IR-4 Project

• Started in 1963 as a publically funded (USDA) program to facilitate registration of Sustainable Pest Management Technology for Specialty Crops and Minor Uses.

• Main program areas
  • Food Crop Program
    • Residue studies, some efficacy & crop safety
  • Biopesticide and Organic Support Program
  • Ornamental Horticulture Program
  • Public Health Pesticides

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This material is based upon work that is supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 2015-34383-23710 with substantial cooperation and support from the State Agricultural Experiment Stations, USDA-ARS and USDA-FAS. In accordance with Federal Law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age or disability.
• They are “What’s for dinner”, important diet items
• The OECD document outlines two prominent, and often opposing approaches for OECD member countries to use in defining minor uses
  1. the ‘risk assessment’ approach, and
  2. the ‘economic return’ approach
• It is a situation where a grower has pest control issue that is not being addressed. .... Becomes a question of, how long do they need to go without a tool before it is considered a minor use?
Trade and Pesticide residues (MRLs)

- 1980 – present...increase in the interdependence among countries, liberalization of trade
- Pesticide residue limits are important for compliance of proper use, and has become an important trade standard.
- Many countries are creating or modifying systems for establishing/enforcing MRLs for imported and domestic use.
- Regulations increase, greater complexity of moving commodities through global markets
- Even new safer products complicate trade
- More data needed, thus the Minor use problem grows/amplifies..
IR-4 Process Map

Input from:
- growers

Input from:
- Registrants

• EPA
  - Grower Reps*
  - University reps*
  - Extension*
  - Registrants
  - Specialists
*attendees who “vote”

IR-4

Identification of needs

Prioritization (IR-4 Food Use Workshop)

Use EPA guidelines and if needed

Regulatory Advice

Data Generation
- Field Trials
- Lab Analysis

Data Collection report prep

Regulatory Packages To EPA

EPA

Review of potential projects

ChemSAC

Review

Regulatory decision

Registration (Product availability)

1 IR-4 reviews all possible projects with Registrant in annual review meetings.

2 IR-4 may submit project specific questions to EPA (e.g. sampling size, trial requirements) for their consideration and guidance.

3 EPA reviews list to see if any regulatory issues exist, before workshop.
Global network of capable minor use programs working together to solve the MUP

- Help establish and mentor these minor use programs
- Partner with other data development groups
- Address the many unresolved needs

Global Minor Use Fund
Case study: 2013 IR-4 Residue Program

- Canadian Partnership - Started in 1996
  - 82 Residue Studies for IR-4
    - 16 joint studies with PMC – Common interest studies
    - 564 Field trials – for all 82 studies
    - 55 being conducted by Canada
    - $302,500 direct savings to the IR-4 program
    - PMC is SD for two studies – They cover administration of the study as well a analytical cost (min of $200,000).
  - Leveraging funds/work to address grower needs
STDF-Capacity Building

Asia

Latin America

Africa

Global Priority Setting Workshop

EU, AU, etc

International data

Combined Data Set

JMPR joint submission

IR-4 Data

CAPACITY BUILDING
Global Regulation

Codex/JMPR
One Global Review

Tool For Grower
2007
GMUS 1 Recommends…

MRL

ASEAN

EU Review

NAFTA Review

LA Review

AU (Africa) Review

AU/NZ
Each country had multiple staff do the JMPR reviews – WHO and FAO, toxicology and residue chemistry (this work would not need to be repeated “at home”) – saving resources.

Residue definition and MRLs agreed.

Those reviews are then taken to country reviews with further Eco-Toxicology and Environmental fate

Codex Focus on trade standards and domestic agencies regulate at the local level

It will not come at the expense of safety.

— Still a strong check and balance
<table>
<thead>
<tr>
<th>Cropping System</th>
<th>Pest/Crop rank 1 - A (highest votes)</th>
<th>Pest/Crop rank 2 - B (votes)</th>
<th>Pest rank 3 – B (votes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protected (green house)</td>
<td><strong>Aphids</strong> /lettuce <strong>Possible Solutions:</strong> Flonicamid, Pymetrozine, Cyantraniliprole, Sulfoxaflor, NA 11630</td>
<td><strong>Thrips /fruiting veggies.</strong> <strong>Possible solutions:</strong> Cyantraniliprole, Novaluran, Cyclaniliprole</td>
<td><strong>Whiteflies/fruiting veggies.</strong> <strong>Possible solutions:</strong> Flupyradifurone, Cyantraniliprole, Novaluran, NA 11630</td>
</tr>
<tr>
<td>Temperate</td>
<td><strong>Downy mildew/leafy vegetables</strong> <strong>Possible solutions:</strong> Ametoctradin + Dimethomorph, Acibenzolar, Zoxamide, Fluopicolide + Propamocarb Cyazofamid, Oxathiapiprolin Famoxadone + Cymoxanil</td>
<td><strong>Aphids/legumes crops</strong> <strong>Possible solutions:</strong> Flonicamid, Pymetrozine Cyantraniliprole, Sulfoxaflor, Dinotefuran Spirotetramat Flupyradifurone, NA 11630</td>
<td><strong>Weeds/leafy vegetables</strong> <strong>Possible solutions:</strong> s-metolachlor</td>
</tr>
<tr>
<td>Tropical Fruit</td>
<td><strong>Fruit flies</strong> <strong>Possible solutions:</strong> Spinosad, Cyantraniliprole Kaolin, NA 11630</td>
<td><strong>Anthracnose</strong> <strong>Possible solutions:</strong> Trifloxystrobin + Fluopyram Pyraclostrobin + Metiram Mandistrobin, Isofenamid Azoxystrobin + Difenoconazol Cyprodinil + Fludioxonil Penthioxyrad</td>
<td><strong>Psyllids on Citrus crops</strong> <strong>Possible solutions:</strong> Diflubenzuron, Flonicamid Sulfoxaflor, Buprofezin, NA 11630</td>
</tr>
</tbody>
</table>
Tools for Harmonization

- Crop Grouping
- Global Zoning (exchangeability of field trials)
- Incentives for Industry
- JMPR/Codex Process Initiatives – become reality
- Capacity Building – more participation more robust data sets
- Global Minor Use Foundation – public support for data
- MRL Calculator, Crop group calculator
- Global Joint reviews → A Global Review
- Global Guidelines, Env. Fate, field trials, etc. etc
  – Multiple countries working together
- Recognize One trade Standard
THANK YOU FOR YOUR KIND ATTENTION
Questions/Comments?

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