Insecticide Resistance Management
Philippine Update

IRAC International Spring meeting
March 17-22, UK
IRAC Philippines

Initially formed in 2009 as Diamide Working Group composed of representatives from Bayer CropScience, Dupont and Syngenta

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Starting 2011, our IRM activities were coordinated with Croplife Philippines and other stakeholders.

- **2011** Train the Trainers
- **Development of Training Materials**
- **2012 Hands on Training on IPM/IRM**
- **2012 IRM Farmers Training**
- **2013 Training Programs**
Training Materials
2011 Train the Trainers

Integrated Principles and Practices for
Insect Resistance on Brassicas: Sharing the Experience on IRAC

Maintaining Susceptibility of Insect Pests in Vegetables: An Industry Responsibility
### Training Materials 2012 Farmers Training

- **Flipchart**
- **MoA booklet**
- **Training kit**
- **Training manual**

#### MoA booklet:

**IPM/IRM Guide and List of Insecticide Brands and Their Modes of Action**

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Active Ingredient</th>
<th>Chemical Subgroup</th>
<th>MoA</th>
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<tbody>
<tr>
<td>Alar 24 EC</td>
<td>Alar</td>
<td>Insecticides</td>
<td>9</td>
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<tr>
<td>Agriphos 3.8 EC</td>
<td>Agriphos 3.8 EC</td>
<td>Neurotoxins</td>
<td>10</td>
</tr>
<tr>
<td>Glacier 1.8 EC</td>
<td>Glacier 1.8 EC</td>
<td>Neurotoxins</td>
<td>11</td>
</tr>
<tr>
<td>Raven 1.8 EC</td>
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<td>Rival 75 WP</td>
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<tr>
<td>Torex 75 WP</td>
<td>Torex 75 WP</td>
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<tr>
<td>Xentari WDG</td>
<td>Xentari WDG</td>
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<tr>
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<tr>
<td>Pesticide 50%</td>
<td>Pesticide 50%</td>
<td>Miscellaneous</td>
<td>19</td>
</tr>
<tr>
<td>Torex 75 WP</td>
<td>Torex 75 WP</td>
<td>Miscellaneous</td>
<td>20</td>
</tr>
</tbody>
</table>

**CropLife PHILIPPINES**
Important Points Incorporated in the IRM Farmers Training Module
Life Cycle

28 Days
Presence of susceptible and resistant populations
A specific Mode of Action will target a specific part/function of an insect.
Rotation by Mode of Action (MoA)

Nursery - Transplanting

Leafy Stage

Head Forming

Harvest

1st Generation

2nd Generation

3rd Generation

Diamond Back Moth

Insecticide Application

Not recommended

Option 1

Option 2

MoA 1

MoA 2

MoA 3

MoA 1

MoA 2

MoA 1

Rotation by Mode of Action (MoA)

Insecticide Application

Not recommended

Option 1

Option 2

MoA 1

MoA 2

MoA 3

MoA 1
Under Dose: Kills most Susceptible but many RS and RR survive

Label Dosage: Optimal Control Small number of RR survive

Good Agricultural Practice (GAP) Principles

USE RECOMMENDED DOSE

Resistant RR

Moderate RS

Susceptible S

Increasing Dosage: Under Dose

LABEL DOSE!
2012 Hands on Training on IPM /IRM

- Prepared the participants for the IRM Farmers Training
- 50 participants attended from CLP member companies
- Training included lecture on IPM/IRM and field activities
- Launching of IRM Flipchart
- Obtained commitment from CLP member companies on the number of farmers to be trained/company
2012 Hands on Training on IPM /IRM
2012 Hands on Training on IPM /IRM
Target: 5600 vegetables and rice farmers in selected areas

Achievement: +100% of target

Participating companies: All CLP members except for Monsanto
Farmers Training

DuPont
Farmers Training

Syngenta

CropLife PHILIPPINES
Bayer CropScience
Farmers Training

Dow/Jardine
Insecticide Resistance Management

New concept for Filipino Farmers....

- Concepts, Theories Technical Knowledge
  - Insecticide Resistance Action Committee
  - CropLife

- Theories, Integrated with IPM, GAP
  - CropLife Philippines Member Companies
  - Academe
  - Agriculture Extension Workers
  - Local Government
  - FPA

- Practical Application Simplified Concepts
  - Farmers
  - Extension Workers
  - Local Government
Success Factors

- Good relationship among representative member companies in CropLife
- Strong commitment by each member
- Strong network with Academicians and other stakeholders as sources of the knowledge for IRM trainings and modules
- Excellent support from the global IRAC and DWG and CropLife Asia
2012 IRM Farmer’s Training Winner- Dow/Jardine
Way Forward

Push for the inclusion of the MoA number on the labels

Continue IRM Farmers Training in Vegetables and Rice

Train non-CLP members on IRM

Initiate IRM Farmers Training in Mango
“Alone we can do so little; together we can do so much” Helen Keller

Thank you for your attention
IRAC Country Group Presentations

Brazil  (Luis Pavan)
Spain   (Pablo Bielza/Maria Torne)
Philippines  (Florence Vasquez)
USA     (Brad Hopkins/Dan Vincent)