

OHP DISEASE SOLUTIONS[®]



GREENHOUSE &
NURSERY PRODUCTION

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An American Vanguard Company

Alternaria



Alternaria on Poinsettia

Anthracnose



Anthracnose on Hydrangea

Bacterial Blight/Speck



Pseudomonas on Tomato

Botrytis



Botrytis Sporulation on Geranium

Downy Mildew



Downy Mildew on Basil



Downy Mildew on Impatiens

Cercospora



Cercospora on Ligustrum



Downy Mildew on Snapdragon



Downy Mildew on Rose

Entomosporium



Entomosporium on Raphiolepis

Fusarium



Fusarium on Mum

Leaf Spots



Septoria on Rudbeckia

Phytophthora



Phytophthora on Lily



Phytophthora on Annual Vinca

Powdery Mildew



Powdery Mildew on Oregano



Powdery Mildew on Hydrangea Foliage

Pythium



Pythium on Poinsettia



Pythium on Pansy

Rust



Rust on Daylily



Rust and Anthracnose on Rose

Rhizoctonia



Rhizoctonia on Fern

Xanthomonas



Xanthomonas on Geranium



Xanthomonas on Ivy



Xanthomonas on Rosemary

RESISTANCE MANAGEMENT: Use the following chart to develop a resistance management strategy. ✓ = labeled

As with other pesticides, fungicides must be used in a program to avoid or delay resistance. Do not rely on products with the same mode of action. Rotation of products with different modes of action, and using product combinations with different modes of action are parts of a resistance management strategy. Be especially careful when using products

| TRADE NAME | Areca® | Astun® | Grotto® | Kalmor® | OHP Chipco® 26019 | OHP 6672® | Segway® O |
|------------|-------------|--------|-----------|-----------|----------------------|----------------|-----------------|
| CLASS | Phosphonate | SDHI | Inorganic | Inorganic | Dicarboximide | Benzimidazoles | Cyano-imidazole |
| MOA | P 07 | 7 | M 01 | M 01 | 2 | 1 | 21 |

PATHOGEN

| | | | | | | | |
|-------------------------|---|---|---|---|---|---|---|
| Alternaria | | | ✓ | ✓ | ✓ | | |
| Anthracnose | | | ✓ | ✓ | | ✓ | |
| Bacterial Blight/Speck | ✓ | | ✓ | ✓ | | | |
| Black Spot | | | ✓ | ✓ | | ✓ | |
| Botrytis | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Botrytis Storage Rot | | | | ✓ | ✓ | ✓ | |
| Bulb Rot / Crown Rot | | | ✓ | ✓ | | | |
| Cercospora Leaf Spot | | | ✓ | ✓ | | ✓ | |
| Cylindrocladium | | | | | ✓ | | |
| Downy Mildew | ✓ | | ✓ | ✓ | | | ✓ |
| Entomosporium Leaf Spot | | | | ✓ | | ✓ | |
| Fusarium | | | | | ✓ | ✓ | |
| Leaf Spot | | | ✓ | ✓ | ✓ | ✓ | |
| Myrothecium Leaf Spot | | | ✓ | | | ✓ | |
| Ovulinia Flower Blight | | | | | | ✓ | |
| Phyllosticta Leaf Spot | | | ✓ | | | | |
| Phytophthora Root Rot | ✓ | | | | | | ✓ |
| Phytophthora Aerial | ✓ | | ✓ | ✓ | | | ✓ |
| Powdery Mildew | | | ✓ | ✓ | | ✓ | |
| Pythium | ✓ | | | | | | ✓ |
| Rhizoctonia | | | ✓ | ✓ | ✓ | ✓ | |
| Rust | | | ✓ | ✓ | | ✓ | |
| Scab | | | ✓ | ✓ | | ✓ | |
| Sclerotinia | | | ✓ | | | ✓ | |
| Septoria Leaf Spot | | | ✓ | ✓ | | ✓ | |
| Thielaviopsis | | | | | | ✓ | |
| Tip Blight | | | ✓ | ✓ | | ✓ | |

Read label directions a

considered to be high risk for resistance development. Most fungicides work more effectively to prevent disease from becoming established, rather than eradicating disease that is already present. Constant monitoring – and modification where possible – of environmental conditions and scouting crops for signs of disease symptoms are vital parts of effective fungicide use and resistance management.

| Seido™ | Terraclor® 400 | Terraguard® SC | Terrazole® Liquid & 35% WP | Triact® 70 | Triathlon® BA | TRADE NAME |
|-----------------|-----------------------|----------------|----------------------------|------------|---------------|-------------------------|
| Benzoylpyridine | Aromatic Hydrocarbons | Imidazole | Aromatic Hydrocarbons | Oil | Biopesticide | CLASS |
| 50 | 14 | 3 | 14 | NC | BM 02 | MOA |
| PATHOGEN | | | | | | |
| | | ✓ | | ✓ | ✓ | Alternaria |
| | | | | ✓ | ✓ | Anthraco nose |
| | | | | | ✓ | Bacterial Blight/Speck |
| | | | | ✓ | ✓ | Black Spot |
| | | ✓ | | ✓ | ✓ | Botrytis |
| | | | | | | Botrytis Storage Rot |
| | ✓ | | | | ✓ | Bulb Rot / Crown Rot |
| | | | | | ✓ | Cercospora Leaf Spot |
| | | ✓ | | | | Cylindrocladium |
| | | | | ✓ | ✓ | Downy Mildew |
| | | | | | ✓ | Entomosporium Leaf Spot |
| | | ✓ | | | ✓ | Fusarium |
| | | ✓ | | | ✓ | Leaf Spot |
| | | | | | ✓ | Myrothecium Leaf Spot |
| | | | | | | Ovulinia Flower Blight |
| | ✓ | | | | | Phyllosticta Leaf Spot |
| | | | ✓ | | ✓ | Phytophthora Root Rot |
| | | | | | ✓ | Phytophthora Aerial |
| ✓ | | ✓ | | ✓ | ✓ | Powdery Mildew |
| | | | ✓ | | ✓ | Pythium |
| | ✓ | ✓ | | | ✓ | Rhizoctonia |
| | | ✓ | | ✓ | ✓ | Rust |
| | | ✓ | | | | Scab |
| | ✓ | | | | ✓ | Sclerotinia |
| | | | | | | Septoria Leaf Spot |
| | | ✓ | | | | Thielaviopsis |
| | | | | ✓ | | Tip Blight |

and cautions before use.

Plant Disease Management

To keep plants healthy and minimize plant problems, production systems and cultural practices must be in place to minimize environmental stress by providing plants with their basic requirements for growth and development in terms of quality and quantity of space, light, air, water and nutrients. Under intense crop production systems and under unfavorable weather conditions, protecting crops from plant diseases may require the application of fungicides, bactericides and other agricultural chemicals. Not all products work against all plant diseases; problem identification is critical in the selection of the right chemical solution.

Plant diseases may cause symptoms in all plant parts. Foliar diseases including leaf spots and blights are the most common and affect leaves and

shoots. Diseases may also affect the vascular tissues of the plant, those responsible for water and nutrient uptake or the crown and the roots of the plants. Avoid foliar diseases by restricting overhead irrigation to the morning hours to allow leaves and shoots to dry; leaf wetness of 4 to 6 hours may be enough to allow infection by disease-causing microorganisms. Avoid crown and root diseases by allowing soil to dry between irrigation events and avoid over-fertilization. Preventive applications may be required when weather conditions are favorable for disease development in susceptible crops. Consult the table below for conditions that favor common plant diseases, when they typically occur during the year and what OHP products are effective against these diseases.

Major Disease Control

| Disease Pathogen | Seasonal timing | Conditions | OHP Product Controls | |
|-------------------------------------------|-------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Bacterial Blight/Speck | summer | 72-95 F high humidity over-irrigation | Areca® Grotto® | Kalmor® Triathlon® BA |
| Botrytis | year-round | 38-77 F high humidity, cloudy poor air circulation | Astun® Grotto® Kalmor® OHP 6672® | OHP Chipco® 26019 Terraguard® Triact® 70 Triathlon® BA |
| Bulb rot/crown rot | year-round | infected bulbs or liners stress | Grotto® Kalmor® | Terrador® 400 Triathlon® BA |
| Downy mildew | year-round depending on plant | high humidity cloudy poor air circulation | Areca® Grotto® Kalmor® | Segway® 0 Triact® 70 Triathlon® BA |
| Fungal leaf spots | spring through fall | wet leaves moderate temperatures | Grotto® Kalmor® OHP 6672® | OHP Chipco® 26019 Terraguard® SC Triathlon® BA |
| Powdery mildew | spring and fall | high humidity cool nights and warm days | Grotto® Kalmor® OHP 6672® Seido™ | Terraguard® SC Triathlon® BA Triact® 70 |
| Phyllosticta | spring to fall | moderate temperatures wounding stress | Grotto® | Terrador® |
| Phytophthora | summer | wet soils high temperatures overgrown plants | Areca® Segway® 0 | Terrazole® Triathlon® BA |
| Pythium | year-round | wet soils cool temperatures excess soluble salts | Areca® Segway® 0 | Terrazole® Triathlon® BA |
| Rhizoctonia | summer | wet leaves high temperatures | Grotto® Kalmor® OHP 6672® OHP Chipco® 26019 | Terrador® Terraguard® SC Triathlon® BA |
| Rust | spring and fall | high humidity cool nights and warm days | Grotto® Kalmor® OHP 6672® | Terraguard® SC Triathlon® BA Triact® 70 |
| Thielaviopsis (Black root rot) | year-round | temperature stress high pH | OHP 6672® | Terraguard® SC |

OHP QUICK REFERENCE

Fungicides Product Rate Guide

| <i>OHP Products</i> | <i>Rate per 100 gallons</i> | <i>Rate per 1 gallon</i> |
|--------------------------------|----------------------------------------------------------|-------------------------------------------------------|
| Areca® | 1.25, 2.5, 5 pounds (567.5, 1135, 2270 g) | 1¼ tsp, 2½ tsp, 5 tsp (5.7, 11.4, 22.7 g) |
| Astun® | 10 to 17 fluid ounces (296 to 503 mL) | 3 to 5 mL |
| Grotto® | 0.5 to 2 gallons | 3¾ tsp to 15 tsp (5 TBS) (19 mL to 76 mL) |
| Kalmor® | 0.5, 1.0, 2 lbs. per acre | 1 TBS to 1½ TBS per 1,000 sq ft |
| Kopa™ Insecticidal Soap | 1% (1 gallon) to 2% (2 gallons) | 3¾ tsp to 7½ tsp to 15 tsp (5 TBS) (19, 38, 76 mL) |
| OHP Chipco® 26019 | 1 to 2 pounds (454 to 908 g) | 1⅓ tsp to 2⅔ tsp (4.5 to 9.1 g) |
| OHP 6672® 4.5 F | 10.75 to 20 fluid ounces (319.1 to 593.8 mL) | ⅔ tsp to 1½ tsp (3.2 to 5.9 mL) |
| OHP 6672® 50 WP (WSP) | 8 to 16 ounces | NA |
| Segway® O | 1.5 to 6 fluid ounces (44.5 to 178.1 mL) | ⅛ tsp to ½ tsp (0.4 to 1.8 mL) |
| Seido™ | 4 to 5 fluid ounces | 1.18 mL to 1.48 mL |
| Terraclor® 400 | 6 to 12 fluid ounces (178.1 to 356.3 mL) | ⅜ tsp to ¾ tsp (1.8 to 3.6 mL) |
| Terraguard® SC | 2 to 8 to 16 fluid ounces (59.4, 237.5, 475 mL) | ⅛ tsp, ½ tsp, 1 tsp (0.6, 2.4, 4.8 mL) |
| Terrazole® L | 2.5 to 7 fluid ounces (74.2 to 207.8 mL) | ⅛ tsp to ¾ tsp (0.7 to 2.1 mL) |
| Terrazole® 35% WP | 3.5 to 10 ounces (99.3 to 283.8 g) | NA |
| Terrazole® L CA | 3 to 4 fluid ounces (89.1 to 118.8 mL) | ⅓ tsp to ¼ tsp (0.9 to 1.2 mL) |
| Triact® 70 | 0.5 gallon, 1 gallon, 2 gallons (1900, 3800, 7600 mL) | 3¾ tsp to 7½ tsp to 15 tsp (5 TBS) (19, 38, 76 mL) |
| Triathlon® BA | 0.5 quarts, 4 quarts, 6 quarts (475, 3800, 5700 mL) | 1 tsp, 7⅓ tsp, 11⅓ tsp (4.8, 38, 57 mL) |

Users should read the entire label for full information and application instructions.
If you have any questions contact your local OHP representative.

TBS = tablespoon tsp = teaspoon mL = milliliter g = grams 1 fl oz = 29.6 mL 1 tsp = 5 mL 1 TBS = 15 mL

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