The IR-4 Project

50 Years of Supporting Pest Control Products for Specialty Crops & Minor Uses

Dr. Jerry Baron
Executive Director
The IR-4 Project
The IR-4 Project was established in 1963 by the Directors of the State Agricultural Experiment Stations (SAES) and the United States Department of Agriculture (USDA) to provide a solution to the “Minor Use Problem”.

Dr. Charles Compton 1963 - 1977
Professor G Markle
Mission

To facilitate registration of sustainable pest management technology for specialty crops and minor uses
Specialty Crops Include:

Most: Vegetables
Fruits
Nuts
Herbs
Spices
Floral
Nursery
Landscape
Christmas trees
Other Crop Customers

Minor Uses on Major Crops
Corn, Soybean, Cotton, Rice, Turf, Forestry

Crops for Processing
Sweet corn, tomato products, legumes, etc.,
Enhanced Activities

1963
- Food Program

1970 and 80’s
- Ornamental Program
- Regional Offices
- ARS program
- Biopesticide program

1990 – 2000’s
- FIFRA 88
- GLPs
- FQPA
- Reduced risk
- Crop group updates
- International MRLs
- Invasive pests
- Public Health Pests
The IR-4 Project: Milestones

Early years, very little personnel and financial resources – Beg, Borrow & Steal
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Established four Regional Laboratories in 1975 through Land Grant University System with 1st major CSREES funding ($250,000)

USDA-ARS established companion Minor Use Program in 1976
All the moving parts
Many Independent Units Working Together
- State Liaison Representatives
- Field Research Centers/Cooperators
- Four Regional Offices/Three Analytical Labs
- USDA-ARS Program
- IR-4 Project Headquarters

Project Management Committee
“Board of Directors”
The Process Starts with Requests
Submitted from:
• Growers,
• Grower Groups,
• State/Federal Research & Extension Personnel

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

Request Reviewed by Manufacturer
Requests Prioritized
Top Priority - Researched That Year
Second Priorities - Researched as Money Allows

Field and Lab Research
• Measure Residue levels in Crop/Crop Group

Manufacturer Adds Crop to the Product Label

Tolerance Established by EPA

Package Submitted to EPA
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Ornamental Horticulture Program added in 1977
IR-4 Ornamental Hort. Program

- 10% of the Project’s efforts and resources
- Predominantly crop safety testing and efficacy, including invasive pests
Early years, very little personnel and financial resources – Beg, Borrow & Steel

Established four Regional Laboratories in 1975 through Land Grant University System with 1st major CSREES funding ($250,000)

USDA-ARS established companion Minor Use Program in 1976

Ornamental Horticulture Program added in 1977

Biopesticide Program added in 1982
Biopesticide & Organic Support Program

• 10% of the Project’s efforts and resources
• Registration support and grants program for efficacy data
• Focus work with integration of biopesticide into conventional systems
• Support for organic markets
• Plant incorporated protectants
After FIFRA 88, IR-4 initiated Reregistration Defense Program - Goal of 1000 minor uses supported with 700 actual uses “saved”
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-Goal of 1000 minor uses supported with 700 actual uses “saved”

EPA extended Good Laboratory Practice regulations to residue studies in 1989 - IR-4 Restructured; strong National HQ/dedicated laboratories/field research centers
After FIFRA 88, IR-4 initiated Reregistration Defense Program
-Goal of 1000 minor uses supported with 700 actual uses “saved”

Established a GLP Program in 1989

Established Commodity Liaison Committee (CLC) in 1991
Commodity Liaison Committee/MCFA

- Passionate in their “Ownership” of IR-4
- Provide direct input to:
  - Project Management Committee (CLC chair is voting member)
  - Workshops – Food Use and Ornamental
- Provide key interface with House & Senate Members
  - Maintained/increased IR-4 funding in tight times
After FIFRA 88, IR-4 initiated Reregistration Defense Program -Goal of 1000 minor uses supported with 700 actual uses “saved”

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Established Commodity Liaison Committee (CLC) in 1991

Upgraded a Quality Assurance Unit (QAU) in 1993
The IR-4 Project: Milestones – cont.

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- Goal of 1000 minor uses supported with 700 actual uses “saved”

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Established Commodity Liaison Committee (CLC) in 1991

Upgraded a Quality Assurance Unit (QAU) in 1993

Strategic Plan updated in 1995 – complete Reregistration Program in 1997 shift to Reduced Risk Products and Biopesticides
Crop Group Expansion & Enhancements
Multiyear Joint Project lead by IR-4 involving EPA, Canada, International Crop Grouping Consultants Committee (ICGCC) and CCPR to evaluate Crops Groups and extrapolation:

– Harmonization of Crop Groups/extrapolation is a goal to support trade in NA and globally

– International input in developing crop groupings/add new crops to existing groups and/or new groups/subgroups
Crop Group Expansion/Enhancements

International MRL & Registration Harmonization Efforts
International Activities

• NAFTA Win-Win Model
NAFTA “Win-Win” Model

- Mutual projects conducted jointly on both sides of the border – Seamless process
- In most cases, reduced data needs of each country (zoning)
- Supported by EPA/PMRA joint reviews and workshare – SUCCESS w/harmonized MRL’s
- Regulatory Cooperation Council (RCC)
International Activities

- NAFTA
- Support Existing Tolerances
International Activities

• NAFTA
• Support Existing Tolerances

Leadership
  • Global Minor Use Summits
Global Minor Use Summit

Second Global Minor Use Summit
21-23 February 2012
Rome, Italy
International Activities

- NAFTA
- Support Existing Tolerances
  Leadership
    - Codex (e.g. Crop Groups)
International Activities

• Canada
• Support Existing Tolerances
• IR-4 Leadership
• Capacity building
Tropical Fruit Residue Study

Funding from STDF
*contributions from manufacturers, USDA, FAO, others

Project Coordination

Asia

Latin America

Africa

US, others???

JMPR joint submission
FASA II

Tarikh Tanam: Mac 2003 - Ogos 2003
Jarak Tanaman: 18kaki X 12kaki
Bil. Pokok: 8,403
Keluasan: 18.7 Hektor
International Activities

- NAFTA
- Support Existing Tolerances
- Leadership
- Capacity building

- Research
  - Global residue studies
  - Tomato & Blueberry
Vision of global network of capable minor use programs

- Help establish and mentor these minor use programs (eg. China, Brazil, Costa Rica)
- Partner with other data development groups
Crop Group Expansion/Enhancements

International MRL/Registration Harmonization Efforts

Plant incorporated protectants - Biotechnology
Crop Group Expansion/Enhancements

International MRL/Registration Harmonization Efforts

Plant incorporated protectants-Biotechnology

Invasive Pest Management
Invasive Species

- Q Biotype Whitefly
- Gladiolus Rust
- Chili Thrips
- Chrysanthemum White Rust
- Shipping of Invasive Arthropods
- Boxwood Blight
- Impatiens Downy Mildew
- Spotted Winged Drosophila
- Brown Marmorated Stink Bug
The IR-4 Project: Milestones – cont.

- Crop Group Expansion/Enhancements
- International MRL/Registration Harmonization Efforts
- Plant incorporated protectants-Biotechnology
- Invasive Pest Management

Public Health Pesticides to manage arthropod pests that transmit diseases to human and animals
Public Health Pesticides

- Expand registrations for existing PHP
- Facilitate registrations for new technology and novel pesticides
- Register products outside US to protect deployed US military personnel
Since its inception, IR-4 has facilitated the registration of over 26,000 crop uses.

- 15,000 food uses and 11,000 ornamental uses
- Numerous biopesticides (sprayable BT, spinosad for organics)
- Biotech-Plum Pox resistant stone fruit
Facilitating Registrations
• 2012: 1085 new clearances

Petitions Submitted
• 2012: 31 ai’s

New Residue Studies
• 2012: 80
Return on Investment - Michigan State University’s Center for Economic Analysis reported in 2012:

- IR-4 Project efforts contribute over $7.2 BILLION to annual US Gross Domestic Product.

- IR-4 Project efforts support 104,650 JOBS throughout the United States
Who Pays for IR-4?

**Direct Contributions**

Over $18 million

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<th>Agency</th>
<th>Amount</th>
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**Indirect Contributions**

At least $18 million
Challenge

Proposed Consolidation of IR-4 with USDA-NIFA Integrated Pest Management Programs
Current Status

Removed IR-4 from last version

Happy Days
 or

Be Careful For What You Wish For
Gov’t Partners

USDA

United States Department of Agriculture

NIFA

United States Department of Agriculture

Foreign Agricultural Service

APHIS

United States Department of Agriculture

Experiment Station Section
Association of Public and Land-grant Universities

Deployed War-fighter Protection Research Program
Industry Supporters

- Syngenta
- Bayer CropScience
- Dow AgroSciences
- FMC
- Valent
- DuPont
- BioWorks; Inc.
- Marrone Bio Innovations
- Novozymes
- BASF
- Nisso
- ISK Biosciences
- Chemtura AgroSolutions
- Nichino America, Inc.
- AMVAC
- MANA
A. Original member of IR-4’s Technical Committee
B. Was EPA’s first Minor Use Officer
C. Helped guide IR-4 through FIFRA 88 reregistration support
D. Fathered IR-4’s insect management activities