



Greenhouse and Nursery Insecticide, Miticide and Fungicide Options for 2017

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Not all of the products mentioned in this bulletin are registered in all states. Some pesticides are restricted use in some states or regions and not others. Contact GGSPRO if there is a question about a specific product

This bulletin is intended to help applicators plan pesticide programs, but it does not replace the need to read the entire pesticide label. Pesticide labels contain more essential information than can be included in this guide, including Personal Protection Equipment (PPE), special precautions, maximum yearly application rates and more. Information in this bulletin is believed to be correct, but it is the responsibility of the applicator to read and follow all label directions. Labels do change without notice. Pesticides other than those listed may be safe, legal and effective.

Many pesticide labels contain resistance management instructions. These instructions are legal requirements and are essential for helping to preserve the effectiveness of the chemistry. Please contact the GGSPRO Technical Services department for guidance on practices that will limit the development of resistance by pests and diseases.

All recommendations for insecticides are for foliar spray unless noted otherwise. Most foliar sprays listed will perform better with a surfactant, such as CapSil to increase coverage and reduce visible residue. Some product labels state that surfactants should not be added. CapSil rates: 1/4-1/2 tsp/gal or 4-8 oz/100 gal.

Mode of Action Groups

In order to help growers make effective and responsible pesticide choices, Griffin references Mode of Action designations (MOA) for insecticides and fungicides. The codes are established by the Insecticide Resistance Action Committee (IRAC; <http://www.irac-online.org/>) and the Fungicide Resistance Action Committee (FRAC; <http://www.frac.info/home>). Pesticides with the same MOA group number share the same mode of action and therefore should not be used in rotation with each other. Griffin's GGSPRO Technical Services department is available to help you integrate this information into your pesticide decision making process.

GGSPRO Bee Safety Codes

GGSPRO has assigned Bee Safety Codes per information EPA information presented on the product labels. Bee Safety Codes are intended to provide a quick and easy reference to guide grower in initial decision-making and do not replace to read the label application details and restrictions with respect to bees and other pollinators. Please note that some application methods (ex. granular) and some product classes (ex. fungicides, surfactants) do not currently require inclusion of bee hazard information on the label. Therefore, the lack of a Bee Safety Code should not be considered an indication of complete lack of risk. The GGSPRO team is available to discuss specific concerns.

Table 1. Key to GGSP Bee Safety Codes

| Toxicity Key | Exposure Key (adapted from the North American Pollinator Protection Campaign) |
|---|---|
| Highly Toxic  EPA describes as very highly toxic, highly toxic or very toxic to bees. | 1 Toxicity risk through direct exposure only - avoid treatment when <i>bees are actively visiting or actively foraging</i> in the treatment area. <i>Actively visiting the treatment area refers to bees you see on the plants and pertains to products that do not show residual effect. Bee are protected when bees are absent during treatment.</i> |
| Toxic  EPA describes as toxic to bees. | 2 Toxicity risk through residual exposure only - avoid treatment when <i>bees are visiting</i> the treatment area. <i>Visiting the treatment area refers to bees that may visit the plants after treatment. Bee are protected when bees are absent from the area following treatment. Avoid use of these products when crops and/or weeds are in bloom.</i> |
| Low Toxicity  EPA describes as a potential pathogen or with low toxicity to bees. | 3 Toxicity risk through both direct exposure and residual exposure - avoid treatment when <i>bees are visiting</i> the treatment area. <i>Visiting the treatment area refers to bees that may visit the plants after treatment. Bee are protected when bees are absent from the treatment area both during and following treatment. Avoid use of these products when crops and/or weeds are in bloom.</i> |
| Special Case  Special use notes per label; contact GGSP for more information. | Bee Code Examples and Appropriate Grower Actions: <ul style="list-style-type: none">  Do not apply this product to plants when bees are present or if bees may come into contact with associated flowers in the landscape in the following weeks. For example, do not apply this product to budded or flowering plants in a greenhouse if they will be sold for outdoor use in the subsequent weeks. The duration of residual exposure risk varies by product and cannot be generalized by MOA; contact GGSP for guidance on the duration of residual risk.  Do not apply this product to plants when bees are present. This product may be safely applied in a greenhouse or late in the day outdoors (after bee foraging has ceased) to budded or flowering plants that will be sold for outdoor use the next day. |

Insecticides and Miticides

Aphids

Acephate 97UP- (EPA Reg. # 70506-8) 

Active Ingredient: Acephate

Foliar spray rate: 2/3 tsp per gal or 8 fl oz per 100 gal. Some resistance is reported to this product. No visible residue, but it will burn many open blooms. 24 hr REI. MOA 1B. Restricted use pesticide in NY.

Ancora- (EPA Reg. # 70051-19-59807) 

Active Ingredient: *Isaria fumosoroseus* Apopka Strain 97

Naturally occurring fungus for use on ornamentals, herbs, fruits and vegetables grown in containers in greenhouses, shade houses, hydroponics and field-grown nursery stock. Foliar spray rate: 1 oz per 5 gals or 28 oz per 100 gal. Repeat applications are recommended at 3-10 day intervals depending on pest pressure. Most effective when relative humidity is 80% or higher for 8-10 hours. May be drenched for root aphids at the same rates. Drench volumes based on pot size on the label. 4 hr REI. MOA UN. Not registered in CA, CT, KS, ME, MN, NY, UT.

Altus- (EPA Reg. # 432-1575)

Active Ingredient: Flupyradifurone

Foliar sprays at 1/2 tsp per gal or 8 oz per 100 gal. Translaminar activity effective against all life stages with 2-3 week residual. Insects stop feeding quickly but may take several days to die. Many vegetable transplants and certain vegetables grown to harvest are on the label. 4 hr REI. 12 REI in CA. MOA 4D. Not registered in NY or HI.

Aria- (EPA Reg. # 279-3287)

Active Ingredient: Flonicamid

Foliar sprays at 1/4-3/8 tsp per 3 gal or 1.4-2.1 oz per 100 gal. Translaminar action and 7-14 day residual. Insects stop feeding quickly but may take several days to die. Certain pansy cultivars have shown sensitivity. 12 hr REI. MOA 29. Restricted use pesticide in NY.

Benefit 60 WP- (EPA Reg. # 42750-153-58185) 

Active Ingredient: Imidacloprid

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. 12 hr REI. MOA 4A. Restricted use pesticide in CT, MD and NY.

BotaniGard ES- (EPA Reg. # 82074-1) 

Active Ingredient: *Beauveria bassiana* strain GHA

2-4 tsp per gal or 32-64 fl oz per 100 gal as a foliar spray. Naturally occurring fungus. Use a minimum of three times in a row at 3-5 day intervals. Labeled for herb and vegetables. May damage tomato foliage. Very little visible residue but burns some open blooms. More effective when tank mixed with AzaGuard, Azatin O, Molt-X, or horticultural oil. 0 day PHI. 4 hr REI. MOA UN.

BotaniGard 22WP- (EPA Reg. # 82074-2) 

Active Ingredient: *Beauveria bassiana* strain GHA

Naturally occurring fungus for use on ornamental herb and vegetable crops in greenhouses and outdoor production. Greater safety for biological control agents and tomatoes than the ES formulation. Foliar spray rates: 2-4 tsp per gal or 1-2 lb per 100 gal. More effective when tank mixed with AzaGuard, Azatin O, Molt-X, or horticultural oil. 0 day PHI. 4 hr REI. MOA UN.

BotaniGard MAXX (EPA Reg. # 82074-5) 

Active Ingredient: Pyrethrins and *Beauveria bassiana* strain GHA

Natural pyrethrum combined with a naturally occurring fungus. Foliar spray rates: ½-4 tsp per gal or 8-32 oz per 100 gal (higher rates on vegetables outside). Labeled for ornamentals, herbs, vegetables, in greenhouses, shadehouses, nursery, field, landscape, turf and interiorscapes. Use caution on open blooms. Check compatibility with fungicides prior to tank mix. 0 day PHI, 12 hr REI. MOA 3A/UN

CoreTect (EPA Reg. # 432-1457) 

Active Ingredient: Imidacloprid

Long lasting tablets labeled for ornamental trees and in greenhouses, nurseries, landscapes and interiorscapes. Consult label for incorporation rates to containerized ornamental and at planting or treatment of in-ground ornamentals. Dependent on soil moisture to release. Do not use on Linden, basswood or other *Tilia* species. Refer to rate Table 2. 12 hr REI. MOA 4A. Restricted use in CT, MD and NY.

Discus N/G- (EPA Reg. # 432-1393-59807) 

Active Ingredient: Imidacloprid and Cyfluthrin

Labeled for greenhouses and nurseries. 2 week residual control from a foliar spray. 0.25 fl oz per gal or 25 fl oz per 100 gal. Drench rates per label. Excellent plant and bloom safety with no visible residue. 12 hr REI, 0 hr REI for drenches if label conditions are met. MOA 4A & 3A. Restricted use pesticide in CT, MD and NY.

Discus Tablets- (EPA Reg. # 432-1457-59807) 

Active Ingredient: Imidacloprid

Long lasting tablets labeled for ornamental trees and in greenhouses, nurseries, landscapes and interiorscapes. Consult label for incorporation rates to containerized ornamental and at planting or treatment of in-ground ornamentals. Dependent on soil moisture to release. Do not use on Linden, basswood or other *Tilia* species. Refer to rate Table 2. 12 hr REI. MOA 4A. Restricted use in CT, MD and NY.

Table 2. Discus and CoreTect Tablet use Chart.

| Container | Number of Tablets |
|--|--|
| 1 gallon | 1-2 |
| 3 gallons | 2-3 |
| 5 gallons | 3-4 |
| 7 gallons | 4-5 |
| 10 gallons | 5-7 |
| Large containers, spaded, balled and burlaped and pot-in-pot ornamentals | 2-3 tablets per inch of trunk diameter or per foot of shrub height |

Endeavor- (EPA Reg. # 100-913)

Active Ingredient: Pymetrozine

2-3 week residual control from one foliar spray. Use 1 water-soluble packet (2.5 oz) per 50-gal spray tank, or 1 Tbls per 5 gal. 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. MOA 9B.

Enstar AQ- (EPA Reg. # 2724-793) ** Not for outdoor use **

Active Ingredient: S-Kinoprene

Insect growth regulator used as a foliar spray: 1-2 tsp per gal or 16-32 fl oz per 100 gal. No residue but may burn some open blooms Do not use on roses, maidenhair fern, schefflera, or poinsettia after bract formation. 4 hr REI. MOA 7A.

Flagship 0.22G- (EPA Reg. # 100-960) 

Active Ingredient: Thiamethoxam

Labeled for ornamentals in greenhouses and nurseries. Consult label for per pot rates. Restricted use pesticide in CT, MA, MD and NY (Not labeled for use in Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY). 12 hr REI. MOA 4A.

Flagship 25WG- (EPA Reg. # 100-955) 

Active Ingredient: Thiamethoxam

2 week residual from a foliar spray at 1/4-1 tsp per gal or 2-8.5 oz per 100 gal. Drench rate 1 tsp per gal or 8.5 oz per 100 gal. Label contains directions for the soil drench volume. Very slight residue. Safe on most open blooms. Certain vegetable transplants added to the label but at foliar spray rates different than those listed above that vary by pest and crop. GGSP has produced an edible crop rate table available upon request. Restricted use pesticide in CT, MA, MD and NY. (Not labeled for use in Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY). 12 hr REI. MOA 4A.

Grandev PTO- (EPA Reg. # 84059-17-87865) 

Active Ingredient: *Chromobacterium subtsugae* Strain PRAA4-1T

Naturally occurring bacteria. Biological insecticide for use on certain edible crops. Foliar spray rate at 2.5 tsp-2.5 Tbs per gal or 1-3 lb per 100 gal. Make three applications one week apart. 0 day PHI. 4 hr REI. MOA UN. OMRI listed. 

Hachi-Hachi SC- (EPA Reg. # 71711-36-67690) 

** Not for outdoor use **

Active Ingredient: Tolfenpyrad

Improved formulation. Foliar spray rates: 1 1/3-2 tsp per gal or 21-32 fl oz per 100 gal. Label cautions against use on salvia, impatiens, gypsophila, N.G. impatiens and poinsettia bracts. Consult label for more information. Not registered in all states. 12 hr REI. MOA 21A.

Kontos- (EPA Reg. # 432-1471) 

Active Ingredient: Spirotetramat

True systemic activity that may be applied as a foliar spray at 1/2 tsp per 5 gal or 1.7 fl oz per 100 gal. The label does permit up to 1 tsp per 5 gal or 3.4 fl oz per 100 gal. Includes many vegetable transplants. It can also be drenched per the chart found on the label. GGSP also has a drench volume calculator available. Slow acting –can take 1 week from a foliar spray and 2-3 weeks from a drench. Phytotoxicity has been noted on dracaena, ferns, geraniums, orchids, palms, schefflera and verbena. Check label for plant safety warnings. 24 hr REI. 0 hr REI for drenches if label conditions are met. MOA 23.

Mainspring GNL- (EPA Reg. # 100-1543) 

Active ingredient: Cyantraniliprole

Drench rate (containers only) 1/2-3/4 tsp per gal or 8-12 fl oz per 100 gal, drench volumes per the label. REI 4 hr as a spray and 0 hr as a drench. MOA 28 Restricted use in NY.

Mallet 2F T & O- (EPA Reg. # 228-695) 

Active Ingredient: Imidacloprid

May be applied as a foliar spray at 1/2 tsp per 5 gal or 1.7 fl oz per 100 gal or. 2 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. 12 hr REI. MOA 4A. Restricted use pesticide in CT, MD and NY.

Mantra 1% G- (EPA Reg. # 228-523)

Active Ingredient: Imidacloprid

The label has rates based on pot diameter with higher rates for multiple plant containers and woody perennials. 12 hr REI. MOA 4A. Restricted use pesticide in CT, MD and NY.

Mantra 60 WSP- (EPA Reg. # 228-681) 

Active Ingredient: Imidacloprid

The label has rates based on pot diameter with higher rates for multiple plant containers and woody perennials. Water-soluble packets can be used for foliar sprays and soil treatments. 12 hr REI. MOA 4A. Restricted use pesticide in CT, MD and NY.

Marathon G- (EPA Reg. # 432-1379-59807)

Active Ingredient: Imidacloprid

The label has rates based on pot diameter with higher rates for multiple plant containers and woody perennials. May be applied to certain vegetable transplants. 12 hr REI. MOA 4A. Restricted use pesticide in CT, MD and NY.

Marathon 60 WP- (EPA Reg. # 432-1361-59087) 

Active Ingredient: Imidacloprid

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. 12 hr REI. MOA 4A. Restricted use pesticide in CT, MD and NY.

Marathon II- (EPA Reg. # 432-1369-59807) 

Active Ingredient: Imidacloprid

May be applied as a foliar spray at 1/2 tsp per 5 gal or 1.7 fl oz per 100 gal. 2 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. 12 hr REI. MOA 4A. Restricted use pesticide in CT, MD and NY.

Mycotrol ESO-(EPA Reg. # 82074-1) 

Active Ingredient: Beauveria bassiana, strain GHS

Emulsifiable suspension mycoinsecticide used on many edible crops and ornamentals in greenhouses, field, interiorscapes and commercial landscapes. Naturally occurring fungus. Foliar spray rates 1-4 tsp per gal or 16-64 oz per 100 gal. Additional surfactant is not needed. Use a minimum of three times in a row at 3-5 day intervals. May be more effective when tank mixed with Azatin O, AzaGuard, or Molt-X. 0 day PHI. 4 hr REI. MOA UN.

Mycotrol WPO- (EPA Reg. # 82074-2) 

Active Ingredient: *Beauveria bassiana*, strain GHS

Wettable powder mycoinsecticide used on many edible crops and ornamentals in greenhouses, field, interiorscapes and commercial landscapes. Naturally occurring fungus. Foliar spray rates 1-4 tsp per gal or 1/2-2 lb per 100 gal. Additional surfactant is not needed. Use a minimum of three times in a row at 3-5 day intervals. May be more effective when tank mixed with Azatin O, AzaGuard, or Molt-X. 0 day PHI. 4 hr REI. MOA UN.

Rycar- (EPA Reg. # 71711-37-67690) ** Not for outdoor use **

Active ingredient: Pyrifluquinazon

Contact and translaminar activity. Foliar spray rate- 3/4 tsp per 5 gal or 2.4 fl oz per 100 gal. Only two applications per crop. Good plant and bloom safety. REI 12. MOA 9B. Not labeled for use in NY.

Safari 20 SG- (EPA Reg. # 86203-11-59639) 

Active Ingredient: Dinotefuran

Only effective as a drench for aphids. Systemic long residual control. Drench rate: 1 1/2-2 1/4 tsp per gal or 12-18 oz per 100 gal (apply 4 oz per 6" pot). Excellent plant and bloom safety. 12 hr REI. 0 hr REI for drenches if label conditions are met. MOA 4A. Special Local Need (SLN) label for NY; consult label for use restrictions. Restricted use pesticide in CT, MA, MD and NY.

TriStar 8.5 SL- (EPA Reg. # 8033-106-1001) 

Active Ingredient: Acetamiprid

2-4 week translaminar systemic control from one foliar spray application. 1/4 tsp per gal or 4 fl oz per 100 gal. May be applied to certain vegetable transplants. Supplemental label adds drench treatment for tomatoes grown to harvest. Good plant and bloom safety with no visible residue. Exception: Caution on verbena. 1 day PHI. 12 hr REI. MOA 4A. Restricted use pesticide in MD and NY.

XXpire WG- (EPA Reg. # 62719-676) 

The EPA has cancelled the registration of XXpire as of 11/15. The manufacturer will re-submit for registration, and XXpire may become available again sometime in 2017. Growers with product on hand may continue to use it in accordance with the label.

Active ingredient: Sulfoxaflor and Spinetoram

Translaminar activity with excellent plant and bloom safety. Foliar spray rate- 1/4-1/3 tsp per gal or 2-2.75 oz fl per 100 gal. REI 12 hr. MOA 4C and 5. Not registered in NY.

Beetles

Acephate 97UP- (EPA Reg. #70506-8) 

Active Ingredient: Acephate

Foliar spray rates: 2/3 tsp per gal or 8 fl oz per 100 gal. No visible residue, but it will burn many open blooms. 24 hr REI. MOA 1B. Restricted use pesticide in NY.

Avalon Golf & Nursery- (EPA Reg. # 279-3155-72112) 

Active Ingredient: Bifenthrin

1 1/4 tsp per gal or 20 fl oz per 100 gal as a foliar spray. Good plant safety with minimal residue. 12 hr REI. MOA 3. Restricted Use Pesticide.

BotaniGard MAXX (EPA Reg. # 82074-5)

Active Ingredient: Pyrethrins and *Beauveria bassiana* strain GHA

Natural pyrethrum combined with a naturally occurring fungus. Foliar spray rates: ½-4 tsp per gal or 8-32 oz per 100 gal (higher rates on vegetables outside). Labeled for ornamentals, herbs, vegetables, in greenhouses, shadehouses, nursery, field, landscape, turf and interiorscapes. Use caution on open blooms. Check compatibility with fungicides prior to tank mix. 0 day PHI, 12 hr REI. MOA 3A/UN

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

Active Ingredient: Spinosad

Apply 1/2 tsp per gal or 8 fl oz per 100 gal as a foliar spray. Short residual control. No visible residue or bloom safety concerns. Labeled for certain outdoor edible crops. PHI varies by crop; see label. 4 hr REI. MOA 5.

CoreTect (EPA Reg. # 432-1457)

Active Ingredient: Imidacloprid

Long lasting tablets labeled for ornamental trees and in greenhouses, nurseries, landscapes and interiorscapes. Consult label for incorporation rates to containerized ornamental and at planting or treatment of in-ground ornamentals. Dependent on soil moisture to release. Do not use on Linden, basswood or other *Tilia* species. Refer to rate Table 2. 12 hr REI. MOA 4A. Restricted use in CT, MD and NY.

Decathlon 20 WP- (EPA Reg. # 59807-17)

Active Ingredient: Cyfluthrin

1/4 tsp per gal or 7 Tbls per 100 gal as a foliar spray. Contact control. Safe on open blooms and leaves no residue. 12 hr REI. MOA 3A. Restricted use pesticide in CT and NY.

Discus N/G- (EPA Reg. # 432-1393-59807)

Active Ingredient: Imidacloprid and Cyfluthrin

Labeled for greenhouses and nurseries. 2 week residual control from a foliar spray. 0.25 oz per gal or 25 fl oz per 100 gal. Drench rates per label. Excellent plant and bloom safety with no visible residue. 12 hr REI. 0 hr REI for drenches if label conditions are met. MOA 4A & 3A. Restricted use pesticide in CT, MD and NY.

Discus Tablets- (EPA Reg. # 432-1457-59807)

Active Ingredient: Imidacloprid

Long lasting tablets labeled for ornamental trees and in greenhouses, nurseries, landscapes and interiorscapes. Consult label for incorporation rates to containerized ornamental and at planting or treatment of in-ground ornamentals. Dependent on soil moisture to release. Do not use on Linden, basswood or other *Tilia* species. Refer to rate Table 2. 12 hr REI. MOA 4A. Restricted use in CT, MD and NY.

Table 2. Discus and CoreTect Tablet use Chart.

| Container | Number of Tablets |
|--|--|
| 1 gallon | 1-2 |
| 3 gallons | 2-3 |
| 5 gallons | 3-4 |
| 7 gallons | 4-5 |
| 10 gallons | 5-7 |
| Large containers, spaded, balled and burlaped and pot-in-pot ornamentals | 2-3 tablets per inch of trunk diameter or per foot of shrub height |

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

Active Ingredient: Chlorpyrifos

1 Tbls per gal or 50 fl oz per 100 gal as a foliar spray. No visible residue, it may burn some blooms. 24 hr REI. MOA 1B. Restricted use pesticide.

Entrust 22.5- (EPA Reg. # 62719-291) 

Active Ingredient: Spinosad

Apply 1 tsp per 6 gal, 3 oz per 100 gal as a foliar spray. Short residual control. No visible residue or bloom safety concerns. Labeled for ornamentals in greenhouses and outdoors and certain outdoor edible crops. PHI varies by crop; see label. 4 hr REI. MOA 5. OMRI listed.

Flagship 0.22G- (EPA Reg. # 100-960) 

Active Ingredient: Thiamethoxam

Labeled for ornamentals in greenhouses and nurseries. Consult label for per pot rates. Restricted use pesticide in CT, MA, MD and NY (Not labeled for use in Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY). 12 hr REI. MOA 4A.

Flagship 25WG- (EPA Reg. # 100-955) 

Active Ingredient: Thiamethoxam

2-4 week residual from a foliar spray at 1/4-1 tsp per gal or 2-8.5 oz per 100 gal. Drench rate 1 tsp per gal or 8.5 oz per 100 gal. Label contains directions for the soil drench volume. Very slight residue. Safe on most open blooms. Certain vegetable transplants added to the label but at foliar spray rates different than those listed above that vary by pest and crop. GGSP has produced an edible crop rate table available upon request. Restricted use pesticide in CT, MA, MD and NY. (Not labeled for use in Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY). 12 hr REI. MOA 4A.

Mainspring GNL- (EPA Reg. # 100-1543) 

Active ingredient: Cyantraniliprole

Foliar spray rate- 1/4-3/4 tsp per gal or 4-12 fl oz per 100 gal. Drench rate (containers only) 1/2-3/4 tsp per gal or 8-12 fl oz per 100 gal, drench volumes per the label. REI 4 hr as a spray and 0 hr as a drench. MOA 28 Restricted use in NY.

Menace GC- (EPA Reg. # 228-458) 

Active Ingredient: Bifenthrin

1 1/4 tsp per gal or 20 fl oz per 100 gal as a foliar spray. Good plant safety with minimal residue. 12 hr REI. MOA 3. Restricted Use Pesticide.

Talstar Pro- (EPA Reg. # 279-3206) 

Active Ingredient: Bifenthrin

Not labeled for outdoor nurseries. 1 1/4 tsp per gal or 20 fl oz per 100 gal as a foliar spray. Good plant safety with minimal residue. 12 hr REI. MOA 3A. Restricted use in CT, MA, NY and VT.

TriStar 8.5 SL- (EPA Reg. # 8033-106-1001) 

Active Ingredient: Acetamiprid

2-4 week translaminar systemic control from one foliar spray application. 1/4 tsp per gal or 4 fl oz per 100 gal. May be applied to certain vegetable transplants. Good plant and bloom safety with no visible residue. Exception: Caution on verbena. 1 day PHI. 12 hr REI. MOA 4A. Restricted use pesticide in MD and NY.

Broad and Cyclamen Mites-

Abamectin SPC- (EPA Reg. # 228-657) 

Active Ingredient: Abamectin

1/4-1/2 tsp per gal or 4-8 fl oz per 100 gal as a foliar spray. Repeat in 7 days to help break life cycle. No visible residue. Safe on open blooms. 12 hr REI. MOA 6.

Ancora- (EPA Reg. # 70051-19-59807) 

Active Ingredient: *Isaria fumosoroseus* Apopka Strain 97

Naturally occurring fungus for use on ornamentals, herbs, fruits and vegetables grown in containers in greenhouses, shade houses, hydroponics and field-grown nursery stock. Foliar spray rate: 1 oz per 5 gals or 28 oz per 100 gal. Repeat applications are recommended at 3-10 day intervals depending on pest pressure. Most effective when relative humidity is 80% or higher for 8-10 hours. 4 hr REI. MOA UN. Not registered in CA, CT, KS, ME, MN, NY, UT.

Avid 0.15EC- (EPA Reg. # 100-896) 

Active Ingredient: Abamectin

1/4-1/2 tsp per gal or 4-8 fl oz per 100 gal as a foliar spray. Repeat in 7 days to help break life cycle. No visible residue. Safe on open blooms. 12 hr REI. MOA 6.

Judo- (EPA Reg. # 432-1280-59807)

Active Ingredient: Spiromesifen

Foliar spray applied at 1/8-1/4 tsp per gal or 2-4 fl oz per 100 gal. Translaminar systemic with residual activity. Do not use on bacopa, dracaena, geraniums, impatiens, or English ivy. Do not use with surfactants. Check label for additional phytotoxicity cautions. Only for use in greenhouses in NY. 12 hr REI. MOA 23.

Minx 2- (EPA Reg. # 228-736) 

Active Ingredient: Abamectin

New low volatile organic compound (VOC), water-based formula. Foliar spray rates at 1/2 tsp per gal or 8 oz per 100 gal. May burn open blooms. Do not use on ferns, citrus or Shasta daisy (*Leucanthemum*). Not registered in all states as of 10/16. 12 hr REI. MOA 6.

Pylon- (EPA Reg. # 241-374) ** Not for outdoor use ** 

Active Ingredient: Chlorfenapyr

1/3 tsp per gal or 5.2 fl oz per 100 gal 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 use on poinsettias. Do not add any surfactant. Certain fruiting greenhouse vegetables may be treated. 0 day PHI. 12 hr REI. MOA 13. Restricted use pesticide in NY.

Pylon TR- (EPA Reg. # 499-544)

Active Ingredient: Chlorfenapyr

A total release aerosol insecticide labeled for ornamentals and certain fruiting vegetables in greenhouses. Do not use on poinsettias. One can treats 3000 sq ft. 0 day PHI. 12 hr REI. MOA 13. Restricted use pesticide in NY.

Savate- (EPA Reg. # 432-1280)

Active Ingredient: Spiromesifen

Foliar spray applied at 1/8-1/4 tsp per gal or 2-4 fl oz per 100 gal. Translaminar systemic with residual activity. Do not use with surfactants. Do not use on dracaena, geraniums, impatiens, or English ivy. Check label for additional phytotoxicity cautions. Not registered in PA and NY as of 10/16. 12 hr REI. MOA 23

Sirocco- (EPA Reg. # 400-582-59807) 

Active Ingredients: Abamectin and Bifenazate

1/4 tsp per gal or 4 fl oz per 100 gal. Excellent plant safety. 12 hr REI. MOA 6 & 20.

Caterpillars

Acephate 97UP- (EPA Reg. #70506-8) 

Active Ingredient: Acephate

Foliar spray rates: 2/3 tsp per gal or 8 fl oz per 100 gal. No visible residue, but it will burn many open blooms. 24 hr REI. MOA 1B. Restricted use pesticide in NY.

Ancora- (EPA Reg. # 70051-19-59807) 

Active Ingredient: *Isaria fumosoroseus* Apopka Strain 97

Naturally occurring fungus for use on ornamentals, herbs, fruits and vegetables grown in containers in greenhouses, shade houses, hydroponics and field-grown nursery stock. Foliar spray rate: 1 oz per 5 gals or 28 oz per 100 gal. Repeat applications are recommended at 3-10 day intervals depending on pest pressure. Most effective when relative humidity is 80% or higher for 8-10 hours. May be drenched for soil dwelling caterpillars and rootworms at the same rates. Drench volumes based on pot size on the label. 4 hr REI. MOA UN. Not registered in CA, CT, KS, ME, MN, NY, UT.

BotaniGard MAXX (EPA Reg. # 82074-5) 

Active Ingredient: Pyrethrins and *Beauveria bassiana* strain GHA

Natural pyrethrum combined with a naturally occurring fungus. Foliar spray rates: 1/2-4 tsp per gal or 8-32 oz per 100 gal (higher rates on vegetables outside). Labeled for ornamentals, herbs, vegetables, in greenhouses, shadehouses, nursery, field, landscape, turf and interiorscapes. Use caution on open blooms. Check compatibility with fungicides prior to tank mix. 0 day PHI, 12 hr REI. MOA 3A/UN

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

Active Ingredient: Spinosad

Apply 1/2 tsp per gal or 8 fl oz per 100 gal as a foliar spray. Short residual control. No visible residue or bloom safety concerns. Labeled for certain outdoor edible crops. PHI varies by crop; see label. 4 hr REI. MOA 5.

CoreTect (EPA Reg. # 432-1457) 

Active Ingredient: Imidacloprid

Long lasting tablets labeled for ornamental trees and in greenhouses, nurseries, landscapes and interiorscapes. Consult label for incorporation rates to containerized ornamental and at planting or treatment of in-ground ornamentals. Dependent on soil moisture to release. Do not use on Linden, basswood or other *Tilia* species. Refer to rate Table 2. 12 hr REI. MOA 4A. Restricted use in CT, MD and NY.

Decathlon 20 WP- (EPA Reg. # 59807-17) 

Active Ingredient: Cyfluthrin

1/4 tsp per gal or 7 Tbls per 100 gal as a foliar spray. Contact control. Safe on open blooms and leaves no residue. 12 hr REI. MOA 3A. Restricted use pesticide in CT and NY.

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

Active Ingredient: *Bacillus thuringiensis kurstaki*

Naturally occurring bacteria. 2 tsp per gal or 1 lb per 100 gal as a foliar spray. Works best on immature caterpillars. Slight residue, safe on open blooms. Many edible crops are on the label. 0 day PHI. 4 hr REI. MOA 11A. OMRI listed.

Discus N/G- (EPA Reg. # 432-1393-59807) 

Active Ingredient: Imidacloprid and Cyfluthrin

Labeled for greenhouses and nurseries. 2-4 week residual control from a foliar spray. 0.25 oz per gal or 25 fl oz per 100 gal. Drench rates per label. Excellent plant and bloom safety with no visible residue. 12 hr REI. 0 hr REI for drenches if label conditions are met. MOA 4A & 3A. Restricted use pesticide in CT, MD and NY.

Discus Tablets- (EPA Reg. # 432-1457-59807) 

Active Ingredient: Imidacloprid

Long lasting tablets labeled for ornamental trees and in greenhouses, nurseries, landscapes and interiorscapes. Consult label for incorporation rates to containerized ornamentals and at planting or treatment of in-ground ornamentals. Dependent on soil moisture to release. Do not use on Linden, basswood or other *Tilia* species. Refer to rate Table 2. 12 hr REI. MOA 4A. Restricted use in CT, MD and NY.

Table 2. Discus and CoreTect Tablet use Chart.

| Container | Number of Tablets |
|--|--|
| 1 gallon | 1-2 |
| 3 gallons | 2-3 |
| 5 gallons | 3-4 |
| 7 gallons | 4-5 |
| 10 gallons | 5-7 |
| Large containers, spaded, balled and burlaped and pot-in-pot ornamentals | 2-3 tablets per inch of trunk diameter or per foot of shrub height |

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

Active Ingredient: Chlorpyrifos

1 Tbs per gal or 50 fl oz per 100 gal as a foliar spray. No visible residue, it may burn some blooms. 24 hr REI. MOA 1B. Restricted use pesticide.

Entrust 22.5- (EPA Reg. # 62719-291) 

Active Ingredient: Spinosad

Apply 1 tsp per 6 gal, 3 oz per 100 gal as a foliar spray. Short residual control. No visible residue or bloom safety concerns. Labeled for ornamentals in greenhouses and outdoors and certain outdoor edible crops. PHI varies by crop; see label. 4 hr REI. MOA 5. OMRI listed.

Grandev PTO- (EPA Reg. # 84059-17-87865) 

Active Ingredient: *Chromobacterium subtsugae* Strain PRAA4-1T

Naturally occurring bacteria. Biological insecticide for use on certain edible crops. Foliar spray rate at 2.5 tsp-2.5 Tbs per gal or 1-3 lb per 100 gal. Make three applications one week apart. 0 day PHI. 4 hr REI. MOA UN. OMRI listed.

Hachi-Hachi SC- (EPA Reg. # 71711-36-67690)  ** Not for outdoor use **

Active Ingredient: Tolfenpyrad

Improved formulation. Controls the early instar stage of the caterpillar. Foliar spray rates: 1 1/3-2 tsp per gal or 21-32 fl oz per 100 gal. Label cautions against use on salvia, impatiens, gypsophila, N.G. impatiens and poinsettia bracts. Consult label for more information. Not registered in all states. 12 hr REI. MOA 21A.

Mainspring GNL- (EPA Reg. # 100-1543) 

Active ingredient: Cyantraniliprole

Foliar spray rate- 1/4-3/4 tsp per gal or 4-12 fl oz per 100 gal. Drench rate (containers only) 1/2-3/4 tsp per gal or 8-12 fl oz per 100 gal, drench volumes per the label. REI 4 hr as a spray and 0 hr as a drench. MOA 28 Restricted use in NY.

Mycotrol ESO-(EPA Reg. # 82074-1) 

Active Ingredient: Beauveria bassiana, strain GHS

Emulsifiable suspension mycoinsecticide used on many edible crops and ornamentals in greenhouses, field, interiorscapes and commercial landscapes. Naturally occurring fungus. Foliar spray rates 1-4 tsp per gal or 16-64 oz per 100 gal. Additional surfactant is not needed. Use a minimum of three times in a row at 3-5 day intervals. May be more effective when tank mixed with Azatin O, AzaGuard, or Molt-X. 0 day PHI. 4 hr REI. MOA UN.

Mycotrol WPO- (EPA Reg. #82074-2) 

Active Ingredient: *Beauveria bassiana*, strain GHS

Wettable powder mycoinsecticide used on many edible crops and ornamentals in greenhouses, field, interiorscapes and commercial landscapes. Naturally occurring fungus. Foliar spray rates 1-4 tsp per gal or 1/2-2 lb per 100 gal. Additional surfactant is not needed. Use a minimum of three times in a row at 3-5 day intervals. May be more effective when tank mixed with Azatin O, AzaGuard, or Molt-X. 0 day PHI. 4 hr REI. MOA UN.

Overture 35 WP- (EPA Reg. # 59639-125) ** Not for outdoor use **

Active Ingredient: Pyridalyl

One 2 oz pkt per 25 gal. Label prohibits opening packets. Translaminar product with up to 2 week residual control. Slow acting; allow 6 days to evaluate full control. For use on ornamentals in greenhouses only. Excellent plant safety. 12 hr REI. MOA UN.

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

Active Ingredient: Novaluron

Insect growth regulator applied as a foliar spray at 1/2 tsp per gal or 8 fl oz per 100 gal. No visible residue, good bloom safety. Do not use on poinsettias. 12 hr REI. MOA 15.

Pyganic 5.0 Specialty- (EPA Reg. # 1021-1772) 

Active Ingredient: Pyrethrin

Foliar spray applied at 1-2 tsp per gal or 16-32 oz per 100 gal. Labeled for many vegetables and herbs. Test small numbers of plants before large scale use. 0 day PHI. 12 hr REI. MOA 3A. OMRI listed.

TriStar 8.5 SL- (EPA Reg. # 8033-106-1001) 

Active Ingredient: Acetamiprid

2-4 week translaminar systemic control from one foliar spray application. 1 tsp per gal or 16.5 fl oz per 100 gal. May be applied to certain vegetable transplants. Good plant and bloom safety with no visible residue. Exception: Caution on verbena. 1 day PHI. 12 hr REI. MOA 4A. Restricted use pesticide in MD and NY.

XXpire WG- (EPA Reg. # 62719-676)

The EPA has cancelled the registration of XXpire as of 11/15. The manufacturer will re-submit for registration, and XXpire may become available again sometime in 2017. Growers with product on hand may continue to use it in accordance with the label.

Active ingredient: Sulfoxaflor and Spinetoram

Translaminar activity with excellent plant and bloom safety. Foliar spray rate- 1/3 tsp per gal or 2.75 fl oz per 100 gal. REI 12 hr. MOA 4C and 5. Not registered in NY.

Fungus Gnats and Shoreflies-

Adept- (EPA Reg. # 400-477) ** Not for outdoor use **

Active Ingredient: Diflubenzuron

One 1-oz water-soluble packet per 2 gal 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 drench volumes that must be followed to insure safe and effective use. Treat crops and under benches. Insect growth regulator. 21 days of control. Do not use on poinsettias, reiger begonias, or hibiscus. 12 hr REI. MOA 15. Restricted use pesticide in NH, RI and VT.

Citation- (EPA Reg. #100-667)

Active Ingredient: Cyromazine

Soil drench 1/2 tsp per gal or 2.66-oz packet per 100 gal. This formulation is labeled for chemigation (injectors). Repeat at 14 day intervals to maintain control. Labeled as a soil surface spray for certain vegetable transplants. 12 hr REI. MOA 17.

Distance- (EPA Reg. # 59639-96)

Active Ingredient: Pyriproxyfen

Soil surface spray to control the larval stages of fungus gnats and shoreflies. 1/2 tsp per gal or 8 fl oz per 100 gal (poinsettias- use rate of 1/3 tsp per gal, or 6 fl oz per 100 gal). The label allows for a soil drench at 2 fl oz per 100 gal applied to wet up only the top 1-1.5" of soil. See label for special precautions when treating poinsettias. Can be used on certain fruiting vegetables. Do not use on salvia, Boston fern, schefflera, heuchera, or poinsettia bracts. 1 day PHI. 12 hr REI. MOA 7C.

Exhibitline sf-

Active Ingredient: *Steinernema feltiae*

Does not control shorefly larvae. Beneficial nematode applied to the soil as a spray or drench to control the larval stage. Repeat applications at 14-21 day intervals. 50 million per 550-1100 sq ft or 250 million per 2700-5400 sq ft. Can be used on all crops including vegetables and herbs. 0 hr REI.

Flagship 25WG- (EPA Reg. # 100-955) 

Active Ingredient: Thiamethoxam

Drench rate 1 tsp per gal or 8.5 oz per 100 gal. Label contains directions for the soil drench volume. Controls larval stage. Not labeled for shoreflies. Restricted use pesticide in CT, MA, MD and NY. (Not labeled for Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY). 12 hr REI. MOA 4A.

Fulcrum- (EPA Reg. # 59807-14)

Active ingredient: Pyriproxyfen

Foliar spray rate- 1/3- 2/3 tsp per gal or 6-12 fl oz per 100. Drench rate- 2 fl oz per 100 gal. Drench volumes per the label. Do not use on saliva, fern, schefflera, heuchera, or gardenias. See label for special instructions on poinsettias. REI 12 hr. MOA 7C.

Gnatrol WDG- (EPA Reg. # 73049-56)

Active Ingredient: *Bacillus thuringiensis israelensis*

Drench soil to control fungus gnat larvae by applying 26 oz per 100 gal to wet only the top 1-1.5 inch of soil. Can be used on certain vegetables. Three applications at 7 day intervals are needed for heavy infestations. Treat crops and under benches. Does not control shorefly larvae. 0 day PHI. 4 hr REI. MOA 11A. OMRI listed.

Millenium-

Active Ingredient: *Steinernema carpocapsae*

Beneficial nematode for the control of larval stages of shorefly. Does not control fungus gnat larvae. Rate: 250 million per 2700-5400 sq ft. Repeat at 14-21 day intervals. Can be used on all crops including vegetables and herbs. 0 hr REI.

Nemasys or Nemashield-

Active Ingredient: *Steinernema feltiae*

Does not control shorefly larvae. Beneficial nematode applied to the soil as a spray or drench to control the larval stage. Repeat applications at 14-21 day intervals. 50 million per 550-1100 sq ft or 250 million per 2700-5400 sq ft. Can be used on all crops including vegetables and herbs. 0 hr REI.

Pylon- (EPA Reg. # 241-374) ** Not for outdoor use **



Active Ingredient: Chlorfenapyr

Does not control shorefly larvae. 1/3 tsp per gal or 5.2 fl oz per 100 gal 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 use on poinsettias. Do not add any surfactant. Certain greenhouse fruiting vegetables may be treated. 0 day PHI. 12 hr REI. MOA 13. Restricted use pesticide in NY.

Safari 20 SG- (EPA Reg. # 86203-11-59639)



Active Ingredient: Dinotefuran

Only effective as a drench. 4-6 week systemic control of larval stage. Drench at 1 1/2-2 1/4 tsp per gal or 12-18 oz per 100 gal (apply 4 oz per 6" pot). Excellent plant and bloom safety. 12 hr REI; 0 hr REI for drenches if label conditions are met. MOA 4A. NY Special Local Need (SLN) label; consult label for use restrictions. Restricted use pesticide in CT, MA, MD and NY.

Sentry-

Active Ingredient: *Steinernema feltiae*

Does not control shorefly larvae. Beneficial nematode applied to the soil as a spray or drench to control the larval stage. Repeat applications at 14-21 day intervals. 25 million per 800 sq ft, 35 million per 1,100 sq ft or 50 million per 1600 sq ft. Can be used on all crops including vegetables and herbs. 0 hr REI. OMRI listed.

Leafminers

Blotch (*Amauromyza maculosa*) and Serpentine (*Chrysanthemum* leafminer; *Liriomyza trifolii*)

The Chrysanthemum leafminer is resistant to many pesticides. Consult with GGSPro for help in designing a control program.

Adult stage

Avalon Golf & Nursery- (EPA Reg. # 279-3155-72112)



Active Ingredient: Bifenthrin

1 1/4 tsp per gal or 20 fl oz per 100 gal as a foliar spray. Good plant safety with minimal residue. 12 hr REI. MOA 3. Restricted Use Pesticide.

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



Active Ingredient: Spinosad

Apply 1 1/4 tsp per gal or 22 fl oz per 100 gal as a foliar spray. No visible residue or bloom safety concerns.

Labeled for certain outdoor edible crops. PHI varies by crop; see label. 4 hr REI. MOA 5. Best tank mixed with Azatin O, AzaGuard or Molt-X.

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



Active Ingredient: Chlorpyrifos

1 Tbls per gal or 50 fl oz per 100 gal as a foliar spray. No visible residue, it may burn some blooms. 24 hr REI.

MOA 1B. Restricted Use Pesticide.

Entrust 22.5- (EPA Reg. # 62719-291)



Active Ingredient: Spinosad

Apply 1 tsp per 6 gal, 3 oz per 100 gal as a foliar spray. Short residual control. No visible residue or bloom safety concerns. Labeled for ornamentals in greenhouses and outdoors and certain outdoor edible crops. PHI varies by crop; see label. 4 hr REI. MOA 5. OMRI listed.

Menace GC- (EPA Reg. # 228-458)



Active Ingredient: Bifenthrin

1 1/4 tsp per gal or 20 fl oz per 100 gal as a foliar spray. Good plant safety with minimal residue. 12 hr REI.

MOA 3. Restricted Use Pesticide.

Talstar Pro- (EPA Reg. # 279-3206)



Active Ingredient: Bifenthrin

Not labeled for outdoor nurseries. 1 1/4 tsp per gal or 20 fl oz per 100 gal as a foliar spray. Good plant safety with minimal residue. 12 hr REI. MOA 3A. Restricted use in CT, MA, NY and VT.

Larval stage

Abamectin SPC- (EPA Reg. # 228-657)



Active Ingredient: Abamectin

Foliar spray rates: 1/2 tsp per gal or 8 fl oz per 100 gal. No visible residue. Safe on open blooms. 12 hr REI. MOA 6.

Acephate 97UP- (EPA Reg. #70506-8)



Active Ingredient: Acephate

Foliar spray rates: 2/3 tsp per gal or 8 fl oz per 100 gal. No visible residue, but it will burn many open blooms. 24 hr REI. MOA 1B. Restricted use pesticide in NY.

Ancora- (EPA Reg. # 70051-19-59807)



Active Ingredient: Isaria fumosoroseus Apopka Strain 97

Naturally occurring fungus for use on ornamentals, herbs, fruits and vegetables grown in containers in greenhouses, shade houses, hydroponics and field-grown nursery stock. Foliar spray rate: 1 oz per 5 gals or 28 oz per 100 gal. Repeat applications are recommended at 3-10 day intervals depending on pest pressure. Most effective when relative humidity is 80% or higher for 8-10 hours. 4 hr REI. MOA UN. Not registered in CA, CT, KS, ME, MN, NY, UT.

Avid 0.15EC- (EPA Reg. # 100-896) 

Active Ingredient: Abamectin

Foliar spray rates: 1/2 tsp per gal or 8 fl oz per 100 gal. No visible residue. Safe on open blooms. 12 hr REI. MOA 6.

Citation- (EPA Reg. #100-667)

Active Ingredient: Cyromazine

Foliar spray at 1/2 tsp per gal or 2.66-oz packet per 100 gal. This formulation is labeled for chemigation (injectors). Repeat at 14 day intervals to maintain control. Labeled as a soil surface spray for certain vegetable transplants. 12 hr REI. MOA 17.

CoreTect (EPA Reg. # 432-1457) 

Active Ingredient: Imidacloprid

Long lasting tablets labeled for ornamental trees and in greenhouses, nurseries, landscapes and interiorscapes. Consult label for incorporation rates to containerized ornamental and at planting or treatment of in-ground ornamentals. Dependent on soil moisture to release. Do not use on Linden, basswood or other Tilia species. Refer to rate Table 2. 12 hr REI. MOA 4A. Restricted use in CT, MD and NY.

Discus Tablets- (EPA Reg. # 432-1457-59807) 

Active Ingredient: Imidacloprid

Long lasting tablets labeled for ornamental trees and in greenhouses, nurseries, landscapes and interiorscapes. Consult label for incorporation rates to containerized ornamental and at planting or treatment of in-ground ornamentals. Dependent on soil moisture to release. Do not use on Linden, basswood or other Tilia species. Refer to rate Table 2. 12 hr REI. MOA 4A. Restricted use in CT, MD and NY.

Table 2. Discus and CoreTect Tablet use Chart.

| Container | Number of Tablets |
|--|--|
| 1 gallon | 1-2 |
| 3 gallons | 2-3 |
| 5 gallons | 3-4 |
| 7 gallons | 4-5 |
| 10 gallons | 5-7 |
| Large containers, spaded, balled and burlaped and pot-in-pot ornamentals | 2-3 tablets per inch of trunk diameter or per foot of shrub height |

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

Active Ingredient: Chlorpyrifos

1 Tbs per gal or 50 fl oz per 100 gal as a foliar spray. No visible residue. May burn some blooms. 24 hr REI. MOA 1B. Restricted use pesticide.

Flagship 0.22G- (EPA Reg. # 100-960) 

Active Ingredient: Thiamethoxam

Labeled for ornamentals in greenhouses and nurseries. Consult label for per pot rates. Restricted use pesticide in CT, MA, MD and NY. (Not labeled for Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY). 12 hr REI. MOA 4A.

Flagship 25WG- (EPA Reg. # 100-955) 

Active Ingredient: Thiamethoxam

Drench rate 1 tsp per gal or 8.5 oz per 100 gal. Label contains directions for the soil drench volume. Restricted use pesticide in CT, MA, MD and NY. (Not labeled for Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY). 12 hr REI. MOA 4A.

Kontos- (EPA Reg. # 432-1471) 

Active Ingredient: Spirotetramat

True systemic activity that may be applied as a foliar spray at 1/2 tsp per 5 gal or 1.7 fl oz per 100 gal. The label does permit up to 1 tsp per 5 gal or 3.4 fl oz per 100 gal. Includes many vegetable transplants. It can also be drenched per the chart found on the label. GGSPro also has a drench volume calculator available. Slow acting –can take 1 week from a foliar spray and 2-3 weeks from a drench. Phytotoxicity has been noted on dracaena, ferns, geraniums, orchids, palms, schefflera and verbena. Check label for plant safety warnings. MOA 23. 24 hr REI. 0 hr REI for drenches if label conditions are met.

Mainspring GNL- (EPA Reg. # 100-1543) 

Active ingredient: Cyantraniliprole

Foliar spray rate- 1/4-3/4 tsp per gal or 4-12 fl oz per 100 gal. Drench rate (containers only) 1/2-3/4 tsp per gal or 8-12 fl oz per 100 gal, drench volumes per the label. REI 4 hr as a spray and 0 hr as a drench. MOA 28 Restricted use in NY.

Minx 2- (EPA Reg. # 228-736) 

Active Ingredient: Abamectin

New low volatile organic compound (VOC), water-based formula. Foliar spray rates at 1/2 tsp per gal or 8 oz per 100 gal. May burn open blooms. Do not use on ferns, citrus or Shasta daisy (*Leucanthemum*). Not registered in all states as of 10/16. 12 hr REI. MOA 6.

Safari 20 SG- (EPA Reg. # 86203-11-59639) 

Active Ingredient: Dinotefuran

Only effective as a drench. Drench at 2 1/4 tsp per gal or 18 oz per 100 gal (apply 4 oz per 6" pot). 12 hr REI. 0 hr REI for drenches if label conditions are met. MOA 4A. NY Special Local Need (SLN) label; consult label for use restrictions. Restricted use pesticide in CT, MA, MD and NY.

TriStar 8.5 SL- (EPA Reg. # 8033-106-1001) 

Active Ingredient: Acetamiprid

Foliar spray rate: 1 1/2 tsp per gal or 25 fl oz per 100 gal. May be applied to certain vegetable transplants. Good plant and bloom safety with no visible residue. Exception: Caution on verbena. 1 day PHI. 12 hr REI. MOA 4A. Restricted use pesticide in MD and NY.

Spider Mites- (see also Broad and Cyclamen Mites)

Ancora- (EPA Reg. # 70051-19-59807) 

Active Ingredient: Isaria fumosoroseus Apopka Strain 97

Naturally occurring fungus for use on ornamentals, herbs, fruits and vegetables grown in containers in greenhouses, shade houses, hydroponics and field-grown nursery stock. Foliar spray rate: 1 oz per 5 gals or 28 oz per 100 gal. Repeat applications are recommended at 3-10 day intervals depending on pest pressure. Most effective when relative humidity is 80% or higher for 8-10 hours. 4 hr REI. MOA UN. Not registered in CA, CT, KS, ME, MN, NY, UT.

Akari 5SC- (EPA Reg. # 71711-4-67690)

Active Ingredient: Fenpyroximate

1 1/8-1 1/2 tsp per gal or 18-24 fl oz per 100 gal as a foliar spray. Labeled for greenhouse cucumbers and tomatoes. 21-28 day residual control on motile stages. No visible residue and good plant safety. 12 hr REI. MOA 21A.

Applause- (EPA Reg. # 66222-53-59807)

Active Ingredient: Clotentezine

1/8 teaspoon per gallon or 2 oz per 100 gallons as a foliar spray. Eggs and early 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. MOA 10A.

Avid 0.15EC- (EPA Reg. # 100-896) 

Active Ingredient: Abamectin

1/4-1/2 tsp per gal or 4-8 fl oz per 100 gal as a foliar spray. Repeat in 7 days to help break life cycle. No visible residue, safe on open blooms. 12 hr REI. MOA 6.

Beethoven TR- (EPA Reg. # 499-533)

Active Ingredient: Etoxazole

A total release aerosol formulation for ornamentals of a mite growth regulator. Effective against eggs and early immature stages. Bloom safety has been good but not all varieties have been tested. Treatments can be repeated at 7-10 day intervals if needed. One can per 1500-3000 sq ft. 24 hr REI. MOA 10B.

Floramite SC- (EPA Reg. # 400-508-59807) 

Active Ingredient: Bifenazate

1/2 tsp per gal or 8 fl oz per 100 gal as a foliar spray. Controls eggs and adults for up to 21 days. Safe on most open blooms. Greenhouse tomatoes 1" or larger at maturity can be treated. 3 day PHI. 12 hr REI. MOA 20.

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

Active Ingredient: Hexythiazox

1/4 tsp per gal or 2 oz per 100 gal 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. MOA 10A.

Restricted use pesticide in NY.

Judo- (EPA Reg. # 432-1280-59807)

Active Ingredient: Spiromesifen

Foliar spray applied at 1/8-1/4 tsp per gal or 2-4 fl oz per 100 gal. Translaminar systemic with residual activity. Do not use on bacopa, dracaena, geraniums, impatiens, or English ivy. Do not use with surfactants. Check label for additional phytotoxicity cautions. Only for use in greenhouses in NY. 12 hr REI. MOA 23.

Kontos- (EPA Reg. # 432-1471) 

Active Ingredient: Spirotetramat

Kontos can be drenched per the chart found on the label. GGSPRO also has a drench volume calculator available. Phytotoxicity has been noted on dracaena, ferns, geraniums, orchids, palms, schefflera and verbena. Check label for a list of all the plant safety warnings. Many edible crops are on the label. Slow acting -can take 2-3 weeks from a drench. Most effective on young actively growing plants. 0 hr REI for drenches if label conditions are met. MOA 23.

Minx 2- (EPA Reg. # 228-736) 

Active Ingredient: Abamectin

New low volatile organic compound (VOC), water-based formula. Foliar spray rates at 1/2 tsp per gal or 8 oz per 100 gal. May burn open blooms. Do not use on ferns, citrus or Shasta daisy (*Leucanthemum*). Not registered in all states as of 10/16. 12 hr REI. MOA 6.

Pylon- (EPA Reg. # 241-374) ** Not for outdoor use ** 

Active Ingredient: Chlorfenapyr

1/3 tsp per gal or 5.2 fl oz per 100 gal 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 use on poinsettias. Do not add any surfactant. Certain fruiting greenhouse vegetables may be treated. 0 day PHI. 12 hr REI. MOA 13. Restricted use pesticide in NY.

Pylon TR- (EPA Reg. # 499-544)

Active Ingredient: Chlorfenapyr

A total release translaminar and contact aerosol insecticide for ornamentals and certain fruiting vegetables in greenhouses. Do not use on poinsettias. One can treats 3000 sq ft. MOA 13. 0 day PHI. 12 hr REI. Restricted use pesticide in NY.

Sanmite- (EPA Reg. # 81880-5-10163) 

Active Ingredient: Pyridaben

3/4 tsp per gal or one 1-oz water-soluble packet per 25 gal as a foliar spray for mites. No residue, safe on most blooms. Label prohibits use through low volume equipment. 12 hr REI. MOA 21A.

Savate- (EPA Reg. # 432-1280)

Active Ingredient: Spiromesifen

Foliar spray applied at 1/8-1/4 tsp per gal or 2-4 fl oz per 100 gal. Translaminar systemic with residual activity. Do not use with surfactants. Do not use on dracaena, geraniums, impatiens, or English ivy. Check label for additional phytotoxicity cautions. Not registered in PA and NY as of 10/16. 12 hr REI. MOA 23.

Shuttle O- (EPA Reg. # 66330-38-59807)

Active Ingredient: Acequinocyl

Combines a quick knockdown and long residual control. Shows activity against all life stages of susceptible mites. Labeled for ornamentals and greenhouse tomatoes. Foliar spray rates are 3/4 tsp per gal or 12.8 fl oz per 100 gal. Use only the lowest rates on impatiens and roses. Do not use on miniature roses. 1 day PHI. 12 hr REI. MOA 20B.

Sirocco- (EPA Reg. # 400-582-59807) 

Active Ingredients: Abamectin, Bifenazate

1/4 tsp per gal or 4 fl oz per 100 gal. Excellent plant safety. 12 hr REI. MOA 6 & 20.

SuffOil-X- (EPA Reg. # 48813-1-68539)

Active Ingredient: Horticultural oil

1.25 fl oz per gal or 1 gal per 100 gal 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° F to avoid phytotoxicity. Labeled for many vegetables. Leaves a shiny residue behind and burns some open blooms. 0 day PHI. 4 hr REI. MOA UN. OMRI listed.

Sultan- (EPA Reg. # 7969-337)

Active ingredient: Cyflumetofen

Contact activity and rapid knockdown of all life stages of spider mites. Excellent plant and bloom safety with no visible residue. Do not tank mix this with other products other than CapSil. Foliar spray rate- 3/4 tsp per gal or 13.7 fl oz per 100 gal. REI 12 hr. MOA 25.

TetraSan 5 WDG- (EPA Reg. # 59639-108)

Active Ingredient: Etoxazole

One 2-oz water-soluble packet per 12.5-25 gal 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. Supplemental label allows use on greenhouse tomatoes. 1 day PHI. 12 hr REI. MOA 10B. Restricted use pesticide in NY.

Ultra-Pure Oil- (EPA Reg. # 69526-5-499)

Active Ingredient: Horticultural oil

1.25 fl oz per gal or 1 gal per 100 gal 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 F to avoid phytotoxicity. Keep agitated as it wants to separate. Labeled for some vegetables. Leaves a shiny residue behind and burns some open blooms. 0 day PHI. 4 hr REI. MOA UN.

Scale and Mealybugs

Acephate 97UP- (EPA Reg. # 70506-8) 

Active Ingredient: Acephate

Foliar spray rates: 1 tsp per gal or 12 fl oz per 100 gal. No visible residue, but it will burn many open blooms. 24 hr REI. MOA 1B. Restricted use pesticide in NY.

Ancora- (EPA Reg. # 70051-19-59807) 

Active Ingredient: *Isaria fumosoroseus* Apopka Strain 97

Naturally occurring fungus for use on ornamentals, herbs, fruits and vegetables grown in containers in greenhouses, shade houses, hydroponics and field-grown nursery stock. Foliar spray rate: 1 oz per 5 gals or 28 oz per 100 gal. Repeat applications are recommended at 3-10 day intervals depending on pest pressure. Most effective when relative humidity is 80% or higher for 8-10 hours. 4 hr REI. MOA UN. Not registered in CA, CT, KS, ME, MN, NY, UT.

Benefit 60 WP- (EPA Reg. # 42750-153-58185) 

Active Ingredient: Imidacloprid

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. 12 hr REI. MOA 4A. Restricted use pesticide in CT, MD and NY.

Discus N/G- (EPA Reg. # 432-1393-59807) 

Active Ingredient: Imidacloprid and Cyfluthrin

Labeled for greenhouses. 2 week residual control from a foliar spray. 0.25 oz per gal or 25 fl oz per 100 gal. Drench rates per label. Excellent plant and bloom safety with no visible residue. 12 hr REI, 0 hr REI for drenches if label conditions are met. MOA 4A & 3A. Restricted use pesticide in CT, MD and NY.

Distance- (EPA Reg. # 59639-96)

Active Ingredient: Pyriproxyfen

Insect growth regulator applied as a foliar spray. Make 2 applications 14-21 days apart. 2/3 tsp per gal or 12 fl oz per 100 gal. May burn some open blooms, no visible residue. Can be used on certain fruiting vegetables. Do not use on salvia, Boston fern, schefflera, heuchera, or poinsettia bracts. 1 day PHI. 12 hr REI. MOA 7C.

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

Active Ingredient: Chlorpyrifos

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

Flagship 0.22G- (EPA Reg. # 100-960) 

Active Ingredient: Thiamethoxam

Labeled for ornamentals in greenhouses and nurseries. Consult label for per pot rates. Restricted use pesticide in CT, MA, MD and NY. (Not labeled for Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY.) 12 hr REI. MOA 4A.

Flagship 25WG- (EPA Reg. # 100-955) 

Active Ingredient: Thiamethoxam

2 week residual from a foliar spray at 1 tsp per gal or 8.5 oz per 100 gal. Drench rate 8.5 oz per 100 gal. Label contains directions for the soil drench volume. Very slight residue, safe on most open blooms. Certain vegetable transplants added to the label but at foliar spray rates different than those listed above that vary by pest and crop. GGSPro has produced an edible crop rate table available upon request. Restricted use pesticide in CT, MA, MD and NY. (Not labeled for Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY). 12 hr REI. MOA 4A.

Fulcrum- (EPA Reg. # 59807-14)

Active ingredient: Pyriproxyfen

Foliar spray rate- 2/3 tsp per gal or 12 fl oz per 100. Do not use on saliva, fern, schefflera, heuchera, or gardenias. Do not apply to poinsettia bracts. REI 12 hr. MOA 7C.

Hachi-Hachi SC- (EPA Reg. # 71711-36-67690) 

** Not for outdoor use **

Active Ingredient: Tolfenpyrad

Improved formulation. Foliar spray rates: 1 1/3-2 tsp per gal or 21-32 fl oz per 100 gal. Label cautions against use on salvia, impatiens, gypsophila, N.G. impatiens and poinsettia bracts. Consult label for more information. Not registered in all states. 12 hr REI. MOA 21A.

Kontos- (EPA Reg. # 432-1471) 

Active Ingredient: Spirotetramat

True systemic activity that may be applied as a foliar spray at 1/2 tsp per 5 gal or 1.7 fl oz per 100 gal. The label does permit up to 1 tsp per 5 gal or 3.4 fl oz per 100 gal. Includes many vegetable transplants. It can also be drenched per the chart found on the label. GGSPro also has a drench volume calculator available. Slow acting –can take 1 week from a foliar spray and 2-3 weeks from a drench. Phytotoxicity has been noted on dracaena, ferns, geraniums, orchids, palms, schefflera and verbena. Check label for plant safety warnings. 24 hr REI. 0 hr REI for drenches if label conditions are met. MOA 23.

Mallet 2F T & O- (EPA Reg. # 228-695)

Active Ingredient: Imidacloprid. May be applied as a foliar spray at 1/2 tsp per 5 gal or 1.7 fl oz per 100 gal. 2 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. 12 hr REI. MOA 4A. Restricted use pesticide in CT, MD and NY.

Marathon II- (EPA Reg. # 432-1369-59807)

Active Ingredient: Imidacloprid

May be applied as a foliar spray at 1/2 tsp per 5 gal or 1.7 fl oz per 100 gal. 2 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. 12 hr REI. MOA 4A. Restricted use pesticide in CT, MD and NY.

Safari 20 SG- (EPA Reg. # 86203-11-59639)

Active Ingredient: Dinotefuran

Systemic long residual control. Foliar sprays at 1 tsp per gal or 8 oz per 100 gal, drench at 2 1/4 tsp per gal or 18 oz per 100 gal (apply 4 oz per 6" pot). Excellent plant and bloom safety. Many edible crops are on the label for foliar spray treatments only. 12 hr REI; 0 hr REI for drenches if label conditions are met. MOA 4A. Special Local Need (SLN) label for NY; consult label for use restrictions. Restricted use pesticide in CT, MA, MD and NY.

SuffOil-X- (EPA Reg. # 48813-1-68539)

Active Ingredient: Horticultural oil

1.25 fl oz per gal or 1 gal per 100 gal 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° F to avoid phytotoxicity. Labeled for many vegetables. Leaves a shiny residue behind and burns some open blooms. 0 day PHI. 4 hr REI. MOA UN. OMRI listed. 

Talus 70 DF- (EPA Reg. # 71711-21-67690)

Active Ingredient: Buprofezin

Insect growth regulator with 2-3 week residual control from one foliar application. 2 1/8 tsp per gal or 9 oz per 100 gal. Excellent plant and bloom safety. May be used on greenhouse tomatoes. 1 day PHI. 12 hr REI. MOA 16. Restricted use pesticide in NY. Prohibited use in Nassau and Suffolk counties, NY.

TriStar 8.5 SL- (EPA Reg. # 8033-106-1001)

Active Ingredient: Acetamiprid

2-4 week translaminar systemic control from one foliar spray application. 1 tsp per gal or 16.5 fl oz per 100 gal. May be applied to certain vegetable transplants. Good plant and bloom safety with no visible residue. Exception: Caution on verbena. 1 day PHI. 12 hr REI. MOA 4A. Restricted use pesticide in MD and NY.

Ultra-Pure Oil- (EPA Reg. # 69526-5-499)

Active Ingredient: Horticultural oil

1.25 fl oz per gal or 1 gal per 100 gal 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 F to avoid phytotoxicity. Keep agitated as it wants to separate. Labeled for some vegetables. Leaves a shiny residue behind and burns some open blooms. 0 day PHI. 4 hr REI. MOA UN.

Thrips

Abamectin SPC- (EPA Reg. # 228-657) 

Active Ingredient: Abamectin

1/2 tsp per gal or 8 fl oz per 100 gal applied as a foliar spray. Tank mixing with Azatin O, AzaGuard or Molt-X may increase control. Safe on open blooms and no visible residue. 12 hr REI. MOA 6.

Ancora- (EPA Reg. # 70051-19-59807) 

Active Ingredient: Isaria fumosoroseus Apopka Strain 97

Naturally occurring fungus for use on ornamentals, herbs, fruits and vegetables grown in containers in greenhouses, shade houses, hydroponics and field-grown nursery stock. Foliar spray rate: 1 oz per 5 gals or 28 oz per 100 gal. Repeat applications are recommended at 3-10 day intervals depending on pest pressure. Most effective when relative humidity is 80% or higher for 8-10 hours. May be drenched for thrips pupae at the same rates. Drench volumes based on pot size on the label. 4 hr REI. MOA UN. Not registered in CA, CT, KS, ME, MN, NY, UT.

Aria- (EPA Reg. # 279-3287)

Active Ingredient: Flonicamid

Suppression of thrips - Foliar sprays at 1/2 tsp per 3 gal or 2.9 oz per 100 gal or. Translaminar action and 7-14 day residual. Insects stop feeding quickly but may take several days to die. Certain pansy cultivars have shown sensitivity. 12 hr REI. MOA 29. Restricted use pesticide in NY.

Avid 0.15EC- (EPA Reg. # 100-896) 

Active Ingredient: Abamectin

1/2 tsp per gal or 8 fl oz per 100 gal applied as a foliar spray. Tank mixing with Azatin O, AzaGuard or Molt-X may increase control. Safe on open blooms and no visible residue. 12 hr REI. MOA 6.

AzaGuard- (EPA Reg. # 70299-17)

Active Ingredient: Azadirachtin

Botanical (neem) insect growth regulator. 1/2-1 tsp per gal or 8-16 fl oz per 100 gal applied as a foliar spray. Labeled for edible crops. Excellent plant safety. For heavy infestations or dense foliage use the maximum rates. For tank mixing use the lowest rates. 0 day PHI. 4 hr REI. MOA UN. OMRI Listed.

Azatin O- (EPA Reg. # 70051-9-59807)

Active Ingredient: Azadirachtin

Botanical (neem) insect growth regulator. 2/3 tsp per gal or 10.66 fl oz per 100 gal applied as a foliar spray. Labeled for edible crops. No residue and safe on most blooms. 4 hr REI. 0 day PHI. MOA UN. OMRI listed.

BotaniGard ES- (EPA Reg. # 82074-1) 

Active Ingredient: *Beauveria bassiana* strain GHA

2-4 tsp. per gal or 32-64 fl oz per 100 gal as a foliar spray. Naturally occurring fungus. Use a minimum of three times in a row at 3-5 day intervals. Labeled for herb and vegetables. May damage tomato foliage. Very little visible residue but burns some open blooms. More effective when tank mixed with AzaGuard, Azatin O, Molt-X, or horticultural oil. 4 hr REI. 0 day PHI. MOA UN.

BotaniGard WP- (EPA Reg. # 82074-2) 

Active ingredient: *Beauveria bassiana* strain GHA

Naturally occurring fungus for use on ornamentals herb and vegetable crops in greenhouses and outdoor production. Greater safety for biological control agents than the ES formulation. Foliar spray rates: 2-4 tsp per gal or 1-2 lb per 100 gal. More effective when tank mixed with AzaGuard, Azatin O, Molt-X, or horticultural oil. 0 day PHI. 4 hr REI. MOA UN.

BotaniGard MAXX (EPA Reg. # 82074-5) 

Active Ingredient: Pyrethrins and *Beauveria bassiana* strain GHA

Natural pyrethrum combined with a naturally occurring fungus. Foliar spray rates: ½-4 tsp per gal or 8-32 oz per 100 gal (higher rates on vegetables outside). Labeled for ornamentals, herbs, vegetables, in greenhouses, shadehouses, nursery, field, landscape, turf and interiorscapes. Use caution on open blooms. Check compatibility with fungicides prior to tank mix. 0 day PHI, 12 hr REI. MOA 3A/UN.

Exhibitline-

Active Ingredient: *Steinernema feltiae*

beneficial nematode applied to the soil as a spray or drench to control the thrips pupal stage. Repeat applications at 14-21 day intervals. 50 million per 550-1100 sq ft or 250 million per 2700-5400 sq ft. Can be used on all crops including vegetables and herbs. 0 hr REI.

Grandevio PTO- (EPA Reg. # 84059-17-87865) 

Active Ingredient: *Chromobacterium subtsugae* Strain PRAA4-1T

Naturally occurring bacteria. Biological insecticide for use on certain edible crops. Foliar spray rate at 2.5 tsp-2.5 Tbls per gal or 1-3 lb per 100 gal. Make three applications one week apart. 0 day PHI. 4 hr REI. MOA UN. OMRI listed.

Hachi-Hachi SC- (EPA Reg. # 71711-36-67690) 

** Not for outdoor use **

Active Ingredient: Tolfenpyrad

Improved formulation. Foliar spray rates: 1 1/3-2 tsp per gal or 21-32 fl oz per 100 gal. Label cautions against use on salvia, impatiens, gypsophila, N.G. impatiens and poinsettia bracts. Consult label for more information. Not registered in all states. 12 hr REI. MOA 21A.

Kontos- (EPA Reg. # 432-1471) 

Active Ingredient: Spirotetramat

More effective vs thrips when drenched. Drench chart found on the label. GGSPRO also has a drench volume calculator available. Slow acting – can take 2-3 weeks from a drench. Phytotoxicity has been noted on dracaena, ferns, geraniums, orchids, palms, schefflera and verbena. Check label for plant safety warnings. 24 hr REI. 0 hr REI for drenches if label conditions are met. MOA 23.

Mainspring GNL- (EPA Reg. # 100-1543) 

Active ingredient: Cyantraniliprole

Foliar spray rate- 1/4-3/4 tsp per gal or 4-12 fl oz per 100 gal. Drench rate (containers only) 1/2-3/4 tsp per gal or 8-12 fl oz per 100 gal, drench volumes per the label. REI 4 hr as a spray and 0 hr as a drench. MOA 28 Restricted use in NY.

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

Active Ingredient: Methiocarb

Foliar spray at 1 Tbls per gal or 1 lb per 100 gal. Leaves a residue, but it is safe on many open blooms. Label indicates it must be applied through conventional spray equipment. Only two applications at least 10 days apart may be made per crop cycle. 24 hr REI. MOA 1A. Restricted use pesticide.

Minx 2- (EPA Reg. # 228-736)

Active Ingredient: Abamectin

New low volatile organic compound (VOC), water-based formula. Foliar spray rates at 1/2 tsp per gal or 8 oz per 100 gal. May burn open blooms. Do not use on ferns, citrus or Shasta daisy (*Leucanthemum*). Not registered in all states as of 10/16. 12 hr REI. MOA 6.

Molt-X- (EPA Reg. # 68539-11)

Active Ingredient: Azadirachtin

Botanical (neem) insect growth regulator. Foliar spray rates: 1/2-1 tsp per gal or 8-16 fl oz per 100 gal. Use lower rate when tank mixing. Labeled for edible crops. Excellent plant safety. For heavy infestations or dense foliage use the maximum rates. For tank mixing use the lowest rates. 0 day PHI. 4 hr REI. MOA UN. OMRI listed.

Mycotrol ESO-(EPA Reg. # 82074-1)

Active Ingredient: Beauveria bassiana, strain GHS

Emulsifiable suspension mycoinsecticide used on many edible crops and ornamentals in greenhouses, field, interiorscapes and commercial landscapes. Naturally occurring fungus. Foliar spray rates 1-4 tsp per gal or 16-64 oz per 100 gal. Additional surfactant is not needed. Use a minimum of three times in a row at 3-5 day intervals. May be more effective when tank mixed with Azatin O, AzaGuard, or Molt-X. 0 day PHI. 4 hr REI. MOA UN.

Mycotrol WPO- (EPA Reg. # 82074-2)

Active Ingredient: *Beauveria bassiana*, strain GHS

Wettable powder mycoinsecticide used on many edible crops and ornamentals in greenhouses, field, interiorscapes and commercial landscapes. Naturally occurring fungus. Foliar spray rates 1-4 tsp per gal or ½-2 lb per 100 gal. Additional surfactant is not needed. Use a minimum of three times in a row at 3-5 day intervals. May be more effective when tank mixed with Azatin O, AzaGuard, or Molt-X. 0 day PHI. 4 hr REI. MOA UN.

Nemasys or Nemashield-

Active Ingredient: *Steinerinema feltiae*

Research and grower reports indicate that beneficial nematodes applied to the soil as a soil surface spray or drench at 50 M per 1100 sq ft helps to control the thrips pupal stage. Can be used on all crops including vegetables and herbs. No REI required.

Overture 35 WP- (EPA Reg. # 59639-125) ** Not for outdoor use **

Active Ingredient: Pyridalyl

One 2 oz pkt per 25 gal. Label prohibits opening packets. Translaminar product with up to 2 week residual control. Slow acting; allow 6 days to evaluate full control. For use on ornamentals in greenhouses only. Excellent plant safety. 12 hr REI. MOA UN.

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

Active Ingredient: Novaluron

Insect growth regulator applied at 1/2 tsp per gal or 8 fl oz per 100 gal. No visible residue and good bloom safety. Do not use on poinsettias. 12 hr REI. MOA 15.

Pylon- (EPA Reg. # 241-374) ** Not for outdoor use **



Active Ingredient: Chlorfenapyr

1/3 tsp per gal or 5.2 fl oz per 100 gal applied as a foliar spray. 7 day residual control. No visible residue but may burn some open blooms. Read phytotoxicity cautions on the label. Do not use on poinsettias. Ornamentals and certain greenhouse fruiting vegetables may be treated. Do not use with a surfactant. 0 day PHI. 12 hr REI. MOA 13. Restricted use pesticide in NY.

Pylon TR- (EPA Reg. # 499-544)

Active Ingredient: Chlorfenapyr

A total release translaminar and contact aerosol insecticide for ornamentals and certain fruiting vegetables in greenhouses. Do not use on poinsettias. One can treats 3000 sq ft. 0 day PHI. 12 hr REI. MOA 13. Restricted use pesticide in NY.

Sentry-

Active Ingredient: *Steinernema feltiae*

beneficial nematode applied to the soil as a spray or drench to control the thrips pupal stage. Repeat applications at 14-21 day intervals. 25 million per 800 sq ft, 35 million per 1,100 sq ft or 50 million per 1600 sq ft. Can be used on all crops including vegetables and herbs. 0 hr REI. OMRI listed.

TriStar 8.5 SL- (EPA Reg. # 8033-106-1001)



Active Ingredient: Acetamiprid

Foliar spray rate 1 1/2 tsp per gal or 25 fl oz per 100 gal. May be applied to certain vegetable transplants. Supplemental label adds drench treatment for tomatoes grown to harvest. Good plant and bloom safety with no visible residue. Exception: Caution on verbena. 1 day PHI. 12 hr REI. MOA 4A. Restricted use pesticide in MD and NY.

XXpire WG- (EPA Reg. # 62719-676)



The EPA has cancelled the registration of XXpire as of 11/15. The manufacturer will re-submit for registration, and XXpire may become available again sometime in 2017. Growers with product on hand may continue to use it in accordance with the label.

Active ingredient: Sulfoxaflor and Spinetoram

Translaminar activity with excellent plant and bloom safety. Foliar spray rate- 1/3 tsp per gal or 2.75 fl oz per 100 gal. REI 12 hr. MOA 4C and 5. Not registered in NY.

Whiteflies-

Altus- (EPA Reg. # 432-1575)

Active Ingredient: Flupyradifurone

Foliar sprays at 3/4 tsp per gal or 12 oz per 100 gal. Translaminar activity effective against all life stages with 2-3 week residual. Insects stop feeding quickly but may take several days to die. Many vegetable transplants and certain vegetables grown to harvest are on the label. 4 hr REI. 12 REI in CA. MOA 4D. Not registered in NY or HI.

Aria- (EPA Reg. # 279-3287)

Active Ingredient: Flonicamid

Suppression only. Foliar sprays at 3/4 tsp per 3 gal or 4.3 oz 100 gal. Translaminar action and 7-14 day residual. Insects stop feeding quickly but may take several days to die. Best results when tank mixed with another insecticide. Certain pansy cultivars have shown sensitivity. 12 hr REI. MOA 29. Restricted use pesticide in NY.

AzaGuard- (EPA Reg. # 70299-17)

Active Ingredient: Azadirachtin

Botanical (neem) insect growth regulator. 1/2-1 tsp per gal or 8-16 fl oz per 100 gal applied as a foliar spray. Labeled for edible crops. Excellent plant safety. For heavy infestations or dense foliage use the maximum rates. For tank mixing use the lowest rates. 0 day PHI. 4 hr REI. MOA UN. OMRI Listed.

Azatin O- (EPA Reg. # 70051-9-59807)

Active Ingredient: Azadirachtin

Botanical (neem) insect growth regulator. 2/3 tsp per gal or 10.66 fl oz per 100 gal applied as foliar spray. Labeled for edible crops. No residue and safe on most blooms. 4 hr REI. 0 day PHI. MOA UN. OMRI listed.

BotaniGard ES- (EPA Reg. # 82074-1)



Active Ingredient: *Beauveria bassiana* strain GHA

2-4 tsp per gal or 32-64 fl oz per 100 gal as a foliar spray. Naturally occurring fungus. Use a minimum of three times in a row at 3-5 day intervals. Labeled for herb and vegetables. May damage tomato foliage. Do not use on poinsettia bracts. Very little visible residue but burns some open blooms. More effective when tank mixed with AzaGuard, Azatin O, Molt-X, or horticultural oil. 0 day PHI. 4 hr REI. MOA UN.

BotaniGard 22WP- (EPA Reg. # 82074-2)



Active ingredient: *Beauveria bassiana*

Naturally occurring fungus for use on ornamentals herb and vegetable crops in greenhouses and outdoor production. Naturally occurring fungus. Use a minimum of three times in a row at 3-5 day intervals. Greater safety for biological control agents and tomatoes than the ES formulation. Foliar spray rates: 2-4 tsp per gal or 2 lb per 100 gal. More effective when tank mixed with AzaGuard, Azatin O, Molt-X, or horticultural oil. 0 day PHI. 4 hr REI. MOA UN.

BotaniGard MAXX (EPA Reg. # 82074-5)



Active Ingredient: Pyrethrins and *Beauveria bassiana* strain GHA

Natural pyrethrum combined with a naturally occurring fungus. Foliar spray rates: ½-4 tsp per gal or 8-32 oz per 100 gal (higher rates on vegetables outside). Labeled for ornamentals, herbs, vegetables, in greenhouses, shadehouses, nursery, field, landscape, turf and interiorscapes. Use caution on open blooms. Check compatibility with fungicides prior to tank mix. 0 day PHI, 12 hr REI. MOA 3A/UN.

Distance- (EPA Reg. # 59639-96)

Active Ingredient: Pyriproxyfen

Insect growth regulator applied as a foliar spray. One application provides controls for up to 30 days. 1/2 tsp per gal or 8 fl oz per 100 gal. Resistance reported for the Q biotype whiteflies. May burn some open blooms. No visible residue. Can be used on certain fruiting vegetables. Do not use on salvia, Boston fern, schefflera, heuchera, or poinsettia bracts. 1 day PHI. 12 hr REI. MOA 7C.

Endeavor- (EPA Reg. # 100-913)

Active Ingredient: Pymetrozine

1-2 week residual control from one foliar spray. Use 1 water-soluble packet per 50 gal spray tank, or 1 Tbls per 5 gal. 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. MOA 9B.

Enstar AQ- (EPA Reg. # 2724-793) ** Not for outdoor use **

Active Ingredient: S-Kinoprene

Insect growth regulator used as a foliar spray: 2 tsp per gal or 32 fl oz per 100 gal. No residue but may burn some open blooms. 4 hr REI. MOA 7A.

Flagship 0.22G- (EPA Reg. # 100-960) 

Active Ingredient: Thiamethoxam

Labeled for ornamentals in greenhouses and nurseries. Consult label for per pot rates. Restricted use pesticide in CT, MA, MD and NY (Not labeled for Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY.) 12 hr REI. MOA 4A.

Flagship 25WG- (EPA Reg. # 100-955) 

Active Ingredient: Thiamethoxam

2 week residual from a foliar spray at 1 tsp per gal or 8.5 oz per 100 gal. Drench rate 8.5 oz per 100 gal. Label contains directions for the soil drench volume. Very slight residue. Safe on most open blooms. Certain vegetable transplants added to the label but at foliar spray rates different than those listed above that vary by pest and crop. GGSPro has produced an edible crop rate table available upon request. Restricted use pesticide in CT, MA, MD and NY. (Not labeled for Nassau and Suffolk County NY. Christmas tree and indoor greenhouse use only in the rest of NY). 12 hr REI. MOA 4A.

Fulcrum- (EPA Reg. # 59807-14)

Active ingredient: Pyriproxyfen

Foliar spray rate- 1/2 tsp per gal or 8 fl oz per 100. Do not use on saliva, fern, schefflera, heuchera, or gardenias. Do not apply to poinsettia bracts. The Q biotype is reported to be resistant to Fulcrum. REI 12 hr. MOA 7C.

Judo- (EPA Reg. # 432-1280-59807)

Active Ingredient: Spiromesifen

Foliar spray applied at 1/4 tsp per gal or 4 fl oz per 100 gal. Translaminar systemic with residual activity. Do not use on dracaena, geraniums, impatiens, or English ivy. Do not use with surfactants. Check label for additional phytotoxicity cautions. Only for use in greenhouses in NY. 12 hr REI. MOA 23.

Kontos- (EPA Reg. # 432-1471) 

Active Ingredient: Spirotetramat

True systemic activity that may be applied as a foliar spray at 1/2 tsp per 5 gal or 1.7 fl oz per 100 gal. The label does permit up to 1 tsp per 5 gal or 3.4 fl oz per 100 gal. Includes many vegetable transplants. It can also be drenched per the chart found on the label. GGSPro also has a drench volume calculator available. Slow acting –can take 1 week from a foliar spray and 2-3 weeks from a drench. Phytotoxicity has been noted on dracaena, ferns, geraniums, orchids, palms, schefflera and verbena. Check label for plant safety warnings. 24 hr REI. 0 hr REI for drenches if label conditions are met. MOA 23.

Molt-X- (EPA Reg. # 68539-11)

Active Ingredient: Azadirachtin

Botanical (neem) insect growth regulator. Foliar spray rates: 1/2-1 tsp per gal or 8-16 fl oz per 100 gal. Labeled for edible crops. Excellent plant safety. For heavy infestations or dense foliage use the maximum rates. For tank mixing use the lowest rates. 0 day PHI. 4 hr REI. MOA UN. OMRI listed.

Mycotrol ESO-(EPA Reg. # 82074-1) 

Active Ingredient: Beauveria bassiana, strain GHS

Emulsifiable suspension mycoinsecticide used on many edible crops and ornamentals in greenhouses, field, interiorscapes and commercial landscapes. Naturally occurring fungus. Foliar spray rates 1-4 tsp per gal or 16-64 oz per 100 gal. Additional surfactant is not needed. Use a minimum of three times in a row at 3-5 day intervals. May be more effective when tank mixed with Azatin O, AzaGuard, or Molt-X. 0 day PHI. 4 hr REI. MOA UN.

Mycotrol WPO- (EPA Reg. #82074-2) 

Active Ingredient: *Beauveria bassiana*, strain GHS

Wettable powder mycoinsecticide used on many edible crops and ornamentals in greenhouses, field, interiorscapes and commercial landscapes. Naturally occurring fungus. Foliar spray rates 1-4 tsp per gal or ½-2 lb per 100 gal. Additional surfactant is not needed. Use a minimum of three times in a row at 3-5 day intervals. May be more effective when tank mixed with Azatin O, AzaGuard, or Molt-X. 0 day PHI. 4 hr REI. MOA UN.

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

Active Ingredient: Novaluron

Insect growth regulator applied at 1/2 tsp per gal or 8 fl oz per 100 gal. No visible residue and good bloom safety. Do not use on poinsettias. 12 hr REI. MOA 15.

Rycar- (EPA Reg. # 71711-37-67690) ** Not for outdoor use **

Active ingredient: Pyrifluquinazon

Contact and translaminar activity. Foliar spray rate- 1 tsp per 5 gal or 3.2 fl oz per 100 gal. Only two applications per crop. Good plant and bloom safety. REI 12. MOA 9B. Not labeled for use in NY.

Safari 20 SG- (EPA Reg. # 86203-11-59639) 

Active Ingredient: Dinotefuran

Systemic long residual control. Foliar sprays at 1 tsp per gal or 8 oz per 100 gal, drench at 2.25 tsp per gal or 18 oz per 100 gal (apply 4 oz per 6" pot). Excellent plant and bloom safety. Many edible crops are on the label for foliar spray treatments only. 12 hr REI. 0 hr REI for drenches if label conditions are met. Special Local Need (SLN) label for NY; consult label for use restrictions. Restricted use pesticide in CT, MA, MD and NY. MOA 4A.

Sanmite- (EPA Reg. # 81880-5-10163) 

Active Ingredient: Pyridaben

Foliar spray use 1 1/8 tsp per gal or one 1-oz water-soluble packet per 16.6 gal. Contact control of adult whiteflies. Resistance reported for Q biotype whiteflies. No residue. Safe on most blooms. Label prohibits use through low volume equipment. 12 hr REI. MOA 21A.

Savate- (EPA Reg. # 432-1280)

Active Ingredient: Spiromesifen

Foliar spray applied at 1/8-1/4 tsp per gal or 2-4 fl oz per 100 gal. Translaminar systemic with residual activity. Do not use with surfactants. Do not use on dracaena, geraniums, impatiens, or English ivy. Check label for additional phytotoxicity cautions. Not registered in PA and NY as of 10/16. 12 hr REI. MOA 23.

SuffOil-X- (EPA Reg. # 48813-1-68539)

Active Ingredient: Horticultural oil

1.25 fl oz per gal or 1 gal per 100 gal 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° F to avoid phytotoxicity. Labeled for many vegetables. Leaves a shiny residue behind and burns some open blooms. 0 day PHI. 4 hr REI. MOA UN. OMRI listed.

Talus 70 DF- (EPA Reg. # 71711-21-67690)

Active Ingredient: Buprofezin

Insect growth regulator with 2-3 week residual control from one foliar application. 2 1/8 tsp per gal or 9 oz per 100 gal. Excellent plant and bloom safety. May be used on greenhouse tomatoes. 1 day PHI. 12 hr REI. MOA 16. Restricted use pesticide in NY. Prohibited use in Nassau and Suffolk counties, NY.

TriStar 8.5 SL- (EPA Reg. # 8033-106-1001) 

Active Ingredient: Acetamiprid

2 week translaminar systemic control from one foliar spray application. 1 tsp per gal or 16.5 fl oz per 100 gal. May be applied to certain vegetable transplants. Supplemental label adds drench treatment for tomatoes grown to harvest. Good plant and bloom safety with no visible residue. Exception: Caution on verbena. 1 day PHI. 12 hr REI. MOA 4A. Restricted use pesticide in MD and NY.

Ultra-Pure Oil- (EPA Reg. # 69526-5-499)

Active Ingredient: Horticultural oil

1.25 fl oz per gal or 1 gal per 100 gal 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 F to avoid phytotoxicity. Keep agitated as it wants to separate. Labeled for some vegetables. Leaves a shiny residue behind and burns some open blooms. 0 day PHI. 4 hr REI. MOA UN.

XXpire WG- (EPA Reg. # 62719-676) 

The EPA has cancelled the registration of XXpire as of 11/15. The manufacturer will re-submit for registration, and XXpire may become available again sometime in 2017. Growers with product on hand may continue to use it in accordance with the label.

Active ingredient: Sulfoxaflor and Spinetoram

Translaminar activity with excellent plant and bloom safety. Foliar spray rate- 1/3 tsp per gal or 2.75 fl oz per 100 gal. May not control Q-Biotype. REI 12 hr. MOA 4C and 5. Not registered in NY.

Fungicides and Bactericides

Bacterial Diseases

Bacterial pathogens are spread by movement of water and can become systemic in plants. They can be brought into the greenhouse on cuttings and/or seed. Cultural controls play an important part in keeping bacteria at bay. Start clean by purchasing certified disease free stock. Disinfect tools after use. Attempt to keep splashing water to a minimum. Avoid handling and pruning plants when wet, wash hands after handling disease plants, and promptly remove diseased plants from growing areas.

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 tsp per gal (8 oz per 100 gal), to increase coverage and reduce visible residue. Some product labels state that surfactants should not be added.

Agri-Mycin 17- (EPA Reg. # 55146-96)

Active Ingredient: *Streptomycin Sulfate*

½-1 tsp per gal, 8-16 oz per 100 gal = 100-200ppm. Bactericide used preventively for protection against bacterial leaf spots, blights and wilts on several edible crops. Causes phytotoxicity to crucifers. 12 hr REI. MOA 25.

Camelot O- (EPA Reg. # 67702-2-67690)

Active Ingredient: Copper Octanoate

Foliar spray rate 0.5 fl oz per gal or 50 fl oz per 100 gal. Repeat sprays every 7-10 days. 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 edible crops. More effective when tank mixed with Cease or Protect DF. 4 hr REI. 0 day PHI. MOA M1. OMRI listed.

Cease- (EPA Reg. # 264-1155-68539)

Active Ingredient: *Bacillus subtilis* QST 713 strain

Biofungicide foliar spray applied at 1.25-2.5 fl oz per gal or 1-2 gal per 100 gal. Naturally occurring bacteria. 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. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Companion- (EPA Reg. # 71065-3)

Active Ingredient: *Bacillus subtilis* GB03

Naturally occurring bacteria. 2 tsp per gal or 32 fl oz per 100 gal applied as a foliar spray. Excellent plant safety and no visible residue. Labeled for application to many edible crops. 0 day PHI. 4 hr REI. MOA 44.

KleenGrow- (EPA Reg. # 81820-2)

Active Ingredient: Didecyl dimethyl ammonium chloride

Foliar spray applied to ornamentals in greenhouses only at 1/3-3/4 tsp per gal or 6-12.5 fl oz per 100 gal. Always test new plant species for compatibility before widespread use. Never apply to foliage with fertilizer. Use the lower end of the rates for plants in bloom and sensitive plants. 48 hr REI. MOA NC.

Nordox 75 WG- (EPA Reg. # 48142-4)

Active Ingredient: Cuprous Oxide

Nursery and greenhouse crops include ornamentals and certain vegetables. Foliar spray applied as 1/3 tsp per gal or 10.66 oz per 100. Do not tank mix with Aliette, Areca or any phosphonate fungicides such as Agri-phos, Alude, or Fosphite. 0 day PHI. 12 hr REI. MOA M1. OMRI listed.

Phyton 35- (EPA Reg. # 49538-5)

Active Ingredient: Copper Sulfate Pentahydrate

Foliar spray rates: 1 1/4-3 tsp per gal or 20-50 fl oz per 100 gal. Translaminar systemic copper bactericide labeled for *Erwinia*, *Pseudomonas* and *Xanthomonas*. Labeled for use on ornamentals and many edible crops in greenhouses and nurseries. Avoid spraying when leaves will stay wet for a long time to reduce chance of phytotoxicity. Do not add surfactant. Avoid spraying within 7 days of B-Nine to avoid burning. 0 day PHI. 48 hr REI. MOA M1.

Protect DF- (EPA Reg. # 1001-77)

Active Ingredient: Mancozeb

1 Tbs per gal or 24 oz per 100 gal, leaves a visible residue but is safe on most open blooms. Most effective when tank mixed with a copper fungicide. Never use on marigolds or geraniums due to manganese toxicity. Certain vegetable transplants are on the label. 24 hr REI. MOA M3.

Regalia PTO- (EPA Reg. # 84059-3-87865)

Active Ingredient: *Reynoutria sachalinensis*

Good plant safety. A botanical fungicide that stimulates plants natural defenses. Labeled for use in greenhouses and nurseries. Foliar spray rates: 2-4 tsp per gal or 64-128 fl oz per 100 gal. 0 day PHI. 4 hr REI. MOA P5. OMRI listed.

Triathlon BA- (EPA Reg. # 58044-3-59807)

Active Ingredient: *Bacillus amyloliquefaciens* strain D747

Biofungicide foliar spray applied at 2 tsp-2 Tbs per gal or 16-96 oz per 100 gal. Naturally occurring bacteria. Good plant safety including open blooms and no visible residue. Labeled for several edible crops. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

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 1/2 tsp per gal (8 oz per 100 gal), to increase coverage and reduce visible residue. Some product labels state that surfactants should not be added.

Affirm WDG- (EPA Reg. # 68173-3-1001)

Active Ingredient: Polyoxin D zinc salt

1/2-1 tsp per gal or 4-8 oz per 100 gal applied as a foliar. Spray. Some edible crops on the label. Excellent plant safety. 4 hr REI. 0 day PHI. MOA 19.

Cease- (EPA Reg. # 264-1155-68539)

Active Ingredient: *Bacillus subtilis* QST 713 strain

Biofungicide foliar spray applied at 1.25 fl oz per gal or 1 gal per 100 gal. Naturally occurring bacteria. 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. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Chipco 26019 FLO- (EPA Reg. # 432-888)

Active Ingredient: Iprodione

Foliar spray at 2-5 tsp per gal or 32-80 fl oz per 100 gal, safe on most open blooms but does leaves some visible residue. Do not apply to *Spathiphyllum*. 12 hr REI. MOA 2. Restricted use pesticide in NY.

Concert II- (EPA Reg. # 100-1347)

Active Ingredient: Propiconazole and Chlorothalonil

Not labeled for greenhouse use. Foliar spray rate applied at 4 1/8 tsp per gal or 69 oz per 100 gal. Apply at 14-28 day intervals. Do not apply to begonias, Boston fern, geraniums, pittosporum, schefflera or Knock Out and Double Delight roses. Do not apply to bud, bloom or tender new growth. 12 hr REI. MOA 3/M5. Not registered in all states.

Companion- (EPA Reg. # 71065-3)

Active Ingredient: *Bacillus subtilis* GB03

Naturally occurring bacteria. 2 tsp per gal or 32 fl oz per 100 gal applied as a foliar spray. Excellent plant safety and no visible residue. Labeled for application to many edible crops. 0 day PHI. 4 hr REI. MOA 44.

Daconil Ultrex- (EPA Reg. # 50534-202-100)

Active ingredient: Chlorothalonil

1 Tbs per gal or 22.4 oz per 100 gal leaves some residue and burns some blooms. Preventative control. The label prohibits the use of mist blowers or high-pressure spray equipment in greenhouses. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA M5. Restricted use pesticide in MA and RI.

Daconil Weather-Stik- (EPA Reg. # 50534-209-100)

Active ingredient: Chlorothalonil

Foliar spray applied at 1 1/3 tsp per gal or 22 fl oz per 100 gal. Contains a surfactant so 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. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA M5. Restricted use pesticide in MA.

Emblem- (EPA Reg. # 228-723)

Active Ingredient: Fludioxonil

For control of diseases in ornamentals and some vegetables and herbs. Foliar spray rates: 1/4-1/2 tsp per 4 gal or 1-2 fl oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches.

Sensitivity has been reported on Coralberry Punch calibrachoa. Use restrictions: can only be used on ornamental crops in enclosed structures in Suffolk and Nassau County NY. 7 day PHI. 12 hr REI. MOA 12.

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

Active Ingredient: Chlorothalonil

Ignitable powder used @ 1 can per 1500 sq ft. (Note: previously 1 can per 1000 sq ft.) Use as a protectant when leaf and flower surfaces of labeled ornamentals are dry to insure there is no damage to plant tissue. (Never use on mature poinsettia bracts). 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. MOA M5. Restricted use pesticide. Not registered in RI.

Fame SC- (EPA Reg. # 66330-64-279)

Active Ingredient: Fluoxastrobin

Xylem and translaminar movement. Crown spray rates: 1/16-1/4 tsp per gal or 1-4 oz per 100 gal. Apply at 7-28 day intervals. Best applied prior to infection. Do not use with organo-silicon surfactants such as CapSil. 12 hr REI. MOA 11. RUP in NY. Not allowed in Nassau and Suffolk Counties.

Medallion WDG- (EPA Reg. # 100-1434)

Active Ingredient: Fludioxonil

Foliar spray rate: 1 tsp per 2.33-9.5 gal or 1-2 oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches. Sensitivity has been reported on Coralberry Punch calibrachoa. 12 hr REI. MOA 12.

Mozart TR- (EPA Reg. # 499-534)

Active Ingredient: Fludioxonil

Total release aerosol for greenhouse ornamentals. Good bloom safety. Treatments can be repeated at 7 day intervals if needed. One can per 1500-4500 sq ft. Not recommended for use on pansies. 12 hr REI. MOA 12.

Mural- (EPA Reg. # 100-1479)

Active Ingredients: Benzivdiflupyr (Solatenol) and Azoxystrobin

Foliar spray rate: $\frac{1}{4}$ - $\frac{1}{2}$ tsp per gal or 4-7 oz per 100 gal. Translaminar systemic movement. Labeled for some for vegetables at a foliar spray rate of: 1/2 tsp per 2.5-3.5 gal or 2.33-3.33 oz per 100 gal. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Injury has been observed on African violets, ferns and rex-begonias. 12 hr REI. MOA 7 & 11. Not registered NY.

Orkestra Intrinsic- (EPA Reg. # 7969-370)

Active Ingredient: Fluxapyroxad and Pyraclostrobin

Foliar spray rate: 1/2 tsp per gal or 8 oz per 100 gal. Contact and translaminar systemic movement. Additional improve plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Do not apply to wintercreeper and nine-bark. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Not registered in CT. Use restrictions in Nassau and Suffolk counties NY.

Pageant Intrinsic- (EPA Reg. # 7969-251)

Active Ingredients: Boscalid and Pyraclostrobin

Foliar spray rate: 1-1 1/2 tsp per gal or 12-18 oz per 100 gal. Supplemental label allows for use on greenhouse tomatoes grown for harvest and as vegetable transplants. Additional improved plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Do not apply to wintercreeper, nine-bark. Flower spotting has occurred on impatiens and petunias. 0 day PHI. MOA 7 & 11. 12 hr REI. Restricted use pesticide in NY.

Palladium- (EPA Reg. # 100-1328)

Active Ingredients: Cyprodinil and Fludioxonil

Contact and systemic activity as a foliar spray at: 1/2-3/4 tsp per gal or 4-6 oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays. Sensitivity has been reported on Coralberry Punch calibrachoa. 12 hr REI. MOA 9 & 12.

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

Active Ingredient: Chlorothalonil and Thiophanate-methyl

1 Tbs per gal or 1 lb per 100 gal as a foliar spray. Leaves a visible residue and burns some open blooms. Not labeled for use in foggers or mist blowers. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA 1 & M5. Restricted use pesticide in MA and NY.

Triathlon BA- (EPA Reg. #58044-3-59807)

Active Ingredient: *Bacillus amyloliquefaciens* strain D747

Biofungicide foliar spray applied at 2 tsp-2 Tbs per gal or 16-96 fl oz per 100 gal. Naturally occurring bacteria. Good plant safety including open blooms and no visible residue. Labeled for several edible crops. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Trinity TR- (EPA Reg. # 499-555)

Active Ingredient: Triticonazole

Rate: 1 can per 3,000 sq ft. Total release aerosol for greenhouse ornamentals providing broad-spectrum prevention and control of many foliar diseases. Treatments can be repeated at 7 day intervals up to 3 consecutive applications. 12 hr REI. MOA 3.

Zero-Tol 2.0- (EPA Reg. # 70299-12)

Active Ingredient: Hydrogen dioxide and Peracetic acid

0.5 fl oz per gal or 50 fl oz per 100 gal spray on young tender plants and 1.25 fl oz per gal or 128 fl oz per 100 gal spray on established plants. No visible residue and safe on most open blooms. Contact control with no residual. Labeled for many edible crops. 0 day PHI. 1 hr REI. MOA NC. OMRI listed.

Downy Mildew-

This is a very difficult disease to control. Consult the Griffin GGSPro Technical Services department for cultural practices, treatment intervals and rotation strategies.

Adorn- (EPA Reg. # 59639-141)

Active ingredient: Fluopicolide

Foliar spray or soil drench at 1/16-1/8 tsp per gal or 1-2 fl oz per 100 gal. The label requires that another fungicide labeled for the same disease be tank mixed with Adorn for all applications. Use with caution on open blooms and do not use on poinsettias. 12 hr REI. MOA 43. Restricted use pesticide in NY.

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

Active Ingredient: Aluminum Tris (O-ethyl phosphonate)

Foliar spray at 1 1/4 tsp per gal or 2.5 lb per 100 gal. Do not exceed one application per 30 days. 12 hr REI. MOA 33.

Alude- (EPA Reg. # 55146-83)

Active Ingredient: Mono & dibasic sodium, potassium & ammonium phosphites

Foliar spray at 2-4 tsp per gal or 32-64 fl oz per 100 gal. Excellent plant safety, no visible residue, trial on open blooms before use. Many edible crops are on the label. 0 day PHI. 4 hr REI. MOA 33.

Areca- (EPA Reg. # 53883-320-59807)

Active Ingredient: Aluminum Tris (O-ethyl phosphonate)

Foliar spray at 1 1/4 tsp per gal or 2.5 lb per 100 gal. Do not exceed one application per 30 days. 12 hr REI. MOA 33.

Cease- (EPA Reg. # 264-1155-68539)

Active Ingredient: *Bacillus subtilis* QST 713 strain

Biofungicide foliar spray applied at 1.25 oz per gal or 1 gal per 100 gal. Naturally occurring bacteria.

Preventative control effective for about 7 days. Good plant safety including open blooms and no visible residue. Most effective when tank mixed with MilStop. Labeled for several edible crops. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Compass O 50WDG- (EPA Reg. # 432-1371-59807)

Active Ingredient: Trifloxystrobin

1 tsp per 5 gal or 2 oz per 100 gal as a foliar spray. Long residual preventative properties. Do not use with CapSil or other organo-silicone surfactants. Leaves a slight residue and is safe on many open blooms. Do not use on petunias, violets, or N.G. Impatiens. 12 hr REI. MOA 11. Restricted use pesticide in NY.

Compass 50WG- (EPA Reg. # 432-1371)

Active Ingredient: Trifloxystrobin

1 tsp per 5 gal or 2 oz per 100 gal as a foliar spray. Long residual preventative properties. Do not use with CapSil or other organo-silicone surfactants. Leaves a slight residue and is safe on many open blooms. Do not use on petunias, violets, or N.G. Impatiens. 12 hr REI. MOA 11. Restricted use pesticide in NY.

Fame SC- (EPA Reg. # 66330-64-279)

Active Ingredient: Fluoxastrobin

Xylem and translaminar movement. Crown spray rates: 1/16-1/4 tsp per gal or 1-4 oz per 100 gal. Apply at 7-28 day intervals. Best applied prior to infection. Do not use with organo-silicon surfactants such as CapSil. Do not use on petunias, violets, or N.G. Impatiens. 12 hr REI. MOA 11. RUP in NY. Not allowed in Nassau and Suffolk Counties.

FenStop- (EPA Reg. # 432-1389)

Active Ingredient: Fenamidone

1/2 tsp per gal or 8 fl oz per 100 gal. 28 day re-application intervals. Labeled for ornamentals in greenhouses only. 12 hr REI. MOA 11. Not registered in NY.

Fosphite- (EPA Reg. # 68573-2)

Active Ingredient: Mono- and di-potassium salts of Phosphorous Acid

Foliar spray rate: 4 tsp per gal or 64 fl oz per 100 gal. Do not apply less than 20 days before or after a copper fungicide treatment to avoid copper toxicity. Many edible crops on the label. 0 day PHI. 4 hr REI. MOA 33. Restricted use pesticide in NY.

Heritage- (EPA Reg. # 100-1093)

Active ingredient: Azoxystrobin

1 tsp per 2.5 gal or 4 oz per 100 gal as a foliar spray. Most effective as a protectant. No visible residue and safe on most open blooms. Labeled for many vegetable and herb transplants. Do not use with CapSil or other silicone containing surfactants. 4 hr REI. MOA 11. Restricted use pesticide in VT. Cannot be used through ultra-low volume applicators.

Micora- (EPA Reg. # 100-1388)

Active Ingredient: Mandipropamid

Foliar spray: 1/2 tsp per gal or 8 fl oz per 100 gal. Translaminar fungicide labeled as a foliar spray for downy mildew. Labeled for many leafy and fruiting vegetables transplants. 4 hr REI. MOA 40.

MilStop- (EPA Reg. # 70870-1-68539)

Active Ingredient: Potassium bicarbonate

1 Tbs per gal or 40 oz per 100 gal 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. Leaves some residue. Caution: can cause damage on the open blooms of hydrangea and pansy. Best tank mixed with Cease. 0 day PHI. 1 hr REI. MOA NC. OMRI listed.

Mural- (EPA Reg. # 100-1479)

Active Ingredients: Benzivdiflupyr (Solatenol) and Azoxystrobin

Foliar spray rate: $\frac{1}{4}$ - $\frac{1}{2}$ tsp per gal or 4-7 oz per 100 gal. Translaminar systemic movement. Labeled for some for vegetables at a foliar spray rate of: 1/2 tsp per 2.5-3.5 gal or 2.33-3.33 oz per 100 gal. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Injury has been observed on African violets, ferns and rex-begonias. 12 hr REI. MOA 7 & 11. Not registered NY.

Nordox 75 WG- (EPA Reg. # 48142-4)

Active Ingredient: Cuprous Oxide

Nursery and greenhouse crops include ornamentals and certain vegetables. Foliar spray applied as 1/3 tsp per gal or 10.66 oz per 100. Do not tank mix with Aliette, Areca or any phosphonate fungicides such as Alude, Agri-phos or Fosphite. 0 day PHI. 12 hr REI. MOA M1. OMRI listed.

Orkestra Intrinsic- (EPA Reg. # 7969-370)

Active Ingredient: Fluxapyroxad and Pyraclostrobin

Foliar spray rate: 1/2 tsp per gal or 8 oz per 100 gal. Contact and translaminar systemic movement. Additional improve plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Do not apply to wintercreeper and nine-bark. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Not registered in CT. Use restrictions in Nassau and Suffolk counties NY.

Orvego- (EPA Reg. # 7969-301)

Active Ingredients: Ametoctradin and Dimethomorph

Foliar spray: 1 tsp per gal or 14 fl oz per 100 gal. Preventative fungicide with contact, translaminar and locally systemic activity labeled for ornamentals grown in greenhouses, container and field-grown nurseries and interiorscapes. Excellent plant safety. Not registered in NY. 12 hr REI. MOA 45 & 40.

Pageant Intrinsic- (EPA Reg. # 7969-251)

Active Ingredients: Boscalid and Pyraclostrobin

Foliar spray rate: 1-1 1/2 tsp per gal or 12-18 oz per 100 gal. Supplemental label allows for use on greenhouse grown tomato transplants. Additional improved plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Do not apply to wintercreeper, nine-bark. Flower spotting has occurred on impatiens and petunias. 0 day PHI. 12 hr REI. MOA 7 & 11. Restricted use pesticide in NY.

Protect DF- (EPA Reg. # 1001-77)

Active Ingredient: Mancozeb

1 Tbls per gal or 24 oz per 100 gal, leaves a visible residue but is safe on most open blooms. Never use on marigolds or geraniums due to manganese toxicity. Certain vegetable transplants are on the label. 24 hr REI. MOA M3.

Regalia PTO- (EPA Reg. # 84059-3-87865)

Active Ingredient: *Reynoutria sachalinensis*

Good plant safety. A botanical fungicide that stimulates plants natural defenses. Labeled for use in greenhouses and nurseries. Foliar spray rates: 2-4 tsp per gal or 64-128 fl oz per 100 gal. 0 day PHI. 4 hr REI. MOA P5. OMRI listed.

Segovis- (EPA Reg. # 100-1533)

Active Ingredient: Oxathiapiprolin

Preventative fungicide. Foliar spray rates: 1/8 to 1/2 tsp per 3.5 gal, 0.6-2.4 oz per 100 gal. Drench rates: 1/5 to 1 tsp per 5 gal, or 0.65 – 3.2 oz per 100 gal. Higher rates achieve the longest residual protection. 4 hr REI. MOA U15. Not registered NY.

Segway O- (EPA Reg. # 71512-13-59807)

Active Ingredient: Cyazofamid

For ornamentals in greenhouses, landscapes. Foliar spray 3/8–5/8 tsp. per 3 gal or 2.1-3.5 fl oz per 100 gal. 14-21 re-application interval. 12 hr REI. MOA 21. Restricted use pesticide in NY.

Stature SC- (EPA Reg. # 241-428)

Active ingredient: Dimethomorph

A locally systemic fungicide for greenhouse and outdoor grown ornamentals. Foliar spray rates: 3/4 tsp per gal or 12.25 fl oz per 100 gal. 12 hr REI. MOA 40.

Subdue Maxx- (EPA Reg. # 100-796)

Active ingredient: Mefenoxam

Foliar spray: 1/4-1/2 tsp per 10 gal or 0.5-1 fl oz per 100 gal. Must tank mix with a non-MOA 4 downy mildew fungicide and then rotate to a non-MOA 4 downy mildew fungicide for the next application. Drench application: 1 fl oz per 100 gal, only 1 drench application per crop is allowed. Some edible crops on the label. REI 48 hr for foliar sprays. 0 hr REI for drench applications if label conditions are met. MOA 4.

Triathlon BA- (EPA Reg. # 58044-3-59807)

Active Ingredient: *Bacillus amyloliquefaciens* strain D747

Biofungicide foliar spray applied at 2 tsp-2 Tbls per gal or 16-96 fl oz per 100 gal. Naturally occurring bacteria. Good plant safety including open blooms and no visible residue. Labeled for several edible crops. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Trigo- (EPA Reg. # 432-1513)

Active Ingredient: Trifloxystrobin and Triadimefon

Broad-spectrum, translaminar systemic. Foliar spray rates to ornamentals in greenhouses is 1/8-1/4 tsp per gal or 1.2-2.4 oz per 100 gal. Use the low rate in winter and the high rate in summer. Do not use more than once per month in greenhouse. Nursery rate is 3/8-1 tsp per gal or 3-9 oz per 100 gal. Do not use with organosilicone surfactants such as CapSil. Do not apply to petunia, violets and NGI. Restricted use in NY. 12 hr REI. MOA 3/11.

Fungal Leaf Spots

The most common pathogens that cause leaf spots and blights are *Alternaria*, *Botrytis* (see *Botrytis* section), *Anthracnose/Colletotrichum*, *Cercospora*, *Phyllosticta*, *Septoria* and Rust (see rust section). Controlling leaf spots can be challenging because symptoms can vary from plant to plant. Signs of a pathogen may not be visible without a hand lens or microscopic examination. It is recommended that you always acquire a lab test from your state diagnostic lab or university to confirm that there is a pathogen associated with the leaf spots or blight. Many abiotic conditions can cause similar spotting. Cultural practices that will help reduce infection include: minimizing leaf wetness and reducing humidity, improving air circulation, and removing diseased leaf debris.

| Fungicide | MOA | Alternaria | Anthracnose | Cercospora | Rust | Septoria |
|---|------|------------|-------------|------------|------|----------|
| Chipco Flo | 2 | X | | | | |
| Eagle | 3 | | X | X | X | X |
| Pageant Intrinsic, Mural, Orkestra Intrinsic | 7+11 | X | X | X | X | |
| Strike Plus, Trigo | 3+11 | X | X | X | X | X |
| Palladium | 9+12 | X | X | X | X | |
| Heritage, Fame SC | 11 | X | X | X | X | X |
| Emblem, Medallion | 12 | X | X | X | | X |
| Nordox 75 | M1 | X | X | X | | X |
| Cease, Triathlon BA | 44 | X | X | X | X | X |
| Camelot O | M1 | X | X | X | X | X |
| Phyton-35* | M1 | X | X | X | X | |
| Protect | M3 | X | X | X | X | X |
| Daconil, Spectro | M5+1 | X | X | X | X | X |
| Zerotol 2.0, X3 | NC | X | X | | X | |

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 tsp per gal (8 oz per 100 gal), to increase coverage and reduce visible residue. Some product labels state that surfactants should not be added.

Affirm WDG- (EPA Reg. # 68173-3-1001)

Active Ingredient: Polyoxin D zinc salt

1/2-1 tsp per gal or 4-8 oz per 100 gal applied as a foliar spray. Some edible crops on the label. Excellent plant safety. 4 hr REI. 0 day PHI. MOA 19.

Camelot O- (EPA Reg. # 67702-2-67690)

Active Ingredient: Copper Octanoate

Foliar spray rate 0.5 fl oz per gal or 50 fl oz per 100 gal. Repeat sprays every 7 to 10 days. 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 edible crops. 4 hr REI. 0 day PHI. MOA M1. OMRI listed.

Cease- (EPA Reg. # 264-1155-68539)

Active Ingredient: *Bacillus subtilis* QST 713 strain

Biofungicide foliar spray applied at 1.25 fl oz per gal or 1 gal per 100 gal. Naturally occurring bacteria.

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. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Chipco 26019 FLO- (EPA Reg. # 432-888)

Active Ingredient: Iprodione

Foliar spray at 2-5 tsp per gal or 32-80 fl oz per 100 gal, safe on most open blooms but does leaves some visible residue. Do not apply to *Spathiphyllum*. 12 hr REI. MOA 2. Restricted use pesticide in NY.

Companion- (EPA Reg. # 71065-3)

Active Ingredient: *Bacillus subtilis* GB03

Naturally occurring bacteria. 2 tsp per gal or 32 fl oz per 100 gal applied as a foliar spray. Excellent plant safety and no visible residue. Labeled for application to many edible crops. 0 day PHI. 4 hr REI. MOA 44.

Compass O 50WDG- (EPA Reg. # 432-1371-59807)

Active Ingredient: Trifloxystrobin

1 tsp per 5 gal or 2 oz per 100 gal as a foliar spray. Long residual preventative properties. Do not use with CapSil or other organo-silicone surfactants. Leaves a slight residue and is safe on many open blooms. Do not use on petunias, violets, or N.G. Impatiens. 12 hr REI. MOA 11. Restricted use pesticide in NY.

Compass 50WG- (EPA Reg. # 432-1371)

Active Ingredient: Trifloxystrobin

1 tsp per 5 gal or 2 oz per 100 gal as a foliar spray. Long residual preventative properties. Do not use with CapSil or other organo-silicone surfactants. Leaves a slight residue and is safe on many open blooms. Do not use on petunias, violets, or N.G. Impatiens. 12 hr REI. MOA 11. Restricted use pesticide in NY.

Concert II- (EPA Reg. #100-1347)

Active Ingredient: Propiconazole and Chlorothalonil

Not labeled for greenhouse use. Foliar spray rate applied at 4 1/8 tsp per gal or 69 oz per 100 gal. Apply at 14-28 day intervals. Do not apply to begonias, Boston fern, geraniums, pittosporum, schefflera or Knock Out and Double Delight roses. Do not apply to bud, bloom or tender new growth. 12 hr REI. MOA 3/M5. Not registered in all states.

Daconil Ultrex- (EPA Reg. # 50534-202-100)

Active ingredient: Chlorothalonil

1 Tbls per gal or 22.4 oz per 100 gal, 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. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA M5. Restricted use pesticide in MA and RI.

Daconil Weather-Stik- (EPA Reg. # 50534-209-100)

Active ingredient: Chlorothalonil

Foliar spray applied at 1 1/3 tsp per gal or 22 oz per 100 gal. 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. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA M5. Restricted use pesticide in MA.

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

Active Ingredient: Myclobutanil

Locally systemic, curative and protectant foliar fungicide applied at 1/2-3/4 tsp per gal or 8-12 fl oz per 100 gal. Good plant and bloom safety. 24 hr REI. MOA 3. Restricted use pesticide in NY with Long Island use restrictions.

Emblem- (EPA Reg. # 228-723)

Active Ingredient: Fludioxonil

For control of diseases in ornamentals and some vegetables and herbs. Foliar spray rates: 1/4-1/2 tsp per 4 gal or 1-2 fl oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches.

Sensitivity has been reported on Coralberry Punch calibrachoa. Use restrictions: can only be used on ornamental crops in enclosed structures in Suffolk and Nassau County NY. 7 day PHI. 12 hr REI. MOA 12.

Fame SC- (EPA Reg. # 66330-64-279)

Active Ingredient: Fluoxastrobin

Xylem and translaminar movement. Crown spray rates: 1/16-1/4 tsp per gal or 1-4 oz per 100 gal. Apply at 7-28 day intervals. Best applied prior to infection. Do not use with organo-silicon surfactants such as CapSil. 12 hr REI. MOA 11. RUP in NY. Not allowed in Nassau and Suffolk Counties.

Heritage- (EPA Reg. # 100-1093)

Active ingredient: Azoxystrobin

1 tsp per 2.5 gal or 4 oz per 100 gal as a foliar spray. Most effective as a protectant. No visible residue and safe on most open blooms. Labeled for many vegetable and herb transplants. Do not use with CapSil or other silicone containing surfactants. 4 hr REI. MOA 11. Restricted use pesticide in VT. Cannot be used through ultra-low volume applicators.

Medallion WDG- (EPA Reg. # 100-1434)

Active Ingredient: Fludioxonil

Foliar spray rate: 1 tsp per 2.33-9.5 gal or 1-2 oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches. Sensitivity has been reported on Coralberry Punch calibrachoa. 12 hr REI. MOA 12.

Mozart TR- (EPA Reg. # 499-534)

Active Ingredient: Fludioxonil

Total release aerosol for greenhouse ornamentals. Good bloom safety. Treatments can be repeated at 7 day intervals if needed. One can per 1500-4500 sq ft. Not recommended for use on pansies. 12 hr REI. MOA 12.

Mural- (EPA Reg. # 100-1479)

Active Ingredients: Benzivdinlupyr (Solatenol) and Azoxystrobin

Foliar spray rate: 1/4-1/2 tsp per gal or 4-7 oz per 100 gal. Translaminar systemic movement. Labeled for some for vegetables at a foliar spray rate of: 1/2 tsp per 2.5-3.5 gal or 2.33-3.33 oz per 100 gal. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Injury has been observed on African violets, ferns and rex-begonias. 12 hr REI. MOA 7 & 11. Not registered NY.

Orkestra Intrinsic- (EPA Reg. # 7969-370)

Active Ingredient: Fluxapyroxad and Pyraclostrobin

Foliar spray rate: 1/2 tsp per gal or 8 oz per 100 gal. Contact and translaminar systemic movement. Additional improve plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Do not apply to wintercreeper and nine-bark. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Not registered in CT. Use restrictions in Nassau and Suffolk counties NY.

Pageant Intrinsic- (EPA Reg. # 7969-251)

Active Ingredients: Boscalid and Pyraclostrobin

Foliar spray rate: 1/2-1 1/2 tsp per gal or 6-18 oz per 100 gal. Supplemental label allows for use on greenhouse grown tomato transplants. Additional improved plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Do not apply to wintercreeper, nine-bark. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Restricted use pesticide in NY.

Palladium- (EPA Reg. # 100-1328)

Active Ingredients: Cyprodinil and Fludioxonil

Contact and systemic activity as a foliar spray at: 1/2-3/4 tsp per gal or 4-6 oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a seedling treatment for N.G. Impatiens or impatiens.

Geraniums can be sensitive to sprays. Sensitivity has been reported on Coralberry Punch calibrachoa. 12 hr REI. MOA 9 & 12.

Phyton 35- (EPA Reg. # 49538-5)

Active Ingredient: Copper Sulfate Pentahydrate

Foliar spray rates: 1-1 3/4 tsp per gal or 15-30 fl oz per 100 gal. Translaminar systemic copper fungicide against many foliar diseases. Labeled for use on ornamentals and many edible crops in greenhouses and nurseries. Avoid spraying when leaves will stay wet for a long time to reduce chance of phytotoxicity. Do not add surfactant. Avoid spraying within 7 days of B-Nine to avoid burning. 0 day PHI. 48 hr REI. MOA M1.

Protect DF- (EPA Reg. # 1001-77)

Active Ingredient: Mancozeb

1 Tbls per gal or 24 oz per 100 gal, leaves a visible residue but is safe on most open blooms. Never use on marigolds or geraniums due to manganese toxicity. Certain vegetable transplants are on the label. 24 hr REI. MOA M3.

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

Active Ingredient: Chlorothalonil and Thiophanate-methyl

1 Tbls per gal or 2 lb per 100 gal as a foliar spray, leaves a visible residue and burns some open blooms. Not labeled for use in foggers or mist blowers. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA 1 & M5. Restricted use pesticide in MA and NY.

Terraguard SC- (EPA Reg. # 400-521)

Active Ingredient: Triflumizole

For foliar applications to ornamentals. The label allows for a one time application at the rate of 1 tsp per gal or 16 fl oz per 100 gal for initial treatment of existing infections. Thereafter use 1/2 tsp per gal or 8 fl oz per 100 gal. Some visible residue may occur. 12 hr REI. MOA 3. Restricted use pesticide in NY. Nassau and Suffolk county restrictions apply.

Triathlon BA- (EPA Reg. # 58044-3-59807)

Active Ingredient: *Bacillus amyloliquefaciens* strain D747

Biofungicide foliar spray applied at 2 tsp-2 Tbls per gal or 16-96 fl oz per 100 gal. Naturally occurring bacteria. Good plant safety including open blooms and no visible residue. Labeled for several edible crops. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Trigo- (EPA Reg. # 432-1513)

Active Ingredient: Trifloxystrobin and Triadimefon

Broad-spectrum, translaminar systemic. Foliar spray rates to ornamentals in greenhouses is 1/8-1/4 tsp per gal or 1.2-2.4 oz per 100 gal. Use the low rate in winter and the high rate in summer. Do not use more than once per month in greenhouse. Nursery rate is 3/8-1 tsp per gal or 3-9 oz per 100 gal. Do not use with organosilicone surfactants such as CapSil. Do not apply to petunia, violets and NGI. Restricted use in NY. 12 hr REI. MOA 3/11.

Trinity TR- (EPA Reg. # 499-555)

Active Ingredient: Triticonazole

Rate: 1 can per 3000 sq ft except for Cercospora, 2 cans per 3000 sq ft. Total release aerosol for greenhouse ornamentals providing broad-spectrum prevention and control of many foliar diseases. Treatments can be repeated at 7-day intervals, up to 3 consecutive applications. 12 hr REI. MOA 3.

Fusarium-

All of the following recommendations are for soil drenches. Fungicides have limited success controlling *Fusarium*, but they can be used to help protect healthy plants.

Actinovate SP- (EPA Reg. # 73314-1)

Active Ingredient: *Streptomyces lydicus*

Drench at 1/2 tsp per gal or 6 oz per 100 gal. Protectant only, apply as early in the crop cycle as possible. Typically only one application per growing season is needed. Long term crops should be retreated with a half-rate application midway through the crop. 1 hr REI. 0 hr REI if no contact with drenched surfaces. MOA NC. OMRI listed.

Cease- (EPA Reg. # 264-1155-68539)

Active Ingredient: *Bacillus subtilis* QST 713 strain

Biofungicide soil drench at 1.25-2.5 fl oz per gal or 1-2 gal per 100 gal. Naturally occurring bacteria. Labeled for ornamentals and certain edible crops. Re-application interval 21-28 days. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Chipco 26019 FLO- (EPA Reg. #432-888)

Active Ingredient: Iprodione

Foliar spray at 2-5 tsp per gal or 32-80 fl oz per 100 gal, safe on most open blooms but does leaves some visible residue. Do not apply to *Spathiphyllum*. 12 hr REI. MOA 2. Restricted use pesticide in NY.

Cleary's 3336 EG- (EPA Reg. # 1001-89)

Active ingredient: Thiophanate-methyl

Foliar spray rate: 2 tsp per gal or 24 oz per 100 gal. Drench rate: 1.5 tsp per gal or 16 oz per 100 gal. REI 12 hr. MOA 1. Restricted use pesticide in NY.

Cleary's 3336 WP and F- (EPA Reg. # 1001-63 = WP) (EPA Reg. # 1001-69 = F)

Active Ingredient: Thiophanate-Methyl

Rate for either formulation is 16 oz per 100 gal. May be repeated at 2-4 week intervals as needed. 12 hr REI. 0 hr REI for drenches if label conditions are met. MOA 1. Restricted use pesticide in NY and CT.

Companion- (EPA Reg. # 71065-3)

Active Ingredient: *Bacillus subtilis* GB03

Naturally occurring bacteria. Drench rate 1 tsp per gal or 16 fl oz per 100 gal repeated every 14-28 days.

Protectant. Compatible with most traditional fungicides. Excellent plant safety. Labeled for some edible crops.

0 day PHI. 4 hr REI.

Emblem- (EPA Reg. # 228-723)

Active Ingredient: Fludioxonil

For control of diseases in ornamentals and some vegetables and herbs. Drench rates: 1/4-1/2 tsp per 4 gal or 1-2 fl oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches. Sensitivity has been reported on Coralberry Punch calibrachoa. Use restrictions: can only be used on ornamental crops in enclosed structures in Suffolk and Nassau County NY. 7 day PHI. 12 hr REI. MOA 12.

Empress Intrinsic- (EPA Reg. # 7969-355)

Active Ingredients: Pyraclostrobin

Soil drench at 1/2 tsp per 3 gal or 3 fl oz per 100 gal. Primarily applied as a protectant and stimulates rooted plants natural defenses. Good plant safety. Do not apply to wintercreeper, nine-bark. 12 hr REI. MOA 11.

Fame G- (EPA Reg. # 66330-380-279)

Active Ingredient: Fluoxastrobin

Granular applied as a top dress or pre-incorporated into the soil. Top dress rates: 3.5-4.6 lb per 1000 sq ft. Incorporation rates: 18 oz per cu yd. Not registered in all states. 12 hr REI. MOA 11.

Fame SC- (EPA Reg. # 66330-64-279)

Active Ingredient: Fluoxastrobin

Xylem and translaminar movement. Crown spray rates: 1/16-1/4 tsp per gal or 1-4 oz per 100 gal. Apply at 7-28 day intervals. Best applied prior to infection. Do not use with organo-silicon surfactants such as CapSil. 12 hr REI. MOA 11. RUP in NY. Not allowed in Nassau and Suffolk Counties.

Heritage- (EPA Reg. # 100-1093)

Active ingredient: Azoxyastrobin

Soil drench at 0.9 oz per 100 gal. Apply 32 fl oz of solution per sq ft of surface area. Repeat at 7-28 day intervals. Protectant only. 4 hr REI. MOA 11. Restricted use pesticide in VT.

Medallion WDG- (EPA Reg. # 100-1434)

Active Ingredient: Fludioxonil

Drench rates: 1/2 tsp per gal or 2 oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches. Sensitivity has been reported on Coralberry Punch calibrachoa. May be repeated at 21-28 day intervals. 0 hr REI for drenches if label conditions are met. MOA 12.

Mural- (EPA Reg. # 100-1479)

Active Ingredients: Benzivdiflupyr (Solatenol) and Azoxystrobin

Drench rates 1/8-1/5 tsp per gal or 2-3 oz per 100 gals. Translaminar systemic movement. Labeled for some for vegetables at a foliar spray rate of: 1/2 tsp per 2.5-3.5 gal or 2.33-3.33 oz per 100 gal. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Injury has been observed on African violets, ferns and rex-begonias. 12 hr REI. MOA 7 & 11. Not registered NY.

OHP 6672 L and WSP- (EPA Reg. # 59807-5 = L) (EPA Reg. # 59807-6 = WSP)

Active Ingredient: Thiophanate-Methyl

L formulation drench rates: 1.25 tsp per gal or 20 fl oz per 100 gal or. WSP drench rates: 4.5 tsp per gal or 16 oz per 100 gal. For use on ornamentals in greenhouse or field applications. May be repeated at 2-4 week intervals as needed. 12 hr REI. MOA 1. Restricted use pesticide in CT & NY. 6672 L not labeled for use in ME.

Orkestra Intrinsic- (EPA Reg. # 7969-370)

Active Ingredient: Fluxapyroxad and Pyraclostrobin

Foliar spray rate: 1/2 tsp per gal or 8 oz per 100 gal. Contact and translaminar systemic movement. Additional improve plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Do not apply to wintercreeper and nine-bark. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Not registered in CT. Use restrictions in Nassau and Suffolk counties NY.

RootShield G- (EPA Reg. # 68539-3)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22

Incorporation rate: 1.5 lb per cu yd of soil mix. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. 0 hr REI. MOA NC. OMRI listed.

RootShield WP- (EPA Reg. # 68539-7)

Active Ingredient: *Trichoderma harzianum* Rifai strain KRL-AG2

Drench rate: 2 Tbls per 5 gal or 5 oz per 100 gal applied as early in the crop cycle as possible. Naturally occurring fungus that grows along with the roots to protect them. 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. 0 hr REI. MOA NC. OMRI listed.

RootShield Plus G- (EPA Reg. # 68539-10)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22 and *Trichoderma virens* strain G-41

Incorporation rate: 2-3.0 lb per cu yd of soil mix. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. 0 hr REI. MOA NC. OMRI listed.

RootShield Plus WP- (EPA Reg. # 68539-9)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22 and *Trichoderma virens* strain G-41

Drench rates: 1.5-2 Tbls per 5 gal or 5-8 oz per 100 gal. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. Approved for hydroponic applications. Long term crops should be retreated with a half-rate application midway through the crop. 4 hr REI. MOA NC. OMRI listed.

Transom 4.5 F and WSB- (EPA Reg. # 72112-2 = F) (EPA Reg. # 72112-1 = WSB)

Active Ingredient: Thiophanate-Methyl

4.5 F formulation drench rates: 1.25 tsp per gal or 20 fl oz per 100 gal. WSB drench rates: 3 tsp per gal or 16 oz per 100 gal. For use on ornamentals in greenhouse or field applications: May be repeated at 2-4 week intervals. 12 hr REI. 0 hr REI for drenches if label conditions are met. REI 12. MOA 1. Restricted use pesticide in CT & NY.

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 tsp per gal, (8 fl oz per 100 gal), to increase coverage and reduce visible residue. Some product labels state that surfactants should not be added.

Actinovate SP- (EPA Reg. # 73314-1)

Active Ingredient: *Streptomyces lydicus*

1 tsp per gal or 12 oz per 100 gal as a foliar spray. Has shown protectant and eradicate properties. Leaves some visible residue, safe on open blooms. 1 hr REI. MOA NC. OMRI listed.

Affirm WDG- (EPA Reg. # 68173-3-1001)

Active Ingredient: Polyoxin D zinc salt

1/2-1 tsp per gal or 4-8 oz per 100 gal applied as a foliar spray. Some edible crops on the label. Excellent plant safety. 0 day PHI. 4 hr REI. MOA 19.

Camelot O- (EPA Reg. # 67702-2-67690)

Active Ingredient: Copper Octanoate

Foliar spray rate 0.5 fl oz per gal or 50 fl oz per 100 gal. Repeat sprays every 7-10 days. 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 edible crops. 0 day PHI. 4 hr REI. MOA M1. OMRI listed.

Cease- (EPA Reg. # 264-1155-68539)

Active Ingredient: *Bacillus subtilis* QST 713 strain

Biofungicide foliar spray applied at 1.25 fl oz per gal or 1 gal per 100 gal. Naturally occurring bacteria.

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. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Companion- (EPA Reg. # 71065-3)

Active Ingredient: *Bacillus subtilis* GB03

Naturally occurring bacteria. 2 tsp per gal or 32 fl oz per 100 gal applied as a foliar spray. Excellent plant safety and no visible residue. Labeled for application to many edible crops. 0 day PHI. 4 hr REI. MOA 44.

Compass O 50WDG- (EPA Reg. # 432-1371-59807)

Active Ingredient: Trifloxystrobin

1 tsp per 5 gal or 2 oz per 100 gal as a foliar spray. Long residual preventative properties. Do not use with CapSil or other organo-silicone surfactants. Leaves a slight residue and is safe on many open blooms. Do not use on petunias, violets, or N.G. Impatiens. 12 hr REI. MOA 11. Restricted use pesticide in NY.

Compass 50WG- (EPA Reg. # 432-1371)

Active Ingredient: Trifloxystrobin

1 tsp per 5 gal or 2 oz per 100 gal as a foliar spray. Long residual preventative properties. Do not use with CapSil or other organo-silicone surfactants. Leaves a slight residue and is safe on many open blooms. Do not use on petunias, violets, or N.G. Impatiens. 12 hr REI. MOA 11. Restricted use pesticide in NY.

Concert II- (EPA Reg. # 100-1347)

Active Ingredient: Propiconazole and Chlorothalonil

Not labeled for greenhouse use. Foliar spray rate applied at 4 1/8 tsp per gal or 69 oz per 100 gal. Apply at 14-28 day intervals. Do not apply to begonias, Boston fern, geraniums, pittosporum, schefflera or Knock Out and Double Delight roses. Do not apply to bud, bloom or tender new growth. 12 hr REI. MOA 3/M5. Not registered in all states.

Daconil Ultrex- (EPA Reg. # 50534-202-100)

Active ingredient: Chlorothalonil

1 Tbls per gal or 22.4 oz per 100 gal, 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. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA M5. Restricted use pesticide in MA and RI.

Daconil Weather-Stik- (EPA Reg. # 50534-209-100)

Active ingredient: Chlorothalonil

Foliar spray applied at 1 1/3 tsp per gal or 22 fl oz per 100 gal. 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. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA M5. Restricted use pesticide in MA.

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

Active Ingredient: Myclobutanil

Locally systemic, curative and protectant foliar fungicide applied at 1/2-3/4 tsp per gal or 8-12 fl oz per 100 gal. Good plant and bloom safety. 24 hr REI. MOA 3. Restricted use pesticide in NY with Long Island use restrictions.

Fame SC- (EPA Reg. # 66330-64-279)

Active Ingredient: Fluoxastrobin

Xylem and translaminar movement. Crown spray rates: 1/16-1/4 tsp per gal or 1-4 oz per 100 gal. Apply at 7-28 day intervals. Best applied prior to infection. Do not use with organo-silicon surfactants such as CapSil. 12 hr REI. MOA 11. RUP in NY. Not allowed in Nassau and Suffolk Counties.

Heritage- (EPA Reg. # 100-1093)

Active ingredient: Azoxystrobin

1 tsp per 2.5 gal or 4 oz per 100 gal as a foliar spray. Most effective as a protectant. No visible residue and safe on most open blooms. Labeled for many vegetable and herb transplants. Do not use with CapSil or other silicone containing surfactants. 4 hr REI. MOA 11. Restricted use pesticide in VT. Cannot be used through ultra-low volume applicators.

MilStop- (EPA Reg. # 70870-1-68539)

Active Ingredient: Potassium bicarbonate

1Tbls per gal or 40 oz per 100 gal 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. Leaves some residue but has good plant safety. Caution: can cause damage on the open blooms of hydrangea and pansy. 0 day PHI. 1 hour REI. MOA NC. OMRI listed.

Mural- (EPA Reg. # 100-1479)

Active Ingredients: Benzivdiflupyr (Solatenol) and Azoxystrobin

Foliar spray rate: 1/4-1/2 tsp per gal or 4-7 oz per 100 gal. Translaminar systemic movement. Labeled for some for vegetables at a foliar spray rate of: 1/2 tsp per 2.5-3.5 gal or 2.33-3.33 oz per 100 gal. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Injury has been observed on African violets, ferns and rex-begonias. 12 hr REI. MOA 7 & 11. Not registered NY.

Nordox 75 WG- (EPA Reg. # 48142-4)

Active Ingredient: Cuprous Oxide

Nursery and greenhouse crops include ornamentals and certain vegetables. Foliar spray applied as 1/3 tsp per gal or 10.66 oz per 100. Do not tank mix with Aliette, Areca or any phosphonate fungicides such as Agri-phos, Alude, or Fosphite. 0 hr PHI. 12 hr REI. MOA M1. OMRI listed.

Orkestra Intrinsic- (EPA Reg. # 7969-370)

Active Ingredient: Fluxapyroxad and Pyraclostrobin

Foliar spray rate: 1/2 tsp per gal or 8 oz per 100 gal. Contact and translaminar systemic movement. Additional improve plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Do not apply to wintercreeper and nine-bark. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Not registered in CT. Use restrictions in Nassau and Suffolk counties NY.

Pageant Intrinsic- (EPA Reg. # 7969-251)

Active Ingredients: Boscalid and Pyraclostrobin

Foliar spray rate: 1/2-1 tsp per gal or 6-12 oz per 100 gal. Supplemental label allows for use on greenhouse grown tomato transplants. Additional improved plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Do not apply to wintercreeper, nine-bark. Flower spotting has occurred on impatiens and petunias. 0 day PHI. 12 hr REI. MOA 7 & 11. Restricted use pesticide in NY.

Palladium- (EPA Reg. # 100-1328)

Active Ingredients: Cyprodinil and Fludioxonil

Contact and systemic activity as a foliar spray at: 1/2-3/4 tsp per gal or 4-6 oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a seedling treatment for N.G. Impatiens or impatiens.

Geraniums can be sensitive to sprays. Sensitivity has been reported on Coralberry Punch calibrachoa. 12 hr REI. MOA 9 & 12.

Phyton 35- (EPA Reg. # 49538-5)

Active Ingredient: Copper Sulfate Pentahydrate

Foliar spray rates: 3/4-1 1/2 tsp per gal or 13-25 fl oz per 100 gal. Higher rates on the label for roses.

Translaminar systemic copper fungicide against many foliar diseases. Labeled for use on ornamentals and many edible crops in greenhouses and nurseries. Avoid spraying when leaves will stay wet for a long time to reduce chance of phytotoxicity. Do not add surfactant. Avoid spraying within 7 days of B-Nine to avoid burning. 0 day PHI. 48 hr REI. MOA M1.

Protect DF- (EPA Reg. # 1001-77)

Active Ingredient: Mancozeb

1 Tbs per gal or 24 oz per 100 gal, leaves a visible residue but is safe on most open blooms. Do not use on marigolds or geraniums due to manganese toxicity. Certain vegetable transplants are on the label. 24 hr REI. MOA M3.

Regalia PTO- (EPA Reg. # 84059-3-87865)

Active Ingredient: *Reynoutria sachalinensis*

Good plant safety. A botanical fungicide that stimulates plants natural defenses. Labeled for use in greenhouses and nurseries. Foliar spray rates: 2-4 tsp per gal or 64-128 fl oz per 100 gal. 0 day PHI. 4 hr REI. MOA P5. OMRI listed.

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

Active Ingredient: Chlorothalonil and Thiophanate-methyl

1 Tbs per gal or 16 oz per 100 gal as a foliar spray leaves a visible residue and burns some open blooms. Not labeled for use in foggers or mist blowers. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA 1 & M5. Restricted use pesticide in MA and NY.

Strike Plus 50 WDG- (EPA Reg. # 432-1513-59807)

Active Ingredient: Trifloxystrobin & Triadimefon

Translaminar activity. Do not use more than once per month in greenhouse. Do not use with organosilicone surfactants such as CapSil. Greenhouse foliar spray rate at 1/8-1/4 tsp per gal or 1.2-2.4 oz per 100 gal.

Outdoor nursery foliar spray rate at 3/8 - 1 tsp per gal or 3-9 oz per 100 gal. 12 hr REI. MOA 3 and 11.

Terraguard SC- (EPA Reg. # 400-521)

Active Ingredient: Triflumizole

For foliar applications to ornamentals. The label allows for a one time application at the rate of 1 tsp per gal or 16 fl oz per 100 gal for initial treatment of existing infections. Thereafter use 1/2 tsp per gal or 8 fl oz per 100 gal. Some visible residue may occur. 12 hr REI. MOA 3. Restricted use pesticide in NY. Nassau and Suffolk County restrictions apply.

Triathlon BA- (EPA Reg. # 58044-3-59807)

Active Ingredient: *Bacillus amyloliquefaciens* strain D747

Biofungicide foliar spray applied at 2 tsp-2 Tbls per gal or 16-96 oz per 100 gal. Naturally occurring bacteria. Good plant safety including open blooms and no visible residue. Labeled for several edible crops. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Trigo- (EPA Reg. # 432-1513)

Active Ingredient: Trifloxystrobin and Triadimefon

Broad-spectrum, translaminar systemic. Foliar spray rates to ornamentals in greenhouses is 1/8-1/4 tsp per gal or 1.2-2.4 oz per 100 gal. Use the low rate in winter and the high rate in summer. Do not use more than once per month in greenhouse. Nursery rate is 3/8-1 tsp per gal or 3-9 oz per 100 gal. Do not use with organosilicone surfactants such as CapSil. Do not apply to petunia, violets and NGI. Restricted use in NY. 12 hr REI. MOA 3/11.

Trinity TR- (EPA Reg. # 499-555)

Active Ingredient: Triticonazole

Rate: 1 can per 3000 sq ft. Total release aerosol for greenhouse ornamentals providing broad-spectrum prevention and control of many foliar diseases. Treatments can be repeated at 7 day intervals, up to 3 consecutive applications. 12 hr REI. MOA 3.

Zero-Tol 2.0- (EPA Reg. # 70299-12)

Active Ingredient: Hydrogen dioxide and Peracetic acid

0.5 fl oz per gal or 50 fl oz per 100 gal spray on young tender plants and 1.25 fl oz per gal or 128 fl oz per 100 gal spray on established plants. No visible residue and safe on most open blooms. Contact control with no residual. Labeled for many edible crops. 0 day PHI. 1 hr REI. MOA NC. OMRI listed.

Pythium and Phytophthora -

All recommendations are for soil drenches except as noted. Rotation by mode of action is essential due to resistance issues.

Actinovate SP- (EPA Reg. # 73314-1)

Active Ingredient: *Streptomyces lydicus*

Drench at 1/2 tsp per gal or 6 oz per 100 gal. Protectant only, apply as early in the crop cycle as possible. Typically only one application per growing season is needed. Long term crops should be retreated with a half-rate application midway through the crop. 1 hr REI. 0 if no contact with treated surfaces. MOA NC. OMRI listed.

Adorn- (EPA Reg. # 59639-141)

Active ingredient: Fluopicolide

For ornamentals in greenhouses and nurseries. Drench rate: 1/16-1/8 tsp per gal or 1-2 fl oz per 100 gal. The label requires that another fungicide labeled for the same disease be tank mixed with Adorn for all applications. Do not use on poinsettias. 12 hr REI. MOA 43. Restricted use pesticide in NY.

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

Active Ingredient: Aluminum Tris (O-ethyl phosphonate)

Drench at 3/8–¾ tsp or 6.4-12.8 oz per 100 gal. Do not exceed 1 application per 30 days. 12 hr REI. MOA 33.

Alude- (EPA Reg. # 55146-83)

Active Ingredient: Mono & dibasic sodium, potassium & ammonium phosphites

May be either applied as a foliar spray at 2-4 tsp per gal or 32-64 fl oz per 100 gal or as a soil drench at 5-10 fl oz per 100 gal. Stimulates plants natural defenses, primarily a protectant. Excellent plant safety, trial on open blooms before use as a foliar spray. Many edible crops are on the label. 0 day PHI. 4 hr REI. MOA 33.

Areca- (EPA Reg. # 53883-320-59807)

Active Ingredient: Aluminum Tris (O-ethyl phosphonate)

Drench at 3/8–¾ tsp or 6.4-12.8 oz per 100 gal. Do not exceed 1 application per 30 days. 12 hr REI. MOA 33.

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

Active Ingredient: Etridiazole and Thiophanate-methyl

1/2-1 1/2 tsp per gal, or 6-12 oz per 100 gal. Can retreat in 4 weeks if needed. Do not use on unrooted cuttings, clematis or begonia plugs. 12 hr REI. MOA 1 & 14. Restricted use pesticide in CT and NY.

Cease- (EPA Reg. # 264-1155-68539)

Active Ingredient: *Bacillus subtilis* QST 713 strain

Biofungicide soil drench at 1.25-2.5 fl oz per gal or 1-2 gal per 100 gal. Naturally occurring bacteria. Labeled for ornamentals and certain edible crops. Re-application interval 21-28 days. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Companion- (EPA Reg. # 71065-3)

Active Ingredient: *Bacillus subtilis* GB03

Naturally occurring bacteria. Drench rate: 1 tsp per gal or 16 fl oz per 100 gal repeated every 14-28 days.

Protectant. Naturally occurring bacteria. Compatible with most traditional fungicides. Excellent plant safety. Labeled for some edible crops. 0 day PHI. 4 hr REI. MOA 44.

Empress Intrinsic- (EPA Reg. # 7969-355)

Active Ingredients: Pyraclostrobin

Soil drench at 1/2 tsp per 3 gal or 3 fl oz per 100 gal. Primarily applied as a protectant and stimulates rooted plants natural defenses. Good plant safety. Do not apply to wintercreeper or nine-bark 12 hr REI. MOA 11.

Fame G- (EPA Reg. # 66330-380-279)

Active Ingredient: Fluoxastrobin

Does not control *Pythium*. For aerial *Phytophthora* only. Granular applied as a top dress or pre-incorporated into the soil. Top dress rates: 3.5-4.6 lb per 1000 sq ft. Incorporation rates: 18 oz per cu yd. Not registered in all states. 12 hr REI. MOA 11.

Fame SC- (EPA Reg. # 66330-64-279)

Active Ingredient: Fluoxastrobin

Does not control *Pythium*. Xylem and translaminar movement. Crown Spray rates: 1/16-1/4 tsp per gal or 1-4 oz per 100 for aerial *Phytophthora*, apply at 7-28 day intervals. Not for use in CA. Drench rates: 1-3.5 tsp per 100 gal or 0.15-0.6 oz per 100 gal. (No per gal rate available). Apply at 14-28 day intervals. Best applied prior to infection. Do not use with organo-silicon surfactants such as CapSil. 12 hr REI. MOA 11. RUP in NY. Not available in Nassau and Suffolk Counties.

FenStop- (EPA Reg. # 432-1389)

Active Ingredient: Fenamidone

1/2 tsp per gal or 8 fl oz per 100 gal. 28 day re-application intervals. Labeled for ornamentals in greenhouses only. 12 hr REI. MOA 11. Not registered in NY.

Fosphite- (EPA Reg. # 68573-2)

Active Ingredient: Mono- and di-potassium salts of Phosphorous Acid

Foliar spray rate: 4 tsp per gal or 64 fl oz per 100 gal. Drench rate: ¾ tsp per gal or 12 fl oz per 100 gal. Do not apply less than 20 days before or after a copper fungicide treatment to avoid copper toxicity. Many edible crops on the label. 0 day PHI. 4 hr REI. MOA 33. Restricted use pesticide in NY.

Heritage- (EPA Reg. # 100-1093)

Active ingredient: Azoxystrobin

Soil drench at 0.9 oz per 100 gal. Apply 32 fl oz of solution per sq ft of surface area. Repeat at 7-28 day intervals. Protectant only. Better option for *Phytophthora*. More effective for *Pythium* when tank mixed with a second product with a different MOA. 4 hr REI. MOA 11. Restricted use pesticide in VT.

KleenGrow- (EPA Reg. # 81820-2)

Active Ingredient: Didecyl dimethyl ammonium chloride

Soil drench at the rate 12.5 fl oz per 100 gal. Always test new plant species for compatibility before widespread use. 48 hr REI. MOA NC.

Micora- (EPA Reg. # 100-1388)

Active Ingredient: Mandipropamid

Does not control *Pythium*. Foliar spray and drench rates 1/2 tsp per gal or 8 fl oz per 100 gal. Drench volumes per the label. Translaminar fungicide labeled as a foliar spray for aerial *Phytophthora*; drenched for root and crown *Phytophthora*. Labeled for many leafy and fruiting vegetables transplants, including late blight of tomato. 4 hr REI. MOA 40.

Orkestra Intrinsic- (EPA Reg # 7969-370)

Active Ingredient: Fluxapyroxad and Pyraclostrobin

Suppression of aerial *Phytophthora* only. Foliar spray rate: 2/3 tsp per gal or 10 oz per 100 gal. Contact and translaminar systemic movement. Additional improve plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Do not apply to wintercreeper and nine-bark. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Not registered CT. Use restriction in Suffolk and Nassau County NY.

Orvego- (EPA Reg. # 7969-301)

Active Ingredients: Ametoctradin and Dimethomorph

Does not control *Pythium*. Foliar spray: 1 tsp per gal or 14 fl oz per 100 gal. Drench rates 1 tsp per gal or 14 fl oz per 100 gal. Preventative, contact, translaminar and locally systemic fungicide labeled for aerial *Phytophthora* (spray) and root and crown *Phytophthora* (drench or drench) on ornamentals grown in greenhouses, container and field-grown nurseries and interiorscapes. Not registered in NY. 12 hr REI. MOA 45 & 40.

RootShield G- (EPA Reg. # 68539-3)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22

** Not labeled for *Phytophthora*** Incorporation rate: 1.5 lb per cu yd of soil mix. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. 0 hr REI. MOA NC. OMRI listed.

RootShield WP- (EPA Reg. # 68539-7)

Active Ingredient: *Trichoderma harzianum* Rifai strain KRL-AG2

** Not labeled for *Phytophthora*** Drench rate: 2 Tbls per 5 gal or 5 oz per 100 gal applied as early in the crop cycle as possible. Naturally occurring fungus that grows along with the roots to protect them. Protectant. 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. 0 hr REI. MOA NC. OMRI listed.

RootShield Plus G- (EPA Reg. # 68539-10)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22 and *Trichoderma virens* strain G-41

Incorporation rate: 2-3.0 lb per cu yd of soil mix. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. 0 hr REI. MOA NC. OMRI listed.

RootShield Plus WP- (EPA Reg. # 68539-9)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22 and *Trichoderma virens* strain G-41

Drench rates: 1.5-2 Tbls per 5 gal or 5-8 oz per 100 gal. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. Approved for hydroponic applications. Long term crops should be retreated with a half-rate application midway through the crop. 4 hr REI. MOA NC. OMRI listed.

Segovis- (EPA Reg. # 100-1533)

Active Ingredient: Oxathiapiprolin

** Does not control *Pythium*** Preventative fungicide. Foliar spray rates for aerial *Phytophthora*: 1/8 to 1/2 tsp per 3.5 gal, 0.6-2.4 oz per 100 gal. Drench rates for *Phytophthora*: 1/5 to 1 tsp per 5 gal, or 0.65 – 3.2 oz per 100 gal. Higher rates achieve the longest residual protection. 4 hr REI. MOA U15. Not registered in NY.

Segway O- (EPA Reg. # 71512-13-59807)

Active Ingredient: Cyazofamid

For ornamentals in greenhouses, landscapes and turf. Soil drenches for both diseases and a foliar spray for aerial *Phytophthora*. *Pythium* drench rates: 1/4–1/2 tsp per 3 gal or 1.5-3.0 fl oz per 100 gal. *Phytophthora* spray or drench rates at 1/2 – 1 tsp per 3 gal or 3-6 fl oz per 100 gal. Label contains drench volumes based on pot size. 14-21 re-application intervals. 12 hr REI. MOA 21. Restricted use pesticide in NY.

Stature SC- (EPA Reg. # 241-428)

Active ingredient: Dimethomorph

Does not control *Pythium*. A locally systemic fungicide for greenhouse and outdoor grown ornamentals.

Drench rates: 3/4 tsp per gal or 12.25 fl oz per 100 gal. 12 hr REI. MOA 40.

Subdue Maxx- (EPA Reg. # 100-796)

Active ingredient: Mefenoxam

Drench rate: 1/2 tsp per 10 gal or 1 fl oz per 100 gal; for seed flats 1/4 tsp per 10 gal or 0.5 oz per 100 gal. Do not apply more often than every 6 weeks. Easter lilies can be treated only once at planting at 0.5 oz per 100 gal to avoid a leaf scorch. 0 hr REI if label conditions are met, otherwise a 48 hr REI is in effect. MOA 4.

Terrazole L- (EPA Reg. # 400-422-59807)

Active Ingredient: Etridiazole

Drench rate for container grown crops: 1/8–1/3 tsp per gal or 2.5-5 fl oz per 100 gal or. The label contains drench volumes based on pot size and instructions for bed grown plants. Repeat applications can be made at 4-8 week intervals. Apply to moist soil for maximum plant safety. 12 hour REI. MOA 14. Restricted use pesticide in NY.

Terrazole WP- (EPA Reg. # 400-416)

Active Ingredient: Etridiazole

Rate: 1/2-1.0 tsp per gal or 3.5-6 oz per 100 gal. The label contains drench volumes based on pot size and instructions for bed grown plants. Repeat applications can be made at 4-8 week intervals. Apply to moist soil for maximum plant safety. 12 hour REI. MOA 14. Restricted use pesticide in NY.

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

Active Ingredient: Etridiazole

Apply the WP at 3/4-1 tsp per gal or 3-6 oz per 100 gal, or the EC 1/4 tsp per gal or 4 fl oz per 100 gal. The label contains drench volumes based on pot size and instructions for bed grown plants. Repeat applications can be made at 4-8 week intervals. Apply to moist soil for maximum plant safety. 12 hour REI. MOA 14. EC and WP are restricted use pesticides in NY. EC formulation is a restricted use pesticide in CT and NY.

Rhizoctonia (soil borne, see also: aerial)-

All of the following recommendations are for soil drenches except as noted.

Actinovate SP- (EPA Reg. # 73314-1)

Active Ingredient: *Streptomyces lydicus*

Drench at 1/2 tsp per gal or 6 oz per 100 gal. Protectant only, apply as early in the crop cycle as possible.

Typically only one application per growing season is needed. Long term crops should be retreated with a half-rate application midway through the crop. 1 hr REI. 0 hr REI if no contact with drenched surfaces. MOA NC. OMRI listed.

Affirm WDG- (EPA Reg. # 68173-3-1001)

Active Ingredient: Polyoxin D zinc salt

1/2-1 tsp per gal or 4-8 oz per 100 gal applied as a soil drench. Label prevents from applying through an injector. Some edible crops on the label. Excellent plant safety. 0 day PHI. 4 hr REI. MOA 19.

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

Active Ingredient: Etridiazole and Thiophanate-methyl

1/2-1 1/2 tsp per gal or 6-12 oz per 100 gal. Can retreat in 4 weeks if needed. 12 hr REI. Do not use on unrooted cuttings, clematis or begonia plugs. MOA 1 & 14. Restricted use pesticide in CT and NY.

Cease- (EPA Reg. # 264-1155-68539)

Active Ingredient: *Bacillus subtilis* QST 713 strain

Biofungicide soil drench at 1.25-2.5 fl oz per gal or 1-2 gal per 100 gal. Naturally occurring bacteria. Labeled for ornamentals and certain edible crops. Re-application interval 21-28 days. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Chipco 26019 FLO- (EPA Reg. # 432-888)

Active Ingredient: Iprodione

Drench rate at 1 1/4 Tbls per 5 gal or 13 fl oz per 100 gal. Apply 32 oz per sq ft. Do not apply to *Spathiphyllum*, impatiens or pothos. 12 hr REI. MOA 2. Restricted use pesticide in NY.

Cleary's 3336 EG- (EPA Reg. # 1001-89)

Active ingredient: Thiophanate-methyl

Foliar spray rate: 1-2 tsp per gal or 12-24 oz per 100 gal. Drench rate- 0.75-1.5 tsp per gal or 8-16 oz per 100 gal. REI 12 hr. MOA 1. Restricted use pesticide in NY.

Cleary's 3336 WP and F- (EPA Reg. # 1001-63 = WP) (EPA Reg. # 1001-69 = F)

Active Ingredient: Thiophanate-Methyl

WP formulation is 2-3 tsp per gal or 12-16 oz per 100 gal; the F formulation is 3/4-1 tsp per gal or 12-16 fl oz per 100 gal. May be repeated at 2-4 week intervals as needed. 12 hr REI. 0 hr REI for drenches if label conditions are met. MOA 1. Restricted use pesticide in NY and CT.

Companion- (EPA Reg. # 71065-3)

Active Ingredient: *Bacillus subtilis* GB03

Naturally occurring bacteria. Drench rate: 1 tsp per gal or 16 fl oz per 16 fl oz per 100 gal repeated every 14-28 days. Protectant. Compatible with most traditional fungicides. Excellent plant safety, labeled for some edible crops. 0 day PHI. 4 hr REI. MOA 44.

Emblem- (EPA Reg. # 228-723)

Active Ingredient: Fludioxonil

For control of diseases in ornamentals. Drench rates: 1/4-1/2 tsp per 4 gal or 1-2 fl oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches. Sensitivity has been reported on Coralberry Punch calibrachoa. Use restrictions: can only be used on ornamental crops in enclosed structures in Suffolk and Nassau County NY. 7 day PHI. 12 hr REI. MOA 12.

Empress Intrinsic- (EPA Reg. #7969-355)

Active Ingredients: Pyraclostrobin

Soil drench at 1/2 tsp per 3 gal or 3 fl oz per 100 gal. Primarily applied as a protectant and stimulates rooted plants natural defenses. Good plant safety. Do not apply to wintercreeper or nine-bark. 12 hr REI. MOA 11.

Fame G- (EPA Reg. # 66330-380-279)

Active Ingredient: Fluoxastrobin

Granular applied as a top dress or pre-incorporated into the soil. Top dress rates: 3.5-4.6 lb per 1000 sq ft.

Incorporation rates: 18 oz per cu yd. Not registered in all states. 12 hr REI. MOA 11.

Fame SC- (EPA Reg. # 66330-64-279)

Active Ingredient: Fluoxastrobin

Xylem and translaminar movement. Crown spray rates: 1/16-1/4 tsp per gal or 1-4 oz per 100 gal. Apply at 7-28 day intervals. Best applied prior to infection. Do not use with organo-silicon surfactants such as CapSil. 12 hr REI. MOA 11. RUP in NY. Not allowed in Nassau and Suffolk Counties.

Medallion WDG- (EPA Reg. # 100-1434)

Active Ingredient: Fludioxonil

Drench rates: 1/8-1/2 tsp per gal or 1-2 oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches. Sensitivity has been reported on Coralberry Punch calibrachoa. May be repeated at 21-28 day intervals. 0 hr REI for drenches if label conditions are met. MOA 12.

Mural- (EPA Reg. # 100-1479)

Active Ingredients: Benzivdinflupyrr (Solatenol) and Azoxystrobin

Drench rates 1/8-1/5 tsp per gal or 2-3 oz per 100 gals. Translaminar systemic movement. Labeled for some for vegetables at a foliar spray rate of: 1/2 tsp per 2.5-3.5 gal or 2.33-3.33 oz per 100 gal. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Injury has been observed on African violets, ferns and rex-begonias. 12 hr REI. MOA 7 & 11. Not registered NY.

OHP 6672 L and WSP- (EPA Reg. # 59807-5 = L) (EPA Reg. # 59807-6 = WSP)

Active Ingredient: Thiophanate-Methyl

L formulation drench rates: 3/4-1 1/4 tsp per gal or 10-20 fl oz per 100 gal. WSP drench rates: 2-3 1/3 tsp per gal or 12-16 oz per 100 gal. For use on ornamentals in greenhouse or field applications. May be repeated at 2-4 week intervals as needed. 12 hr REI. MOA 1. Restricted use pesticide in CT & NY. 6672 L not labeled for use in ME.

Orkestra Intrinsic- (EPA 7969-370)

Active Ingredient: Fluxapyroxad and Pyraclostrobin

Drench rates: 1/2-5/8 tsp per gal or 8-10 oz per 100 gal. Contact and translaminar systemic movement.

Additional improve plant health benefits include increased cold, heat and drought tolerance. Do not apply to wintercreeper, nine-bark and dianthus and viola as a drench. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Not registered in CT. Use restrictions in Suffolk and Nassau County NY.

RootShield G- (EPA Reg. # 68539-3)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22

Incorporation rate: 1.5 lb per cu yd of soil mix. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. 0 hr REI. MOA NC. OMRI listed.

RootShield WP- (EPA Reg. # 68539-7)

Active Ingredient: *Trichoderma harzianum* Rifai strain KRL-AG2

Drench rate: 2 Tbls per 5 gal or 5 oz per 100 gal 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. 0 hr REI. MOA NC. OMRI listed.

RootShield Plus G- (EPA Reg. # 68539-10)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22 and *Trichoderma virens* strain G-41

Incorporation rate: 2-3.0 lb per cu yd of soil mix. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. 0 hr REI. MOA NC. OMRI listed.

RootShield Plus WP- (EPA Reg. # 68539-9)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22 and *Trichoderma virens* strain G-41

Drench rates: 1 1/2-2 Tbls per 5 gal or 5-8 oz per 100 gal. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. Approved for hydroponic applications. Long term crops should be retreated with a half-rate application midway through the crop. 4 hr REI. MOA NC. OMRI listed.

Terraclor 400- (EPA Reg. # 5481-8992)

Active Ingredient: Pentachloronitrobenzene (PCNB)

Preventative drench application rate: 1/2-2/3 tsp per gal or 6-12 fl oz per 100 gal. Labeled for certain vegetable transplants. 12 hr REI. MOA 14.

Transom 4.5 F and WSB- (EPA Reg. # 72112-2 = F) (EPA Reg. # 72112-1 = WSB)

Active Ingredient: Thiophanate-Methyl

4.5 F formulation drench rates: 3/4-1 1/4 tsp. per gal or 10- 20 oz per 100 gal. WSB drench rates: 2-3 tsp per gal or 12-16 oz per 100 gal. For use on ornamentals in greenhouse or field applications: May be repeated at 2-4 week intervals. 12 hr REI, 0 hr REI for drenches if label conditions are met. 12 hr REI. MOA 1. Restricted use pesticide in CT & NY.

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 1/2 tsp per gal, (8 fl oz per 100 gal), to increase coverage and reduce visible residue.

Affirm WDG- (EPA Reg. # 68173-3-1001)

Active Ingredient: Polyoxin D zinc salt

1/2-1 tsp per gal or 4-8 oz per 100 gal applied as a foliar. Spray. Some edible crops on the label. Excellent plant safety. 0 day PHI. 4 hr REI. MOA 19.

Chipco 26019 FLO- (EPA Reg. # 432-888)

Active Ingredient: Iprodione

Foliar spray at 2-5 tsp per gal or 32-80 fl oz per 100 gal, safe on most open blooms but does leaves some visible residue. Do not apply to *Spathiphyllum*. 12 hr REI. MOA 2. Restricted use pesticide in NY.

Cleary's 3336 EG- (EPA Reg. # 1001-89)

Active ingredient: Thiophanate-methyl

Foliar spray rate: 1-2 tsp per gal or 12-24 oz per 100 gal. Many vegetable transplants are on the label. REI 12 hr. MOA 1. Restricted use pesticide in NY.

Cleary's 3336 WP and F- (EPA Reg. # 1001-63 = WP) (EPA Reg. # 1001-69 = F)

Active Ingredient: Thiophanate-Methyl

Foliar spray rates: WP formulation is 2-3 tsp per gal or 12-16 oz per 100 gal; the F formulation is 3/4-1 tsp per gal or 12-16 fl oz per 100 gal. Use the lower rates preventatively, the higher rates for existing problems. May be repeated at 2-4 week intervals as needed. Some edible crops on the WP label for foliar sprays only. 12 hr REI, 0 hr REI for drenches if label conditions are met. MOA 1. Restricted use pesticide in NY and CT.

Concert II- (EPA Reg. # 100-1347)

Active Ingredient: Propiconazole and Chlorothalonil

Not labeled for greenhouse use. Foliar spray rate applied at 4 1/8 tsp per gal or 69 oz per 100 gal. Apply at 14-28 day intervals. Do not apply to begonias, Boston fern, geraniums, pittosporum, schefflera or Knock Out and Double Delight roses. Do not apply to bud, bloom or tender new growth. 12 hr REI. MOA 3/M5. Not registered in all states.

Emblem- (EPA Reg. # 228-723)

Active Ingredient: Fludioxonil

For control of diseases in ornamentals and some vegetables and herbs. Foliar spray rates: 1/4-1/2 tsp per 4 gal or 1-2 fl oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches.

Sensitivity has been reported on Coralberry Punch calibrachoa. Use restrictions: can only be used on ornamental crops in enclosed structures in Suffolk and Nassau County NY. 7 day PHI. 12 hr REI. MOA 12.

Fame SC- (EPA Reg. # 66330-64-279)

Active Ingredient: Fluoxastrobin

Xylem and translaminar movement. Crown spray rates: 1/16-1/4 tsp per gal or 1-4 oz per 100 gal. Apply at 7-28 day intervals. Best applied prior to infection. Do not use with organo-silicon surfactants such as CapSil. 12 hr REI. MOA 11. RUP in NY. Not allowed in Nassau and Suffolk Counties.

Medallion WDG- (EPA Reg. # 100-1434)

Active Ingredient: Fludioxonil

Foliar spray rate: 1 tsp per 2.33-9 gal or 1-2 oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches. Sensitivity has been reported on Coralberry Punch calibrachoa. 12 hr REI. MOA 12.

Mural - (EPA Reg. # 100-1479)

Active Ingredients: Benzivdiflupyr (Solatenol) and Azoxystrobin

Foliar spray rate: $\frac{1}{4}$ - $\frac{1}{2}$ tsp per gal or 4-7 oz per 100 gal. Translaminar systemic movement. Labeled for some for vegetables at a foliar spray rate of: 1/2 tsp per 2.5-3.5 gal or 2.33-3.33 oz per 100 gal. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Injury has been observed on African violets, ferns and rex-begonias. 12 hr REI. MOA 7 & 11. Not registered NY.

OHP 6672 L and WSP- (EPA Reg. # 59807-6 = WSP) (EPA Reg. # 59807-5 = L)

Active Ingredient: Thiophanate-Methyl

L formulation foliar sprays rates: 0.75-1.0 tsp per gal or 12-16 fl oz per 100 gal. WSP foliar sprays rates: 1.66 - 4.5 tsp per gal or 12-16 oz per 100 gal. Locally systemic fungicide for use on ornamentals in greenhouse or field applications. 12 hr REI. MOA 1. Restricted use pesticide in CT & NY. 6672 L not labeled for use in ME.

Orkestra Intrinsic- (EPA Reg # 7969-370)

Active Ingredient: Fluxapyroxad and Pyraclostrobin

Crown spray rates: $\frac{1}{2}$ - $\frac{5}{8}$ tsp per gal or 8-10 oz per 100 gal. Contact and translaminar systemic movement. Additional improve plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Do not apply to wintercreeper, nine-bark, dianthus and viola as a drench. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Not registered in CT. Use restrictions in Suffolk and Nassau County NY.

Pageant Intrinsic- (EPA Reg. # 7969-251)

Active Ingredients: Boscalid and Pyraclostrobin

Foliar spray rate: 1-1 1/2 tsp per gal or 12-18 oz per 100 gal. Supplemental label allows for use on greenhouse grown tomato transplants. Additional improved plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Do not apply to wintercreeper, nine-bark. Flower spotting has occurred on impatiens and petunias. 0 day PHI. 12 hr REI. MOA 7 & 11. Restricted use pesticide in NY.

Palladium- (EPA Reg. # 100-1328)

Active Ingredients: Cyprodinil and Fludioxonil

Contact and systemic activity as a foliar spray at: 1/2-3/4 tsp per gal or 4-6 oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays. Sensitivity has been reported on Coralberry Punch calibrachoa. 12 hr REI. MOA 9 & 12.

Transom 4.5 F and WSB- (EPA Reg. # 72112-1 = WSB) (EPA Reg. # 72112-2 =L)

Active Ingredient: Thiophanate-Methyl

4 F formulation foliar sprays rates: 3/4-1 1/4 tsp per gal or 10-20 fl oz per 100 gal. WP foliar sprays rates: 2.0-3.0 tsp per gal or 12-16 oz per 100 gal. Locally systemic fungicide for use on ornamentals in greenhouse or field applications. May be repeated at 2-4 week intervals. 12 hr REI. MOA 1. Restricted use pesticide in CT & NY.

Triathlon BA- (EPA Reg. # 58044-3-59807)

Active Ingredient: *Bacillus amyloliquefaciens* strain D747

Biofungicide foliar spray applied at 2 tsp-2 Tbls per gal or 16-96 oz per 100 gal. Naturally occurring bacteria. Good plant safety including open blooms and no visible residue. Labeled for several edible crops. 0 day PHI. 4 hr REI. MOA 44. OMRI listed.

Trinity TR- (EPA Reg. # 499-555)

Active Ingredient: Triticonazole

Rate: 1 can per 3000 sq ft. Total release aerosol for greenhouse ornamentals providing broad-spectrum prevention and control of many foliar diseases. Treatments can be repeated at 7 day intervals, up to 3 consecutive applications. 12 hr REI. MOA 3.

Rusts

Rust pathogens are usually host specific and are identified by the spores they produce. Most rusts produce brown or orange spores while the Chrysanthemum White Rust produces white spores. Please consult with the GGSPRO department for our technical bulletin on Chrysanthemum White Rust.

Camelot O- (EPA Reg. # 67702-2-67690)

Active Ingredient: Copper Octanoate

Foliar spray rate 0.5 fl oz per gal or 50 fl oz per 100 gal. Repeat sprays every 7-10 days. 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 edible crops. 0 day PHI. 4 hr REI. MOA M1. OMRI listed.

Compass O 50WDG- (EPA Reg. # 432-1371-59807)

Active Ingredient: Trifloxystrobin

1/3 tsp per gal or 4 oz per 100 gal as a foliar spray. Long residual preventative properties. Do not use with CapSil or other organo-silicone surfactants. Leaves a slight residue and is safe on many open blooms. Do not use on petunias, violets, or N.G. Impatiens. 12 hr REI. MOA 11. Restricted use pesticide in NY.

Compass 50WG- (EPA Reg. # 432-1371)

Active Ingredient: Trifloxystrobin

1 tsp per 5 gal or 2 oz per 100 gal as a foliar spray. Long residual preventative properties. Do not use with CapSil or other organo-silicone surfactants. Leaves a slight residue and is safe on many open blooms. Do not use on petunias, violets, or N.G. Impatiens. 12 hr REI. MOA 11. Restricted use pesticide in NY.

Concert II- (EPA Reg. # 100-1347)

Active Ingredient: Propiconazole and Chlorothalonil

Not labeled for greenhouse use. Foliar spray rate applied at 4 1/8 tsp per gal or 69 oz per 100 gal. Apply at 14-28 day intervals. Do not apply to begonias, Boston fern, geraniums, pittosporum, schefflera or Knock Out and Double Delight roses. Do not apply to bud, bloom or tender new growth. 12 hr REI. MOA 3/M5. Not registered in all states.

Daconil Ultrex- (EPA Reg. # 50534-202-100)

Active ingredient: Chlorothalonil

1 Tbls per gal or 22.4 oz per 100 gal, 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. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA M5. Restricted use pesticide in MA and RI.

Daconil Weather-Stik- (EPA Reg. # 50534-209-100)

Active ingredient: Chlorothalonil

Foliar spray applied at 1 1/3 tsp per gal or 22 fl oz per 100 gal. 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. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA M5. Restricted use pesticide in MA.

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

Active Ingredient: Myclobutanil

Locally systemic, curative and protectant foliar fungicide applied at 1/2-3/4 tsp per gal or 8-12 fl oz per 100 gal. For Chrysanthemum white rust the 3/4 tsp per gal or 12 oz/100 gall rate 3 times at 5 day intervals. Good plant and bloom safety. 24 hr REI. MOA 3. Restricted use pesticide in NY with Long Island use restrictions.

Fame SC- (EPA Reg. # 66330-64-279)

Active Ingredient: Fluoxastrobin

Xylem and translaminar movement. Crown spray rates: 1/16-1/4 tsp per gal or 1-4 oz per 100 gal. Apply at 7-28 day intervals. Best applied prior to infection. Do not use with organo-silicon surfactants such as CapSil. 12 hr REI. MOA 11. RUP in NY. Not allowed in Nassau and Suffolk Counties.

Heritage- (EPA Reg. # 100-1093)

Active ingredient: Azoxystrobin

1 tsp per 2.5 gal or 4 oz per 100 gal as a foliar spray. Most effective as a protectant. No visible residue and safe on most open blooms. Labeled for many vegetable and herb transplants. Do not use with CapSil or other silicone containing surfactants. 4 hr REI. MOA 11. Restricted use pesticide in VT. Cannot be used through ultra-low volume applicators.

Mural- (EPA Reg. # 100-1479)

Active Ingredients: Benzivdilupyr (Solatenol) and Azoxystrobin

Foliar spray rate: $\frac{1}{4}$ - $\frac{1}{2}$ tsp per gal or 4-7 oz per 100 gal. Translaminar systemic movement. Labeled for some for vegetables at a foliar spray rate of: 1/2 tsp per 2.5-3.5 gal or 2.33-3.33 oz per 100 gal. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Injury has been observed on African violets, ferns and rex-begonias. 12 hr REI. MOA 7 & 11. Not registered NY.

Orkestra Intrinsic- (EPA Reg. # 7969-370)

Active Ingredient: Fluxapyroxad and Pyraclostrobin

Foliar spray rate: 1/2 tsp per gal or 8 oz per 100 gal. Contact and translaminar systemic movement. Additional improve plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Do not apply to wintercreeper and nine-bark. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Not registered in CT. Use restrictions in Nassau and Suffolk counties NY.

Pageant Intrinsic- (EPA Reg. # 7969-251)

Active Ingredients: Boscalid and Pyraclostrobin

Foliar spray rate: 1/2-1 tsp per gal or 6-12 oz per 100 gal. Additional improved plant health benefits include increased cold, heat and drought tolerance. Do not use with organo-silicon surfactants such as CapSil. Good plant safety. Do not apply to wintercreeper or nine-bark. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Restricted use pesticide in NY.

Phyton 35- (EPA Reg. # 49538-5)

Active Ingredient: Copper Sulfate Pentahydrate

Translaminar systemic copper fungicide against many foliar diseases. Labeled for use on ornamentals and many edible crops in greenhouses and nurseries. Foliar spray rates: 3/4-1 1/2 tsp per gal or 13-25 fl oz per 100 gal. Higher rates are on the label for curative treatments made to geraniums only. Avoid spraying when leaves will stay wet for a long time to reduce chance of phytotoxicity. Do not add surfactant. Avoid spraying within 7 days of B-Nine to avoid burning. 0 day PHI. 48 hr REI. MOA M1.

Protect DF- (EPA Reg. # 1001-77)

Active Ingredient: Mancozeb

1 Tbls per gal or 24 oz per 100 gal, leaves a visible residue but is safe on most open blooms. Never use on marigolds or geraniums due to manganese toxicity. Certain vegetable transplants are on the label. 24 hr REI. MOA M3.

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

Active Ingredient: Chlorothalonil and Thiophanate-methyl

1 Tbls per gal or 16 oz per 100 gal as a foliar spray, leaves a visible residue and burns some open blooms. Not labeled for use in foggers or mist blowers. 12 hr REI with additional WPS requirements for the next 6.5 days. MOA 1 & M5. Restricted use pesticide in MA and NY.

Strike Plus 50 WDG- (EPA Reg. # 432-1513-59807)

Active Ingredient: Trifloxystrobin & Triadimefon

Translaminar activity. Do not use more than once per month in greenhouse. Do not use with organosilicone surfactants such as CapSil. Greenhouse foliar spray rate at 1/8-1/4 tsp per gal or 1.2-2.4 oz per 100 gal.

Outdoor nursery foliar spray rate at 3/8 - 1 tsp per gal or 3-9 oz per 100 gal. 12 hr REI. MOA 3 & 11.

Terraguard SC- (EPA Reg. # 400-521)

Active Ingredient: Triflumizole

For foliar applications to ornamentals. 1/4-1/2 tsp per gal or 4-8 fl oz per 100 gal. Some visible residue may occur. 12 hr REI. MOA 3. Restricted use pesticide in NY. Nassau and Suffolk County restrictions apply.

Trigo- (EPA Reg. # 432-1513)

Active Ingredient: Trifloxystrobin and Triadimefon

Broad-spectrum, translaminar systemic. Foliar spray rates to ornamentals in greenhouses is 1/8-1/4 tsp per gal or 1.2-2.4 oz per 100 gal. Use the low rate in winter and the high rate in summer. Do not use more than once per month in greenhouse. Nursery rate is 3/8-1 tsp per gal or 3-9 oz per 100 gal. Do not use with organosilicone surfactants such as CapSil. Do not apply to petunia, violets and NGI. Restricted use in NY. 12 hr REI. MOA 3/11.

Thielaviopsis

Affirm WDG- (EPA Reg. # 68173-3-1001)

Active Ingredient: Polyoxin D zinc salt

1 tsp per gal or 8 oz per 100 gal applied as a soil drench. Not labeled for injector use. Excellent plant safety. 0 day PHI. 4 hr REI. MOA 19.

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

Active Ingredient: Etridiazole and Thiophanate-methyl

1 1/2 tsp per gal or 12 oz per 100 gal. For *Thielaviopsis* add 8 oz per 100 gal of additional Thiophanate-methyl from another fungicide with that active ingredient such as Cleary's 3336, OHP 6672, or Transom. Do not use on unrooted cuttings, clematis or begonia plugs. 12 hr REI. MOA 1 & 14. Restricted use pesticide in CT and NY.

Cleary's 3336 EG- (EPA Reg. # 1001-89)

Active ingredient: Thiophanate-methyl

Drench rate- 1.5 tsp per gal or 16 oz per 100 gal. REI 12 hr. MOA 1. Restricted use pesticide in NY.

Cleary's 3336 WP and F- (EPA Reg. # 1001-63 = WP) (EPA Reg. # 1001-69 = F)

Active Ingredient: Thiophanate-Methyl

WP formulation is 1 Tbls per gal or 16 oz per 100 gal; the F formulation is 1 tsp per gal or 16 fl oz per 100 gal. May be repeated at 2-4 week intervals as needed. 12 hr REI. 0 hr REI for drenches if label conditions are met. MOA 1. Restricted use pesticide in NY and CT.

Emblem- (EPA Reg. # 228-723)

Active Ingredient: Fludioxonil

For control of diseases in ornamentals Drench rates: 1/2 tsp per 4 gal or 2 fl oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches. Sensitivity has been reported on Coralberry Punch calibrachoa. Use restrictions: can only be used on ornamental crops in enclosed structures in Suffolk and Nassau County NY. 7 day PHI. 12 hr REI. MOA 12.

Medallion WDG- (EPA Reg. # 100-1434)

Active Ingredient: Fludioxonil

Drench rates: 1/2 tsp per gal or 2 oz per 100 gal. Good plant and bloom safety with exceptions below. Do not use as a drench or seedling treatment for N.G. Impatiens or impatiens. Geraniums can be sensitive to sprays or drenches. Sensitivity has been reported on Coralberry Punch calibrachoa. May be repeated at 21-28 day intervals. 0 hr REI for drenches if label conditions are met. MOA 12.

OHP 6672 L and WSP- (EPA Reg. # 59807-5 = L) (EPA Reg. # 59807-6 = WSP)

Active Ingredient: Thiophanate-Methyl

L formulation drench rates: 1 1/4 tsp per gal or 20 fl oz per 100 gal. WSP drench rates: 3 1/3 tsp per gal or 16 oz per 100 gal. For use on ornamentals in greenhouse or field applications. May be repeated at 2- 4 week intervals as needed. 12 hr REI. MOA 1. Restricted use pesticide in CT & NY. 6672 L not labeled for use in ME.

Orkestra Intrinsic- (EPA Reg. # 7969-370)

Active Ingredient: Fluxapyroxad and Pyraclostrobin

Suppression of *Thielaviopsis* only. Drench rates: ½-5/8 tsp per gal or 8-10 oz per 100 gal. Contact and translaminar systemic movement. Additional improve plant health benefits include increased cold, heat and drought tolerance. Do not apply to wintercreeper, nine-bark, dianthus and viola as a drench. Flower spotting has occurred on impatiens and petunias. 12 hr REI. MOA 7 & 11. Not registered in CT. Use restrictions in Suffolk and Nassau County NY.

RootShield G- (EPA Reg. # 68539-3)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22

Incorporation rate: 1.5 lb per cu yd of soil mix. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. 0 hr REI. MOA NC. OMRI listed.

RootShield WP- (EPA Reg. # 68539-7)

Active Ingredient: *Trichoderma harzianum* Rifai strain KRL-AG2

Drench rate: 2 Tbls per 5 gal or 5 oz per 100 gal 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. 0 hr REI. MOA NC. OMRI listed.

RootShield Plus G- (EPA Reg. # 68539-10)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22 and *Trichoderma virens* strain G-41

Incorporation rate: 2-3.0 lb per cu yd of soil mix. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. 0 hr REI. MOA NC. OMRI listed.

RootShield Plus WP- (EPA Reg. # 68539-9)

Active Ingredient: *Trichoderma harzianum* Rifai strain T-22 and *Trichoderma virens* strain G-41

Drench rates: 1.5-2 Tbls per 5 gal or 5-8 oz per 100 gal. Naturally occurring fungus that grows along with the roots to protect plants from root and crown diseases. Labeled for ornamentals and many edible crops in greenhouses and nurseries. Approved for hydroponic applications. Long term crops should be retreated with a half-rate application midway through the crop. 4 hr REI. MOA NC. OMRI listed.

Transom 4.5 F and WSB- (EPA Reg. # 72112-2 = F) (EPA Reg. # 72112-1 = WSB)

Active Ingredient: Thiophanate-Methyl

4.5 F formulation drench rates: 1 1/4 tsp per gal or 20 fl oz per 100 gal. WSB drench rates: 3 tsp per gal or 16 oz per 100 gal. For use on ornamentals in greenhouse or field applications: May be repeated at 2-4 week intervals. 12 hr REI. 0 hr REI for drenches if label conditions are met. 12 hr REI. MOA 1. Restricted use pesticide in CT & NY.

