

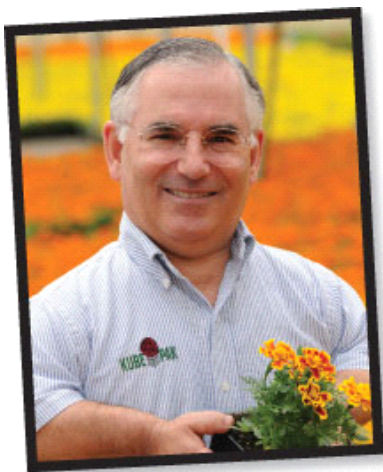
GROWERTALKS

Growers Talk Business

11/1/2019

Update on Biological Controls

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About five years ago, I wrote an article titled “Beneficial or Not?” It detailed our introduction to the use of beneficial insects for the control of destructive insects in our greenhouse. I felt it was time to update our successes and failures with the use of the beneficial insects over the past five years.

One key point that was stressed in the previous article was that we were using an integrated approach to insect control. A combination of chemical and biological control was the right approach for us. Is that the same approach we’re using today? Most certainly. One point that’s been made clear to us is that using one approach will eventually fail. If we try to use only biological controls, such as predatory mites and BotaniGard, by the end of the season the biological controls simply cannot keep up with the destructive insects and there’s much damage to the crops. On the other hand, if we use only a chemical approach, we find resistance building up with most of the

chemicals we use and then they’re ineffective. The combination of both biological and chemical has worked the best.

What have been our successes?

1. Dipping of URC and RC before they’re planted. This has probably been the area of greatest success. If we do a thorough job of making sure the solution of BotaniGard and nematodes is evenly applied to the URC, then the outbreak of future insects is reduced significantly. In addition to the dipping, we also apply nematodes during the rooting process and, after propagation, will introduce the mites to the crop.
2. One crop that’s shown outstanding success with the dipping process is the strawberry stock program. We take bareroot strawberry liners and plant them into 10-in. hanging baskets in late April. About six weeks later, we hang those baskets in the greenhouse and harvest cuttings off of them for the entire summer and early fall. We also use some soft chemical sprays before the stock baskets are hung. At the time of hanging, we introduce a sachet of cucumeris mites and this is very successful in controlling the thrips population. For the past five crop rotations, we’ve had excellent control of thrips.
3. The other successful crop using the beneficial insects is the patio pot program. It’s the dipping process with the URCs that gives the plants a clean start. In addition, we blow cucumeris mites over the RCs as they come out of propagation and before they’re planted in their final container.

4. Another crop that's benefited from the beneficial insects is the dracaena spike program. As you know, it takes about 12 weeks to get complete germination and sufficient growth to harvest the seedlings that are then planted into 105 trays. Since dracaena spike seed is sown during the height of the summer, it's a most difficult time to control the thrips population. By treating the spikes with the swirski and hypoaspis mites, we get a two-pronged attack against the thrips. The swirski mites attack the larval stage of the thrips and the hypoaspis attach the pupal stage. Then we use the BotaniGard fog weekly for the control of the adults. This approach has proven to be very effective.

What about our failures? Probably the crop that's given us the greatest challenge controlling destructive insects with biological controls is the poinsettia crop. We're very aggressive in using a combination of chemical and biological controls on poinsettias. This starts at the time of planting RCs with the biological dip of BotaniGard and nematodes. After the RCs are planted into the stock pots, we release the parasitic wasps into the stock plants and do that weekly. Then we introduce the swirski mites after the pinch of the plants for three weeks.

Four weeks after the pinch, we final-space the stock crop and then apply our first chemical application of systemic Flagship as a drench so that the beneficial insects aren't compromised. This year, we followed this prescription and yet found that one variety of poinsettias had an established population of whitefly. After much discussion, it was decided that we weren't getting enough control of the whitefly to produce a clean finished crop. Therefore, we came in with an early application of Safari to knock down the adults. Overall, this worked very well and the number of adults captured on the yellow sticky cards has reduced each week and we anticipate good control over the next few weeks.

In conclusion, we're still very pleased with the combined approach to insect control, but there are limitations to the beneficial program that must be respected or you'll find yourself in an uncomfortable situation with potentially unsalable plants. **GT**

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