

BioWorks® Bulletin

Info To Grow



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Are Biopesticides Really All They're Cracked up to Be?

Sometimes it is important to take a step back and ask "WHY"? This is true in business practices as well. It can help keep operational strategies effective, efficient and focused. So why would you consider biological products for your growing operation? Don't chemical agents work just as well or better? Is safety really an issue? And what about "sustainability" -- is that just a passing phase?

Effectiveness & Efficiency

Biological fungicides (biofungicides) are living, "breathing" microbes that naturally keep disease-causing pathogens from damaging and destroying plants. Once applied to the plant, biofungicides have the ability to grow on or near the root, stem or foliar surface, protecting the plant from a vast array of pathogens.

That said, most biofungicides are preventative, so it is important to use them early in the production cycle - before diseases invade plant tissues and become established. Biofungicides can be successfully used at any time during production if they are applied to disease-free plants. If a disease problem already exists, a chemical fungicide should be applied first to eradicate the pathogens before applying a biofungicide to extend protection of the plant. (Note: Check to be sure the biofungicide is compatible with the chemical fungicide used.)

So, yes, chemical agents are needed if a plant has already been infected with a pathogen. However, biofungicides are proven to be extremely effective at protecting plants from getting disease.

Using biopesticides can combat chemical pesticide resistance. Because most biopesticides have multiple modes of activity, there is less chance of insects or pathogens developing resistance to that chemical. Biopesticides are an excellent fit into integrated pest management (IPM) programs. Growers can incorporate biopesticides, which have a completely different mode of action, into a rotation with chemicals in order to combat resistance and increase safety.

Environmentally Responsible and Sustainable

Biopesticides have REIs between 0-4 hours, making them safer for your workers. They also usually have no pre-harvest intervals; in many cases, treated plants can be harvested immediately after application,

Benefits of Biopesticides

- Help reduce use and cost of chemicals
- Help reduce resistance to pesticides
 - Lower REI
 - Safer to use
 - Longer lasting

Did You Know?

More than 60 of the Top 100 Growers in the U.S. use BioWorks products!

RootShield® Granules
 PlantShield® HC
 MilStop®
 BotaniGard®
 Tricon™
 MycoTrol O®
 NemaShield™

which can save you valuable time. Furthermore, biopesticides are generally considered exempt from tolerances (maximum residue limits), which means that residues on leaves and fruit are considered harmless.

Sustainability is becoming much more than just a buzz word or passing phase. More and more businesses are becoming educated on the rationality behind this movement. Pursuing sustainability might not only have a positive affect the environment, but may also improve a company's overall operation and profits. Considering all the benefits of biopesticides, they fit very well into most sustainability programs.

(To learn more about "sustainability" visit these websites: www.greenhousegrower.com/sustainability
<http://www.growertalks.com/> <http://www.greenbeam.com/> <http://www.gpnmag.com/>)



Product Profile

BotaniGard® Mycoinsecticide is excellent for resistance management!

Based on the highly effective fungus, *Beauveria bassiana* (strain GHA), BotaniGard controls the most troublesome crop pests - even resistant strains. It combats whiteflies, thrips, aphids, psyllids, mealybugs, scarab beetles, plant bugs and weevils. Use it as a stand alone, a tank mix partner or in rotation with other insecticides. With just a 4-hour REI, BotaniGard is available in liquid, wettable powder or an organic certified (OMRI listed) liquid, called Mycotrol-O®.

Best Use: Use it at first sight of insect pests. Early detection, followed by application of BotaniGard when insect numbers are low, results in the most effective control. Apply at 7-day intervals to keep your crop clean and prevent insect population explosions. If applied late, or if insects get out of hand, reduce the interval to 3-5 days and use a compatible quick knockdown insecticide in the tank with BotaniGard - this will help you regain control. BotaniGard is safe for use with many beneficial insects. Remember, insects are killed long before the appearance of fuzzy spore production: the presence of "fuzzy" insect bodies is not required to show product effectiveness.

To find out more about BioWorks® products you can call us toll free
1-800-877-9443, or visit www.bioworksinc.com.
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BioWorks®

How You Grow Matters

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