

Ornamental Research News

Central Florida Research and Education Center

Volume 1, No. 8
September, 1994

Know your adversary

Plant Pathology

Dr. J.O. Strandberg - Plant Pathologist

Modern fungicides are expensive, but they can be cost effective when used for their intended purpose. Many are highly systemic in plants or are active at much lower concentrations than the first and second generation of fungicides used in the past. These advantages often provide growers with a much greater latitude in application methods, rates and timing of spray intervals. Overall, the newer fungicides can provide an impressive level of disease control in situations that partially offsets their high cost; however, there are trade-offs.

Unlike older fungicides, such as copper and maneb compounds, many newer chemicals are highly specific in how they protect plants from fungi. As a result, they are much more species-specific than fungicides of the past. For example, copper compounds and maneb, described as general membrane poisons because they are toxic to the cell membranes of fungi, are usually inhibitory when applied at the proper concentrations. This toxicity usually inhibits spore germination on the leaf surface or suppresses fungal growth in the soil; however, many of the newer fungicides do not work this way, and owe their superior activity and effectiveness to their ability to block or interfere with specific and critical functions within the fungal cell. In this way, they can frequently provide some curative activity or slow the progress of an established disease.

The trade-off that must be made for this good fungicidal activity at lower rates and the excellent disease control provided by the new fungicides is that this enhanced activity occurs in only a narrow range of fungal species. Unfortunately, if these newer fungicides are used against diseases for which they are not intended, they are usually ineffective. For many disease situations, applying the incorrect modern fungicide is no better than spraying plain water. This is completely different with the old stand-by fungicides such as copper and maneb compounds which would at least provide some, if not always, excellent control.

You must know your adversary. It has never been more important to know what disease you are trying to control or prevent. It has also never been more to your advantage to learn the common diseases and

pests of the plants you grow. If you don't know or are not sure what disease or pest you are dealing with, contact someone who does. You will save money in the long run.

Modern fungicides are extremely valuable tools in plant production but using the wrong tool can lead to disappointing, and sometimes, disastrous results.

Beneficial insects and pesticides

Extension Corner

Liz Felter - Multi-County Commercial Horticulturist

Is your pesticide use compatible with your beneficial insect predators and parasites? If you are using beneficial insects as a pest management tool in an integrated pest control program, pesticides with short residual activity are the most easily incorporated. The neem-based products can be used, with no waiting period, immediately before releasing beneficial insects or mites in the nursery. Even immediately after beneficial mites are released, an insect growth regulator such as Margosan-O (neem) or Enstar (kinoprene) can be used with minimal damage to the predators since they are adults that do not require further molting. With the salts of fatty acids, commonly called insecticidal soaps, and the ultra fine oils, it is best to allow one day to elapse before beneficial insects are released.

Opinions differ among entomologists concerning the waiting period for Avid, but most usually suggest at least 7 days before the release of any beneficials into treated plots. The most toxic sprays for both introduced and naturally occurring beneficials are the pyrethroids. A 60-day minimum waiting period should pass before any beneficials are released into areas treated with these compounds. Examples of this chemical group include Mavrik, Talstar, and Tame.

Phytophthora aerial blight of vinca

Seasonal Watch

Dr. A.R. Chase, Professor Emeritus

One of the most popular bedding plants during the past five years has been vinca (*Catharanthus roseus*). A serious disease caused by the soil-borne fungus, *Phytophthora parasitica*, has limited the use of this plant in many landscapes. The pathogen causes stem rot and aerial blight which, under most conditions, results in death of the plant. Fungicides for disease control have not been effective even under ideal test conditions in a greenhouse. All vinca cultivars tested were susceptible to *P. parasitica*, but several of the vinca cultivars which we tested, over two years, proved to be relatively resistant to *Phytophthora* aerial

blight. 'Cooler Grape', 'Cooler Peppermint' and 'Parasol' showed consistent typical reactions to the pathogen. Parasol, 'Tropicana Rose' and 'Tropicana Blush' were the most seriously affected by Phytophthora aerial blight. 'Tropicana Bright Eye', 'Cooler Blush' and 'Cooler Peppermint' remain the most resistant to this pathogen. Apparently none of the lines of vinca is more susceptible to *P. parasitica*, since 'Tropicana Bright Eye' was least susceptible while Tropicana Rose was one of the most susceptible. Growth habit of the cultivars also appeared to have little to do with their disease resistance and flower color was not correlated to disease susceptibility.

Who, what & why are Research Gardeners?

On Center

C.A. Conover, Center Director

Who

Many of you are aware of the Master Gardener program sponsored by your county cooperative extension service. Master Gardeners are volunteers who have been trained to answer consumer questions concerning gardening, home grounds, etc. This program has been successful for the extension service and was the model for our Research Gardener program. Faculty at the CFREC-Apopka discussed the potential for a volunteer program in research and the manner in which it would be designed. Input was received from county extension personnel as well as people who were involved as Master Gardeners. After much deliberation, we decided to develop a program in research and call these volunteers Research Gardeners.

What

Faculty developed a training program which included 16 hours of classroom instruction for volunteers interested in the program. At the end of the training program, volunteers chose a research area of interest and were assigned to work with a specific faculty member. Volunteers were encouraged to select projects of interest to themselves while answering questions important to consumers and industry.

Why

Volunteers represent a valuable addition to the personnel available to conduct research. Not only does this resource aid faculty in the industry research we normally conduct, but it also provides a mechanism and personnel for research in consumer areas we haven't had time to pursue. So far, our volunteers have contributed over 5,000 hours of their time as Research Gardeners.

Syngonium Growers Conference

Everyone growing nephthytis will want to attend.

Topics to be addressed include:

- New cultivars
- Growth regulation
- Disease problems
- Breeding goals
- Innovative marketing ideas

September 14, 1994 at 1:30 p.m.,
Apopka Ninth Grade Center
800 North Wells Ave.
Apopka, Florida.

For more information contact:
Liz Felter at (407) 836-7570

Central Florida Research and Education Center
2807 Binion Road, Apopka, FL 32703-8504
Telephone 407/884-2034 Fax 904/392-9359
Hours 7:30 am until 4:00 pm, Monday thru Friday.
Grower Diagnostic Clinic: every Thursday 1:00 to 3:00 pm.
Ornamental Research News Chris Fooshee, Editor
