

PHYTON®

News

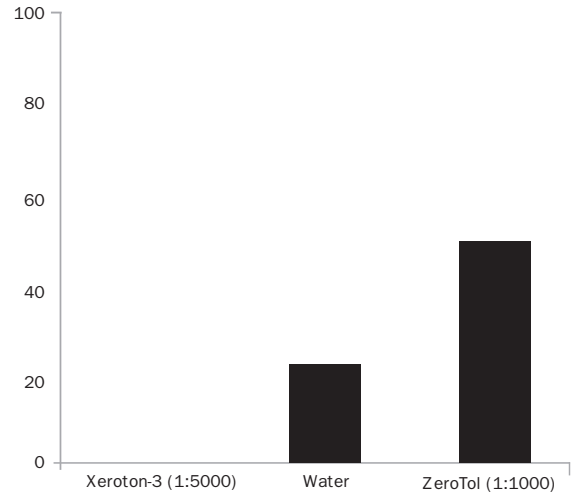
Serving the Greenhouse and Nursery Industry for over 25 years.



Xeroton-3 is a highly concentrated unique broad spectrum formula that offers superior results at a lower cost per application.

New Patented Advanced Chemistry

New Active: Octanoic Acid - X3 has three active Ingredients that attack and destroy pathogens and algae in your water, in your soil, on surfaces and on your plants.



Xanthomonas severity (%) on Lavender cuttings treated with Xeroton-3 and Zeritol in mist-propagation.

Active Ingredients:

- Hydrogen peroxide
- Peroxyacetic acid
- Octanoic acid

Controls:

- Algae
- Bacteria
- Fungi

Use Sites:

- Greenhouses
- Nurseries
- Garden Centers
- Landscapes
- Interiorscapes

Restricted Entry Interval (REI):

- 0 hours

Packaging:

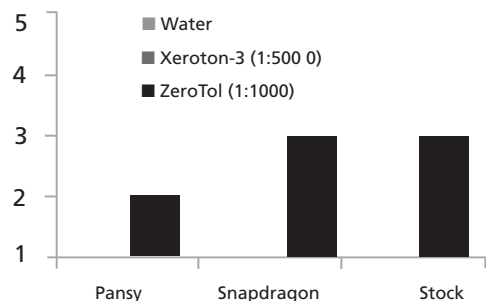
- 96 oz
- 4 gal
- 12 gal

Applications:

- Water treatment
- Mist-propagation
- Foliar spray
- Drench
- Sanitation

Superior Disease Control – X-3 has proven to be more effective in disease control in plant trials than other similar products and goes 5 times farther.

Non-Phytotoxic – X3 has been tested and trialed on many plant species, and has proven very safe



*Figure 1. Phytotoxicity in Pansy (*Viola x wittrockiana*), Snapdragon (*Antirrhinum majus*) and Stock (*Matthiola incanae*).*

Phytotoxicity was recorded with the following scale: 1 (no phytotoxicity), 2 (slight), 3 (moderate), 4 (severe) and 5 (dead plant). Ann Chase, Chase Horticultural Research, Inc 2008.

X3 Trial Update

Liverwort eradication and safety on boxwood

Recently a trial was conducted by Chase Horticultural to determine efficacy of X3 and ZeroTol on liverwort eradication. Initially Boxwood liners were covered with liverworts about 50% of their surface area. Xeroton-3 and ZeroTol were applied to the boxwood liners as a foliar spray to drip. A low rate and a high rate were tested for both products. A group of liners were sprayed only once while the rest were sprayed weekly for three weeks. Three days after the treatments were applied, the percentage of area covered with liverworts was determined.

Table 1. Rates tested for each product.

Products	Low Rate	High Rate
Xeroton-3	0.4%	0.2%
	(0.5 oz/10 gal)	(2.5 oz/10 gal)
ZeroTol	0.2%	1%
	(2.5 oz/10 gal)	(13 oz/10 gal)

Results and Conclusions

Reduction in liverworts was highest for those treated with X3 at the high rate on a weekly interval, although the greatest reduction in liverworts was not statistically significant. Single treatments (one time application) with any rate of X3 or ZeroTol were not meaningful.

X3 at the eradication rate was most effective at stopping further growth of liverworts. Neither rate of ZeroTol nor the preventative rate of X3 was effective in stopping further liverwort growth in this trial.

None of the treatments damaged the boxwood in any way during the trial.

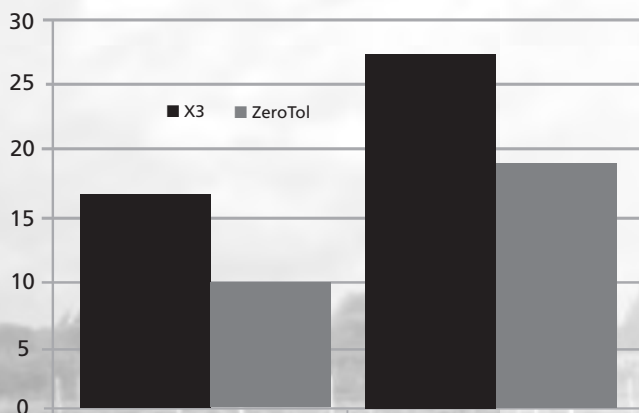


Fig 1. Percentage of reduction of liverwort coverage in boxwood liners treated weekly during three weeks with X3 and ZeroTol spray applications.

How to Control Diseases in Overwintering Woody Ornamentals

Woody ornamentals can take several years to too reach a salable size. In areas that have cold winters some types woody ornamentals need to be overwintered in storage. They can be overwintered in the ground, in pots in greenhouses, in pot in pot systems or cold storage as a bare root plant.

The fungus *Botrytis cinerea* commonly called gray mold is one of the most damaging diseases in ornamental and conifer container nurseries. Gray mold attacks almost all types of nursery plants. *Botrytis cinerea* appears gray in color with cotton mycelia found on the leaf surface, or decaying tissue on the soil surface. The damaged tissue will eventually turn brown and die if not treated. The Cool damp conditions in cold storage or overwintering houses are ideal for *Botrytis cinerea* to develop.

Here are some common tips for getting the cold storage area and your plants ready for cold storage to help reduce the fungus *Botrytis cinerea* and other diseases.

- The storage area needs to be clean and disease free before introducing plant material. Use X3 to clean all surfaces, floors, walls and tables this insure a clean disease free storage area. X3 has three active ingredients (Hydrogen Peroxide, Peroxyacetic Acid, and Octanoic Acid) that attack and destroy pathogens and algae in your water, in your soil, on surfaces and on your plants. X3 has proven to be effective in destroying plant pathogens and is non phototoxic with a 0-REI
- Make sure containers are well watered before going into cold storage. Spray and drench plants surfaces and soil with Phyton 27 to eliminate all diseases. Phyton 27 is a systemic fungicide that gives up to 21 days residual activity against diseases like *Botrytis*, *Alternaria*, *Rhizoctonia* and *Erwinia*. Phyton 27 is a broad spectrum fungicide that controls *Anthracnose*, *Apple Scab*, *Bacterial Blight*, *Black Spot*, *Botrytis*, *Cedar Apple Rust*, *Colletotrichum*, *Crown Gall*, *Cylindrocladium*, *Dothistroma*, *Downy Mildew*, *Entomosporium*, *Erwinia*, *Fireblight*, *Phytophthora*, *Powdery Mildew*, *Pseudomonas*, *Rhizoctonia*, *Rust*, *Scab*, *Verticillium* ,*Xanthomonas*
- Spray plants and allow to dry before going into cold storage for best results.
- Containers or bare roots should be placed on a level surface that can drain so that water can leach away and not collect during storage.
- Watering if needed should be done early in the day so that all the moisture can evaporate before the evening. Venting before dark will help to lower the relative humidity.

Phyton 27 is an excellent fungicide to help reduce diseases and soft rot issues during cold storage of nursery stock.



Why is greenhouse and nursery sanitation important?

Sanitation is defined as the promotion of hygiene and prevention of disease by maintenance of sanitary conditions. But why is this really important in a greenhouse or nursery, if it's not like we are working in a hospital, right? Well, just like we get sick, plants do too. Therefore, keeping your greenhouse or nursery clean will help prevent and control plant disease. Sanitation must be part of your IPM program along with monitoring and exclusion of plant pathogens and pests, biological and chemical treatments, and other cultural practices.

Although some pathogens require plants to survive, many can live for long periods on surfaces within the greenhouse. These pathogens are resilient due to resistant spores, special structures including sclerotia and rhizomorphs, or they may survive in plant debris. Viruses are not very viable outside living tissue, but they can be spread by plant feeding insects, especially aphids and thrips.

The potential sources of plant pathogens include:

- Soil and soilless media
- Crop debris
- Greenhouse structures
- Equipment and tools
- Used containers
- Workers hands, clothing and shoes
- Water
- Infected growing stock or seeds

There are a lot of sanitation methods that you can implement in your greenhouse or nursery to prevent and control plant pathogens. Some basic recommendations are shown in the following check list

Greenhouse and Nursery Sanitation Check List

GROWING AREA	
	Clean all surfaces and remove inorganic and organic residues but avoid airborne dust.
	Eliminate weeds, old plants and crop debris.
	Treat surface or recycled irrigation water before using.
	Avoid irrigation runoff and splashed water, since it may transport pathogens.
	Remove and destroy infested plants and any crop residue.

WORKERS	
	Clean shoes before entering growin areas (foot baths).
	Train employees to wash their hands throughout the day.
	Install hand-washing stations throughout your facility.
	Wear gloves, shoes covers and coveralls during potting, pruning and propagation.

SOIL AND SOILLESS MEDIA	
	Keep soil or potting media properly covered before use.
	Store and mix planting mix in an area protected from runoff water, wind and surrounding soil.
	Do not reuse potting media from infected plants.

EQUIPMENT	
	Remove soil and disinfect tools and irrigation systems as often as possible.
	Avoid laying down hose nozzles, tools and equipment on the ground.
	Wash and disinfect containers, tools and equipment.



Phyton Corp is happy to welcome **Alan Miller** to our Team. Alan will be our new Technical Sales Manager for the United States and cover a sales territory from Missouri to the East Coast, the central east coast area and New England.

Alan graduated from OSU in 1977 with a degree in Horticulture and has worked in the industry for the past 32 years. His past experience includes: 17 years as a grower/manager, 5 years as a national fertilizer representative, 6 years with a horticulture distribution company as their technical manager for chemicals, fertilizers, soils, and diagnosis and recommendations in the above areas, and 3 years as a regional sales manager for a national chemical company.

We welcome Alan to our staff, and look forward to offering his expertise to you. Alan will be offering advice and recommendations on the use of Phyton 27 and our new product X3.

Phyton Corporation
5608 International Parkway
New Hope, MN 55428

Phyton 2010 Trade Shows

NCAN-Green &
Growin' Show
Greensboro, NC
Jan. 15-16, 2010

SE Greenhouse Show
Greenville, SC
June 16-18, 2010

TPIE Show
Ft. Lauderdale, FL
Jan. 14-16, 2010

Ohio Short Course
Columbus, OH
July 11-13, 2010

Gulf States Show
Mobile, AL
Jan. 22-23, 2010

Wintergreen Show
Athens, GA
Jan. 24-27, 2010

NE Grows Show
Boston, MA
Feb. 3-5, 2010



Phyton Corporation
5608 International Parkway
New Hope, MN 55428
www.phytoncorp.com
800-356-8733
763-432-4008
Fx 763-432-4009
info@phytoncorp.com



Phyton-27[®] delivers exceptional bacterial and fungal disease control on a wide range of ornamental crops. Preventively and therapeutically, from propagation to post-harvest, without residue.

Xeroton-3 is a highly concentrated broad spectrum formula that offers superior results at a lower cost per application. X3s new active, Octanoic Acid, provides better disease control, plant safety and uses 5X less to boost your profits.

