

# PhytonNews

## Growers rely on Phyton27®

### Rediscover Phyton-27

Are you aware of the broad-spectrum of applications and quality benefits and application of Phyton-27® delivers? The reliable disease control of Phyton-27® has earned the trust of savvy growers around Canada and the United States, but many growers are only familiar with one or two of the many disease control that Phyton-27® offers. Phyton-27® offers broad labeling in terms of where, on what, when and how it can be applied. The unique, systemic formulation delivers dependable disease control with excellent plant safety and no residue.

**Application Sites** - Phyton-27® has PMRA labeling for application on greenhouse crops and outdoor grown roses.

**Host Plants** - The Phyton-27® label covers application on a variety of annual & perennial bedding plants, flowering potted plants, cut flower crops, and tropical foliage plants.

**Target Diseases** - The systemic copper-based activity of Phyton-27® delivers broad-spectrum protection against a wide range of bacterial and fungal diseases including:

Fungal	
Botrytis	Black Spot
Powdery Mildew	Alternaria
Cylindrocladium	Scab
Rhizoctonia	Heterosporium

Bacterial
Erwinia
Xanthomonas

**When to Apply** - Phyton-27® can be used from propagation throughout production, right up to the finish of the crop without residue. It is gentle on most tender plant tissue at all stages of the growth cycle, including seedlings, developing roots, cuttings and most open blooms.

**How to Apply** - You can apply Phyton-27® as a hydraulic or low-volume spray, soil drench, fog, cut flower dip, and cutting dip.

### Bacterial Disease Control

Plant pathogenic bacteria cause a variety of symptoms including leaf spots, vascular wilt, soft rots, galls, bud rot and cankers. The most commonly battled bacteria in plant production are *Erwinia*, *Pseudomonas*, *Xanthomonas*, *Acidovorax*, and *Agrobacterium* (crown gall) species.

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### DO NOT FREEZE: Cold Weather Storage

Phyton-27® is sensitive to cold temperatures and must be shipped and stored above 7 degrees C. Check your storage facility to guard against unexpected cold damage. If there is a possibility that a bottle of has been exposed to cold temperatures, give us a call (800-356-8733) to discuss plant safety issues and possible disposal or soil drench use of damaged product.

## FULLY SYSTEMIC ACTIVITY

Phyton-27® delivers fully systemic anti-bacterial and antifungal disease control that is rapidly absorbed and moves throughout the plant, providing effective disease control against internal pathogens as well as pathogens on the plant surface. Its unique composition goes beyond the surface disease control of fixed copper products without the heavy deposits and phytotoxicity often associated with surface copper. Phyton-27® works within the plant to provide integral disease control and often enhances overall plant health and vitality.

The systemic protection stays in the plant and won't be washed away by rain, misting or overhead irrigation.

### Rapidly Absorbed

Rapid absorption of Phyton-27® was documented at A & L Agricultural Laboratories in Florida, by tracking the amount of copper remaining on the surface of the leaf, as measured by copper ppm in leaf wash water. Surface copper levels dropped back to pre-treatment levels within 2 hours after foliar treatment with Phyton-27®. Foliar absorption was confirmed by monitoring the copper levels in the leaves following Phyton-27® application, with copper increasing dramatically and staying elevated for at least 2 weeks.

### Translocation: Up, Down & Across

Upward, downward and horizontal movement of Phyton-27® within the plant was documented in studies at Ohio State University and A & L Agricultural Laboratories in Florida.

Phyton-27®, applied as a drench, is absorbed by the roots and moves upward in the plant with copper levels in the foliage increasing dramatically and staying elevated for 2 to 4 weeks post-treatment.

Phyton-27®, applied as a foliar spray, moves laterally across the plant from sprayed to unsprayed tissue and downward to the roots.

There are very few chemical weapons on the market to prevent and control bacterial diseases. Growers have come to rely on copper products to battle these diseases. When it comes to copper, Phyton-27® provides superior systemic control of bacterial diseases, such as *Erwinia* and *Xanthomonas*, with the benefits of excellent plant safety at all stages of production and no residue.

## Fungal Disease Control

There are a variety of fungi that infect ornamental plants. While there are many fungicides on the market for controlling diseases on ornamental plants, few have the broad spectrum power of Phyton-27®. This becomes a distinct advantage when you aren't quite sure what disease is eating at your plants, but you need to do something right away.

Phyton-27® controls a wide range of fungal diseases including *Botrytis*, powdery mildew, black spot, *Cylindrocladium*, *Alternaria*, *Rhizoctonia*, scab, and *Heterosporium*. While used mainly as a foliar spray, Phyton-27® can also be used as a soil drench.

## Phyton-27® Profitable Propagation

Preventing and controlling disease is critical in propagation. Whether you start from seeds, cuttings, divisions or grafts, Phyton-27® controls the toughest diseases while being surprisingly gentle on germinating and emerging seeds, unrooted and rooting cuttings, healing and regenerating divisions, graft unions and tissue culture explants and plantlets.

### Seedlings

Apply Phyton-27® as a srench shortly after sowing and/or emergence to help control damping off pathogens including *Botrytis* and *Rhizoctonia*.

### Cuttings

Clean up mother plants before taking cuttings and treat cuttings at or shortly after sticking. Apply to stock plants a few days before taking cuttings to allow systemic uptake. A few days after transplant is the time to start a regular preventive program with Phyton-27®. Watch for increased cutting take, particularly on hard to root material.

### Tissue Culture

Use Phyton-27® at low, preventive rates on plant material going into and coming out of tissue culture with no phytotoxicity. To check for plant safety, start with the lowest labeled spray rate for the specific type of plant.

## Seven Solid Features & Benefits of Phyton-27

- 1. Fully Systemic** - moves quickly into and throughout the plant, and it won't wash off
- 2. Invisible** - leaves no residue so plants don't need cleaning before sale or shipping
- 3. Gentle** - protects tender plant tissue when they are most vulnerable and often sensitive to other chemicals

**4. Preventive & Therapeutic** - fits into any pest management program whether regular preventive applications are used or scouting combined with early therapeutic treatments

**5. Low Resistance risk** - great rotational tool with site-specific, resistance-prone products to control pathogens that are resistant to other products

**6. Liquid Formulation** - clean and easy to mix and apply

**7. Proven Performance** - reliable control confirmed by formal research trials and applications in commercial growing operations

## Hot Topics for Cold Weather Crops

Give your crops some Cold Weather Disease Insurance with Phyton-27®. As the weather cools down, look for these cool weather pathogens to turn up the heat. The bactericidal/fungicidal activity of Phyton-27® protects your winter crops from pathogens lurking in the growing and storage areas and cleans up hitchhiking pathogens on incoming cuttings, liners, and plants.

### Botrytis Blight

Cool, damp, cloudy weather is ideal for Botrytis infection. This fungus loves the cooler temperatures found in many winter greenhouses. It is also a notorious postharvest and storage problem.

Botrytis can cause a variety of symptoms including damping off or seedling blight, flower blights and bud rots, leaf spots or blights, cutting rots and stem cankers. The first symptom is often a water-soaked or browning of infected tissue. When there is plenty of moisture and high humidity around, a tan-to-gray fuzzy mold develops on infected tissue.

### Post-Harvest Protection - Valentine's Day & Beyond

Botrytis can pose a serious threat during storage and shipping. The cool temperatures, high humidity and poor air circulation encourage infection and growth of the fungus, while mechanical injury during shipping provides a point of entry.

Apply of Phyton-27® prior to cooling, boxing/sleeving or shipping is the best insurance for getting clean, top quality plants to your customer. Phyton-27® is invisible and gentle on foliage and most blooms, offering flexibility of treating before and/or after harvest.

### Cut Flowers

Dip cut flowers in Phyton-27®, post-harvest, to significantly reduce severity of Botrytis infection and maintain the quality of cut flowers during storage, shipping and in the customer's vase. Increased fresh weight gain and longer time to peak fresh weight means fewer credits and longer vase-life for treated flowers.

### Potted Flowering Plants

Crowded plants near the end of the production season and in transit are particularly susceptible to Botrytis attack. Spray applications of Phyton-27® safely and cleanly protect the foliage and blooms. See the label for rates and specific directions.

## GERANIUM DISEASE PRIMER

### Xanthomonas Blight

Symptoms vary depending on the cultivar and environmental conditions. Early on, look for plants that aren't growing well or that exhibit wilting leaves. The petiole will often remain turgid, giving an "umbrella" appearance to the wilt. Other symptoms include yellow-to-brown, v-shaped lesions. Infected cuttings may fail to root and slowly rot from the base upwards.

### Bacterial Disease Management

Protect healthy plants from plant-to-plant spread with an application of Phyton-27®. When applied at higher dosage rates, Phyton-27® give the added benefit of the "marker effect" on hidden Xanthomonas infections. Phyton-27® induces a bright, fluorescent yellowing of foliage.

### Botrytis

Cuttings, flower petals and senescing or fallen leaves are Botrytis magnets. Look for a brown rot on cuttings stubs with characteristic fluffy gray or brown mycelium. Infected flower petals fade and dye prematurely. Leaf blight often occurs when infected flowers land on the foliage.

### Proactive Prevention

Stop Botrytis with preventive sprays of Phyton-27® when conditions are ripe for infection and/or plants are stressed, wounded or senescing. Combine Phyton-27® with adjustments to your environmental conditions and culture management to minimize leaf wetness and inoculum levels.



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# It Works!

Phyton-27® delivers exceptional bacterial and fungal disease control on a wide range of ornamental crops. Preventively and therapeutically, from propagation to post-harvest, it just works!

**Savvy growers rely on Phyton-27®!**



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## 2007 WINTER SHOW SCHEDULE

<b>MANTS</b> Baltimore, MD	Jan. 10-12 Booth #737
<b>MidAm</b> Chicago, IL	Jan. 17-19 Booth #2438
<b>TPIE</b> Ft. Lauderdale, FL	Jan. 18-20 Booth #2102
<b>NCAN</b> Greensboro, NC	Jan. 18-20
<b>Gulf States Hort Expo</b> Mobile, AL	Feb. 2-3 Booth #1233
<b>New England Grows</b> Boston, MA	Feb. 6-8
<b>SAF Pest Mgt Conf</b> Portland, OR	Feb. 22-24



**Phyton<sup>®</sup>**  
CORPORATION

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