

# WOODY ORNAMENTAL APPLICATION GUIDELINES

October 2002

## Anthracnose

*Azalea, Dogwood, Euonymus, Oak & Sycamore*

A number of woody species are affected by anthracnose diseases. Cool, wet conditions are conducive to outbreaks of anthracnose. Newly emerging, succulent growth is most prone to infection, while older foliage often appears to be resistant to infection. Anthracnose often subsides before midsummer, but succulent shoots may be affected any time during the season.

Application: Apply 1.5 to 3.5 fluid ounces Phyton-27<sup>®</sup> per 10 gallons water as a foliar spray. Begin applications at budbreak and continue at 7 to 14 day intervals until all new leaves mature. Additional applications may be needed throughout the growing season when cool, wet conditions occur. Fall applications may be useful in controlling sycamore anthracnose.

## Botrytis

*All Ornamental Nursery Crops*

*Botrytis cinerea*, a fungus, causes blight of flowers, leaves, and shoots. *Botrytis* can cause considerable damage during extended periods of wet weather. Propagation is a critical time for *Botrytis* management due to the presence of wounds on the stock plants and cuttings and free moisture from misting.

Application: For control of *Botrytis* on seedlings, during propagation, and on finished nursery stock, apply 1.3 to 2.5 fluid ounces Phyton-27<sup>®</sup> per 10 gallons water as a foliar spray for thorough coverage. During propagation, spray or fog stock plants 1 to 2 days prior to taking cuttings. Spray cuttings to drench 2 to 3 days after transplant. When cuttings or liners are shipped in, spray to drench 2 to 3 days after transplant.

## Cercospora

*Hydrangea & Viburnum*

*Cercospora* leaf spot is a common disease that can cause heavy damage in container-grown plants in the nursery. The warm, wet weather of mid-summer is when the disease typically appears.

Application: Apply 1.5 to 2.5 fluid ounces of Phyton-27<sup>®</sup> per 10 gallons water. Begin treatment in the mid-summer or when leaf spots are first observed. Continue at 7 to 14 day intervals as needed.

## Cylindrocladium

*Azalea, Rhododendron & Roses*

*Cylindrocladium* infection occurs most frequently in outdoor grown plants in warm, humid growing areas and in warm greenhouse conditions. This fungus causes leaf spot, stem canker, flower spot or blight, and a root rot and wilt on Azalea and Rhododendron.

Spray Application: Apply 1.5 to 3.5 fluid ounces Phyton-27<sup>®</sup> per 10 gallons water. During propagation, spray or fog stock plants 1 to 2 days prior to taking cuttings. Spray cuttings to drench 2 to 3 days after sticking. When using cuttings or liners shipped in, spray to drench 2 to 3 days after sticking or transplant.

Soil Drench: Apply 2.0 to 3.5 fluid ounces Phyton-27<sup>®</sup> per 10 gallons water as a soil drench. Apply the drench solution to moist growing media to ensure even distribution, in sufficient volume to saturate the growing media thoroughly.

## Diplodia

*Conifers*

*Diplodia* tip blight is a fungal disease that can cause tip blight, cankers, misshapen tops, death of cones, blight of seedlings, dieback, and sometimes death of entire trees. Many pines and several other conifers are reported as hosts. Epidemics are promoted by wet spring weather favorable for spore production, dispersal, and infection.

Application: Apply 1.0 to 1.3 fluid ounces Phyton-27<sup>®</sup> per 10 gallons water. Make 2 applications about 10 days apart early in candling out or when disease appears.

## Dothistroma

*Pinus*

*Dothistroma* needle blight is a common disease on Austrian and ponderosa pine but occurs on at least 20 species of pines. Symptoms include reddish-brown spots or bands on needles, needles with brown tips that remain green at the base and premature needle drop. Conidia are released during wet weather and dispersed by rainsplash any time during the growing season.

Application: Make two applications of 1.5 to 2.5 fluid ounces Phyton-27<sup>®</sup> per 10 gallons water as a foliar spray during the growing season. The first application, in mid-May (earlier in Western States), protects needles from the previous season, and a second application in mid-to late-June protects newly developing needles.

## Entomosporium

### *Indian Hawthorn & Photinia*

The *Entomosporium* fungus causes necrotic spots on leaves, fruits and succulent stems on more than 60 species of plants all found in the rose family. On photinia, dark brown to black spots form on the upper and lower leaf surfaces and tissue around these spots becomes reddish or purplish. On Indian Hawthorn, spots are grayish brown with dark red or brown border, and disease leaves frequently drop. Cool, wet summer weather promotes epidemic outbreaks.

**Application:** Apply 1.5 to 3.0 fluid ounces Phyton-27® per 10 gallons water as a foliar spray.

## Powdery Mildew

### *All Ornamental Nursery Crops*

Powdery Mildew produces superficial mycelia and spores which appears "powdery" giving the disease its name. The disease is favored by dry weather with warm days and cool nights.

Powdery mildew usually attacks younger tissue, but mature tissue may be attacked as well on some species. New growth may be completely covered with mildew, resulting in stunting and shoot curl or death. When older leaves are heavily infected with mildew, they become chlorotic and senesce early.

**Application:** Apply 2.0 to 3.0 fluid ounces Phyton-27® per 10 gallons water as a foliar spray.

## Pseudomonas *All Ornamental Nursery Crops*

*Pseudomonas* causes leaf spots, blossom blight, shoot blight, cankers and dieback on a variety of plants. Factors that weaken or injure plants, such as frost or freeze damage, will predispose them to *Pseudomonas* infection. Symptoms include shoot tip dieback, bud-death, flower and shoot blast, leaf spots, vein discoloration, and stem cankers. Mild, moist weather favors development of *Pseudomonas* bacterial blight.

**Application:** Apply 1.3 to 2.5 fluid ounces Phyton-27® per 10 gallons water as a foliar spray.

**Cultural Control** - Maintain adequate spacing and prune to provide good air circulation within the canopy. Prune out and burn all affected tissue as soon as noticed. Keep rain and frost off plants in the spring with plastic hoop houses or similar structures, if practical.

## Rhizoctonia

### *Azalea & Rhododendron*

The *Rhizoctonia* fungus causes damping-off, root rot of seedlings and cuttings, and leaf and stem blights on Rhododendron and Azalea. *Rhizoctonia* web blight is an important disease of evergreen Azaleas. Web blight develops on container-grown azaleas in the warm summer months and on liners in heated greenhouses during the winter months when the humidity is high. *Rhizoctonia* blight of Azalea can result in severe defoliation and death of liners if hot, wet weather persists.

**Application:** Apply 2.0 to 3.5 fluid ounces Phyton-27® per 10 gallons water as a soil drench to moist growing media to ensure even distribution in sufficient volume to saturate the growing media thoroughly.

## Verticillium

### *Japanese Maple*

*Verticillium* is a soilborne fungus which infects through the roots via wounds. Symptoms include curling, drying, or abnormal red or yellow color of leaves; defoliation; wilting; dieback; and death. Yellowing and defoliation often progress upwards. Infected sapwood may have dark streaks or bands that follow the grain.

**Application:** Apply 2.5 ounces Phyton-27® per 10 gallons water as a soil drench, around the tree out to the drip-line. Water promptly and thoroughly to ensure that the Phyton-27® solution is reaching the roots. Apply 1.5 ounces Phyton-27® per 10 gallons water as a foliar spray on the tree. Three treatments are recommended during the growing season: spring, midsummer, and approximately two weeks before expected color in the fall.

## Xanthomonas

### *Cherry Laurel*

*Xanthomonas* sp. is the primary pathogen of shot-hole disease on common cherry laurel. Symptoms range from small reddish spots with yellow halos in which the center drops out as the spots age to larger, irregular, spots that are usually along the leaf margin. The disease is most severe under wet conditions of mid- to late-summer.

**Application:** Apply 2.0 to 3.5 fluid ounces Phyton-27® per 10 gallons water as a foliar spray.



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