Global Effort to Maintain Susceptibility of the Ryanodine Receptor Modulators and Other Insecticide Modes of Action: Efforts of the IRAC International Diamide (Group 28) Working Group

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The IRAC International Diamide Working Group

WHO ARE WE?
The IRAC International Diamide Working Group was created in 2007 to prevent or delay the development of insect resistance to the diamides, a new mode of action chemical class, by founding member companies Nihon Nohyaku/Nichino, DuPont Crop Protection, Bayer Crop Science, and Syngenta and supported by IRAC International and Crop Life membership companies.

WHAT WE DO AND WHY?
The IRAC Diamide Working Group promotes sustainable use of all insecticides through industry education and implementation of IRM disciplines and strategies. The main objective of the Diamide team is to maintain the longevity of all crop protection products available to growers by preventing or delaying the development of resistance to insect pests.

Activities of the IRAC Diamide Working Group

✓ Identify and prioritize high resistance risk and respective crop systems.
✓ Educate the industry through grower, company, professional, and trade meetings
✓ Create country Diamide IRM Working Groups & provide guidance & tools to effectively implement local IRM programs.
✓ Develop global IRM guidelines for adaptation & implementation in local country markets.

Example of DBM IRM Strategy - China

Insecticide Resistance Action Committee
www.irac-online.org

Resistant Management Guidelines

1) Incorporate IPM practices into insect control program.
2) Follow the label. Do not reduce rates. Follow recommended timing of applications and spray volume.
3) Know the MoA of insecticides for rotation programs

GROUP 28 INSECTICIDE

4) Rotate insecticide MoA groups

- Avoid exclusive use of Group 28 insecticides throughout a crop cycle for a pest species with more than one generation.
- Apply insecticides using a “window” approach to avoid exposure of consecutive insect pest generations to the same mode of action.
- A “Treatment Window” is defined as the period of residual activity provided by a single, multiple, or sequence of product applications with the same mode of action within an approximate 30 day period (15 - 45 days depending on local generation time from egg to adult). Generally, this “Window” should approximate the length of a generation of the target pest.
- Following a “Treatment Window”, rotate to a “window” of applications of effective insecticides with a different mode of action.
- For short cycle crops (< 50 days), consider the duration of the crop cycle as a “Group 28 insecticide treatment window”, thus alternate to different modes of action during subsequent plantings at the same farm location.
- The total exposure period of all “Group 28-active windows” applied throughout the crop cycle (from seedling to harvest) should not exceed approximately 50% of the crop cycle.

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