

# ROSACEAE

# TECHNICAL BULLETIN

**Phyton<sup>®</sup>**  
**27**  
BACTERICIDE & FUNGICIDE

***Savvy Growers Rely on Phyton-27<sup>®</sup>***



## Fire Blight

Fire blight is caused by the bacterium *Erwinia amylovora*. This bacterium can attack more than 75 species of trees and shrubs including members of the rosaceae family such as: Cotoneaster, Malus, Mountain Ash, Ornamental Crabapple, Ornamental Pear, Photinia, Pyracantha and Raphiolepis.

The *Erwinia* bacterium overwinters on infected plants in cankers. In the spring, the bacteria are dispersed by rain, wind, insects and animals. Symptoms include blight of blossoms, fruitlets, spurs, and leafy shoots and the formation of cankers that cause dieback of twigs and branches. Results from Cornell University show excellent control of shoot and blossom blight on apples with Phyton-27®.

When to Act - The preferred timing for treatment is from bud-swell until a few weeks after bloom. When fire blight is observed later in the growing season, it should be treated at that time. The disease is most active during warm periods in spring before the tree is fully active and again during warm periods in autumn when the tree is entering dormancy.

Prune infected branches and excise cankers - Bacterial diseases are readily spread on cutting tools so surface-sterilize tools between each cut, even cuts on the same tree. Dipping tools in 70% alcohol solution or 1 part bleach to 4 parts water is sufficient. Prune infected branches at least 12 inches (30.5 cm) beyond the area of infection. Cankers on the trunk can be excised with a pruning knife or other cutting tool by removing bark and infected tissue, as well as 12 inches (30.5 cm) of healthy tissue above and below the cankered area and 3 inches (7.6 cm) on either side (tree diameter permitting). The best time for pruning and canker excision is in late summer, fall, or winter. A perennial canker in the trunk or branches of the tree, or in a nearby tree, can provide inoculum for continued infection or reinfection.

Apply Phyton-27® to pruned and excised canker sites - Mix 2.5 teaspoons of Phyton-27® into 1 gallon of water (4 fluid ounces per 10 gallons). Spray the cut sites, trunk, and limbs to runoff. Adjust the amount of solution to the number and area of cuts as needed.

Spray the crown - Mix an amount of solution appropriate for the size of the tree to be sprayed, at the rate of 1.25 teaspoons of Phyton-27® in 1 gallon of water (2.0 fluid ounces per 10 gallons). The crown

should be sprayed thoroughly. During post-peak bloom, spray with caution. Phyton-27® may destroy fading blossoms.

Fertilization and Irrigation - Succulent new tissue is more susceptible to infection so forcing soft, fast growth may benefit the pathogen more than the tree. Unless nutritional deficiency is shown by soil or tissue testing, fertilization should not be necessary because of growth stimulation resulting from the tree's release from disease pressure. Focus post-treatment care on adequate irrigation.

## Apple Scab

Apple Scab is caused by the fungus *Venturia inaequalis*. The fungus attacks upper and lower surfaces of leaves, flower parts, fruit, and succulent twigs. The disease is most severe when humidity is high and temperature moderate during spring and early summer. Severely infected leaves and fruit fall prematurely. Most primary infections are initiated by airborne ascospores dispersed from previously diseased leaves on the ground.

Rate: 4.0 fluid ounces Phyton-27® per 10 gallons water.

For control of Apple Scab, rake leaves and debris from beneath the tree before spraying. Spray for thorough coverage, including the ground beneath the tree as well as the crown of the tree. Re-spray intervals vary with severity of disease and adversity of environmental conditions. The rate of 4.0 fluid ounces per 10 gallons water will damage blossoms, tender foliage and surrounding turf. Applications on actively growing tissue may be more effective than applications on dormant tissue.

The key to successful control of apple scab is the early and thorough application of Phyton-27® to protect new growth. The most critical period for apple scab development is the time from the breaking of the cluster buds until the leaves are fully expanded.

Apple Scab Cultural Control - The application of nitrogen (urea) to leaves in the fall will enhance the decomposition of fallen leaves. Reduce disease pressure by raking and disposing of leaves after they fall. If put in a compost pile, be sure leaves decompose completely.

## Bacterial Blast

*Pseudomonas syringae* is the bacterium that causes bacterial blast. Blossom infection is most common, but green stems and leaves may be affected as well. Symptoms of bacterial blast may be confused with those caused by Fire Blight. Cool, wet weather during bloom favors blossom blight development. A hard frost or freeze just prior to bloom greatly increases the severity of the blast.

Control with Phyton-27® - Apply 1.5 to 3.5 fluid ounces per 10 gallons water. Phyton-27® cleans up the surface to reduce bacterial populations as well as systemically entering the plant to take care of internal infections. For optimal control apply preventively or when disease severity and bacterial population are low. Begin treatment early in the spring to protect tender new growth.

## Application Guidelines

For foliar applications, spray for thorough coverage; for soil drench applications, saturate growing media thoroughly.

Adjust rates and re-spray intervals according to susceptibility of plant variety and adversity of environmental conditions.

Applications on actively growing tissue may be more effective than applications on dormant tissue.

Lower rates may be as effective as higher rates and should be tried first.

Routine preventive programs may be maintained at the lower rates.

For optimal applications in propagation, see directions under Propagation Applications.

Adjust the pH of the spray, drench or dip solution to 5.5 to 6.5 for optimal plant safety and efficacy.

Chemigation: Phyton-27® is specifically labeled for use through overhead sprinklers, drip and flood irrigation systems. See the label for chemigation use directions, equipment and posting requirements.

Use of low volume equipment is effective against Botrytis but may not be effective against established Powdery Mildew and bacterial infections.

Read and follow all label directions.

For technical information, contact the manufacturer:

**Phyton Corporation - Manufacturer of Phyton 27®**,

7449 Cahill Rd., Edina, MN 55439 USA

952-944-9779 Fx: 952-944-7755

Toll-free: 1-800-356-8733 [www.phytoncorp.com](http://www.phytoncorp.com)

Many but not all US EPA labeled uses for Phyton-27® are registered with the California EPA.

California residents should consult the current California Phyton-27® label for registered uses.



©2004 Phyton Corporation

