

Biopesticide Research Grants and IR-4's Role in Regulatory Assistance

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Converting Laboratory Discoveries Into Labeled Products

The IR-4 Biopesticide Program assists small companies, USDA, and University scientists by consulting and preparing regulatory packages to obtain registration of microbial and natural products. The products featured here have recently been registered with EPA through the assistance of the IR-4 Project.

Aflatoxin Management



AF36 Growing from Inoculated Wheat Seed on Soil

AF36 is a specialized strain of *Aspergillus flavus*. Most *Aspergillus flavus* produce aflatoxin which is highly carcinogenic. AF36 does not produce aflatoxin. When applied to cotton fields, AF36 out competes other strains of *Aspergillus flavus*, thereby reducing aflatoxin in cotton seed. AF36 was developed by Dr Peter Cotty of USDA and is manufactured by the Arizona Cotton Research and Protection Council. So here we have a pesticide that reduces carcinogens in the environment.

Thyme to Kill Mites



Inside the red circle is the Varroa mite which is a parasite of bees. Api Life VAR controls Varroa mite and contains thymol which is the primary active ingredient in the herb thyme.



Inoculating Trees Against Dutch Elm Disease

Dutch elm disease has decimated elm trees in the US. Dutch Trig is a form of *Verticillium* that can be injected in elm trees. This *Verticillium* inoculation stops Dutch Elm disease from invading elm trees.

Phage to the rescue!



Bacterial diseases are very difficult to control and there are very few conventional pesticides (such as copper) to manage bacterial diseases. AgriPhage uses viruses that specifically attack bacterial diseases in tomato and pepper.



Death by Sugar

- Sucrose Octanoate
- Sorbitol Octanoate

The use of sugar esters for the control of soft bodied insects was developed by Dr Gary Pertuka of USDA in cooperation with AVA Chemical Company.