



t. Augustine Orchid Society

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Cockroaches and Orchid Immune Response

March 2013

by Dr. Courtney Hackney, hackneau@comcast.net

Spring is here; at least it was today. No matter when it finally arrives, there are a few indicators that should be obeyed when it does. For me, small dead roaches in a cup of water said it was. Empty cups are left on benches among plants and moved around each week to be sure that my watering is thoroughly soaking pots and media. It is surprising how often I find a portion of a bench that seems to be neglected when it comes to water. The drowned roaches, however, indicate that some insects are beginning to hatch and become active, thanks to warmer night temperatures.

If you follow this column you may remember that the large roaches, “Palmetto Bugs”, that rule Florida have been my worst enemy since moving here five years ago. An old friend, Karen Tobiassen, suggested that I try Orthoboric acid. Sold in a fine granular form, the product was initially scattered around on benches especially where I had either seen roaches during one of my late night “roach hunts” or seen roots eaten by what I suspected were roaches. Some was also applied on the surface of extra orchids to be sure there were no negative effects on my orchids.



Initially, I was disappointed because there was no pile of roach corpses scattered under benches. After a couple of weeks, I noticed fewer damaged roots near areas where the Orthoboric acid had been placed and dead roaches nearby. Most important was the fact that these dead roaches were terminal larval stages that are the most destructive because they live in the bottoms of orchid pots. They were often found during repotting and very hard to kill with pesticides while hiding in the pot among the medium and crock or Styrofoam peanuts. Better still was the fact that the orchids and their roots in pots saturated with the stuff looked just fine when I removed these from their pots. An application throughout the

greenhouse in early fall seemed to eliminate these pests all winter.

Their return was not surprising, given the fact that there is lots of nature outside the greenhouse that sneaks in during winter. A spring application will begin this month even though I have seen no apparent damage yet.

There is a mystery that has long intrigued me with respect to orchids and disease. There are number of commercial growers and friends from whom I receive orchids where I expect problems. It is not the quality of their orchids, but the fact that plants from them develop more than a normal level of diseases once in my growing area. Why? I have examined these plants carefully, looked at nutrients in their tissues that are usually high,



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and not found satisfactory answers. Conversely, my orchids as well as those from some other growers rarely have these problems even though they are growing side by side.

My suspicion was that my own plants had some type of immunity or at least resistance to many diseases that these other orchids did not have. While plants do not have circulatory systems where disease fighting cells will move to diseased areas, they do have an immune response. The immunity is stimulated by previous attacks from pathogens and communicated around the plant via plant hormones called auxins. Even more interesting is the fact that some auxins can be passed from plant to plant via the air, even to plants of different species.



A new product (Axiom) that attempts to stimulate Systemic Acquired Resistance (SAR) is now being marketed for various vegetable crops and is reputed to boost the plants immune system, increase plant growth and flowering and even decrease the incidence of Botrytis. Will such a product work on orchids that grow slowly and are members of a distinctly different plant family? Pesticides that confuse insect molting cycles seemed like wild ideas at one time, but are now part of my pest control. Who knows what this new product will do? Only time will tell.