The Role of the IR-4 Project in Pest Management for Horticulture Crops Grown in the United States

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IR-4 Mission

To provide pest management solutions to growers of fruits, vegetables, and other specialty crops for the benefit of consumers, growers and food processors.
**Specialty Crops**

- are high value/low acreage crops
- make up about 40% of U.S. agricultural production

= **$50 billion in sales**

- 23 states derive more than 50% of agricultural crop sales from specialty crops.

**Low Acreage**

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**Minor Use Situation**

Cost of data development, registration stewardship and fees to the crop protection industry does not justify their time and expense on crops with limited sales

Crop damage liability (real and perceived) further complicates the situation for many products

**Bottom Line**

The is little or no financial incentive for the crop protection industry to register their products on specialty crops
IR-4 is the only publicly funded program that conducts research and submits data to the US Environmental Protection Agency to support the registration of pest control solutions.
### Economic Support

**Direct Contributions - $17,329,582**

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>USDA-CSREES</td>
<td>$11,235,000</td>
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<tr>
<td>USDA-ARS</td>
<td>$ 3,613,400</td>
</tr>
<tr>
<td>State Ag. Exp. Stations</td>
<td>$ 481,182</td>
</tr>
<tr>
<td>Crop Protection Industry</td>
<td>$ 2,000,000</td>
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</tbody>
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**Indirect Contributions – At least $15,000,000**

- Employee Benefits
- Utilities
- Land Rental
- Other miscellaneous research costs

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### The IR-4 Regulatory Clearance Process

**Stage I - Food Crops**

**Stakeholder:**

- Define Pest Problem
- Identify Pest Management Solution
- Request Assistance from IR-4
The IR-4 Regulatory Clearance Process

### Stage II
**Food Crops**

- Submit a Project Clearance Request Form (PCR)

*The Process Starts with Requests Submitted from:*
- Growers
- Grower Groups
- State/Federal Research & Extension Personnel

*Request Reviewed by Manufacturer*

*Stage II Food Crops*

### Stage III
**Food Crops**

- Priorities are Determined at Annual IR-4 Food Use and Non-Food Use Workshops

*The Process Starts with Requests Submitted from:*
- Growers
- Grower Groups
- State/Federal Research & Extension Personnel

*Requests Prioritized*

- Top Priority Researched That Year
- Second Priorities Researched as Money Allows*
The IR-4 Regulatory Clearance Process

Stage IV
Food Crops

Following the Annual Food Use Workshop

National Research Planning

Research projects are designated for the coming year

Field Trials and Residue Analyses Sites Across the U.S
The IR-4 Regulatory Clearance Process

Stage V
Food Crops

Field and Lab Research is completed following GLPs (Good Laboratory Practices)
- Measure Residue levels in Crop/Crop Group
- Top Priorities Completed in 30 months

The IR-4 Regulatory Clearance Process

The Process Starts with Requests
Submitted from:
- Growers,
- Grower Groups,
- State/Federal Research & Extension Personnel

Request Reviewed by Manufacturer
Requests Prioritized

Top Priorities Researched That Year
Second Priorities Researched as Money Allows

Data Submitted to EPA

Manufacturer Adds Crop to the Product Label

Risk Assessment
Tolerance Established by EPA

Field and Lab Research
- Measure Residue levels in Crop/Crop Group
- Top Priorities completed in 30 months
The Process for Ornamentals and Non-Food Use Research

Stakeholder:
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- Identify Pest Management Solution
- Request Assistance from IR-4

The Process Starts with Requests
- Submitted from:
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  - Grower Groups,
  - State/Federal Research & Extension Personnel

Requests Prioritized
At Ornamentals Workshop

Field and Lab Research
Research is Completed for Efficacy and Plant Safety

Data Submitted to Registrant Who Makes Label Amendment(s)
Label Approved by EPA

Manufacturer Markets Product with New Use on Label

The Process Starts with Requests
- Submitted from:
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Biopesticides Research

- Formally established in 1982
  - Some activities prior to 1982 regulatory assistance w/BT
- 1982-1994
  - Mostly regulatory assistance
  - Some funding of research
- 1995-2003
  - Regulatory Assistance
  - Early Stage Research
  - Advance Stage Research (1999)

Biopesticides Research

- New Initiative/Pilot Demonstration Program
  - First year of $100,000 program
  - Year 2, expand to $200,000
  - May grow in scope and impact over the next several years
IR-4 Program 10yr Track Record for Food Use Clearances

Success based on Excellent Partnerships

- Environmental Protection Agency (EPA)
- Other Regulatory Agencies (CA-DPR, PMRA)
- Other countries research programs
- Crop Protection Industry
- Land Grant Universities
- USDA-ARS