



We create chemistry

Velifer[®] biological insecticide

5 Reasons Biologicals Are the Right Choice for Greenhouses

Innovative greenhouses know that adding biological control to their pest management programs gives them several significant benefits they would not realize otherwise. This includes helping them with resistance management and meeting the sustainability requirements demanded by their customers.

“Chemicals still play an important role in greenhouses’ integrated pest management and insect resistance management programs,” says Joe Lara, senior product manager – Turf and Ornamentals, at BASF. “Growers, however, are increasingly recognizing that there are several key benefits for both them and their customers by including biological control in their IPM and IRM programs.”

Some greenhouses have held off implementing biological pest controls because they aren’t sure about the efficacy compared with chemical insecticides and fungicides. What they’re missing is that it’s not an either-or decision. A greenhouse should set up a well-designed IPM program in which biologicals are used in rotation with chemicals to suppress pest populations during key growth stages. Additionally, by monitoring populations, they can measure the difference before and after application.

5 benefits of biologicals

Greenhouses that add biological pest control options to their IPM programs can tap into several benefits that may set them apart from their competition, including:

1. **Resistance management.** Implementing an insect resistance management strategy is critical to control resistant pests and to prevent pests from developing resistance to products, but it’s only as good as the products used. Over time, pests can develop resistance to chemicals. But resistance is highly unlikely with biological control because of their nature and activity, making them an excellent choice in program rotations. By using biological pest control in rotation with chemicals, growers not only reduce resistant pests but also extend the life of their chemicals.
2. **Sustainability.** This is a big change not just in the ornamentals business, but in business, period. Companies and customers are increasingly asking how products are created and what their effects are on the environment. Biologicals help greenhouses meet the demands of garden centers, florists and other retailers, who in turn are responding to end users’ demands for sustainably produced products. Biologicals are developed from natural ingredients, which leads to more favorable environmental profiles.



3. **More options.** Related to the sustainability trend, more governments around the world are limiting the use of chemical insecticides and fungicides. New York, California, the Netherlands and Canada are just a few examples. Biologicals are a good alternative for growers in these areas.

4. **Safety and productivity.** Many biological products require no special protective gear or equipment. They also have limited or no re-entry intervals after application. These features help growers and their workers to be more productive and efficient. Additionally, biological products may be less toxic to beneficial insects and pollinators and can help growers meet organic production standards.

5. **Efficacy.** In some cases, biological products provide the highest levels of efficacy against certain pests. Beneficial nematodes are examples of a biological that can provide high levels of efficacy.



Biological products for greenhouses

BASF has submitted Velifer® biological insecticide for registration in various countries. Upon registration, it will expand BASF's portfolio with a bioinsecticide offering for the greenhouse market. The active ingredient of Velifer® biological insecticide is *Beauveria bassiana* strain PPRI 5339, a naturally found soil-borne beneficial fungus.

Velifer® biological insecticide effectively manages multiple pests for growers, including whiteflies. It is a direct contact insecticide containing fungal spores that start working rapidly after being applied onto the cuticle of the pest. The fungal spores puncture the cuticle and resulting fungal strands (mycelium) enter into the insect's hemolymph. The fungus proliferates in the insect body, resulting in death or disabling of the insect within 48 to 72 hours.

Velifer® biological insecticide does not enter the plant system and leaves no chemical residue after application. Additionally, it is practically non-toxic to bees and other beneficial invertebrates under normal greenhouse conditions following label directions.

The suggested use of Velifer® biological insecticide is as a partner with traditional BASF chemistry in a grower's IPM program.

BASF also offers Millenium® and Nemasys® beneficial nematodes. Beneficial nematodes are microscopic worms that control targeted insects without affecting any other organisms. Within the infected insect, the beneficial nematodes continually reproduce and then spread out for long-term control. Fungus gnats, western flower thrips, shore flies and other insects are among the pests controlled by beneficial nematodes.

In today's greenhouse market, with such a strong emphasis on sustainability and resistance management, biological controls bring tremendous value to growers. To learn more about Velifer® biological insecticide, visit [___](#).