

# ask? us

## About Diseases



**By  
A.R. Chase**  
Diseases

[archase@chaseresearch.net](mailto:archase@chaseresearch.net)

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

### Q Can I control disease without fungicides?

**A** The short answer is yes; you can in some cases. Diseases like Botrytis can be successfully controlled through environmental manipulation alone. This is based on having a growing structure like a greenhouse that can be closely controlled for temperature and humidity. If you have such a greenhouse, you can avoid Botrytis even if spores of the fungus are present. When a greenhouse is vented and heated right before the sun goes down, it drives humidity outside the growing area where it cannot condense on plants overnight.

Keeping the leaves dry can control many fungal and bacterial leaf spots, including Alternaria, Pseudomonas and Cercospora. If the leaves are not actually wet, the spores cannot germinate and invade them. Since splashing water is a common way for spores to move to new leaves, make sure plants are not irrigated from overhead or exposed to rainfall.

It may be very hard to do, but if you use pathogen-free seeds and plugs, you can eliminate some diseases. This is true of many seed-borne diseases like Xanthomonas leaf spot on zinnia seed. In these cases, the disease is never an issue unless introduced on the seed, plug or rooted cutting. Inspect all new plants and keep records when a problem occurs. Unfortunately, it is very hard to see the signs of some pathogens when they are just starting, so a cutting may look healthy but be infected.

Eliminating plants that are prone to disease is an excellent way to stop a disease from occurring. It seems obvious that if the plant is not present, no disease can occur even if the pathogen is present. There really are a few examples of plants that should not be grown in some locales since they are so susceptible to a particular pathogen.

The real question is this: Can you control diseases without spending excessive sums of money on labor, greenhouse structural improvement and energy inputs? Only you can decide if these strategies will work. The large chemical industry that we rely on in ornamental production seems to be an indication that few diseases are completely controlled without any fungicide inputs.

### Q All leaf spots look alike to me. Can I use one product to control them all?

**A** Yes, you can if you rely on copper products. These are the most broad-spectrum bactericides/fungicides we have, and they help control algae, too. One drawback to using them is they can also cause damage to some ornamentals if they are used at the rates that are highly effective. Another problem occurs if you use them repeatedly without rotation. Bacteria especially become resistant to copper very quickly if rotations are not used. Finally, although they can help with all leaf spots, they might not help much with some of them. There will sometimes be other products that are more effective and safer and allow resistance management strategies to be followed.

So even though I said yes, I mean no. In reality, you must know what you are fighting to choose the best weapon. Get an accurate diagnosis and rotate products. **GPN**

*Do you have a question for our panel of experts? Send your disease, pest or growth-control inquiries to the appropriate person, and look for the answer in an upcoming issue of GPN.*



**Jim Barrett**  
PGR — Annuals  
[jbarrett@ufl.edu](mailto:jbarrett@ufl.edu)



**Jim Bethke**  
Insects  
[bethke@citrus.ucr.edu](mailto:bethke@citrus.ucr.edu)



**Joyce Latimer**  
PGR — Perennials  
[jlatime@vt.edu](mailto:jlatime@vt.edu)