

## For Biopesticides and Organic Support

Biopesticides are a "green focus" of pest management for food and ornamental horticulture crops. These naturally sourced technologies utilize microorganisms (eg *Bacillus thuringiensis* [Bt] bacteria), plant extracts, and pheromones. The IR-4 Biopesticide and Organic Support program has supported projects ranging from honeybees, woody ornamentals, forestry, cotton, and field corn, to plant growth regulators, and promotes the use of biopesticides along with traditional IPM.

Through the Biopesticide and Organic Support program, successful solutions have been developed for insect pests, diseases, birds and frogs, and the program has played a major role in the expansion of Bt uses. Recently, the IR-4 Biopesticide program was expanded to include the development of new tools for organic growers.

## Grants

The Biopesticide and Organic Support program annually issues a call for proposals. Grants for efficacy research projects ranging from early stage to on-farm demonstration projects are available on a competitive basis.

**Regulatory assistance** begins with a project request form. Assistance is available to all public agencies and small private companies. A searchable Biopesticide and Organic Support database is available on the IR-4 website. It provides information on EPA registered biopesticide and organically approved pest management solutions.

Contact program manager, Michael Braverman at [braverman@aesop.rutgers.edu](mailto:braverman@aesop.rutgers.edu) for more information.

To learn more about IR-4 visit [ir4.rutgers.edu](http://ir4.rutgers.edu).

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# The Specialty Crops Program



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Facilitating registration of sustainable pest management technology for specialty crops and minor uses.

# About IR-4

## Mission

The mission of the IR-4 Project is to facilitate registration of sustainable pest management technology for specialty crops and minor uses.

Since 1963, the IR-4 Project has been the primary resource in the United States for facilitating registration of conventional pesticides and biopesticides on specialty food crops (fruits, vegetables, nuts, herbs, spices) and non-food ornamental horticulture crops (greenhouse, nursery, landscape plants, and Christmas trees). IR-4 serves as an intermediary between the agri-chemical industry and specialty crop growers. Due to the inherently small specialty crop market and cost prohibitive regulatory requirements, companies shy away from investing in the development of products for low acreage specialty crops.

The USDA recognized this gap between grower needs and industry market goals. IR-4 was created to bridge this specific gap and provide US growers with necessary pest management products. IR-4 accomplishes this by developing research data to support US Environmental Protection Agency (EPA) registrations. IR-4 also assists stakeholders by cooperating in registration of pest management tools for:

- minor uses on major crops
- invasive species
- medically important arthropods
- organic crop production

Additionally, IR-4 assists specialty crop growers through efforts to globally harmonize Maximum Residue Levels (MRLs) and US tolerances to support global export of US specialty crop commodities.

## Who benefits from IR-4 activities?

Sustainable pest management tools enable specialty crop growers to produce high quality food and ornamental horticulture crops. This in turn benefits the general public who have ample food and ornamental horticulture crops available at reasonable prices. Specialty food crops provide essential nutrition for a balanced diet, while ornamental horticulture crops enrich the environment and improve the quality of life.

The general public will also benefit from IR-4's new initiative of providing regulatory support for the development of pest control agents on arthropod pests that transmit diseases and threaten human health.

## Working in Cooperation

IR-4 is a highly effective collaborative effort among the State Agricultural Experiment Stations, USDA-National Institute of Food and Agriculture (NIFA), USDA-Agricultural Research Service (ARS), USDA-Foreign Agricultural Service (FAS), EPA, commodity growers, and the crop protection industry.



## IR-4 Contributions

About 80% of IR-4 research projects are conducted on reduced-risk chemistries and biologically based products that fit well into Integrated Pest Management (IPM) systems. IR-4 research has contributed to over twenty thousand labeled uses for food and ornamental crops. Over 50% of the food uses have been achieved in the past five years.



## How IR-4 Helps Growers

To ensure pest management tools are there when growers need them, IR-4 has established the following processes:

## For Specialty Food Crops

**It all begins by submitting a request.**

When a pest is discovered or new use is desired on a specialty crop, growers, extension agents and researchers

are encouraged to submit a project request identifying the crop, pest and desired chemical use. This is VITALLY important and requests can easily be submitted via the IR-4 web site at [ir4.rutgers.edu](http://ir4.rutgers.edu).

## Once a Request is Submitted:

- Projects are prioritized
- Field and lab researchers conduct studies and determine crop residue levels
- Residue data from research trials are compiled and submitted to the EPA for tolerances

## From IR-4 Data:

- The EPA establishes a tolerance (for food crops)
- The manufacturer adds the use to the label
- Healthier crops are produced and crop issues are resolved

For more information contact IR-4 Assistant Director, Van Starner at [starner@aesop.rutgers.edu](mailto:starner@aesop.rutgers.edu)

## For Ornamental Horticulture

The process starts with growers and landscape care professionals, researchers or extension agents identifying a need such as a new pest or new chemical use. Research priorities are established at the biennial Ornamental Horticulture workshop based on the type of issues growers face. IR-4 then annually assigns trials with university and USDA-ARS researchers and private contractors. Products tested can be biologically or chemically based. IR-4 communicates research results through report summaries, which manufacturers review and incorporate into technical literature and product labels.

The IR-4 Ornamental Horticulture Program focuses on generating efficacy data for disease and pest problems, including plant pathogens, insects and weeds, as well as crop safety data for herbicides on high priority projects. For more information, contact program manager, Cristi Palmer, at [palmer@aesop.rutgers.edu](mailto:palmer@aesop.rutgers.edu). 