IR-4 Project Mission

To Provide Safe and Effective Pest Management Solutions for Specialty Crop Growers
IR-4’s Customers

Minor Uses on Major Crops
IR-4’s Customers

Food Processors

Consumers

Del Monte
Ocean Spray
Heinz

Consumers

Food Processors
Other IR-4’s Stakeholders

Crop Protection Industry
Regulatory Agencies
State Agricultural Experiment Stations
Industry

Industry excellent sales – major crops have value; specialty crops are again minor

Many companies have new actives in pipeline
  – Some working with IR-4

Multi-national submissions & workshare is commonplace

Real progress on global (OECD) registrations and harmonized data
New Technology

Next Generation of Reduced Risk Products
Molecular Pesticides (RNAi)
Performance Biopesticides (Essential oils mixtures)
Repellents
Agency Supports Specialty Crops/Minor Uses
Dedicated Minor Use Team
Open door to growers
STRONG partnership with IR-4

Legislative Support
PRIA/Tolerance Fee waivers & exemptions
Exclusive Use of Data expansion
Objectives under 06-08 Strategic Plan

Food Program

Ornamental Horticulture Program

Biopesticide and Organic Support Program

Global Initiatives

Aquatic Herbicide Registration
Objective 1- Food Use Program

**Task:** The development of residue data to support pesticide tolerances on crop or crop groups

**Performance Measure:** Obtain at least 500 clearances each year, with at least 75% of the clearances focusing on lower risk technologies suited for IPM systems.
2008 EPA Completions

38 Chemical – 954 Uses.

- Acetamiprid – 9
- Bifenazate – 42
- Bifenthrin – 26
- Boscalid – 8
- Buprofezin – 47
- Chlorantraniliprole
- Cyanzofamid – 1
- Cyfluthrin – 3
- Cymoxanil – 55
- Cyprodinil – 80
- Dicamba – 1
- Dichlobenil – 22
- Ethoprop – 2
- Fenbuconazole – 1
- Fenhexamid – 1
- Flonicamid – 43
- Fludioxonil – 75
- Flumioxazin – 66
- Fluopicolide – 56
- Forchlorfenuron – 19
- Gamma-cyhalothrin – 2
- Hexakis – 1
- Mesotrione – 1
- Metaldehyde – 14
- Methoxyfenozide – 91
- Myclobutanil – 40
- MCPB – 1
- Pyraclostrobin – 8
- Pyridalyl – 1
- Sethoxydim – 14
- Spirodiclofen – 1
- Spiromesifen – 36
- Streptomycin – 36
- Tebuconazole – 69
- Tetraconazole – 1
- Thiabendazole – 2
- Trifloxystrobin – 26
- Uniconazole – 9
- Zeta-Cypermethrin – 44
Successful Strategies

Start research on new chemistries before the first food use tolerance

Use representative crops for entire Crop Group / “Super Crop Groups”
Enhancing Crop Grouping

Expanded Berries & Small Fruit from 8 to 45 commodities
Expanded Bulb Vegetable from 7 to 26 commodities
Established Edible Fungi containing 20 commodities
MORE TO COME!
Objective 2 - Ornamental Program

**Tasks:** Development of crop safety and efficacy data to support company registration decisions

**Performance Measure:** Obtain at least 150 new clearances for ornamentals each year.
# IR-4 Ornamental Horticulture Program Registration Successes Since 2003

<table>
<thead>
<tr>
<th><strong>Herbicide (8)</strong></th>
<th></th>
<th><strong>Insecticide (12)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadstar 0.2G (flumioxazin) *</td>
<td></td>
<td>Aria 50SG (flonicamid)</td>
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<tr>
<td>Dimension 2EW (dithiopyr)</td>
<td></td>
<td>Celero 16WSG (clothianadin) *</td>
</tr>
<tr>
<td>Freehand G (dimethenamid-p +pendimethalin)*</td>
<td></td>
<td>Kontos (spirotriamet)</td>
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<tr>
<td>Outlook* (dimethenamid-p)</td>
<td></td>
<td>Conserve SC (spinosad)</td>
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<tr>
<td>Pendulum 2G (pendimethalin) *</td>
<td></td>
<td>DPX-E2Y45 (chlorantraniliprole)</td>
</tr>
<tr>
<td>Rout Herbicide (oryzalin +oxyflurfen)</td>
<td></td>
<td>Flagship (thiamethoxam)*</td>
</tr>
<tr>
<td>SureGuard (flumioxazin)*</td>
<td></td>
<td>Judo (spiromesifen)</td>
</tr>
<tr>
<td>Tower EC (dimethenamid-p)*</td>
<td></td>
<td>Overture 35WP (pyridalyl)</td>
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<td></td>
<td></td>
<td>Safari 20SG (dinotefurron)*</td>
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<td></td>
<td></td>
<td>Sanmite (pyridaben)*</td>
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<tr>
<td></td>
<td></td>
<td>TriStar 70WSP (acetamiprid)</td>
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<tr>
<td></td>
<td></td>
<td>Ultiflora (milbemectin)*</td>
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<td></td>
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<tr>
<td><strong>Fungicide (12)</strong></td>
<td></td>
<td><strong>Plant Growth Regulators (2)</strong></td>
</tr>
<tr>
<td>Adorn (fluopicolide)</td>
<td></td>
<td>Cycocel (chlormequat chloride)</td>
</tr>
<tr>
<td>Cease Biofungicide (Bacillus subtilis) *</td>
<td></td>
<td>Tiburon (cyclanalide)</td>
</tr>
<tr>
<td>Compass (trifloxystrobin)</td>
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</tr>
<tr>
<td>Compass 0 50WDG (trifloxystrobin)</td>
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<tr>
<td>Endorse (polyoxin D) *</td>
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<tr>
<td>Fenstop (fenamidone) *</td>
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<tr>
<td>Heritage (azoxystrobin)</td>
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</tr>
<tr>
<td>Insignia 20SG (pyraclostrobin)*</td>
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<tr>
<td>Pageant 35WG (boscalid + pyraclostrobin)</td>
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<tr>
<td>Segway (cyazofamid) *</td>
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<tr>
<td>Stature SC (dimethomorph)</td>
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<tr>
<td>Subdue MAXX (mefonazoxam)</td>
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* IR-4 data also used in CA and/or NY registration packages
Ornamental Horticulture Program – Crops Impacted by Registrations

** As of 10/29/08; for those known registrations, not all crop impacts are known because EPA has not yet posted certain labels.
Ornamental Program Review

**Questions:**

1. Should the IR-4 Ornamental Program continue?

2. What should be the format to obtain future success?

3. What should be the impacts of IR-4’s Ornamental Program?

4. How should success be measured?
IR-4 Ornamental Horticulture Program and its yearly investment of $1.7 million for research contributes $1.176 Billion to gross domestic product annually.
Objective 3 – Biopesticide Program

**Task:** Mostly the development of efficacy data

**Performance Measure:** Fund at least 40 research projects annually that will evaluate and demonstrate the use of biopesticides in IPM systems and to facilitate registration of at least 20 clearances each year
### Funded Biopesticide Grants

<table>
<thead>
<tr>
<th>Year</th>
<th>Early</th>
<th>Advanced</th>
<th>Demo</th>
<th>Total</th>
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<tbody>
<tr>
<td>2006</td>
<td>7</td>
<td>20</td>
<td>20</td>
<td>47</td>
</tr>
<tr>
<td>2007</td>
<td>6</td>
<td>20</td>
<td>15</td>
<td>41</td>
</tr>
<tr>
<td>2008</td>
<td>6</td>
<td>13</td>
<td>12</td>
<td>31</td>
</tr>
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</table>
Biopesticide Success

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>2007</td>
<td>19</td>
</tr>
<tr>
<td>2006</td>
<td>304</td>
</tr>
<tr>
<td>2005</td>
<td>39</td>
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</tbody>
</table>
AF36 / Management of Aflatoxin on Cotton, Corn & Pistachio
HoneySweet Plum - Transgenic resistance Plum Pox Virus

Ralph Scorza – USDA-ARS Kearnyville
In Progress

Honeybee Colony Collapse Disorder- Linked to Israeli Acute Paralysis Virus

Biological product under development with IR-4 regulatory assistance
Objective 4- Global Specialty Crop Initiative

Performance measure: The specific goal is to submit to international regulatory bodies at least 20 data packages annually to establish harmonized MRL’s.
Global Harmonization

IR-4 is a program for domestic growers.

Why involved in Global Harmonization?
IR-4 International Activities

Canada “Win-Win” Model
- Over 100 joint field trials with IR-4

Global Minor Use Summit
- Leadership and actions

Dual Approach to MRL Issue
- Reformat/submit old data
- Cooperate on new uses
Objective 5 – Aquatic Herbicide Registration Initiative

**Performance measure:** If adequate funds are provided, IR-4 intends to work on the data requirements of at least two herbicides annually.
Other Activity - Public Health

USDA-ARS funded work to assist them in the registration of new pesticides for public health pest management domestically and for deployed US military troops.

- Activities involves regulatory support, working with EPA and companies (HQ only)
- Limited activities for IR-4 field centers and analytical laboratories
In addition to the core objectives, some options for future include:

- Efficacy Data Development
- Global Harmonization
- Biotechnology
- Secondary Standards
- Invasive Species
- Etcetera, Etcetera, Etcetera
Process Tomorrow

- Professional Facilitators
- Transparency
- IR-4 Management’s Contributions
- SWOC Analysis
- Development/Distillation of Priorities
- Steps forward
Thank You!

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