GROWERTALKS

Columns

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Overpowering Erwinia

Mark Berner

Erwinia soft rot is one of the most destructive and difficult-to-control disease problems you'll encounter in your greenhouse. As with most diseases, prevention is the best strategy and this is especially true with bacterial diseases as there are no chemicals available that will truly eradicate the pathogen once it has infected your crops. Protective sprays of copper or mancozeb-based fungicides help.

This along with keeping the greenhouse and work areas clean, disinfecting growing tables or benches between crops, inspecting incoming plant material, using new containers and having employees disinfect their hands routinely with a bleach solution or alcohol are all good steps in preventing disease problems in general. However, even with these procedures in place, if a pathogen is present or introduced, and the environmental conditions are right and the plants are unprotected or stressed in some way, the pathogen will likely take hold and start to cause problems.

Symptoms of erwinia can appear systemically, in which case an established plant lacks vigor, looks generally unhealthy and may have one or several wilted lower leaves. Or, it can show up overnight as a gooey, smelly mess, usually in propagation, where it takes out a lot of cuttings very fast.

Symptoms to watch for:
• Water-soaked leaf spots that spread to consume the entire leaf.
• Butt-ends of cuttings that are slimy and smelly, or entire cutting and surrounding cuttings are quickly destroyed.
• Wilting lower leaves that eventually collapse and die.
• Rotting, smelly basal areas on established plants.

Conditions favoring the development and spread of erwinia:
• Moist, warm environment.
• Plants tightly spaced (disease is spread by physical contact).
• Low air movement so plants are wet for long periods.

• Overhead irrigation; disease is spread by splashing water.
• Anaerobic or low oxygen conditions, such as at the base of cuttings stuck too deeply, especially in foam media.
• Poor hygiene protocol.

This past spring we had a breakout of erwinia on our alocasia, a plant that is prone to the disease. I'm not sure how the disease was introduced, but prior to this we had been using Zyban as a general preventative spray on the liners and the recently transplanted pots, applied every two weeks. We didn't want to use this fungicide through to finish because of the residue, so after a point in each crop the plants were unprotected. I didn't realize there was a problem, as the Zyban was apparently suppressing the disease. In the later crop stages the symptoms became apparent.

We started using streptomycin and KleenGrow on a weekly basis, rotating them because my experience with streptomycin is limited and inconclusive, and at the time I had no experience with KleenGrow. Some phyto showed up on a non-target crop from spray drift, and through some trialing we determined that it was from the streptomycin, so we went with the KleenGrow alone, sprayed weekly at 375 ml/100 gal. After four or five weeks of spraying and culling infected plants we started to see fewer and fewer newly infected plants, and within eight weeks the problem was pretty much gone.

I'm usually not one to make product testimonials, but in this case I was very impressed with the results we saw with this product, especially considering the disease we were trying to control. We continue to use the KleenGrow as a preventative spray, applied every two weeks. **GT**

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