POINSETTIA TECHNICAL BULLETIN

Phyton® 27

BACTERICIDE & FUNGICIDE

Savvy Growers *Rely on Phyton-27®*

Propagation:
Stock plants and cuttings

Propagation is a stressful time which makes poinsettia cuttings more susceptible to diseases. Erwinia, Botrytis and Rhizoctonia can cause cutting rots on poinsettia. Scab, or spot anthracnose, can cause leaf and stem spots. Early season poinsettia diseases can be controlled effectively with timely applications of Phyton-27®.

Erwinia infection is favored by wet plant surfaces, warm temperatures, and by "soft" tissue high in nitrogen. Look for a soft, mushy rot at the basal end of the cutting which moves quickly upwards. Good sanitation practices are important to optimize control with Phyton-27®. Symptomatic cuttings should be pulled from the bench and destroyed as soon as detected. Disinfect propagation benches between batches of cuttings.

Botrytis cutting rot attacks when weather is cool and damp. Initial infections are the result of airborne spores coming in contact with wounded cuttings. Look for water-soaked and tan-to-brown lesions along with the thick gray-to-brown mold that develops over rotting tissue. Early Botrytis control strategies include removing and destroying infected cuttings along with timely application of Phyton-27®.

Scab infection is caused by the fungus Sphaceloma poinsettiae. The disease gets its name from the scab-like lesions found on stems and/or leaves. Ideal conditions for spreading the disease are during propagation under mist and overhead irrigation.

Use Phyton-27® to clean-up scab on cuttings coming in from subtropical and tropical production operations where the disease is endemic.

Powdery mildew can occur during any phase of poinsettia production, but tends to be more of a problem during the finishing stages of production. This disease is most likely to develop in the spring or late fall when the environmental conditions are most favorable developing faster in cooler weather when there is a greater fluctuation between day and night temperatures.

Powdery mildew generally begins to grow on the underside of the leaf surface. Look for white, powdery colonies on the underleaf surfaces along with corresponding yellow spots on the upper leaf surfaces.

Get the maximum benefit from Phyton-27® application, with thorough coverage of the foliage including a light application on the undersides of the leaves is required.

When disease is present wet sprays are more effective for control than low volume applications. Careful removal of mildewed leaves before applying Phyton-27® may help to reduce inoculum.

Rhizoctonia cutting rot can be a problem in propagation and on recently transplanted cuttings. The fungus is commonly soil borne, spreads through windblown soil, and infects plants through wounds. Warm temperatures and conditions that stress the plant, such as high salts and improper watering practices, favor Rhizoctonia infection.

Poinsettia Propagation Diseases

Disease	Rates in fl. oz./ 10 gal.	Application Method
Botrytis	1.5 - 2.0	Dip or Spray
Erwinia	2.0 - 3.5	Dip or Spray
Rhizoctonia	2.0 - 3.5	Drench
Scab	2.0 - 3.5	Dip or Spray
Powdery Mildew	1.5 - 3.5	Spray

Transplant through pinch

Although disease pressure is less during this stage of growth, Botrytis may be a problem. Disease management practices should include removing any tissue with Botrytis and applying Phyton-27® preventively. Try to avoid condensed moisture on foliage and utilize horizontal air movement over and through the plants.

If scab was present on cuttings or has been reported in your area, continue to monitor crop closely for scab infections. Applications of Phyton-27® provide concurrent protection against Botrytis and scab infections.

After transplant and during establishment of the rooted cutting, a drench should be applied to suppress Phytophthora root rot.

Pinch through flower initiation

Pinching creates an open wound perfect for Botrytis infection. A Phyton-27® application immediately after pinch provides contact clean-up around the wound as well as systemic protection that sticks with the plant beyond pinch.

Powdery mildew appears to be most destructive during the finishing stages of the crop. Preventive applications of Phyton-27® protect the crop through finish. Wet sprays are more effective for control of active powdery mildew infections than low volume applications. Careful removal of mildewed leaves before treatment may help to reduce inoculum.

If treatment is begun after the bracts are in full color, and the disease is entrenched, control of credits/returns may not be complete. Treated plants may look clean going out the door, but powdery mildew may reappear after they are in their new homes.

Scab does not appear to be highly contageous in later stages of poinsettia development but in some cases symptoms may not appear or be noticed until infected branches exhibit Gibberellin-like stretch, growing twice as long as other branches. If these symptoms appear, rogue symptomatic plants and carefully inspect adjacent plants for raised spots with brown centers and purplish-red edges on leaves and stems. Spray the remaining crop with Phyton-27®.

Xanthomonas leaf spot on poinsettia occurs primarily on outdoor grown poinsettias in warm, humid climates. This disease is very difficult to control unless plants are produced without overhead watering or exposure to rainfall since the bacterium is spread through splashing water.

When Xanthomonas leaf spot is visible, remove disease damaged tissue and extensively diseased plants before applying Phyton-27®.

Apply a second drench application, to prevent Phytophthora crown and stem rot, approximately 4 weeks after the initial drench made during the establishment phase.

Bract development through shipping

Phyton-27® is safe to use on color bracts and leaves no residue. Botrytis can become a crop-threatening disease on over-mature plants when environmental conditions are manipulated to "hold" the crop through the Holiday Season. Use Phyton-27® in combination with monitoring, roguing diseased plants, and manipulating the environment to control Botrytis and powdery mildew outbreaks right up to sale and shipping.

Poinsettia Production Diseases

Disease	Rates in fl. oz./10 gal.	Application Method
Botrytis	1.5 - 2.0	Spray
Erwinia	2.0 - 3.5	Spray
Rhizoctonia	2.0 - 3.5	Drench
Scab	2.0 - 3.5	Spray
Powdery Mildew	1.5 - 3.5	Spray
Phytophthora	1.5 - 2.5	Drench
Xanthomonas	1.5 - 3.5	Spray

Additional Guidelines

To avoid occasional leaf yellowing during dark, damp, short-day conditions of fall and winter, spray in the morning, preferably on a sunny day, so that the Phyton-27® dries promptly. Avoid Phyton-27® wettened leaf surfaces during the night. This yellowing generally appears 3 to 5 days after spraying, as a mottled yellowing on the middle leaves. The yellowing is not uniform and seems to be varietal in nature.

Use caution when spraying Phyton-27® up into overhead baskets. Heavy applications to undersurfaces of the leaves may cause yellowing of the leaves and veins and leaf drop.

Calcium foliar applications

If you are making foliar calcium applications on your poinsettia crop use reagent or laboratory grade calcium chloride applied separately from Phyton-27®.

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. In the event of heavy disease pressure, intervals can be shortened to 3-5 days.

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

Routine preventive programs may be maintained at the lower rates.

Open flowers can be sprayed without damage, but should be trialed first. Older or diseased blooms are likely to be desiccated.

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

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

For additional information, please contact Phyton Corporation's Technical Service at 1-800-356-8733 or info@phytoncorp.com

Read and follow all label directions.

For technical information, contact the manufacturer:
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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.

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