

Insecticide and Fungicide Options for 2006

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**Not all of the products mentioned in this bulletin are registered in all states, contact your Griffin branch if there is a question about a specific product **

Information in this bulletin is believed to be correct but it is the responsibility of the grower to read and follow all label directions!!! Labels do change without notice.

Many pesticide labels now contain resistance management instructions. They are legal requirements and are essential for helping to preserve the effectiveness of the chemistry. Please contact me for help with pesticide rotations.

All recommendations for insecticides are foliar sprays except as noted. Most foliar sprays listed will perform better with a surfactant such as CapSil added at ½ teaspoon per gallon, (8 oz per 100 gallons), to increase coverage and reduce visible residue. Some product labels state that surfactants should not be added.

Aphids-

Aria 50 WDG – (EPA Reg # 279-3287)

Foliar sprays at 1-3 packets per 100 gallons, or 1/8 to 3/8 heaping tsp per 3 gallons. Packets are not water soluble. Translaminar action and 7-28 day residual. Insects stop feeding in 30 minutes but may take several days to die. Certain pansy cultivars have shown sensitivity. 12 hr REI

Botanigard ES - (EPA Reg. # 65626-8)

2 teas per gallon or 1 qt per 100 gallons as a foliar spray. Naturally occurring fungus, not a quick kill. Use a minimum of three times in a row at 3-5 day intervals. Labeled for vegetables and herbs. Very little visible residue but burns some open blooms. 4 hr REI. 0 day PHI.

Discus – (EPA Reg # 432-1392-59807)

Nursery insecticide, not labeled for greenhouses. 2-4 week residual control from one foliar spray. .25 oz per gallon or 25 oz per 100 gallons. Drench rates per label. Same active ingredients that are in Marathon and Decathlon. Excellent plant and bloom safety with no visible residue. 12 hr REI. Restricted use pesticide in NY.

Endeavor WSP - (EPA Reg. # 100-913)

2-3 week residual control from one foliar spray. Use 1 water-soluble packet per 50-gallon spray tank, or you can cut the packet open and use 1 TBLS/5 gallons. Once opened, the packet must be sealed in a zip-lock baggie and kept dry inside the original container. Takes 2-4 days to kill. No visible residue, safe on open blooms. 12 hr REI. Restricted use pesticide in New York.

Enstar II EC - (EPA Reg. # 2724-476)

Insect growth regulator used at the rate of 2/3 teas per gallon or 10 oz per 100 gallons. No residue but burns some open blooms. 4 hr REI

Flagship WG- (EPA Reg # 100-955)

2-4 week residual from a foliar spray at ¼ to ½ teas per 3 gallons or 2-4 oz per 100 gallons. Label contains directions for a soil drench. Very slight residue, safe on most open blooms. 12 hr REI. Do not rotate with Majesty, Marathon, Safari or TriStar. Not labeled in NY as of 10/05.

Majesty - (EPA Reg. # 432-1369-59807)

Flowable with the same active ingredient as Marathon II. May be applied as a foliar spray at 1.7 oz per 100 gallons, or ½ teaspoon per 5 gallons. 2-4 week residual control with excellent plant and bloom safety. It can also be drenched per the chart found on the label. Some vegetable bedding plants are on the label. Do not rotate with Flagship, Marathon, Safari or TriStar. 12 hr REI. Restricted use pesticide in NY.

Marathon 1% G - (EPA Reg. # 3125-452-59807)

6+ weeks control from one application. The label has rates based on pot diameter with higher rates for multiple plant containers and woody perennials. Do not rotate with Flagship, Majesty, Safari or TriStar. 12 hr REI. Restricted use pesticide in NY.

Marathon 60 WSP- (EPA Reg # 3125-492-59087)

6+ weeks control from one application. The label has rates based on pot diameter with higher rates for multiple plant containers and woody perennials. Applicator must apply a certain number of ounces of final solution per pot based on label chart. Some vegetable bedding plants are on the label. Do not rotate with Flagship, Majesty, Safari or Tristar. 12 hr REI.

Restricted use pesticide in NY.

Marathon II Flowable - (EPA Reg. # 3125-549-59807)

Flowable with the same active ingredient as Majesty. May be applied as a foliar spray at 1.7 oz per 100 gallons, or ½ teaspoon per 5 gallons. 2-4 week residual control with excellent plant and bloom safety. It can also be drenched per the chart found on the label. Some vegetable bedding plants are on the label. Do not rotate with Flagship, Majesty, Safari or TriStar. 12 hr REI. Restricted use pesticide in NY.

Nicotine smoke generators - (EPA Reg. # 1327-41)

Restricted Use Pesticide. Two different size cans available. One treats 10,000, the other 20,000 cu feet. Use only when foliage is dry and the house can be closed up for a minimum of 4 hours. A few vegetables are on the label. After the ventilation requirements are met no further REI is required. Not available in all states.

Orthene 97 SP – (EPA Reg. # 59639-91)

(Replaces Orthene 75 Turf and Ornamental)- 2/3 teas per gallon or 8 oz per 100 gallons as a foliar spray. Some resistance is reported to this product. No visible residue, but it will burn most open blooms. 24 hr REI

Safari SG- (EPA Reg # 33657-16-59639)

Systemic long residual control. Foliar sprays at ½ to 1 tsp per gallon or 4 to 8 oz per 100 gallons, drench at 1.5 tsp to 1 TBLS per gallon or 12 to 24 oz per 100 gallons (apply 4 oz per 6" pot). Do not rotate with Flagship, Majesty, Marathon or TriStar. Excellent plant and bloom safety. 12 hr REI. Not labeled in NY as of 05/05.

Tame/Orthene TR – (EPA Reg # 499-441)

1 can per 1500 to 3000 sq ft. No residue, excellent plant and bloom safety. Poinsettia bracts should be treated not more than once per week at 1 can per 3,000 sq ft.
24 hr REI

Thionex (EPA Reg# 279-1380-66222) Formerly Thiodan 50 WP

(Restricted use pesticide in some states) 1 TBLS/gallon or 1 lb per 100 gallons as a foliar spray. Leaves visible residue and burns some open blooms. 24 hr REI

TriStar WSP- (EPA Reg # 8033-22-1001)

2-4 week translaminar systemic control from one foliar spray application. 1 packet per 100 gallons, label forbids breaking packets open to measure smaller quantities. Excellent plant and bloom safety, no visible residue. Do not rotate with Flagship, Majesty, Marathon or Safari. 12 hr REI.

Broad and Cyclamen Mites-

Akari SC- (EPA Reg. # 71711-4-67690) ¾ to 1 ½ teaspoons per gallon or 12-24 oz per 100 gallons as a foliar spray. 21-28 day residual control on motile stages. No visible residue and good plant safety. Don't rotate with Sanmite because they are in the same class of chemistry. 12 hr REI

Avid EC- (EPA Reg. # 100-896)

½ teas per gallon or 8 oz per 100 gallons as a foliar spray. Repeat in 7 days to help break life cycle. No visible residue, safe on open blooms. Same active ingredient as Flora-Mek. 12 hr REI

Flora-Mek- (EPA Reg. # 100-896-72112)

½ teas per gallon or 8 oz per 100 gallons as a foliar spray. Repeat in 7 days to help break life cycle. No visible residue, safe on open blooms. Same active ingredient as Avid. 12 hr REI

Judo – (EPA Reg # 432-1280-59807)

Foliar spray applied at 1/8 to 1/4 tsp per gallon or 2-4 oz per 100 gallons. Excellent translaminar movement and 28 day residual control of all life stages. Do not use on geraniums, impatiens, ivy or poinsettia bracts. 12 hr REI
Not labeled in NY as of 10/05.

Pylon EC - (EPA Reg. # 241-374-59807)

1/6 to 1/3 teaspoons per gallon or 2.6 to 5.2 oz per 100 gallons applied as a foliar spray. 14-21 day control of motile stages. A second application can be made 5-7 days later for heavy infestations. No visible residue but may burn some open blooms. Read phytotoxicity cautions on the label. Do not add any surfactant. Greenhouse tomatoes, peppers and eggplants may be treated. 12 hr REI. Restricted use pesticide in New York.

Sanmite WSP - (EPA Reg. # 7969-106) ****Does not Control Cyclamen Mites***

One 1-ounce water-soluble packet per 25 gallons as a foliar spray for mites (3/4 teaspoon per gallon). Do not rotate with Akari because they are in the same class of chemistry. No residue, safe on most blooms. Label prohibits use through low volume equipment. 12 hr REI

Thionex (EPA Reg# 279-1380-66222) Formerly Thiodan 50 WP **** Does not control Broad Mites****

(Restricted use pesticide in some states) 1 TBLS/gallon or 1 lb per 100 gallons as a foliar spray. Leaves visible residue and burns some open blooms. 24 hr REI

Caterpillars-

Conserve SC - (EPA Reg. # 62719-291)

Apply 1/2 teas/gallon or 8 oz per 100 gallons as a foliar spray. Short residual control. No visible residue or bloom safety concerns. No more than three consecutive applications in a 30-day period without rotating to another class of chemistry. 4 hr REI

Discus – (EPA Reg # 432-1392-59807)

Nursery insecticide, not labeled for greenhouses. 2-4 week residual control from one foliar spray. .25 oz per gallon or 25 oz per 100 gallons. Drench rates per label. Same active ingredients that are in Marathon and Decathlon. Excellent plant and bloom safety with no visible residue. 12 hr REI. Restricted use pesticide in NY.

Dipel Pro DF - (EPA Reg.# 73049-39)

2 to 4 teaspoons per gallon or 1-2 lbs per 100 gallons as a foliar spray. Works best on immature caterpillars. Slight residue, safe on open blooms. Edible crops are on the label. 4 hr REI

Duraguard ME - (EPA Reg. # 499-367)

Restricted Use Pesticide. 1 Tbls per gallon or 50 oz per 100 gallons as a foliar spray. No visible residue, it may burn some blooms. 24 hr REI

Orthene 97 SP - (EPA Reg. # 59639-91)

(Replaces Orthene 75 Turf and Ornamental)- 1/2 to 2/3 teas per gallon or 6-8 oz per 100 gallons as a foliar spray. No visible residue, but it will burn most open blooms. 24 hr REI

Pedestal SC- (EPA Reg. # 66222-40-400)

Insect growth regulator applied as a foliar spray at ½ teaspoon per gallon or 8 oz per 100 gallons. Maximum of 1 application in 30 days and 2 treatments per crop per year. 2 alternative products must be used between treatments with Pedestal. No visible residue, good bloom safety. Do not use on poinsettias. 12 hr REI.

Talstar GH Flowable - (EPA Reg. # 279-3105-499)

½ teaspoons per gallon or 8 oz per 100 gallons as a foliar spray. Slight visible residue, Safe on most open blooms. 12 hr REI.

Tame/Orthene TR – (EPA Reg # 499-441)

1 can per 1500 to 3000 sq ft. No residue, excellent plant and bloom safety. Poinsettia bracts should be treated not more than once per week at 1 can per 3,000 sq ft. 24 hr REI

Thionex (EPA Reg# 279-1380-66222) Formerly Thiodan 50 WP

(Restricted use pesticide in some states) 1 TBLS/gallon or 1 lb per 100 gallons as a foliar spray. Leaves visible residue and burns some open blooms. 24 hr REI

Fungus Gnats and Shoreflies

Adept WSP - (EPA Reg. # 400-477)

One 1 oz water-soluble packet per gallon of water through a 1:100 injector used as a top water soil drench. Apply only enough to wet up the top inch or two of soil. The label contains specific ounces per pot recommendations that must be followed to insure safe and effective use. Treat crops and under benches. Insect growth regulator. 30 days of control. Do not use on poinsettias, Reiger begonias, or hibiscus. 12 hr REI

Citation WSP - (EPA Reg. # 100-667)

One 2.66-ounce packet per 100 gallons of water as a soil surface spray or drench. It is not labeled for chemigation, (no injectors). Insect growth regulator. May be used through low volume applicators at 1 packet per ½ acre in the appropriate amount of water. Repeat at 14-day intervals to maintain control. 12 hr REI

Conserve SC - (EPA Reg. # 62719-291)

½ teaspoon per gallon or 8 oz per 100 gallons as a foliar spray provides some control of adult fungus gnats and shoreflies. This use is not on the label but it is legal to use a pesticide on an unlabeled pest as long as it is used on a labeled site. No flower damage or visible residue. (Combining Conserve with Talstar GH at ½ teaspoon per gallon or 8 oz per 100 gallons may enhance control.) 4 hr REI

Discus – (EPA Reg # 432-1392-59807)

Nursery insecticide, not labeled for greenhouses. Controls larval stage only. Drench rates per label. Same active ingredients that are in Marathon and Decathlon. Excellent plant and bloom safety. 12 hr REI. Restricted use pesticide in NY.

Distance EC - (EPA Reg. # 59639-96)

Soil surface spray to control the larval stages of fungus gnats and shoreflies. 30-45 day control from one application. 1/3 to 1/2 teaspoons per gallon, 6-8 oz per 100 gallons (poinsettias- use rate of 1/3 teas per gallon, or 6 oz per 100 gallons). Supplemental label allows for a soil drench at 2 oz per 100 gallons applied to wet up only the top 1-1.5" of soil. See label for special precautions when treating poinsettias. Can be used on peppers and tomatoes. Do not use on salvia, Boston fern, schefflera, heuchera, or poinsettia bracts. 12 hr REI

Duraguard ME - (EPA Reg. # 499-367)

(Restricted Use Pesticide) use as a soil surface spray on crops and under benches at 1/2 oz per gallon (50 oz per 100 gallons) or as a soil drench at .25 oz per gallon (25 oz per 100 gallons). Controls larval stage. No visible residue and safe on most open blooms. 24 hr REI

Duraplex TR - (EPA Reg. # 499-405)

(Restricted Use Pesticide) Some growers have reported control of adults using one 2 oz can per 1500 sq ft, or one 6 oz per 4500 sq ft. Safe on open blooms. 24 hr REI

Flagship WG- (EPA Reg # 100-955)

Label contains directions for soil treatments. Controls larval stage. Not labeled for shoreflies. 12 hr REI. Do not rotate with Marathon, Majesty, Safari or TriStar. Not labeled in NY as of 10/05.

Gnatrol - (EPA Reg. # 73049-11)

Drench soil to control larvae by running undiluted through a 1:100 injector to wet the top inch or so of soil. Can be used on vegetables in the transplant stage. Three applications at 7-day intervals are needed for heavy infestations. Treat crops and under benches. Does not control Shorefly larvae. 4 hr REI

Nemasys or Nemashield -

Beneficial nematode, *Steinernema feltiae* applied to the soil as a spray or drench to control the larval stage. Repeat applications at 14-21 day intervals. Can be used on all crops including vegetables and herbs. No re-entry interval required. Does not control Shorefly larvae.

Ornazin EC - (EPA Reg. # 5481-476-67690)

1/2 teaspoon per gallon or 8 oz per 100 gallons as a soil drench. Labels says to repeat every 7 days for 3 weeks. Insect growth regulator activity. No visible residue and safe on most open blooms. Certain edible crops are on the label. Same active ingredient as Azatin. 12 hr REI

Pylon EC - (EPA Reg. # 241-374-59807)

1/3 to 2/3 teaspoons per gallon or 5.2 to 10 oz per 100 gallons applied as a soil surface spray. Maximum of two applications before rotating to another class of chemistry. No visible residue but may burn some open blooms. Read phytotoxicity cautions on the label. Do not add any surfactant. Greenhouse tomatoes, peppers and eggplants may be treated. 12 hr REI. Restricted use pesticide in NY.

Safari SG- (EPA Reg # 33657-16-59639)

4-6 week systemic control of larval stage. Drench 1.5 tsp to 1 TBLS per gallon or 12 to 24 oz per 100 gallons (apply 4 oz per 6" pot). Do not rotate with Flagship, Majesty, Marathon or TriStar. Excellent plant and bloom safety. 12 hr REI. Not labeled in NY as of 10/05.

Tame/Orthene TR – (EPA Reg # 499-441)

Adult control only. 1 can per 1500 to 3000 sq ft. No residue, excellent plant and bloom safety. Poinsettia bracts should be treated not more than once per week at 1 can per 3,000 sq ft. 24 hr REI

Mites- (see also Broad and Cyclamen Mites)

Akari SC- (EPA Reg. # 71711-4-67690) 3/4 to 1 1/2 teaspoons per gallon or 12-24 oz per 100 gallons as a foliar spray. 21-28 day residual control on motile stages. No visible residue and good plant safety. Don't rotate with Sanmite because they are in the same class of chemistry. 12 hr REI

Avid EC- (EPA Reg. # 100-896)

1/2 teas per gallon or 8 oz per 100 gallons as a foliar spray. Repeat in 7 days to help break life cycle. No visible residue, safe on open blooms. Same active ingredient as Flora-Mek. 12 hr REI

Flora-Mek- (EPA Reg. # 100-896-72112)

1/2 teas per gallon or 8 oz per 100 gallons as a foliar spray. Repeat in 7 days to help break life cycle. No visible residue, safe on open blooms. Same active ingredient as Avid. 12 hr REI

Floramite SC- (SC=EPA Reg. #400-508)

1/4 to 1/2 teaspoon per gallon or 4-8 oz per 100 gallons as a foliar spray. Controls eggs and adults for up to 21 days. (Controls egg stage of spider mites only). Safe on most open blooms, and beneficial mites. Greenhouse tomatoes 1" or larger at maturity can be treated. 12 hr REI

Hexygon DF - (EPA Reg. # 10163-251)

1/8 to 1/4 teaspoon per gallon or 1-2 oz per 100 gallons as a foliar spray. Effective against eggs and immature mites for about 30 days. Eggs laid on treated surfaces are rendered unviable. Limited to one application per crop cycle. Consider tank mixing this product with an adulticide. No residue, safe on most open blooms. 12 hr REI. Restricted use pesticide in New York.

Judo – (EPA Reg # 432-1280-59807)

Foliar spray applied at 1/8 to 1/4 tsp per gallon or 2-4 oz per 100 gallons. Excellent translaminar movement and 28 day residual control of all life stages. Do not use on geraniums, impatiens, ivy or poinsettia bracts. 12 hr REI
Not labeled in NY as of 10/05.

Ovation SC - (EPA Reg. # 432-946-58185)

1/8 teaspoon per gallon or 2 oz per 100 gallons as a foliar spray. Eggs and immature stages are controlled for 45 days. Consider tank mixing this product with an adulticide. Good plant safety but the bright magenta color of the residue may stain some open blooms. 12 hr REI.

Pylon EC - (EPA Reg. # 241-374-59807)

1/3 to 1/6 teaspoons per gallon or 2.6-5.2 oz per 100 gallons applied as a foliar spray. 14-21 day control of motile stages. A second application can be made 5-7 days later for heavy infestations. No visible residue but may burn some open blooms. Read phytotoxicity cautions on the label. Greenhouse tomatoes, peppers and eggplants may be treated. Do not add any surfactant. 12 hr REI. Restricted use pesticide in New York.

Sanmite WSP - (EPA Reg. # 7969-106)

One 1-ounce water-soluble packet per 25 gallons as a foliar spray for mites (3/4 teaspoon per gallon). Do not rotate with Akari because they are in the same class of chemistry. No residue, safe on most blooms. Label prohibits use through low volume equipment. 12 hr REI

Synergy Super Fine Oil – (EPA Reg # 48813-1-75339)

1.25- 2.5 TBLS per gallon or 1-2 gallons per 100 gallons as a foliar spray. Full coverage is essential, acts as a suffocant. Apply when rapid drying will occur and when air temperatures are below 85 degrees to avoid phytotoxicity. Labeled for many vegetables. Leaves a shiny residue behind and burns some open blooms. 4 hr REI

TetraSan WDG- (EPA Reg #59639-108)

One 2-ounce water-soluble packet per 12.5 to 25 gallons as a foliar spray. Mite growth regulator and ovicide with 4 weeks or more of residual control. Strong translaminar movement. Excellent plant safety but it is not labeled for poinsettia bracts. 12 hr REI.

Ultra-Fine oil - (EPA Reg. # 862-23)

1.25- 2.5 TBLS per gallon or 1-2 gallons per 100 gallons as a foliar spray. Full coverage is essential for control because it smothers mites. Apply when rapid drying will occur and when air temperatures are below 85 degrees to avoid phytotoxicity. Keep agitated, as it wants to separate. Labeled for herbs and vegetables. Leaves a shiny residue behind and burns some open blooms. 4 hr REI

Scale and Mealybugs-

Aria 50 WDG – (EPA Reg # 279-3287)

* Not labeled for scale* Foliar sprays at 3-6 packets per 100 gallons, or 3/8 to 3/4 heaping tsp per 3 gallons. Packets are not water soluble. Translaminar action and 7-28 day residual. Insects stop feeding in 30 minutes but may take several days to die. Certain pansy cultivars have shown sensitivity. 12 hr REI

Discus – (EPA Reg # 432-1392-59807)

Nursery insecticide, not labeled for greenhouses. 2-4 week residual control from one foliar spray. .25 oz per gallon or 25 oz per 100 gallons. Drench rates per label. Same active ingredients that are in Marathon and Decathlon. Excellent plant and bloom safety with no visible residue. 12 hr REI. Restricted use pesticide in NY.

Distance EC - (EPA Reg. # 59639-96)

Insect growth regulator applied as a foliar spray. Make 2 applications 14-21 days apart. 1/2 to 2/3 teaspoons per gallon or 8-12 oz per 100 gallons. May burn some open blooms, no visible residue. Can be used on peppers and tomatoes. Do not use on salvia, Boston fern, schefflera, heuchera, or poinsettia bracts. 12 hr REI

Duraguard ME - (EPA Reg. # 499-367)

Restricted Use Pesticide. 1 Tbls per gallon or 50 oz per 100 gallons as a foliar spray. No visible residue, it may burn some blooms. 24 hr REI

Flagship WG- (EPA Reg # 100-955)

2-4 week residual from a foliar spray at ½ teas per 3 gallons or 4 oz per 100 gallons. Label contains directions for a soil drench. Very slight residue, safe on most open blooms. 12 hr REI. Do not rotate with Marathon, Majesty, Safari or TriStar. Not labeled in NY as of 10/05.

Majesty - (EPA Reg. # 432-1369-59807)

Flowable with the same active ingredient as Marathon II. May be applied as a foliar spray at 1.7 oz per 100 gallons, or ½ teaspoon per 5 gallons. 2-4 week residual control with excellent plant and bloom safety. Do not rotate with Flagship, Marathon, Safari or Tristar. 12 hr REI. Restricted use pesticide in NY.

Marathon II Flowable - (EPA Reg. # 3125-549-59807)

Flowable with the same active ingredient as Majesty. May be applied as a foliar spray at 1.7 oz per 100 gallons, or ½ teaspoon per 5 gallons. 2-4 week residual control with excellent plant and bloom safety. Do not rotate with Flagship, Majesty, Safari or Tristar. 12 hr REI. Restricted use pesticide in NY.

Orthene 97 SP - (EPA Reg. # 59639-91)

(Replaces Orthene 75 Turf and Ornamental)- 2/3 teas per gallon or 8 oz per 100 gallons as a foliar spray. No visible residue, but it will burn most open blooms. 24 hr REI

Safari SG- (EPA Reg # 33657-16-59639)

Systemic long residual control. Foliar sprays 4 to 8 oz per 100 gallons, drench 12 to 24 oz per 100 gallons (apply 4 oz per 6” pot). Do not rotate with Flagship, Majesty, Marathon or Tristar. Excellent plant and bloom safety. 12 hr REI. Not labeled in NY as of 10/05.

Talus WSP- (EPA Reg # 71711-15-67690)

Insect growth regulator with 3-4 week residual control from one foliar application. 1 packet per 5 gallons for mealybugs, 1 packet per 4 gallons for scale. Label forbids opening packets to measure out smaller amounts. Excellent plant and bloom safety. May be used on greenhouse tomatoes. 12 hr REI. Not available in NY as of 9/05.

TriStar WSP- (EPA Reg # 8033-22-1001)

2-4 week translaminar systemic control from one foliar spray application. 2 packets per 100 gallons, label forbids breaking packets open to measure smaller quantities. Excellent plant and bloom safety, no visible residue. Do not rotate with Flagship, Majesty, Marathon or Safari. 12 hr REI

Synergy Super Fine Oil – (EPA Reg # 48813-1-75339)

1.25- 2.5 TBLS per gallon or 1-2 gallons per 100 gallons as a foliar spray. Full coverage is essential, acts as a suffocant. Apply when rapid drying will occur and when air temperatures are below 85 degrees to avoid phytotoxicity. Labeled for many vegetables. Leaves a shiny residue behind and burns some open blooms. 4 hr REI

Ultra-Fine Oil - (EPA Reg. # 862-23)

1.25- 2.5 TBLS per gallon or 1-2 gallons per 100 gallons as a foliar spray. Full coverage is essential for control because it smothers insects. Apply when rapid drying will occur and when air temperatures are below 85 degrees to avoid phytotoxicity. Keep agitated, as it wants to separate. Labeled for herbs and vegetables. Leaves a shiny residue behind and burns some open blooms. 4 hr REI

Thrips-

Aria 50 WDG – (EPA Reg # 279-3287)

* Suppression of thrips* Foliar sprays at 3-4 packets per 100 gallons, or 3/8 to 1/2 heaping tsp per 3 gallons. Packets are not water soluble. Translaminar action and 7-28 day residual. Insects stop feeding in 30 minutes but may take several days to die. Certain pansy cultivars have shown sensitivity. 12 hr REI

Avid EC - (EPA Reg. # 100-896)

½ teaspoon per gallon or 8 oz per 100 gallons applied as a foliar spray. Often tank mixed with Decathlon at ¼ teas/gallon or 7 TBLS per 100 gallons (or other synthetic pyrethroids) because it irritates thrips and drives them out where they are more likely to contact spray deposits. Safe on open blooms and no visible residue. Same active ingredient as Flora-Mek. 12 hr REI

Azatin XL - (EPA Reg. # 70051-2759807)

1 teaspoon per gallon or 16 oz per 100 gallons applied as a foliar spray for insect growth regulator activity. Labeled for edible crops. No residue and safe on most blooms. 4 hr REI

Botanigard ES - (EPA Reg. # 65626-8)

2 teas per gallon or 1 qt per 100 gallons as a foliar spray. Naturally occurring fungus, not a quick kill. Use a minimum of three times in a row at 3-5 day intervals. Safe on foliage, may burn some open blooms. May damage tomato foliage. More effective when tank mixed with Azatin or Synergy/Ultra-Fine oil. 4 hr REI. 0 day PHI.

Conserve SC - (EPA Reg. # 62719-291)

Apply ½ teas/gallon or 8 oz per 100 gallons as a foliar spray. Short residual control, make 2 applications 7 days apart. No visible residue or bloom safety concerns. No more than three consecutive applications in a 30-day period without rotating to another class of chemistry. 4 hr REI

Enstar II EC - (EPA Reg. # 2724-476)

Insect growth regulator used at the rate of 2/3 teas per gallon or 10 oz per 100 gallons. No residue but burns some open blooms. 4 hr REI

Flora-Mek- (EPA Reg. # 100-896-72112)

½ teaspoon per gallon or 8 oz per 100 gallons applied as a foliar spray. Often tank mixed with Decathlon at ¼ teas/gallon or 7 TBLS per 100 gallons (or other synthetic pyrethroids) because it irritates thrips and drives them out where they are more likely to contact spray deposits. Safe on open blooms and no visible residue. Same active ingredient as Avid. 12 hr REI

Mesurool 75 WP - (EPA Reg. # 10163-231)

Restricted use Pesticide. Foliar spray at 2 TBLS/gallon or 1 lb per 100 gallons. Leaves a residue, but it is safe on many open blooms. Label indicates it must be applied through conventional spray equipment. 24 hr REI

Ornazin EC - (EPA Reg. # 5481-476-67690)

½ teaspoon per gallon or 8 oz per 100 gallons, label allows 2X rate “when infestation is heavy or foliage is dense”. Insect growth regulator activity. No residue and safe on most open blooms. Certain edible crops are on the label. Same active ingredient as Azatin. 12 hr REI

Pedestal SC- (EPA Reg. # 66222-40-400)

Insect growth regulator applied at ½ teaspoon per gallon or 8 oz per 100 gallons. Maximum of 1 application in 30 days and 2 treatments per crop per year. 2 alternative products must be used between treatments with Pedestal. No visible residue and good bloom safety. Do not use on poinsettias. 12 hr REI.

Pyreth-It - (EPA Reg # 1021-1091-499)

Natural pyrethrum with a synergist added. ½ teaspoon per gallon or 8 oz per 100 gallons as a foliar spray. Labeled for vegetables and herbs. No residue but burns many open blooms. 12 hr REI

Tame/Orthene TR – (EPA Reg # 499-441)

1 can per 1500 to 3000 sq ft. No residue, excellent plant and bloom safety. Poinsettia bracts should be treated not more than once per week at 1 can per 3,000 sq ft. 24 hr REI

Thionex (EPA Reg# 279-1380-66222) Formerly Thiodan 50 WP

(Restricted use pesticide in some states) 1 TBLS/gallon as a foliar spray or 1 lb per 100 gallons. Leaves visible residue and burns some open blooms. 24 hr REI

Whiteflies

Aria 50 WDG – (EPA Reg # 279-3287)

* Suppression of silverleaf whiteflies.* Label recommends tank mixing or rotating with another whitefly product for optimum control. Foliar sprays at 4-6 packets per 100 gallons, or 1/2 to 3/4 heaping tsp per 3 gallons. Packets are not water soluble. Translaminar action and 7-28 day residual. Insects stop feeding in 30 minutes but may take several days to die. Certain pansy cultivars have shown sensitivity. 12 hr REI

Azatin XL - (EPA Reg. # 70051-27-59807)

2/3 to 1 teaspoon per gallon or 12-16 oz per 100 gallons applied as a foliar spray for insect growth regulator activity. Labeled for edible crops. No residue and safe on most blooms. Same active ingredient as Ornazin. 4 hr REI

Botanigard ES - (EPA Reg. # 65626-8)

2 teas per gallon or 1 qt per 100 gallons as a foliar spray. Naturally occurring fungus, not a quick kill. Use a minimum of three times in a row at 3-5 day intervals. Labeled for vegetables and herbs. Very little visible residue but burns some open blooms. Some minor damage has been noted on tomato foliage 4 hr REI. 0 day PHI.

Discus – (EPA Reg # 432-1392-59807)

Nursery insecticide, not labeled for greenhouses. 2-4 week residual control from one foliar spray. .25 oz per gallon or 25 oz per 100 gallons. Drench rates per label. Same active ingredients that are in Marathon and Decathlon. Excellent plant and bloom safety with no visible residue. 12 hr REI. Restricted use pesticide in NY.

Distance EC - (EPA Reg. # 59639-96)

Insect growth regulator applied as a foliar spray. One application provides controls for 30+ days. 1/3 to 1/2 teaspoons per gallon, 6-8 oz per 100 gallons. May burn some open blooms, no visible residue. Can be used on peppers and tomatoes. Do not use on salvia, Boston fern, schefflera, heuchera, or poinsettia bracts. 12 hr REI

Endeavor WSP - (EPA Reg. # 100-913)

1-2 week residual control from one foliar spray. Use 1 water-soluble packet per 50 gallon spray tank, or you can cut the packet open and use 1 TBLS/5 gallons. Once opened, the packet must be sealed in a zip-lock baggie and kept dry inside the original container. Most effective when sprayed twice 7 days apart. Takes 2-4 days to kill. No residue, safe on open blooms. 12 hr REI. Restricted use pesticide in New York.

Enstar II EC - (EPA Reg. # 2724-476)

Insect growth regulator used at the rate of 2/3 teas per gallon or 10 oz per 100 gallons. No residue but burns some open blooms. 4 hr REI

Flagship WG- (EPA Reg # 100-955)

2-4 week residual from a foliar spray at 1/2 teas per 3 gallons or 4 oz per 100 gallons. Label contains directions for a soil drench. Very slight residue, safe on most open blooms. 12 hr REI. Do not rotate with Marathon, Majesty, Safari or TriStar. Not labeled in NY as of 10/05.

Judo – (EPA Reg # 432-1280-59807)

Foliar spray applied at 1/8 to 1/4 tsp per gallon or 2-4 oz per 100 gallons. Excellent translaminar movement and 21 day residual control of all life stages. Do not use on geraniums, impatiens, ivy or poinsettia bracts. 12 hr REI
Not labeled in NY as of 10/05.

Majesty - (EPA Reg. # 432-1369-59807)

Flowable with the same active ingredient as Marathon II. May be applied as a foliar spray at 1.7 oz per 100 gallons, or ½ teaspoon per 5 gallons. 2-4 week residual control with excellent plant and bloom safety. It can also be drenched per the chart found on the label. Some vegetable bedding plants are on the label. Do not rotate with Flagship, Marathon, Safari or TriStar. 12 hr REI. Restricted use pesticide in NY.

Marathon 1% G - (EPA Reg. # 3125-452-59807)

Up to 6 weeks control from one application. The label has rates based on pot diameter with higher rates for multiple plant containers and woody perennials. Do not rotate with Flagship, Majesty, Safari or TriStar. 12 hr REI. Restricted use pesticide in NY.

Marathon 60 WSP- (EPA Reg # 3125-492-59087)

Up to 6 weeks control from one application. The label has rates based on pot diameter with higher rates for multiple plant containers and woody perennials. Applicator must apply a certain number of ounces of final solution per pot based on label chart. Some vegetable bedding plants are on the label. Do not rotate with Flagship, Majesty, Safari or TriStar. 12 hr REI. Restricted use pesticide in NY.

Marathon II Flowable - (EPA Reg. # 3125-549-59807)

Flowable with the same active ingredient as Majesty. May be applied as a foliar spray at 1.7 oz per 100 gallons, or ½ teaspoon per 5 gallons. 2-4 week residual control with excellent plant and bloom safety. It can also be drenched per the chart found on the label. Some vegetable bedding plants are on the label. Do not rotate with Flagship, Majesty, Safari or TriStar. 12 hr REI. Restricted use pesticide in NY.

Ornazin EC - (EPA Reg. # 5481-476-67690)

½ teaspoon per gallon or 8 oz per 100 gallons, label allows 2X rate “when infestation is heavy or foliage is dense”. Insect growth regulator activity. No residue and safe on most open blooms. Some edible crops are on the label. Same active ingredient as Azatin. 12 hr REI

Pedestal SC- (EPA Reg. # 66222-40-400)

Insect growth regulator applied at ½ teaspoon per gallon or 8 oz per 100 gallons. Maximum of 1 application in 30 days and 2 treatments per crop per year. 2 alternative products must be used between treatments with Pedestal. No visible residue and good bloom safety. Do not use on poinsettias. 12 hr REI.

Pyreth-It - (EPA Reg # 1021-1091-499)

Natural pyrethrum with a synergist added. ½ teaspoon per gallon or 8 oz per 100 gallons as a foliar spray. Labeled for vegetables and herbs. No residue but burns many open blooms. 12 hr REI

Safari SG- (EPA Reg # 33657-16-59639)

Systemic long residual control. Foliar sprays at ½ to 1 tsp per gallon or 4 to 8 oz per 100 gallons, drench at 1.5 tsp to 1 TBLS per gallon or 12 to 24 oz per 100 gallons (apply 4 oz per 6" pot). Do not rotate with Flagship, Majesty, Marathon or TriStar. Excellent plant and bloom safety. 12 hr REI. Not labeled in NY as of 10/05.

Sanmite - (EPA Reg. # 7969-106)

One 1-ounce water-soluble packet per 16.6 gallons (1 1/8 teaspoons per gallon) as a foliar spray for whiteflies. Contact control of adult whiteflies. No residue, safe on most blooms. Label prohibits use through low volume equipment. 12 hr REI

Synergy Super Fine Oil – (EPA Reg # 48813-1-75339)

1.25- 2.5 TBLS per gallon or 1-2 gallons per 100 gallons as a foliar spray. Full coverage is essential, acts as a suffocant. Apply when rapid drying will occur and when air temperatures are below 85 degrees to avoid phytotoxicity. Labeled for many vegetables. Leaves a shiny residue behind and burns some open blooms. 4 hr REI

Talus WSP- (EPA Reg # 71711-15-67690)

Insect growth regulator with 3-4 week residual control from one foliar application. 1 packet per 10 gallons. Label forbids opening packets to measure out smaller amounts. Excellent plant and bloom safety including poinsettia bracts. May be used on greenhouse tomatoes. 12 hr REI. Not available in NY as of 9/05.

Tame/Orthene TR – (EPA Reg # 499-441)

1 can per 1500 to 3000 sq ft. No residue, excellent plant and bloom safety. Poinsettia bracts should be treated not more than once per week at 1 can per 3,000 sq ft. 24 hr REI

Thionex (EPA Reg# 279-1380-66222) Formerly Thiodan 50 WP

(Restricted use pesticide in some states) 1 TBLS/gallon or 1 lb per 100 gallons as a foliar spray. Leaves visible residue and burns some open blooms. 24 hr REI

TriStar WSP- (EPA Reg # 8033-22-1001)

2-4 week translaminar systemic control from one foliar spray application. 2-4 packets per 100 gallons, label forbids breaking packets open to measure smaller quantities. Excellent plant and bloom safety, no visible residue. Do not rotate with Flagship, Majesty, Marathon or Safari. 12 hr REI.

Ultra-Fine Oil - (EPA Reg. # 862-23)

1.25- 2.5 TBLS per gallon or 1-2 gallons per 100 gallons as a foliar spray. Full coverage is essential for control because it smothers insects. Apply when rapid drying will occur and when air temperatures are below 85 degrees to avoid phytotoxicity. Keep agitated, as it wants to separate. Labeled for herbs and vegetables. Leaves a shiny residue behind and burns some open blooms. 4 hr REI

Fungicides

Botrytis-

All recommendations are for foliar sprays except as noted. Most foliar sprays listed will perform better with a surfactant such as CapSil added at ½ teaspoon per gallon, (8 oz per 100 gallons), to increase coverage and reduce visible residue. Some product labels state that surfactants should not be added.

Camelot EL - (EPA Reg. #1812-381-499)

1 Tablespoon per gallon or 48 oz per 100 gallons. Leaves some visible residue and burns most open blooms. Do not allow this product to come in contact with aluminum sprayer or irrigation parts. Labeled for several greenhouse vegetables. 12 hr REI.

Chipco 26019 WP- (EPA Reg # 432-889)

Foliar spray at 1.33 to 2.66 tsp per gallon or 1-2 lbs per 100 gallons. Good bloom safety but it leaves a visible residue. 12 hr REI. Restricted use pesticide in NY only.

Compass WDG - (EPA Reg. # 3125-350-59807)

½-1 teaspoon per 2.5 gallon, (2-4 ounces per 100 gallons), safe on most open blooms, slight visible residue. Long residual preventative properties. Do not use with CapSil or other organosilicone surfactants. Do not rotate with Heritage. 12 hour REI.

Daconil Ultrex WDG - (EPA Reg. # 50534-202-10182)

1 TBLS per gallon, (1.4 lbs per 100 gallons), leaves some residue and burns some blooms. Preventative control. The label prohibits the use of mist blowers or high-pressure spray equipment in greenhouses. (Same active ingredient as Exotherm Termil and is one of two actives in Spectro WDG). 12 hr REI with additional WPS requirements for the next 6.5 days.

Daconil Weather-stik- (EPA Reg # 50534-209-100)

Foliar spray applied at 1.33 tsp per gallon or 22 oz per 100 gallons. Contains surfactant, do not add another. Leaves some visible residue and burns some open blooms. Preventative control. The label prohibits the use of mist blowers or high-pressure spray equipment in greenhouses. (Same active ingredient as Exotherm Termil and is one of two actives in Spectro WDG). 12 hr REI with additional WPS requirements for the next 6.5 days.

Decree DF- (EPA Reg. #66330-35-67690)

1 rounded teaspoon per gallon, (16 oz per 100 gallons), safe on open blooms, minimal visible residue. Rain fast (won't wash off) two hours after application. Very effective long residual control. 4 hr REI. Supplemental label for use on tomatoes in a few states.

Exotherm Termil - (EPA Reg. # 70-223)

Ignitable powder used @ 1 can per 1,000 sq ft. Use as a protectant when leaf and flower surfaces are dry to insure there is no damage to plant tissue. (Never use on mature poinsettia bracts). Contains the same active ingredient as Daconil Weather-Stik and is one of two actives in Spectro WDG. 12 hour REI and label ventilation requirements must be met before entry into treated areas. Additional WPS requirements apply for the following 6.5 days. Restricted use pesticide.

Medallion WSP - (EPA Reg. # 100-769)

1 water-soluble packet per 50-100 gallons of water, or 1 teaspoon per 3 ½ to 7 gallons. Once opened, the packet must be sealed in a zip-lock baggie and kept dry in the original container. Very good plant and bloom safety, little visible residue. 12 hr REI.

Milstop - (EPA Reg. # 707870-1-68539)

1.5 tsp to 2 tablespoons per gallon, or 1.25-5 lbs per 100 gallons as a foliar spray. Fast acting product that is labeled for ornamentals and many vegetable crops. Formulated with a surfactant so do not add another. Exempt from food tolerances. Leaves some residue but has good plant safety. Trial on open blooms, damage on hydrangea blooms has been reported. Use low rates only and 14 day treatment intervals on poinsettias. 1 hour REI. 0 day PHI.

Oxidate - (EPA Reg. # 70299-2)

.5 oz per gallon or 50 oz per 100 gallons as a preventative and 1.5 ounces per gallon or 150 oz per 100 gallons as a curative. No visible residue and safe on most open blooms. Contact control, no residual. Identical to Zero-Tol except that it is labeled for edible crops. There is no REI.

Phyton-27 SC - (EPA Reg. # 49538-2)

.6 to 1.2 teaspoons per gallon or 10-20 oz per 100 gallons leaves no residue and is safe on many open blooms. Avoid spraying when leaves will stay wet for a long time to reduce chance of phytotoxicity. Do not add surfactant. The final spray solution should have a pH between 5.5 and 6.5. Avoid spraying within 3 days of B-9 to avoid burning. 24 hr REI.

Plantshield HC - (EPA Reg. # 68539-4)

Naturally occurring fungus that works as a protectant. Labeled for use on vegetable and herbs as well as ornamentals. 1/2 oz per gallon or 50 oz per 100 gallons as a foliar spray leaves a significant residue but no flower burn. Do not use low volume applicators. There is no REI.

Protect T/O WSP - (EPA Reg. # 1001-65), Protect DF (EPA Reg # 1001-77)

1 ½ tablespoons per gallon (1 tablespoon per gallon for DF formulation), (1.5 lbs per 100 gallons), leaves a heavy visible residue but is safe on most open blooms. Preferred use is on outdoor perennial production or early in the season on greenhouse crops when residue is not an issue. Most effective as a protectant. Never use on marigolds or geraniums due to manganese toxicity. 24 hr REI.

Rhapsody AS- (EPA Reg # 69592-10)

Mycofungicide (bacteria: Bacillus subtilis QST 713). Foliar spray applied at 1.25 oz per gallon or 1 gallon per 100 gallons. Preventative control effective for about 7 days. Good plant safety including open blooms and no visible residue. Tank mixable with most common pesticides. Labeled for several edible crops. 4 hr REI, 0 day PHI. Same active ingredient as Serenade.

Sextant - (EPA Reg. # 432-889)

2 to 4 1/2 teaspoons per gallon or 32-80 oz per 100 gallons as a foliar spray, safe on most open blooms but does leaves some residue. Same active ingredient as Chipco 26019 and Chipco 26GT. 12 hour REI. Restricted use pesticide in New York.

Spectro 90 WDG - (EPA Reg. # 1001-72)

1 to 2 tablespoons per gallon or 1-2 lbs per 100 gallons as a foliar spray, leaves a visible residue and burns some open blooms. Contains the same active ingredients that are found in Daconil (also Exotherm Termil) and Cleary's 3336 /FungoFlo/OHP 6672. Caution: Not labeled for use in foggers or mist blowers. 12 hr REI with additional WPS requirements for the next 6.5 days.

Stature WP - (EPA Reg. # 241-411-67690) 1 1/2 tablespoons per gallon or 1.75 lbs per 100 gallons as a foliar spray. Primarily a protectant. Leaves a residue and is safe on most open blooms. Do not use on geraniums or marigolds. Combination of the active ingredient in Protect and Dimethomorph that provides downy mildew control. 24 hr REI

Zero-Tol - (EPA Reg. # 70299-1)

.5 oz per gallon or 50 oz per 100 gallons as a preventative and 1.5 ounces per gallon or 150 oz per 100 gallons as a curative. No visible residue and safe on most open blooms. Contact control, no residual. Use 2 teas per gallon on poinsettia bracts. There is no REI.

Zyban WSP - (EPA Reg. # 58185-31)

4 teaspoons per gallon, 4 packets per 100 gallons as a foliar spray. Safe on most open blooms but does leave a visible residue. Do not use on marigolds or geraniums. 24 hr REI. Restricted use pesticide in New York.

Fusarium-

All of the following recommendations are for soil drenches. Re-apply at 21-28 day intervals, with the exception of Plantshield HC. Chemicals have limited success controlling Fusarium, but the following products will help protect healthy plants.

Banrot 40% WP - (EPA Reg. # 58185-10)

12 ounces per 100 gallons, (1.5 teas per gallon). Contains the same active ingredients that are in Truban and (Cleary's 3336/FungoFlo/OHP 6672). 12 hr REI.

Cleary's 3336 WP and F - (EPA Reg. # 1001-63 = WP) (EPA Reg. # 1001-63 = F)

Rate for either formulation is 16 oz per 100 gallons. May be repeated at 2 to 4 week intervals as needed. Same active ingredient as FungoFlo/OHP 6672. 12 hr REI

Companion- (EPA Reg # 71065-1)

16 oz per 100 gallons repeated every 14-28 days. Protectant that works primarily by the release of antibiotics produced by a beneficial bacteria. Compatible with most traditional fungicides. Excellent plant safety, not labeled for any edible crops. 4 hr REI. Not yet labeled in many states.

Heritage WDG - (EPA Reg. # 10182-408)

Soil drench at 0.2 to 0.9 oz per 100 gallons. Apply 1-2 pints of solution per sq ft of surface area. Repeat at 7 to 28 day intervals. Protectant only. 4 hr REI

Medallion WSP- (EPA Reg. # 100-769)

One 1-ounce packet per 100 gallons of water. Do not drench impatiens, geranium caution added to the label. 12 hr REI.

OHP 6672 WP and L - (EPA Reg. # 51036-330-59807 = WP) (EPA Reg. # 51036-329-59807 = F)

Rate for the WP is 16 oz per 100 gallons. The L formulation rate is 20 oz per 100 gallons. May be repeated at 2 to 4 week intervals as needed. Same active ingredient as FungoFlo and Cleary's 3336. 12 hr REI

Plantshield HC - (EPA Reg. # 68539-4)

4 ounces per 100 gallons applied as early in the crop cycle as possible. Naturally occurring fungus that grows along with the roots to protect them. Will not clean up an existing problem. Labeled for vegetables and herbs. Typically only one application per growing season is needed. Long term crops should be retreated with a half-rate application midway through the crop. No re-entry time.

Pythium and Phytophthora -

All recommendations are for soil drenches except as noted. Rotation of active ingredients is essential due to resistance issues.

Aliette 80% WDG - (EPA Reg. # 432-890)

6.4 to 12.8 ounces per 100 gallons. Do not exceed 1 application per 30 days. 12 hr REI

Alude – (EPA Reg # 71962-1-1001)

May be either applied as a foliar spray at .33 to .66 oz per gallon (1-2 qts per 100 gallons) or as a soil drench at 6.25 to 12.66 oz per 100 gallons. Stimulates plants natural defenses, primarily a protectant. Excellent plant safety, trial on open blooms before use as a foliar spray. 4 hr REI.

Banrot 40% WP - (EPA Reg. # 58185-10)

6 to 12 ounces per 100 gallons. Can retreat in 4 weeks if needed. Contains the same active ingredients that are in Truban and Cleary's 3336/FungoFlo/OHP 6672). 12 hr REI.

Companion- (EPA Reg # 71065-1)

16 oz per 100 gallons repeated every 14-28 days. Protectant that works primarily by the release of antibiotics produced by a beneficial bacteria. Compatible with most traditional fungicides. Excellent plant safety, not labeled for any edible crops. 4 hr REI. Not yet labeled in many states.

Plantshield HC - (EPA Reg. # 68539-4)

4 ounces per 100 gallons applied as early in the crop cycle as possible. Naturally occurring fungus that grows along with the roots to protect them. Will not clean up an existing problem. Labeled for vegetables and herbs. Typically only one application per growing season is needed. Long term crops should be retreated with a half-rate application midway through the crop. No re-entry time.

Stature DM- (EPA Reg # 241-419-67690)

Does not control Pythium. Translaminar systemic as a soil surface directed spray to cover plant crown, stem and soil surface. Root penetrant as a soil drench to wet the root zone. Rates for both types of application: Greenhouse grown herbaceous annuals and perennials use 1 to 4 tsp per gallon or 3.2 to 12.8 oz per 100 gallons. Outdoor container grown herbaceous perennials and woody ornamentals use 6.4 to 25.6 oz per 100 gallons. 12 hr REI.

Subdue Maxx ME (Micro Emulsion) - (EPA Reg. # 100-796)

1 oz per 100 gallons, (1/2 teaspoon per 10 gallons), except 1/2 oz, (1/4 teaspoon per 10 gallons), for seed flats. Do not apply more often than every 6 weeks. REI- re-entry is allowed as soon as the treated area is dry. Easter lilies can be treated only once at planting to avoid a leaf scorch. 1/2 oz per 100 gallons is used for Easter lilies.

Truban WP and EC - (EPA Reg. # 58185-7 = WP) (EPA Reg. # 58185-8 = EC)

Apply the WP at 4 to 6 ounces per 100 gallons, or the EC at 3 to 4 ounces per 100 gallons. Apply to moist soil for maximum plant safety. Repeat applications can be made at 4 to 8 week intervals. The active ingredient is one of two contained in Banrot WP. It is the same active that is in Terrazole. 12 hour REI.

Powdery Mildew-

All recommendations are for foliar sprays except as noted. Most foliar sprays listed will perform better with a surfactant such as CapSil added at 1/2 teaspoon per gallon, (8 oz per 100 gallons), to increase coverage and reduce visible residue. Some product labels state that surfactants should not be added

Actinovate SP- (EPA Reg # 73314-1)

1 tsp per gallon or 12 oz per 100 gallons as a foliar spray. Has shown protectant and erradicant properties. Leaves some visible residue, safe on open blooms. Edible crops on the label. 1 hr REI.

Camelot EL - (EPA Reg. # 1812-381-499)

1 Tablespoon per gallon or 48 oz per 100 gallons as a foliar spray. Leaves some visible residue and burns most open blooms. Do not allow this product to come in contact with aluminum sprayer or irrigation parts. Labeled for several greenhouse vegetables. 12 hr REI.

Compass WDG - (EPA Reg. # 3125-560-59807)

1 teas per 2.5 gallons or 4 oz per 100 gallons as a foliar spray. Has shown outstanding long residual protection from powdery mildew. Consider a spray of an eradicant first, followed by Compass. Do not use with CapSil or other organosilicone surfactants. Leaves a slight residue and is safe on many open blooms. Do not use on petunias, violets, or N.G. Impatiens. Do not rotate with Cygnus or Heritage. 12 hr REI.

Cygnus WG- (EPA Reg # 7969-124-58185)

1-2 teas per 5 gallons or 1.6 to 3.2 oz per 100 gallons as a foliar spray. Most effective when used preventatively. Do not use with CapSil or other organosilicone surfactants. Leaves a slight residue and is safe on many open blooms. Excellent plant and bloom safety on most greenhouse crops. Do not rotate with Compass or Heritage. 12 hr REI. May not be used in Suffolk or Nassau Counties in NY.

Daconil Ultrex WDG - (EPA Reg. # 50534-202-10182)

1 TBLS per gallon or 1.4 lbs per 100 gallons, leaves some residue and is not safe on all open blooms. The label prohibits the use of mist blowers or high-pressure spray equipment in greenhouses (Same active ingredient as Exotherm Termil and is one of two actives in Spectro WDG). 12 hr REI with additional WPS requirements for the next 6.5 days.

Daconil Weather-stik- (EPA Reg # 50534-209-100)

Foliar spray applied at 1.33 tsp per gallon or 22 oz per 100 gallons. Contains surfactant, do not add another. Leaves some visible residue and burns some open blooms. Preventative control. The label prohibits the use of mist blowers or high-pressure spray equipment in greenhouses. (Same active ingredient as Exotherm Termil and is one of two actives in Spectro WDG). 12 hr REI with additional WPS requirements for the next 6.5 days.

Eagle 20 EW- (EPA Reg # 62719-463)

Locally systemic, curative and protectant foliar fungicide applied at ½ to ¾ tsp per gallon or 6-12 oz per 100 gallons. Same active ingredient as Systhane. Same class of chemistry as Strike and Terraguard. Good plant and bloom safety. 24 hr REI. Restricted use pesticide in NY only. Long Island use restrictions apply.

Heritage WDG - (EPA Reg. # 10182-408)

1 teas per 2.5 gallons, (4 ounces per 100 gallons), as a foliar spray. Most effective as a protectant. No visible residue and safe on most open blooms. Do not use with Capsil or other silicone containing surfactants. Do not rotate with Compass or Cygnus. 4 hr REI

Milstop - (EPA Reg. # 707870-1-68539)

1.5 tsp to 2 tablespoons per gallon, or 1.25-5 lbs per 100 gallons as a foliar spray. Fast acting product that is labeled for ornamentals and many vegetable crops. Formulated with a surfactant so do not add another. Exempt from food tolerances. Leaves some residue but has good plant safety. Trial on open blooms, damage on hydrangea blooms has been reported. Use low rates only and 14 day treatment intervals on poinsettias. 1 hour REI. 0 day PHI.

Oxidate - (EPA Reg. # 70299-2)

.5 oz per gallon or 50 oz per 100 gallons as a preventative and 1.5 ounces per gallon or 150 oz per 100 gallons as a curative. No visible residue and safe on most open blooms. Contact control, no residual. Identical to Zero-Tol except that it is labeled for edible crops. There is no REI.

Phyton-27 SC - (EPA Reg. # 49538-2)

1.5 teaspoons per gallon or 25 oz per 100 gallons as a foliar spray leaves no residue and is safe on many open blooms. Avoid spraying when leaves will stay wet for a long time to reduce chance of phytotoxicity. Ready to use spray solution should have a pH between 5.5 and 6.5. Do not add surfactant. Avoid spraying within 3 days of B-9 to avoid burning. 24 hr REI.

Plantshield HC - (EPA Reg. # 68539-4)

Naturally occurring fungus that works as a protectant. Labeled for use on vegetable and herbs as well as ornamentals. 1/2 oz per gallon or 50 oz per 100 gallons as a foliar spray leaves a significant residue but no flower burn. Do not use low volume applicators. There is no REI.

Protect T/O WSP - (EPA Reg. # 1001-65), Protect DF (EPA Reg # 1001-77)

1 ½ tablespoons per gallon (1 tablespoon per gallon for DF formulation), (1.5 lbs per 100 gallons), leaves a heavy visible residue but is safe on most open blooms. Preferred use is on outdoor perennial production or early in the season on greenhouse crops when residue is not an issue. Most effective as a protectant. Never use on marigolds or geraniums due to manganese toxicity. 24 hr REI.

Rhapsody AS- (EPA Reg # 69592-10)

Mycofungicide (bacteria: *Bacillus subtilis* QST 713). Foliar spray applied at 1.25 oz per gallon or 1 gallon per 100 gallons. Preventative control effective for about 7 days. Good plant safety including open blooms and no visible residue. Tank mixable with most common pesticides. Labeled for several edible crops. 4 hr REI, 0 day PHI. Same active ingredient as Serenade.

Spectro 90 WDG - (EPA Reg. # 1001-72)

1 to 2 tablespoons per gallon or 1-2 lbs per 100 gallons as a foliar spray leaves a visible residue and burns some open blooms. Contains the same active ingredients that are found in Daconil (also Exotherm Termil) and (Cleary's 3336 /FungoFlo/OHP 6672) Caution: Not labeled for use in foggers or mist blowers. 12 hr REI with additional WPS requirements for the next 6.5 days.

Strike WDG - (50 WDG= EPA Reg # 3125-529-59807)

Foliar spray rates: ½ teaspoon per gallon, (2 oz per 100 gallons). Excellent plant and bloom safety with minimal visible residue. Check the Griffin Poinsettia culture guide for specific instructions for using Strike on that crop. Knock down and residual control. Make no more than 2 applications at 7-day intervals to avoid stunting from growth regulator activity, (similar to B-9). Same chemical class as Eagle/Systhane and Terraguard. 12 hr REI.

Synergy Super Fine Oil – (EPA Reg # 48813-1-75339)

1.25- 2.5 TBLS per gallon or 1-2 gallons per 100 gallons as a foliar spray. Full coverage is essential, acts as a suffocant. Apply when rapid drying will occur and when air temperatures are below 85 degrees to avoid phytotoxicity. Labeled for many vegetables. Leaves a shiny residue behind and burns some open blooms. 4 hr REI

Terraguard 50 WP - (EPA Reg. # 400-433)

The label allows for a one time application at the rate of 2 2/3 teas/gallon or 16 oz per 100 gallons for initial treatment of existing infections. Otherwise, use 1 1/3 teas/gallon or 8 oz per 100 gallons. Some visible residue may occur. Same class of chemistry as Strike and Eagle/Systhane. 12 hr REI.

Ultra-Fine Oil - (EPA Reg. # 862-23)

1.25- 2.5 TBLS per gallon or 1-2 gallons per 100 gallons as a foliar spray. Apply when rapid drying will occur and when air temperatures are below 85 degrees to avoid phytotoxicity. Keep agitated, as it wants to separate. Labeled for herbs and vegetables. Leaves a shiny residue behind and burns open blooms. 4 hr REI

Zero-Tol - (EPA Reg. # 70299-1)

.5 oz per gallon or 50 oz per 100 gallons as a preventative and 1.5 ounces per gallon or 150 oz per 100 gallons as a curative. Contact control, no residual. Use 2 teas per gallon on poinsettia bracts. There is no REI.

Zyban WSP - (EPA Reg. # 58185-31)

4 teaspoons per gallon, 4 packet per 100 gallons as a foliar spray. Safe on most open blooms but does leave a visible residue. Do not use on marigolds or geraniums. 24 hr REI. Restricted use pesticide in New York.

Rhizoctonia (soil borne, see also: aerial) and Thielaviopsis-

All of the following recommendations are for soil drenches.

Banrot 40% WP - (EPA Reg. # 58185-10)

6 to 12 ounces per 100 gallons, (¾ to 1.5 teas per gallon). Can retreat in 4 weeks if needed. Contains the same active ingredients that are in Truban and Cleary's 3336/FungoFlo/OHP 6672. 12 hr REI.

Chipco 26019 N/G WP- (EPA Reg # 432-889)
Soil drench applied at 6.5 oz per 100 gallons. 12 hr REI. Restricted use pesticide in NY only.

Cleary's 3336 WP and F - (EPA Reg. # 1001-63 = WP) (EPA Reg. # 1001-69 = F)
WP formulation is 8-16 oz per 100 gallons; the F formulation is 8-16 oz per 100 gallons. Use the lower rates preventatively, the higher rates for existing problems. May be repeated at 2 to 4 week intervals as needed. Same active ingredient as FungoFlo and OHP 6672. 12 hr REI.

Companion- (EPA Reg # 71065-1)
** Does not control Thielaviopsis** 16 oz per 100 gallons repeated every 14-28 days. Protectant that works primarily by the release of antibiotics produced by a beneficial bacteria. Compatible with most traditional fungicides. Excellent plant safety, not labeled for any edible crops. 4 hr REI. Not yet labeled in many states.

Contrast 70 WSP - (EPA Reg. # 45639-208-58185)
** Does not control Thielaviopsis** 3 to 6 ounces per 100 gallons. Can be retreated 21 to 28 days after initial treatment. Systemic preventative and curative activity. 12 hr REI. Restricted use pesticide in New York with specific use directions for Long Island.

Medallion WSP - (EPA Reg. # 100-769)
One 1-ounce packet per 100 gallons of water. Do not use as a drench on impatiens or N.G. Impatiens. Geranium caution added to the label. Long residual protection product. May be repeated at 21-28 day intervals as needed. 12 hr REI.

OHP 6672 WP and L - (EPA Reg. # 51036-330-59807 = WP) (EPA Reg. # 51036-329-59807 = F)
Rate for the WP is 16 oz per 100 gallons. The L formulation rate is 20 oz per 100 gallons. May be repeated at 2 to 4 week intervals as needed. Same active ingredient as FungoFlo and Cleary's 3336. 12 hr REI

Plantshield HC - (EPA Reg. # 68539-4)
4 ounces per 100 gallons applied as early in the crop cycle as possible. Naturally occurring fungus that grows along with the roots to protect them. Will not clean up an existing problem. Labeled for vegetables and herbs. Typically only one application per growing season is needed. No re-entry time.

Terrachlor 75% WP - (EPA Reg. # 400-399)
** Does not control Thielaviopsis** 4 to 8 oz per 100 gallons. Terrachlor 400 rates are 6-12 oz per 100 gallons. Labeled for certain vegetables grown as bedding plants. 12 hr REI

Aerial Rhizoctonia-

All applications in this section are foliar sprays, except as noted. All foliar sprays listed will perform better with a surfactant such as CapSil added at ½ teaspoon per gallon, (8 oz per 100 gallons), to increase coverage and reduce visible residue.

Cleary's 3336 WP and F - (EPA Reg. # 1001-63 = WP) (EPA Reg. # 1001-69 = F)
WP rate is 2 teaspoons per gallon, (16 ounces per 100 gallons), the F rate is 1 teaspoon, (16 oz per 100 gallons). Safe on open blooms but leaves some residue. Same active ingredient as FungoFlo and OHP 6672. 12 hr REI.

Contrast 70 WSP - (EPA Reg. # 45639-208-58185)
4 teas per gallon or 12 oz per 100 gallons. Long lasting, systemic and curative. Good plant safety. 12 hour REI. Restricted use pesticide in New York with specific use directions for Long Island.

Medallion WSP - (EPA Reg. # 100-769)
Applied as a high volume spray or sprench. 1 water-soluble packet per 25-50 gallons of water, or 1 teaspoon per 1 ¾ to 3 ½ gallons. Once opened, the packet must be sealed in a zip-lock baggie and kept dry in the original container. Very good plant and bloom safety, little visible residue. 12 hr REI.

Oxidate - (EPA Reg. # 70299-2)
.5 oz per gallon or 50 oz per 100 gallons as a preventative and 1.5 ounces per gallon or 150 oz per 100 gallons as a curative. No visible residue and safe on most open blooms. Contact control, no residual. Identical to Zero-Tol except that it is labeled for edible crops. There is no REI.

Sextant - (EPA Reg. # 432-889)
2 to 4 1/2 teaspoons per gallon or 32-80 oz per 100 gallons as a foliar spray. Safe on most open blooms but does leaves some residue. Same active ingredient as Chipco 26019 and Chipco 26GT. 12 hour REI. Restricted use pesticide in New York.

Zero-Tol - (EPA Reg. # 70299-1)
.5 oz per gallon or 50 oz per 100 gallons as a preventative and 1.5 ounces per gallon or 150 oz per 100 gallons as a curative. No visible residue and safe on most open blooms. Contact control, no residual. Use 2 teas per gallon on poinsettia bracts. There is no REI.