

Ornamental Research News

Central Florida Research and Education Center

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WELCOME!

Welcome to the first issue of Foliage Research News. This newsletter has been designed to provide timely and usable research information to help keep Central Florida growers up-to-date on services and activities at the Central Florida Research and Education Center (CFREC)- Apopka.

Our faculty and our industry advisory committee have been looking at better ways to get current research information to growers. It is a fact that few growers have enough time to read the varied scientific journals necessary to keep up with the research being published or currently performed at the research center. Therefore, this newsletter will include summaries on new research, comments on seasonal problems - disease, insect, economic, etc., faculty interviews, availability of research publications, as well as timely reports and historical statistics about problems brought to the clinic for diagnosis.

There are no plans to have a newsletter mailing list; instead, this publication will be available through your county extension agents and from your local industry suppliers. We hope to enlist industry suppliers to display copies of each newsletter for counter give-away or to insert them into their regular mailings.

Our goal this year is to obtain your input, so that we can make this newsletter better suited to the needs of growers. Feel free to suggest subjects that will help you grow healthier, more profitable crops. It is hoped that you find this publication helpful, informative and interesting. Please help us make it that way.

MYROTHECIUM LEAF SPOT AND PETIOLE ROT

Winter conditions in Florida are unfavorable for most foliage plant diseases. However, for the next few months we can expect to see outbreaks of Myrothecium leaf spot and petiole rot on aglaonemas, anthuriums, begonias, dieffenbachias, ficus, and syngoniums as well as many others. This disease (caused by *M. roridum*) is most active during the cooler times of the year, although it can be found year

around in some nurseries.

Tissue-cultured plants suffer from petiole rot which results in leaf loss and many times plant death. Plantlets appear to become infected quickly upon transfer from the laboratory to the greenhouse necessitating preventative fungicide treatments. Leaf spot is the primary symptom on older plants. Spots are round, mushy and form at wounds. Look for the black and white fruiting bodies of the fungus on leaf undersides which can be seen with the naked eye to diagnose *Myrothecium* leaf spot. Spores of *M. roridum* spread by splashing water and once a greenhouse becomes contaminated with the pathogen it is nearly impossible to eradicate.

Fungicide trials indicate best control of the petiole rot phase can be obtained with a heavy foliar spray of Chipco 26019 or Captan. These fungicides, as well as Daconil and Dithane M-45, give the best control of leaf spots. Proper cultural practices such as discarding infected plants and even removing leaves with spots can reduce the leaf spot phase but petiole rot cannot be controlled without fungicides.

For Further Reading:

Chase, A. R. 1990. Controlling *Myrothecium* petiole rot of *Syngonium podophyllum*. Proc. Fla. State Hort. Soc. 103:194-195.

GHOST ANT DEVOURS EXPERIMENT

The entomology program has discovered a new predator of mites, thrips, aphids, and whiteflies! This insect was found quite by accident. During a recent efficacy test of a new miticide, test plants were prepared with a heavy infestation of spider mites before the start of the experiment. After counting the number of mites on each plant, seven groups of plants were treated with different pesticides and rates. One group of plants was left untreated as a control.

By the second week, it was determined that, for some reason, mites on some of the untreated plants were being controlled better than they were on plants treated with pesticides. It was initially thought that predatory mites had gotten on the untreated plants. But upon closer examination it was determined that a species of ant, known as Ghost ants, were carrying all of the mites away. The ant colony was found in the greenhouse soil.

Evidently, Ghost ants don't care for pesticides, which explains why plants treated with chemicals weren't bothered by the ants. It is unlikely that the ants will become reliable predators. In fact, if you have a pest problem the ants could even become a nuisance by taking up residence in the potting media.

In 1993, over 70 samples from growers were brought to the Growers Diagnostic Clinic for diagnosis. This included both foliage and woody ornamental plants as well as some annual flowers and vegetables. The plants brought in to the clinic most often were *Spathiphyllum*, *Dracaena*, *Dieffenbachia*, *Syngonium* and Ivy.

It is interesting to note that only 52% of the problems sent for further diagnosis to the Florida Extension Plant Disease Clinic in Gainesville, had a pathogenic disease. The other 48% had non-pathogenic disorders. This means that no pathogens could be observed on or recovered from symptomatic tissue. The symptoms must be attributed to either cultural or environmental stresses. Problems such as nutritional imbalances, improper water relations, temperature extremes or pesticide phytotoxicity could have caused the problem.

The clinic is held every Thursday from 1:00 until 3:00 P.M. at the Central Florida Research and Education Center in Apopka. Growers can bring in insect, disease, weed, soil or cultural problems to the clinic for diagnosis. Also, the restricted use pesticide exam for private certification is given by appointment at 1:00 P.M. For diagnostic services, it is very important to bring to the clinic an appropriate sample that consists of a generous amount of plant material representing a wide range of the symptoms. Please include a list of all pesticides and fertilizers applied in the last 30 days as well as any other information which might aid in making the proper diagnosis.

The Orange County Cooperative Extension Service continues to provide on the spot diagnosis at the clinic of common disease, insect and soil pH problems at no cost. If further testing is needed, fees range from \$2.00 to \$15.00. All forms, kits and submission guidelines for growers to forward samples to the University of Florida labs are available at the Orange County Cooperative Extension office, call 836-7570 for details.

COLD NIGHTS

One of the greatest expenses for growers during the winter months is fuel cost. Temperatures during December, January and February are frequently in the 40s and 50s with some nights into the 30s or even lower. A series of experiments were conducted between 1978 and 1980 to determine the effect of longterm minimum night temperatures on the plant growth were performed on a number of common foliage plants. These tests involved setting thermostats in three separate greenhouses to minimum night temperatures of 60, 65, or 70°F. for up to four months.

In these experiments it was found that most plants were not greatly affected by the temperature differences. Some plants grew better and some grew slower, but the overall result was that plant growth was not greatly reduced by minimum temperatures of 60°F, although a delay of 1 to 2 weeks of growth probably occurred between the 60 and 70°F treatments. Data collected on fuel consumption indicated

that a thermostat setting of 70°F used twice the amount of fuel as the 60°F setting.

The next step in this series of experiments was to observe the effect of allowing greenhouse temperatures to drop even lower than the recommended 65°F during extremely cold periods. This involved lowering the thermostat on several groups of schefflera to 50, 55, or 60°F for 1,2 or 3 nights.

Schefflera actually seemed improved by exposure to cooler night temperatures several nights during he week. It was concluded that lowering the thermostat below the normal settings for up to 3 nights a week during periods of extreme cold could result in considerable fuel savings without a reduction in schefflera growth.

For more details see AREC-A Research Report RH-1982-26, by Drs. Poole and Conover, entitled Growth of Foliage Plants at Various Night Temperatures.

