limit is 4 appl/crop. Must alternate or tank mix with a fungicide from a different FRAC group; see label.
Reason 500SC (fenamidone)	11	8.2 oz	24.6 lb	14	Early blight Late blight Septoria leaf spot	See label for details.
Ridomil Gold EC (mefenoxam)	4	2 pt/ trtd. acre	3 pts / trtd acre	28	Pythium diseases	See label for details.
Ultra Flourish (mefenoxam)	4	2 qt	3 qt		<i>Pythium</i> Phytophthora rots	See label for details.



Ridomil MZ 68 WP (mefenoxam + mancozeb)	4 & M3	2.5 lb	7.5 lb	5	Late blight	Limit is 3 appl./crop; see label.
Ridomil Gold Copper 64.8 W (mefenoxam + copper hydroxide)	4 & M1	2 lb		14	Late blight	Limit is 3 appl./crop. Tank mix with maneb or mancozeb fungicide; see label.
JMS Stylet-Oil (paraffinic oil)		3 qt			Potato virus Y Tobacco etch virus CMV	See label for restrictions and use (e.g. use of 400 psi spray pressure).
Aliette 80 WDG (fosetyl-al)	33	5 lb	20 lb	14	Phytophthora root rot	See label for warnings concerning the use of copper compounds.
Bravo Ultrex (chlorothalonil)	M5	2.6 lb	18.3 lb	0	Early blight Late blight Gray leaf spot Target spot <i>Botrytis</i> Rhizoctonia fruit rot	Use higher rates at fruit set; see label.
Bravo Weather Stik (chlorothalonil)	M5	2.75 pt	20 pt	0	<del>Leaf mold</del> <i>Botrytis</i>	
Botran 75 W (dichloran)	14	1 lb	4 lb	10		<u>Greenhouse use only.</u> Limit is 4 appls. Seedlings or newly set transplants may be injured; see label.
Nova 40 W (myclobutanil)	3	4 oz	1.25 lb	0	Powdery mildew	Note that a 30-day plant back restriction exists; see label.
Sulfur (many brands)	M2			1	Powdery mildew	Follow label closely, as sulfur may cause phytotoxicity.

Actigard (acibenzolar-S-methyl)	P	0.75 oz	4.75 oz	14	Bacterial spot Bacterial speck Tomato spotted wilt – a viral disease (use in combination of UV-reflective mulch and vector thrips - specific insecticides)	To avoid a delayed onset of harvest, do not use highest labeled rate in early sprays. See label for details.
ManKocide 61.1 DF (mancozeb + copper hydroxide)	M3 & M1	5 lb	112 lb	5	Bacterial spot Bacterial speck Late blight Early blight Gray leaf spot	See label.
Gavel 75DF (mancozeb + zoaximide)	M3 & 22	2.0 lb	16 lb	5	Buckeye rot Early blight Gray leaf spot Late blight Leaf mold	See label.
Previcur Flex (propamocarb hydrochloride)	28	1.5 pint ( see Label)	7.5 pint	5	Late blight	Only in a tank mixture with chlorotalonil, maneb or mancozeb; see label.
Curzate 60DF (cymoxanil)	27	5 oz	30 oz per 12 month	3	Late blight	Do not use alone; see label for details.
Revus Top (mandipropamid + difenconazole)	40 & 3	7 fl oz	28 oz	1	Anthraxnose Black mold Early blight Gray leafspot Late blight Leaf mold Powdery mildew Septoria leafspot Target spot	4 apps. per season; no more than 2 sequential apps. Do not use on varieties with mature tomatoes of less than 2 inches; see label.
Tanos (famoxadone + cymoxanil)	11 & 27	8 oz	72 oz	3	Late blight Target spot Bacterial spot (suppression) Late blight	Do not alternate or tank mix with other FRAC Group 11 fungicides. See label for details.
Acrobat 50 WP (dimethomorph)	15	6.4 oz	32 oz	4	Late blight	See label for details.

Forum (dimethomorph)	15		6 oz	30 oz	4	Late blight	Only 2 sequential appl. See label for details.
K-phite 7LP Fosphite Fungi-Phite Helena Prophyte Phostrol Topaz (mono-and di-potassium salts of phosphorous acid)	33		See label		0	<i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> Late blight Powdery mildew	Do not apply with copper-based fungicides. See label for restrictions and details.
Scala SC (pyrimethanil)	9		7 fl oz 0.27 lb	35 fl oz 1.4 lb	1	Early blight <i>Botrytis</i>	Use only in a tank mix with another effective fungicide (non-FRAC code 9); see label.
Endura (boscalid)	7		12.5 oz	25	0	Target spot ( <i>Corynespora</i> <i>cassicola</i> ) Early Blight ( <i>Alternaria solani</i> )	Alternate with non-FRAC code 7 fungicides; see label.
Terraclor 75 WP (PCNB)	14		See Label	See Label	Soil treatment at planting	Southern blight ( <i>Sclerotium rolfsii</i> )	See label for application type and restrictions.
Fix (copper + mancozeb or maneb)	M1 & M3				5	Bacterial spot Bacterial speck	Mancozeb or maneb enhances bactericidal effect of fix copper compounds. See label for details.

	Kocide 101 or Champion 77 WPs (copper hydroxide)	M1	4 lb		2	Anthraxnose Bacterial speck Bacterial spot Early blight Grey leaf mold Grey leaf spot Late blight Septoria leaf spot	Mancozeb or maneb enhances bactericidal effect of fix copper compounds. See label for details.
	Kocide 4.5 LF (copper hydroxide)		2.66 pt		1		
	Kocide 2000 53.8 DF (copper hydroxide)		3 lb		1		
	Champ 57.6 DP (copper hydroxide)	M1	1.3 lb		1		
	Basicop 53 WP	M1	4 lb		1		
	Kocide 61.4 DF (copper hydroxide)	M1	4 lb				
	Cuprofix Disperss 36.9 DF (copper hydroxide)	M1	6 lb				
	Nu Cop 50WP (copper hydroxide)	M1	4 lb				
	Bonide Liquid Copper (copper salts)	M1	6 tsp/ gal		0		
	<sup>1</sup> (FRAC = Fungicide Resistance Action Committee). FRAC code (fungicide group): Numbers (1-37) and letters (M, U, P) are used to distinguish the fungicide mode of action groups. All fungicides within the same group (with same number or letter) indicate same active ingredient or similar mode of action. This information must be considered for the fungicide resistance management decisions. M = Multi site inhibitors, fungicide resistance risk is low; U = Recent molecules with unknown mode of action; and P = host plant defense inducers. Source: HYPERLINK " <a href="http://www.frac.info">http://www.frac.info</a> " <sup>2</sup> Information provided in this table applies only to Florida. Be sure to read a current product label before applying any chemical. The use of brand names and any mention or listing of commercial products or services in the publication does not imply endorsement by the University of Florida Cooperative Extension Service nor discrimination against similar products or services not mentioned. <sup>3</sup> Tank mix of mancozeb or maneb enhances bactericidal effect of copper compounds.						
<b>Turnip</b>	Ridomil Gold 4EC (mefenoxam)	4	2 lb/irtd acre			Pythium seedling blight	Apply at seeding in 7-10 in. band or in seed furrow.
	Forum (dimethomorph)	15	6 oz	30 oz	0	Downy mildew	Tank mix with other fungicides. Limit is no more than 2 sequential appl. and 5 total appl/crop.

Kocide 2000, Kocide DF (copper)		M1	1.5-2 lb				Alternaria leaf spot Black rot Downy mildew	See label for details.
Cuprofix Ultra 40 Disperss (basic copper sulfate)								
Cuprofix Ultra 40 Disperss (basic copper sulfate)		11	0.66 lb				Alternaria leaf spot Aschoyta leaf spot Rust Cercospora leaf spot Powdery mildew White rust	No more than 1 sequential appl. See label for details.
Amistar 80 DF (azoxystrobin)			5 oz	40 oz	0			
Quadris (azoxystrobin)			1.25 lb					
			15.5 fl oz	124 fl oz				
Switch 62.5 WG (cyprodinil + fludioxonil)		9 & 12	14 oz	56 oz	7		Alternaria leaf blight Cercospora leaf spot	See label for details.
Cabrio EG (pyraclostrobin)		11	16 oz	48 oz	0		Alternaria leaf spot Cercospora leaf spot Powdery mildew White rust	Limit is 2 sequential appl/crop; only 3 appl/season.
K-phite 7LP Fosphite Fungi-Phite Phostrol Topaz (mono-and di-salts of phosphorous acid)		33	See label		0		<i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> <i>Xanthomonas campestris</i> Anthracnose Downy mildew Powdery mildew	Do not apply with copper-based fungicides. See label for restrictions and details.
Various brands of sulfur		M2					Powdery mildew	See labels for details.
Serenade ASO Serenade Max Sonata ( <i>Bacillus</i> sp.)		Biological material	See label	See label	0		Xanthomonas leaf spot Black rot ( <i>Alternaria</i> sp.) Downy Mildew Powdery Mildew	See label for details.

<b>Watercress</b> (Also see Cress)	Heritage (azoxystrobin)	11	8 oz	3 lb	7	Cercospora leaf spot	Only 2 sequential appl/cutting before rotating; 3 appl/cutting max. See label for details.
	Quadris (azoxystrobin)	11	15.5 fl oz	93 fl oz	7	Cercospora leaf spot	Only 2 sequential appl/cutting; no more than 1.44 qts per cutting
	Switch 62.5 WG (cyprodinil + fludioxonil)	9 & 12	14 oz	56 oz	0	Cercospora leaf spot <i>Sclerotinia</i> White mold Rhizoctonia rot	See label for details.
	Various copper fungicides	M1				Cercospora leaf spot	See labels for details.
	Serenade ASO Serenade Max ( <i>Bacillus subtilis</i> )	Biological material	See label	See label	0	Cercospora leaf spot	See label for details.
<b>Watermelon</b>	Acrobat 50WP (Dimethomorph)	40	6.4 oz	32 oz	When spray is dry	Downy mildew Phytophthora blight	Limit is 5 appl/crop. Tank mix with another fungicide.
	Aliette 80WDG, Linebacker (Fosetyl-Al)	33	5 lb	35 lb	12 hr	Downy mildew	Limit is 7 appl/crop. Do not tank mix with copper fungicides.
	Amistar 80DF, Quadris 2.09FL (azoxystrobin)	11	5 oz or 3.2 pt	1.88 lb	1	Downy mildew Powdery mildew Gummy stem blight Anthracnose Alternaria leaf spot Certain leaf spots	Limit is 4 appl/crop for all QoI fungicides. Do not make more than 2 consecutive applications.
	Cabrio 20EG (Pyraclostrobin)	11	16 fl oz	64 fl oz	0	Same as Amistar	4 appl maximum. Same as Amistar. Max rate for downy mildew is 12 oz.
	Curzate 60DF (Cymoxanil)	27	3.2 oz	See remarks	3	Downy mildew	Use only with labeled rate of protectant fungicide. No more than 9 appl/12 months.

Applause 720, Bravo Ultrex, Bravo Weather Stik, Bravo ZN, Chloronil 720, Echo 720, Echo 90DF, Equus DF, Equus 720, Initiate 720 (chlorothalonil)	M5	See label	See label	0	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight Powdery mildew	Recommended maximum rate is less for certain diseases, including downy mildew. Follow label recommendations on watermelon after fruit set.
Dithane DF Rainshield, Dithane F45 Rainshield, Dithane M45, Manzate 75DF, Manzate Flowable 4F, Manzate Pro-Stick, Penncozeb 4FL, Penncozeb 75DF, Penncozeb 80WP (mancozeb)	M3	See label	See label	5	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight	
Manex 4F (maneb)	M3	1.6 qt	12.8 qt	5	Same as Dithane F45	
Maneb 80WP (maneb)	M3	2 lb	16 lb	5	Same as Dithane F45	
Maneb 75DF (maneb)	M3	2 lb	17.1 lb	5	Same as Dithane F45	
Flint 50WP (trifloxystrobin)	11	2 oz	8 oz	0	Powdery mildew Downy mildew	Limit 4 appl/crop and alternate chemistry. Max rate is higher for downy-mildew suppression (4 oz). Same as Amistar
Forum (dimethomorph)	40	6 oz	30 oz	When spray is dry	Downy mildew Phytophthora blight	Limit is 5 appl/crop. Apply with another fungicide that has a different mode of action. Min gal/A required
Gavel 75DF (mancozeb & zoxamide)	M3 & 22	2 lb	16 lb	5	Alternaria leaf spot Downy mildew	Limit is 8 appl/crop.

Heritage (azoxystrobin)	11	8.0 oz	3.0 lb	1	Downy mildew Powdery mildew Gummy stem blight Anthracnose Alternaria leaf spot Certain leaf spots	Do not make more than 2 consecutive appls. Do not make more than 6 appl/crop. Same as Amistar
JMS Stylet-Oil		3 qt		4 hr	Aphid-transmitted viruses Powdery mildew	See label for specific appl. techniques required (ie: use of 400 psi).
Fosphite, Fungi-Phite, Prophyl, Topaz (Potassium phosphate)	33	See label	See label	0	<i>Phytophthora</i> <i>Pythium</i> <i>Fusarium</i> <i>Rhizoctonia</i> Downy mildew	Check label for required min gal/A. Restrictions are for use following copper appl., plant and environmental conditions that restrict use, and compatibility with other materials.
ManKocide 61DF (copper hydroxide & mancozeb)	M1 & M3	2.66 lb	128 lb	5	Angular leaf spot Downy mildew Bacterial fruit blotch	
Nova 40W (Myclobutanil)	3	5 oz	1.5 lb	0	Powdery mildew	Note 30-day plant back restriction.
Oxidate (hydrogen peroxide)	M2					See label for specific instructions for use with cucurbits.
Presidio (Fluopicolide)	43	4 fl oz	12 fl oz	2	Downy mildew <i>Phytophthora</i>	Max rate is 4 fl oz/A/appl and 12 fl oz/A per season. Apply no more than 2 sequential appls before alternating to a fungicide of a different chemistry.
Previcur Flex (Propamocarb hydrochloride)	U	1.2 qt	6 pt	2	Downy mildew <i>Pythium</i>	Use a tank-mix partner. See label for directions using a contact fungicide and <i>Pythium</i> suppression.



Procure 50WS and 480SC (triflumizole)	3	8 oz	40 oz	0	Powdery mildew	Limit is 4 appl/crop and alternate chemistry. Same as Amistar
Pristine 38WG (boscalid & pyraclostrobin)	7 & 11	18.5 oz	74 oz	0	Same as Amistar	Limit is 4 appl/crop and alternate chemistry. Same as Amistar
Prevam (Sodium tetraborohydrate decahydrate)		50 fl oz/100 gal			Downy mildew Powdery mildew	See label for specific information.
Quadris 2.08FL (azoxystrobin)	11	15.4 fl oz	2.88 qt	1	Same as Amistar	Limit is 4 appl/crop and alternate chemistry. Same as Amistar
Quadris Opti (azoxystrobin & chlorothalonil)	11 & M5	3.2 pt	1.0 lb ai 15.75 lb ai	1	Alternaria leaf spot Anthracnose Cercospora leaf spot Downy mildew Gummy stem blight Powdery mildew	Limit is 4 appl/crop for all QoI fungicides. Do not make more than 2 consecutive appls.
Quintec (quinoxifen)	13	6 fl oz	24 fl oz	3	Powdery mildew	Do not make more than 4 appls. Do not make more than 2 consecutive appls.
Revus 2.08 F (mandipropamid)	40	8 oz	32 fl oz	0	Phytophthora blight Downy mildew	Max of 4 appls during one crop cycle. Apply no more than 2 sequential appls before alternating to a fungicide of a different chemistry. An adjuvant is recommended for best control. Do not use in transplant production. 30-day plant back restriction, unless plant appears on label.

Ranman (cyazofamid)	21	2.75 fl oz	16.5 fl oz	0	Downy mildew Phytophthora blight	Limit is 6 appl/crop. Follow resistance-management guidelines on label.
Reason (fenamidone)	11	5.5 fl oz	22 fl oz	14	Downy mildew Alternaria leaf spot	Limit is 4 appl/crop and alternate chemistry.
Ridomil Gold Bravo 76.4W (chlorothalonil & mefenoxam)	M5 & 4	3 lb	12 lb	7	Downy mildew Certain leaf spots Gummy stem blight	Limit is 4 appl/crop.
Ridomil MZ 68WP (mancozeb & mefenoxam)	M3 & 4	2.5 lb	10 lb	5	Downy mildew	Limit is 4 appl/crop.
Ridomil/Copper 70W (copper hydroxide & mefenoxam)	M1 & 4	2 lb	8 lb	5	Downy mildew	Limit is 4 appl/crop.
Ridomil Gold 4EC and Ridomil Gold SL (mefenoxam)	4	2 pt/treated A	See label	See label	Pythium seedling blight	Apply at seeding in a 7-12" band on soil over seed furrow.
Ultra Flourish (mefenoxam)	4	4 pt/treated A	See label	See label	Same as Ridomil Gold 4EC	Same as Ridomil Gold 4EC
Kumulus DF, Micro Sulf, Micronized Gold, Microthiol Disperss, Sulfur 90W, Thiolux Jet, Wettable Sulfur (Sulfur)	M2	See label	See label		Powdery mildew	See label. Do not use in warm weather.
Rhapsody ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt/100 gal		0	Powdery mildew Gummy stem blight Bacterial leaf blotch Downy mildew Certain leaf spots	Do not use product alone. Apply with registered fungicide.
Soigard 12G ( <i>Gliocladium virens</i> )		See label				

Serenade ASO ( <i>Bacillus subtilis</i> strain QST 713)	Biological	6 qt			0	Downy mildew Gummy stem blight	Do not use product alone. Apply with registered fungicide.
Serenade Max ( <i>Bacillus subtilis</i> strain QST 713)		3 lb			0	Downy mildew Gummy stem blight	Do not use product alone. Apply with registered fungicide.
Sonata ( <i>Bacillus pumilus</i> strain QST 2808)		4 qt			0	Powdery mildew Gummy stem blight	Follow resistance-management guidelines for Qol fungicides as per the label.
Sovran (Kresoxim methyl)	11	4.8	19.2		0		
Sporan EC (clove, rosemary, thyme oil)		4 pt					
Tanos 50DF (Cymoxanil & famoxadone)	27 & 11	8 oz			3	Downy mildew Anthracnose	Limit is 4 appl/crop. Must tankmix with a contact fungicide. Limit is 72 oz/A/year.
Thiophanate methyl 85WDG (Thiophanate methyl)	1	0.4	2.5		1	Anthracnose Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
Topsin M WSB (Thiophanate methyl)	1	0.5 lb	3 lb		1	Anthracnose Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
Topsin 4.5 FL (Thiophanate methyl)		10 oz	60 oz		1	Anthracnose Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
Topsin M70WP (Thiophanate methyl)		0.5 lb	3 lb		1	Anthracnose Powdery mildew Gummy stem blight	Follow resistance-management guidelines on label.
Trilogy (Neem oil)		See label					

	Various copper formulations (Badge SC, Basic Copper 53, Champ DP Dry Prill, Champ Formula 2 FL, Champion WP, COC WDG, COC DF, COC WP, Copper-Count-N, Cuprofix Ultra 40 Disperss, Cuprofix MZ Disperss, Kentan DF, Kocide 101, Kocide 2000, Kocide 4.5LF, Kocide DF, Nordox, Nordox 75 WG, Nu-Cop 3L, Nu-Cop 50 WP, Nu-Cop 50 DF, Stretch, Tenn-Cop 5E)	M1	See label	See label		Bacterial diseases (See individual label)	See label.
<b>Yams</b>	See under sweetpotato						
<b>Yam bean</b>	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	3.75 qt	14	Various, see label	
	Amistar 2.08 FL		5 oz	2.5 lb		Various, see label	
<b>Yam, true</b>	Quadris 2.08 FL (azoxystrobin)	11	15.4 fl oz	3.75 qt	14	Various, see label	
	Amistar 80 DF (azoxystrobin)		5 oz	2.5 lb			
	Headline 2.09 F (pyraclostrobin)		12 fl oz	72 fl oz	3		Same as sweet potato