

Issue 22

March 2010

www.irc-online.org

About This Issue

Welcome to this special issue of eConnection, reporting back on the sponsored IRAC Symposium at the Entomological Society of America Annual Meeting. Although the focus of the symposium is on US based issues, clearly many of these are relevant to other areas and regions and in fact one of the presentations given was on the Canadian Regulatory view of IRM. Most of the full presentations are available on the US page of the IRAC website: (www.irc-online.org/countries/irc-us/) and if you have any questions please contact the presenter directly or IRAC via the website. As always we hope you enjoy the issue.

Symposium Overview

IRAC has the mission of fostering communications and developing practical strategies for Insecticide Resistance Management (IRM). Sponsoring an annual symposium at the ESA, the largest gathering of entomologists, has and continues to be an effective mechanism for accomplishing this goal. Although well attended, many who did not hear the symposium in person could benefit from the information. IRAC is therefore providing a short executive summary here and the link to slide summaries on the IRAC web site (www.irc-online.org). Introductory comments and a paper by Phil Robinson of United Phosphorus Inc. provided updates on IRAC activities. In addition to communication and education, IRAC is active in the following areas:

- ◆ Standardizing bioassay methodologies
- ◆ Maintaining an expert survey on the current status
- ◆ Contributing to the Michigan State historical database

The continuing increase in costs of developing new insecticides and seed delivered insect control traits, has resulted in industry being highly motivated to protect and extend the utility of current technologies.

Value of insecticides to the American farmer

Leonard Gianessi, CropLife Foundation, provided the intriguing results of an in-depth study on the value of insecticides to the American farmer. He found that over 50 crops representing 267 million acres and 82% of all acreage require an effort to control insects. There were many key statistics including an average return of 19 to 1 for every dollar spent on insecticides and that a new pest is introduced or emerges every three years.



IRM activities in Southern row crops

Roger Leonard, Louisiana State University, covered current IRM activities in Southern row crops. In the South, IRM and IPM have merged to become partners but many issues remain. The root cause is often low operating margins of growers which forces them to repeatedly use the lowest cost control tactic until it no longer works. Other issues such as too few modes of action, broad spectrum products selecting pests below the economic threshold and a complex pest/cropping system that is not well addressed by current IRM/IPM guidelines that focus on single pest or crop.

LOUISIANA STATE UNIVERSITY

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IRM in Eastern Fruit Crops

Dr. John Wise, Michigan State University, tackled IRM in Eastern Fruit Crops with a focus on apples in Michigan. Insect control in Michigan apples is challenging in that the apple grower has five primary pests and multiple secondary pests that can become primary if improper control tactics are used. The key drivers to their IPM/IRM programs is selecting products that have high levels of performance to reduce the frequency of treatments and rotating products that compliment each other and provide secondary pest control within the codling moth generations.



IRM IRM/IPM in Turf Grass

Dr. Parwinder Grewal, Ohio State University, provided an informative overview of IRM/IPM in Turf Grass. There are many insect problems and unmet needs in turf grass but resistance has only occurred in a few species. These include the greenbug aphid, billbug, chinch bug and annual bluegrass weevil. The large areas of natural refuge have been a contributing factor in reducing the number and scope of IRM problems in turf grass. However, since the number of products and modes of action are so limited, the potential for the development of serious issues is a concern. Two key take away's were that the proper use of insecticides in turf will reduce weed problems through a healthier stand and a cutting height of 7.5 cm will increase the natural production of alkaloids in grass and help suppress insects.



Corn Earworm Resistance in Vegetables

Dr. Brian Flood, Del Monte, was an excellent representative of the commercial vegetable growers who are highly motivated because of the large acreages they have to maintain and a customer base that does not tolerate insect contamination in food. A lot of the Del Monte production is located in the north central U.S. because of overall low pest pressure. However, pest problems do occur including recent issues with pyrethroid resistant corn earworm. To understand why the CEW problem emerged Del Monte went back to basics and sponsored trapping programs that confirmed the resistant moths were migrating up from Mexico and Texas but could be controlled with alternated modes of action. Other key learning's were that the widespread adoption of GMO corn has reduced their overall pest pressure and that they could raise their economic threshold by installing sorting and washing equipment to remove low levels of insect contamination.



Role of IR-4 and IRM in Specialty Crops



Dr. Keith Dorschner, IR-4, spoke on the role of IR-4 and IRM in specialty crops. These crops can be very problematic since industry cannot justify developing labels for the minor uses that carry high liability due to their high value. The IR-4 project has addressed this need by working with manufacturers and commodity groups to subsidize the cost of registration. They have a very successful recent track record including registrations for pests with no current solutions. There remains much to do since there are so many specialty crops, some with unique pests, and the few registered compounds tend to get over used since there are few if any alternates and the high value of the crops results in a very low economic threshold.

Resistance in pests of Citrus and Avocado

Dr. Joe Morse, U.C. Riverside, focused on citrus and avocado pests of California where they have long standing resistant pest issues. In citrus, California red scale and citricola scale have had serious issues starting with OP resistance but even with IGR's such as pyriproxyfen. The other problem pest with multiple resistance issue is citrus thrips. The introduction of spinosad stabilized the problem and has not resulted in issues due to greatly reducing the number of OP applications and resultant increase in beneficial insects.



The Canadian Regulatory View of IRM

Heather McBrien, PMRA, Health Canada, presented how resistance management is considered in the overall regulation of pest control products by PMRA. Regulation includes a value and efficacy component, including resistance management considerations. Inherent risk factors, which are due to the interaction between the pest and pesticide, and agronomic risk factors, which are associated with how the product is used, are considered during the evaluation of pest control products. The regulatory process can influence a subset of agronomic risk factors, such as application rate, and number and frequency of applications, which impacts resistance management.



The Grower and Consultant View of IRM

Jim Steffel, LABServices and past President of NAICC, concluded the symposium by describing how IRM is often a tough sell to the grower by the consultant since it does not have a short-term payoff. However, consultants have become very sophisticated and are often trying to control insects in a community rather than just a field and are receptive to IRM messages and strategies. He also suggested that there are opportunities emerging to capture more pest/crop data from consultants that would be very powerful in making in-season adjustments and early warnings to others.



This symposium summary is truly the highest level overview and for more information please view the slide sets on the IRAC website where available or contact the presenters directly. Specific questions for your area should be directed to your local university or crop protection industry representative.

Feedback

The eConnection is prepared by the IRAC Communication & Education WG and supported by the 15 member companies of the IRAC Executive. If you have information for inclusion in the next issue of eConnection or feedback on this issue please email aporter@intraspin.com.

IRAC Executive Member Companies



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