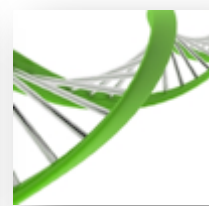
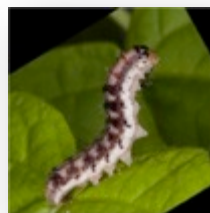




Insecticide Resistance Action Committee

Biotechnology Team

Tim Dennehy



Team Members

- Nick Storer (Dow AgroSciences) (Chair)
- Clint Pilcher (DuPont-Pioneer) (Vice-Chair)
- Tim Dennehy (Bayer)
- Graham Head (Monsanto)
- Paul Neese (BASF)
- Isaac Oyediran (Syngenta)
- Elizabeth Owens (DuPont-Pioneer)
- Chris Sansone (Bayer)
- Tony Burd (Syngenta)
- Gary Thompson (Dow AgroSciences)

General Team Goals

- Improve cross-industry cooperation towards common goals for resistance management for Biotech crops
- Promote practical approaches to resistance management for insect-protected biotech crop
- Assist country and regional industry associations develop locally appropriate IRM programs
- Provide forum for exchange of information on putative and real resistance incidents
- Deliver practical IRM outreach
- Promote IRM considerations as integral component of Bt crop development by public and private sectors

2012 Highlights

- Finalized draft position on refuge seed blends for IRM
- Initiated positions on:
 - Practical definitions of resistance to biotech traits
 - IRM for small holders
 - Principles of resistance monitoring for traits
 - Use of insecticides with traits (with Russell and Ralf)
- Strengthened linkage to CropLife International Plant Biotechnology Stewardship Committee
 - Advisory capacity on workshops, CropLife Asia, use of training manual
- Spanish translation of *Practical Approaches to Insect Resistance Management for Biotech Crops* finalized, published, distributed (CLI)

IRM Training Manual

Enfoques prácticos del Manejo de la Resistencia de los Insectos para los Cultivos Derivados de la Biotecnología



CropLife
INTERNATIONAL

Practical Approaches to Insect Resistance Management for Biotech-Derived Crops



CropLife
INTERNATIONAL

IRM for small-holder farmers

- Small-holder farmers face extra challenges for implementing refuges for IRM
 - Need to maximize near-term productivity
 - Weaker education and extension infrastructure
- Multi-stakeholder partnership needed
 - Technology providers, seed industry, grower groups/leaders
 - Role for government in extension/education
 - Potential role for regulators to harmonize seed blend refuges
- Developing a “Roadmap” to designing an IRM plan

Biotech IRM in Asia

- Program for Biosafety Systems within IFPRI is developing workshops for Vietnam and Indonesia
 - IRAC Biotech chair as technical advisor
- CropLife Asia forming IRM Technical Team with focus on same countries
 - IRAC Biotech to serve as technical advisors

Biotech IRM in Latin America

- **Brazil**
 - Examining fit of refuge seed blends with pyramids
 - Need greater company alignment to unify IRM approaches and messaging to growers
- **Central America**
 - CLI developing regional workshop to reach technical consensus strategy and education/extension program
 - Target Mexico, Colombia, Honduras, El Salvador, Guatemala
- **Argentina**
 - Seed Association planning IRM workshop with CLI
 - IRAC Biotech team to engage

Education and Training

- New position papers to form core of revamped training material
 - Posters, presentations, etc
- Focus on audience of regulators and public sector scientists in regions that are new to agricultural biotechnology
- Enable training by IRAC members, CropLife, and country groups
- Draw on experience of CLI Crop Protection training and IRAC C&E Team

Strengthened CropLife International Relationship

- IRAC Biotech Team closely aligned with CLI Plant Biotech Stewardship Committee
- CLI staff to provide on-going administrative assistance and coordination to the Biotech team
 - Assist in teleconference and meeting arrangements
 - Tracking activities that are most relevant to CLI priorities
 - Emphasizing importance of IRM to Plant Biotechnology Strategy Council to ensure IRM is foundational throughout member companies
- CLI to ensure IRAC Biotech is positioned to deliver against member company priorities

2013 Objectives (to become SMART)

- Position papers
 - Issue position paper on refuge seed blends
 - Finalize and issue four additional position papers
- Facilitate development of science-based practical IRM strategies in Vietnam and Indonesia
- Develop harmonized approaches to IRM implementation in Brazil, as appropriate
- Provide technical leadership to CLI's Central America workshop, and others as needed (Africa?)
- Develop new education and training materials for regulators and public sector scientists

IRAC Biotech February 2013 @ CropLife, Washington, DC

