GROWERTALKS

Features

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Where Do You Buy Bios?

Allison Westbrook

Ten years ago, biological controls were a new “trend.” Then they were a “hot topic.” Now, they’re a regular part of many growers’ pest-control program.

The benefits of using biocontrols are numerous, but this is a control method that requires some knowledge and information before jumping in with both feet. So if you’re one of the holdouts that still hasn’t tried or used biocontrols, we spoke with some experts to find out what they’re seeing in the world of biologicals right now and what you can expect after placing that first order.

Trends

Suzanne Wainwright, owner of Buglady Consulting, has seen an upswing in interest in biocontrols. Classes that once attracted 20 or so people are now sold out and people are coming out in droves for education.

As of press time, Suzanne said that pest issues were already in full swing. For example, the broad mite season is happening now and is especially injurious, as it harms ornamentals, vegetables and marijuana.

“Every January, people ask me what the upcoming pest problems will be and I tell them, they’ve already started,” Suzanne says, emphasizing the need for preventative measures. Treatment and prevention can be complex due to environmental conditions and other factors, which are all the more reason for a grower to seek out a consultant or technical representative to help find a biocontrol program to suit their specific needs.

Carol Glenister, entomologist at IPM Laboratories, said, “The trend is that thrips and fungus gnat biocontrol has really been an eye-opener for growers because it makes for a very happy greenhouse—happy plants and happy people. Spray suits are not required and the plants look vibrant. The controls that are used are predatory mites, beneficial nematodes and often a combination of both. The mini sachets of N. cucumeris have become widely used for hanging baskets and do a great job in long-term suppression of thrips and broad mites.”

Kelly Vance, technical and sales support at Beneficial Insectary, says that one trend he’s starting to see is more growers advertising their use of biocontrol and using it as a marketing strategy.

“I like this because I see it as a win-win situation for everyone,” he said. “Growers are able to secure contracts

with larger retailers who are listening to their customers about their concerns with the impact pesticide use is having on pollinators, aquatic species, etc. I work with a nursery that secured a large contract with a major box store on the grounds their baskets would be 100% free of neonicotinoids. Likewise, I see retailers able to charge $1.00 to $2.00 more per hanging basket when the consumer is informed. This creates a public demand for plants grown with sustainability in mind, which motivates growers to adopt biological control agents into their programs."

It turns out that biologicals can be purchased in a myriad of ways: catalogs, online, distributors and specialized suppliers. Kelly said that ordering organisms from catalogs or online can be tricky, and he recommends dealing with a supplier in person. If a grower does want to order online or by phone, he recommends that they discuss their greenhouse's conditions and pest control needs with a technical consultant to make sure they get the right product.

Suzanne recommends purchasing beneficial insects from an insectary to ensure that you know where they're coming from (see sidebar). Carol said a list of suppliers that specialize in biologicals can also be found online at the Association of Natural Bio-Control Producers website (ANBP.org).

Pictured: BASF Nemasys nematodes come packaged in a cooler, ready to be used or put in the refrigerator.

Does one organism fit all?

How do you figure out what you need? Beneficial insects can be highly specific as to what they control. Carol notes that one single beneficial doesn't suit all plant systems for a given pest, so they must be matched to the plant/pest system. Often, growers consult their suppliers or distributor reps to find out what they need and consult on rates and timing. IPM Laboratories supplies a full line of natural enemies for control of greenhouse and landscape pests, and also spends a great deal of consulting time supporting their use.

Kelly discussed the importance of positively identifying the pest, including the particular species, that's causing the problem. Otherwise, an IPM program may not be successful.

"That is the most common mistake with any pest management program, biological or otherwise," he said. "Certain organisms are generalist predators or parasites and will target multiple species of a pest. Others will only target certain sizes or species of the pest."

For instance, Aphidius colemani is a versatile parasitic wasp for aphids, he said. It will parasitize cotton, melon and green peach aphids, but it won't target larger aphid species like foxglove or potato aphid. To help confirm the specific pest problem, Kelly says that he'll video chat with growers so that they can visually evaluate their unique situation before recommending a solution.

Nematodes

BASF has five different nematode lines that control different pests—everything from shore flies to Western flower thrips to certain types of beetles. Jen Browning, Technical Specialist—Turf & Ornamentals at BASF, said that a grower can purchase them in trays of 50 million up into the billions. To give an idea of scale, the 50 million tray would treat about 1,100 sq. ft. for fungus gnats.

But is using nematodes easy? Jen said yes.

"Nematodes are a great entry point, as they are simple to handle and use the same process as a chemical spray," she explained. They also have a high rate of success, as a user can get total control of fungus gnats with the use of nematodes in their IPM program, said Jen.

Receiving and storing

How do they come to the greenhouse? Most natural enemies are shipped overnight if they're highly perishable. Some are shipped in pupal or egg stages, which can withstand longer shipping times.

Jen says that their nematodes are drop-shipped to growers in a cooler with ice packs to keep the temperature low. Once received, they should be put directly in the refrigerator. (Jen noted with a laugh that she tells people to make sure to put them in a separate fridge from the one where everyone puts their lunches, as the opening and shutting of the door will alter the refrigerator's temperature.) Once the package is opened, the entire container should be used immediately to avoid drying out, or fungal or bacterial contamination.

Orders from Beneficial Insectary are shipped next day from their Redding, California, location via UPS, FedEx or other carriers. The insects come packed in coolers with cold packs and many organisms are sent in specific packaging that fits their individual needs to keep them alive and viable.

Kelly says that storage for any length of time isn't recommended, but if they must be stored before release, to keep the cooler sealed and in a cool, dry place.

"Also, before release, we suggest leaving the container in the greenhouse you plan to release in," he said. "Let them acclimate to the climate of their new home, much like you leave a fish in the bag and float it in your aquarium for a while before releasing it."

Biologicals can be a great addition to an IPM program, but there can be a learning curve to get started using them. Knowing where to get them, how they're delivered and what to do with them when they get there is a good start.

Producers of Biological Control Agents

- Applied Bionomics: Whitefly parasites and others (www.appliedbio-nomics.com)
- Associates Insectary: *Neoseiulus californicus* and mealybug control (www.associatesinsectary.com)
- BASF: Nematodes (betterplants.basf.us)
- Beneficial Insectary: Assortment of beneficial insects, mites and nematodes (www.insectary.com)
- BioBest: Assortment of beneficial insects, mites and nematodes (www.biobest.be)
- Bioline Agroscience: Assortment of beneficial insects, mites and nematodes (www.biolineagrosciences.com)
- IPM Laboratories: Distributor and producer (www.ipmlabs.com)
- Koppert: Assortment of beneficial insects, mites and nematodes (www.koppertonline.com) **GT**

Source: Buglady Consulting