GROWERTALKS

Columns

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Growers Talk Production: Pros and Cons of Biocontrol

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This past January we decided to incorporate predatory mites into our spider mite control program, using them on one particular crop that seems especially attractive to twospotted spider mites. The plant has a unique morphology that makes it difficult to get good chemical coverage, so for this reason the plant seemed to be the perfect candidate to start the program.

There are a number of good reasons to use biocontrols in a pest management program, but initially what convinced me to give them a try was, I believe, the same thing that pushes most people to think outside of the usual time-worn methods and try something new—desperation. We were coming off a year of higher-than-normal mite pressure here in the Southeast, and the start of the new year didn't look any better.

But, desperation aside, what's the motivation to go this route? Following is a list of standard reasons to consider biocontrols in an IPM program:

Resistance management. Existing chemicals can eventually lose their effectiveness as insects build resistance to them because of overuse, misuse or just over a long period of time. The use of beneficial insects doesn't exclude the occasional use of chemicals; it actually makes them more effective when you do use them and will extend the effective life of the chemicals. Biocontrols become part of the overall control strategy … and of course nothing builds resistance to being eaten.

Marketing advantage. There are growers already using this as a marketing edge, and sooner or later buyers and consumers will ask for plants produced in this "green" manner. It would be advantageous to be able to say, "We use good bugs to keep the bad bugs off our plants."

Healthier plants, cleaner environment. Biocontrols can mean a lower risk of phytotoxic reactions, less setback from sprays and faster-growing crops. They also mean less damage to existing populations of indigenous beneficial insects. Currently, we have two beneficial insects established in our greenhouse that were not intentionally introduced.

Worker safety. Using biocontrols means less worker exposure to pesticide residues and fewer scheduling problems due to REIs.

Eventually, we'll have to. I believe sooner or later everyone will have to be doing this, and when that time comes it'll be better to be ahead of the curve instead of starting out behind.

The flip side

Cost. Compared side by side, it costs more to use biological controls. We estimate it costs twice as much to buy and release predators instead of spraying. However, the cost can be greatly reduced you use a system for rearing the predators in-house—banker plants, for instance.

Increased scouting. This isn't really a bad thing, but it needs to be done often and thoroughly in order to stay on top of what's going on with the predator/prey balance.

Increased management. This ties in with the scouting; and if you're rearing your own mites, additional plant material (banker plants) must be produced, maintained and rotated in and out of the target crop(s). Records must be accurate, detailed and up to date all the time.

Long learning curve. We're six months into using predatory mites, and I still consider the program a work in progress. I look at pretty much everything in a long-term way and grind things out, so this doesn't bother me at all. It's a slow, step-by-step process, with setbacks along the way. The key, I think, is to start small, gain a basic understanding of what's going on, set some goals and work toward them. Trying to do too much too soon is almost certainly going to lead to frustration. After six months we've only just recently transitioned from the 800 sq. ft. trial phase to treating all 9,000 sq. ft. of this particular crop. And this one crop only represents about 3.5% of our total square footage, so it is indeed a slow process.

There are other points to consider when deciding whether or not to use biocontrols, but I think I've listed the main ones here. I'll go into more detail about what we're doing here at our greenhouses and how it's coming along in a future column.

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