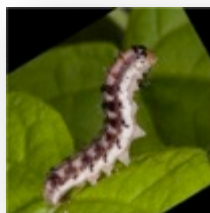




Insecticide Resistance Action Committee

Methods Team Highlights 2015/16

50th IRAC International Meeting, Dublin
April 5-8th, 2016



Methods Team: Current Members (5)

Team Members:

- Frank Wessels – Dow AgroSciences (Team Leader)
- Harald Köhler – Bayer CropScience (Deputy Leader)
- Lixin Mao – BASF Corporation
- Jan Elias – Syngenta Crop Protection
- Craig Keathley – DuPont

Methods Team Goals

- Establish a single contact point for researchers to gain information on how to conduct insecticide resistance bioassays
- To provide IRAC approved methods, so that data generated by independent researchers can be directly compared
- Improve communication of IRAC methods resources to target audience (pest management community)

Meeting Team Goals

- Developing new IRAC approved methods and expanding database of published methods that have not been validated by IRAC
- Aid in better understanding of confirmed methods by providing additional visual tools (e.g. methods videos)
- Improving communication to our target audience

Methods Update

- 33 Approved Methods
 - New method: #33 *Lygus* bean dip method
 - Method validated by BASF and DAS
 - Recently uploaded to website
- Methods in development
 - Asian Citrus Psyllid method
 - being reviewed by SPWG
- Ideas for future methods
 - Armored Scale (San Jose scale/ California Red scale)
 - German Cockroach – topical assay
 - Bed bugs – topical assay



Treated bean infested with *Lygus* (photo courtesy BASF).

Methods Videos

- 5 method videos produced to date
- Stink bug vial method video – posted December 2015

Method No 030 (*Euschistus heros*)



Methods Video	Views	Increase
<i>Tuta absoluta</i>	1930	305
Aphids	1888	549
Rice Planthoppers	904	271
Pollen Beetles	321	261
Stink Bugs	165	-

- <https://www.youtube.com/watch?v=P7xr-3WhnLg>
- Continued support for future videos

Method Videos

- Method videos continue to be popular
- Contribute to Methods Team goal of improving communication
- Next Method Video: Western Flower Thrips
 - Based on test method # 10
 - Thrips adults, bean dip method
 - Filming completed, editing in progress

IRAC Susceptibility Test Method 010

Frankliniella occidentalis

Adults

INTRODUCTION

Plastic 30-ml Medi cups and lids or similar vials with closure, pods of French, haricot or green beans, aspirator/pooter, 200-ml glass beakers, six 250-ml measuring cylinders and pipette for dilution of formulations, wetter (Tween 20 or equivalent), Vaseline or liquid paraffin, mesh, fine sable brush, hand lens (minimum 10x) or binocular microscope, max./minimum thermometer.

Approved

Version 3

June 2009



Credit: Frank Peairs, Colorado State University, Bugwood.org

eConnection Article

- Article highlights the importance of robust bioassay methods for resistance management programs
- Provides details of resources developed by the Methods Team
- Team focused on aligning resources with most pressing resistance management needs



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eConnection

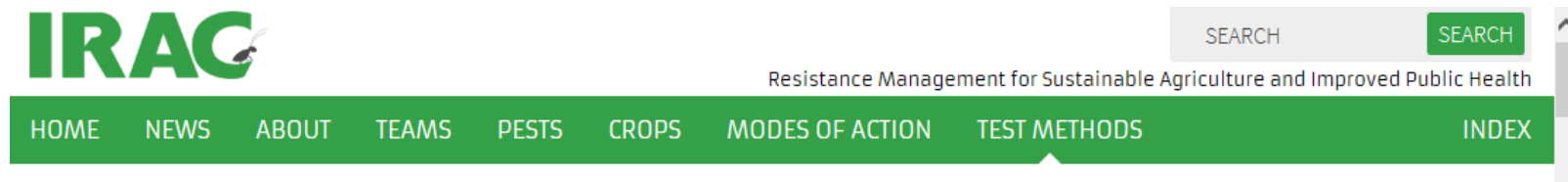
IRAC Methods Team: Aligning Resources with the Needs of Resistance Management

Frank Wessels, Dow AgroSciences leads the IRAC Methods Team.

Prolonging the efficacy of existing pesticides through effective resistance management strategies has become increasingly important because existing products are under pressure by the development of pest resistance, shifting pest spectrums, and increasing regulatory hurdles.^{1, 2} Maintaining a robust set of crop protection tools for the effective control of arthropod pests has significant implications for both agriculture and human health.^{1, 2} Reliable and robust bioassay methods are essential components of an insect resistance management program that allow for the establishment of baseline susceptibility, detection, and monitoring of resistance.^{3, 4} When managing the resistance of wide-spread agricultural,

Website Upgrades

- Last year, IRAC website update – moved methods link to title



- Old eMethods page was only accessible via link on Team page
- Replaced old eMethods page with new Test Methods page
 - Searchable methods and literature database
- Relocation of Test Methods link has improved web traffic
 - In 2015 = 10,886 page views
 - Test Methods have moved into the top 5 most visited pages on the IRAC website!

Goals & SMART Objectives

Goals	Objectives	Timeline
Establish single contact point for insecticide and acaricide monitoring methods (core activities)	<ul style="list-style-type: none"> • Populate IRAC website with a range of methods used to measure insecticide susceptibility against key agricultural, horticultural, and public health pests. <ul style="list-style-type: none"> • Methods sourced from literatures, companies, and external contacts. • Continue to maintain and improve confirmed methods. Review older methods for suitability. • Populate eMethods with additional references. 	Q1-Q4, 2016
To provide IRAC approved methods, so that data generated by independent researchers can be directly compared	<ul style="list-style-type: none"> • Deliver 1 new IRAC approved methods. • Complete thrips eVideo • Initiate new methods video (subject TBD) 	Q4, 2016
Improve communication to our target audience (promotional activities)	<ul style="list-style-type: none"> • Publish eConnection article • Publish white paper to promote Methods Team resources to target audience 	Q1, 2016 Q3, 2016

Questions?