

ask?us

About Diseases



**By
A.R. Chase**
Diseases

archase@chaseresearch.net

A.R. Chase is president and pathologist of Chase Horticultural Research, floriculture's premier chemical screening and disease diagnostic company.

Q Are biological control agents effective on ornamental disease?

A We have been testing a number of these products with various results. Most of our experience has been with RootShield/PlantShield (*Trichoderma harzanium*), Rhapsody (*Bacillus subtilis*) and Actinovate (*Streptomyces lydicus*). Our most successful trials with RootShield/PlantShield have been for control of Pythium and Rhizoctonia root rots. We do not see as much success with Fusarium, but at times, the product works well. RootShield works best on root diseases, and if the problem occurs on stems (like Rhizoctonia cutting rot) or above ground (like Phytophthora aerial blight), the fungus will not be as effective.

Actinovate has been moderately successful in controlling Botrytis blight, powdery mildew and Pythium root rot. In other trials, we did not see significant control of downy mildew, Rhizoctonia cutting rot or rust.

Over the past few years, we have also worked quite a bit with Rhapsody. We have found very good control of Cercospora leaf spot on pansy, good control of powdery mildew on several crops and good control of bacterial leaf spots caused by Pseudomonas and Xanthomonas. We did not see any control of fire blight in a single trial on cotoneaster. We do see some control of downy mildew and Phytophthora.

The only conclusion I can make regarding use of biological controls is that you must try them under your conditions. It is clear they are successful sometimes and not others. It is well recognized at this point that using biological control products in commercial ornamental production is a real skill and not everyone can acquire it. Finally, be sure to pick the right biological control for the right disease. None of them control all diseases any more than a single chemical fungicide is able to.

Q What is the difference between prevention and eradication?

A This seems like a simple question since the dictionary defines them both rather clearly. The real difference is that prevention is based on applying a fungicide or bactericide before an infection and eradication or cure is after infection has occurred. Many times we believe we are putting out products preventatively when, in fact, the infection has already occurred but symptoms have not developed. Most of our fungicide applications are, in fact, eradication attempts since it is rare for a grower to actually be able to get the product on before an infection has occurred.

Does it matter if the application goes out before or after infection? Some diseases are easier to cure than others. In downy mildew, it is almost always harder to stop an active infection than to prevent the disease in the first place. In contrast, many types of products can eradicate some powdery mildew diseases after they caused enough damage to turn the leaves white.

There has been quite a bit of research performed on rust diseases and downy mildew showing the ability of some fungicides to stop an active infection at various times after or before an infection. Some products last a long time and remain active so they can go out preventatively, and you will not have to be a genius at guessing when a disease will pop up. Others work apparent miracles in stopping an infection for up to five days after it has started. It pays to know which products are the best "protectors" (prevention) and which are the best "eradicants." Choosing the best products for your production system will save you a lot of money in the long run. **GPN**

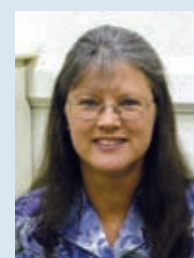
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Jim Barrett
PGR — Annuals
jbarrett@ufl.edu



Jim Bethke
Insects
bethke@citrus.ucr.edu



Joyce Latimer
PGR — Perennials
jlatime@vt.edu