



Q&A with Suzanne Wainwright-Evans, Buglady Consulting *Beginner Guide - Getting the Most out of Your Biological Pesticides*

BotaniGard® is one of the most effective biological pesticides on the market today – especially if you know how to get the most out of the product. Two ways to get the most out of BotaniGard are (1) Know the Supplier and (2) Know the Bug.

Certainly proper application rates and procedures lend to the effectiveness of biological pesticides such as BotaniGard®. However, there are other important dynamics that come into play that growers should consider. We recently spoke to “The Buglady”, Suzanne Wainwright-Evans who shared some insight she gained from working with several growers. With a primary focus on biological control and proper pesticide use, Suzanne has consulted throughout the United States and has become a sought after expert in the field. Here are some of her tips when it comes to biological pest control including BotaniGard:

Know the Supplier – Purchase from an Authorized Distributor

As the market for biological and eco-friendly products has grown, and online purchases in general are through the roof, very often products such as BotaniGard can be purchased from less than reputable sources. BotaniGard, as well as other biologically-based products, have a shelf life and expiration date. Purchasing it from an unqualified supplier may mean you get a product that is less effective due to improper storage and handling. “I’ve seen growers who have purchased biological insecticides and received the products with missing expiration dates – big red flag! If a biological insecticide is out of date it can most definitely affect its performance,” Suzanne explains. “Buy your products from an authorized distributor. Either the distributor or BioWorks will drop ship BotaniGard so you get the freshest, most effective product. *Always* check the expiration date and plan to use it timely or store it under proper temperature and conditions (cool, dry location between 40° and 85°F) so it will remain effective,” she advises.

Know the Bug – Educated Scouting

Scouting programs are often used to detect the presence of potential pest problems and beneficials. “While scouting is important to monitor pest populations so insects and other pests don’t get out of control, accurately identifying the pest – as well as its life stage – is critical in determining which control strategies to use,” Suzanne states. The BotaniGard label recommends it be applied at first detection of immature, soft-bodied insects since the *Beauveria bassiana* spores infect the cuticle and germinate, producing enzymes that dissolve the cuticle, allowing the spores to penetrate the skin and grow in the insects’ bodies – ultimately killing them. “If applying to immature insects, especially aphids, you will get better results if you tank mix with an insect growth regulator like



azadirachtin. This will prevent the insects from shedding off the BotaniGard spores,” she suggests. Properly identifying dead insects is important as well. “Some growers expect to see fuzzy white ‘puff balls’, but insects that die from BotaniGard actually turn a brownish color,” Suzanne adds. Having confidence in *what* you’re looking at helps you make the best pest management decisions to reduce crop damage and plant losses.



Untreated whitefly nymphs



BotaniGard - treated whitefly nymphs

Additional helpful links:

[Application Tips](#)

[BotaniGard Product Info Sheet](#)

[BotaniGard 22WP Label](#)

[Click Here](#) for a full list of BotaniGard Technical Sheets

Dips Can Save You Time and Money

Starting plants off clean gives them the best chance to grow strong and healthy. For that reason, producers of young plants should dip their cuttings and plugs to clean incoming plants. Dips can reduce the need for pesticide applications later in the crop cycle that could also negatively impact biological control agents. The bottom line is that dips can save growers time and money. “Dipping cuttings is an important step in reducing pest issues,” Suzanne comments. “One really good, effective dip is the combination of BotaniGard® (*Beauveria bassiana*) with RootShield® (Trichoderma) and NemaShield® (beneficial nematodes),” she adds.

Refer to BioWorks’ Technical Bulletin “[Clean Up Incoming Plant Material by Utilizing Dips](#)” for further for information and instructions.