



Economy SDS Pot Dispenser  
CLICK HERE FOR VIDEO



greenhouse  
GROWER  
.COM



TOP 100 GROWERS

THE MAGAZINE

GGTV

FRESH AIR FORUM

SUBSCRIBE

ADVERTISE

ABOUT US

NEWS FEED

Home

News

Viewpoints

Variety Central

Profit Center

Production

Trends

On Location

SEARCH

Sustainability  
Archives

[Home](#) > [Special Reports](#) > [Sustainability](#)

2009

2008

2007

## The Importance Of Biopesticides

The experts say IPM programs are making more and more sense. Growers just have to give them a chance.

By **Jim Moore**  
May 2009

[Send](#) [Share](#) [Print](#) Text Size: [A](#) [A](#) [A](#)

Most growers working to create a sustainable agriculture system understand that their first line of defense against unwanted pests is not found in the chemical shed. No, the first line of defense is the beneficial organisms – the good bugs – out in the field. That's why a solid Integrated Pest Management (IPM) program is one of the linchpins of sustainable agriculture. IPM combines cultural practices, biological controls (i.e. predatory insects) and chemical control to keep pest populations low. But, when a pest problem becomes too severe and a chemical must be applied, the grower has two options: a traditional, synthetic product or a "softer" biopesticide.

Among the major benefits of incorporating biopesticides into a sustainable agriculture system is that they are generally more environmentally friendly and do not damage the soil, water supply or the wildlife – including the beneficial insects. The importance of nurturing a standing army of beneficial insects can't be overstated.

"Their safety to beneficial organisms is one area where biopesticides definitely have a fit," says Michael Braverman, manager of Biopesticide Program, IR-4 Project at Rutgers University.

Traditional chemicals can kill all the insects they come in contact with, while most biopesticides are insect and disease specific, controlling the unwanted pest while preserving the populations of beneficial insects.

"Give nature a chance," says Rex Dufour, a pest control advisor and California field director for the National Center for Appropriate Technology and the National Sustainable Agriculture Information Service.

"The beneficial organisms are just like livestock except they're really tiny," Dufour says. "You wouldn't expect to have a really good dairy herd out in the middle of the desert. These diverse groups of beneficial insects need good nesting habitat and given half a chance, they'll provide the services we need."

In most cases, biopesticides are not meant to replace traditional products but to be used in rotation, thus lowering the amount of synthetic chemical being applied. Over time, insects and diseases build resistance to synthetic chemicals. By alternating synthetic chemicals with biopesticides, the efficacy of the synthetic chemical is extended.

### Not Limited To Microbes

Unfortunately, when it comes to educating growers about this class of crop protection materials, the famous line from the movie classic "Cool Hand Luke" describes one problem: "What we've got here is failure to communicate."

"Some people interpret biopesticides – often called biorationals – to be biological in a living sense," Braverman says. "They misinterpret the word and think biopesticides only encompass microorganisms like Bt (*Bacillus thuringiensis*) or some other microbial products. This tends to limit the scope."

While the vast majority of registered active ingredients are microorganisms, biopesticides include a wide array of natural products, including pheromones and kaolin clay.

### What Is Sustainable Agriculture?

So, just what is "sustainable agriculture?" Good question. Even the United States Department of Agriculture admits some terms defy definition. Sustainable agriculture is one of them.

As addressed in the 1990 Farm Bill, the term outlines general goals for producers of food and fiber. Some of the goals include:

- Satisfying human food and fiber needs;
- Enhancing environmental quality and natural resources;
- Efficiently using nonrenewable resources and integrating natural biological cycles and controls;
- Sustaining economic viability of farm

**Registration & Demonstration**

According to Janet Andersen, director of the Environmental Protection Agency's Biopesticides and Pollution Prevention Division, 997 biopesticide products have been registered since the division was formed – “at the request of the agrichemical industry” – in 1994.

operations;

- Enhancing the quality of life for farmers and society as a whole. In short, sustainable agriculture could best be described as farming with a social conscience, while keeping an eye on the bottom line.

One of the division's key purposes is to help expedite the registration of biopesticides because they are viewed as more environmentally friendly than products formulated using traditional chemistry. Expediting registration also assists smaller companies who are often undercapitalized, to bring these products to market sooner.

In addition to helping expedite registration, Andersen also points out the division works with the IR-4 project co-funding demonstration projects to trial and showcase the efficacy of certain biopesticides. This is a component of the division's Pesticide Environmental Stewardship Program to educate growers and promote the use of safer pesticides as part of a grower's IPM program.

Braverman notes that a large number and a broad range of products have been trialed and funded by the EPA/IR-4 grants. Examples include the use of pheromones (mating disruption) to help control codling moth in Michigan apples; using fungus and bacterium-based products to control Sclerotinia (lettuce drop) in Arizona lettuce; and using phosphite and diphosphite products to control Pythium in a variety of greenhouse crops.

**More Sustainable Benefits**

While the concept of sustainable agriculture was initially designed for smaller growers who supply local markets, many large growers are adopting similar practices for regulatory, economic and environmental reasons.

In addition to the environmental benefits of biopesticides, Dufour points out two other factors that are becoming increasingly important to growers. Consumers are taking notice of where and how their fruits and vegetables are grown. “There's a growing market for produce that is grown on farms that incorporate sustainable practices in their growing systems and farmers are aware of this,” he says.

A key benefit has to do with regulatory issues, especially as they relate to water quality and runoff. Almost all biopesticides degrade quickly and have no detrimental effect on water supply.

**About the author:**

*Jim Moore is a freelance writer based in Southern California. This article was prepared on behalf of the Biopesticide Industry Alliance.*

**Related Articles:**

[Online Only: Doug Cole On MPS Certification](#)  
[Strides In Sustainability](#)  
[Online Only: The Next Step](#)  
[Online Only: All Fired Up](#)  
[Powerful Poinsettias](#)

**Leave a comment:** *(All fields are required)*

**Email:**  (Will not be displayed)

**Name:** Anonymous

**Comment:**

