GROWERTALKS

Columns

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Current BCAs and Beyond

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Learning how to make a BCA program effective, which may include incorporating “safe” chemicals, is a continual work in progress. It’s vitally important to have a great coach on the sidelines. I’ve known Ron Valentin from Biobest for many years and his guidance is invaluable. My three main growing issues are fungus gnats, thrips and spider mites.

One fungus gnat on a yellow card is too many and by the time one gets caught, all its relations have already caused crop damage at the larval stage. The required humidity and temperature conditions in a propagation environment create an ideal situation for an increase in fungus gnat reproduction. We’re on a weekly nematode-Atheta-Hypoaspis program in our prop department. It was soon evident that it wasn’t enough firepower. Egg incubation and larval development happens in each new batch of soil within seven to 10 days. Adults appear soon after. The BCAs can’t initially be totally successful in this timeframe, so something else is needed to break the early cycle.

The insecticide Citation (a BCA-compatible, safe and low-phyto product) was incorporated into our program. We sprench Citation every Monday afternoon and add a fungicide, foliar phosphite to help with rooting, and nematodes and spreader sticker into the mix. Also every Friday, we drench the week’s new cuttings with Citation and a fungicide. Daily yellow card inspections and weekly potato wedge checking help monitor the success of our control. With this program, we’re winning the fungus gnat battle. Rooting happens when it’s supposed to in most varieties within five to 10 days, and callus or young roots aren’t being chewed off by those nasty little larvae with the black heads. With our initial RootShield Plus drench on Day 1 of sticking, we have a clean environment, rooting percentage has increased and crop time has been significantly reduced across the board. As cuttings exit propagation, all life stages of the BCAs can be found in our Ellepots, so there’s a good population of predators to fend off problems later in the growing houses.

Second on the list is thrips. Regular weekly spray applications of nematodes have kept my thrips population well in check. The most important aspect of this procedure is to make sure that the plant foliage is wet enough for at least two to three hours to keep the nematodes alive while they hunt down their prey. Visual foliage checking, as well as yellow-card monitoring is important, especially to determine hot spots. I’ve applied

Amblyseius cucumeris to deal with some of those. Overwintered perennial plugs can be a good hiding place for thrips pupae.

Also this year, I have a nice crop of Purple Flash peppers. These are pollen-laden banker plants for Orius insidiosus, the thrips predator. We've seeded the peppers for a number of weeks with purchased Orius in order to rear a population of new Orius for the late spring/summer thrips battle. Adult Orius are very difficult to find, but at Ron's suggestion, we beat the plants/flowers onto a large sheet of white paper and knocked out some adults and nymphs, showing that the reproductive process has started. These banker plants will be spread around the facility and we may also try some in certain areas in our production fields.

Spider mites are my last topic. For the first time, I've used bean plants as a method of identifying a spider population. Bean leaves attract spider mites and exhibit damage within a few hours. I had a salvia crop with spider issues this spring and used Fallacis, Feltiella and Phytoseiulus as BCAs to attack the problem. In fact, I was about to throw in the towel on BCA control when Ron visited and helped identify Phytosellius and Fallacis eggs on the underside of the salvia leaves. Within seven to 10 days, the next predator generation had the problem under control, and new salvia and bean foliage was clean. Being proactive with biological control is so very important and perseverance is essential.

This year for the first time in 40 years, I'm not growing a poinsettia crop, so I won't have to be concerned with whitefly control. So how are poinsettia growers going to deal with this almost chemical-resistant pest? Ron and I have some trials going with Dicyphus, a whitefly predator. We produced some mullein plants this year and currently two large greenhouse tomato growers are successfully rearing Dicyphus on their mullein banker plants with the object of biologically controlling their whitefly population. We also have a few in-house trials underway. Could this be a new method of poinsettia whitefly control? As more growers are jumping on the BCA bandwagon, Dicyphus could be a very welcome addition to the predator arsenal. Time will tell. **GT**

Roger McGaughey, head grower at Pioneer Gardens in Deerfield, Massachusetts, was educated in Northern Ireland and England and has 40 years experience as a grower.