PPFS-GH-05

UK COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY — COLLEGE OF AGRICULTURE

Plant Pathology Fact Sheet

Controlling Phytophthora Root Rot in Greenhouse Ornamentals

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Phytophthora fungi can attack a number of potted herbaceous ornamentals produced in greenhouses. The potted flowering plants reported as hosts include: begonia, bougainvillea, ornamental pepper, vinca, poinsettia, Persian violet, fuchsia, common gardenia, African daisy, kalanchoe, Lantana, African violet, holiday cactus, gloxinia, and Jerusalem cherry.

Under certain conditions, *Phytophthora* fungi produce zoospores--microscopic spores that actually swim in standing water or water films. On their own, they travel very short distances (no more than a few inches), but they are spread very easily by greenhouse practices that spread droplets of contaminated water or soil.

PHYTOPTHORA PARASITICA ON GLOXINIA

Management Practices

• MAINTAIN THE POTTING MIX AND GREENHOUSE FREE OF CONTAMINATION

At the beginning of the propagating season, remove all old rooting media, old roots, and plant debris from the greenhouse, paying particular attention to the propagating area. Clean the interior and disinfest work surfaces with a solution of 10% household bleach (use a bleach that contains at least 5% sodium hypochlorite, and mix one part bleach in nine parts clean water). Painted wooden surfaces are easier to maintain pathogen-free; unpainted wooden surfaces may be treated with copper naphthenate wood preservative.

Store rooting and potting media and pots in a way that prevents contact with runoff water from soil: elevated concrete pads, shelves, elevated beds of crushed gravel, etc. Inspect incoming transplants for symptoms of root rot. Plants with root rot will exhibit wilting and loss of color of leaves and brown to black decay of roots. Use soil-free potting mix. Keep potted plants on benches or raised beds of crushed gravel; do not allow contact with soil or runoff water from soil. Hose ends should not be dropped on the floor.

If possible, group plants susceptible to *Phytophthora* together so that they can be given special attention. Pots or flats to be reused should be washed with soap and water and then soaked (5 to10 minutes) in a 10% household bleach solution.

• Grow plants under conditions that reduce susceptibility

Use potting mixes with excellent drainage. Avoid potting mixes with peat moss or sawdust. Potting mixes with at least 20% composted hardwood bark (without many fine particles) and sand have a high air volume and good water drainage. Do not overwater plants or overfertilize, both of which favor disease development.

• Eradicate outbreaks promptly

Inspect plants regularly. If an outbreak of the disease is suspected, laboratory analysis is needed for confirmation (contact your county Extension agent for information on submitting plant samples for diagnosis). Isolate suspect plants while awaiting the results of the disease diagnosis. This will reduce the chances of additional plants becoming contaminated during the waiting period. Immediately remove and discard diseased plants and potting mix. When tools and hands come in contact with contaminated soil, they must be cleaned thoroughly.

Tools and surfaces should be disinfested by treating for at least five minutes with a 10% bleach solution. Corrodible surfaces and tools should be rinsed with clean water after treatment; tools should be oiled for maximum protection against corrosion. Treat all unpainted wood with a 2% solution of copper naphthenate wood preservative.

• Fungicides

Products containing the active ingredient metalaxyl, mefonoxam, or propamocarb will provide some protection if used before disease develops. Check the labels to be sure that the particular product you use is labeled for the particular crop being grown and is labeled for use in the greenhouse environment. The product label will also have information on rate and timing of applications.

(Revised 5-05)