

Methods Team Overview

The availability of standard, validated and easy-to-run methods for resistance detection in the world's major insect pests is crucial for successful monitoring of resistance problems. The IRAC Methods Team has worked to develop, validate and collate approved methods and make these available via the IRAC website and the online tool, eMethods. The work of the Methods Team involves interaction with other IRAC Teams and Working Groups as well as cooperation with external experts in academia and institutes. The Methods Team also provides resources on biochemical and molecular methodologies as well as references to other methods in peer reviewed journals which have not been validated by IRAC.

IRAC Approved Methods

IRAC Approved Methods are:

- › IRAC recommendations for resistance monitoring or baseline determination are intended to help standardize methodologies for the purpose of global comparison
- › Reliable and reproducible
- › Simple and easy to perform
- › Consistent in distinguishing between susceptible and resistant phenotypes
- › Relevant to field performance of products

Most tests are specific to particular life-history stages and can only be used with confidence for toxicants which have been validated in the development of the methodology.



Credit: Keith Weller

Team Objectives

- › 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

eVideo Collection

View the eVideo collection:

www.irc-online.org



- › Instructional videos for IRAC approved methods
 - › Three videos published to date
 - › *Myzus persicae*, *Tuta absoluta*, and *Nilaparvata lugens/ Nephotettix cincticeps*
 - › Currently in production: *Meligethes aeneus*



Credit: Scott Bauer



Credit: DuPont



Credit: Bayer CropScience

Resources Available



eMethods Database

Search eMethods, or view the whole database:

www.irc-online.org



- › Contains IRAC approved methods
 - › 29 approved methods to date
 - › Covers many of the world's major insect pests
- › Collection of published methods not evaluated by IRAC
 - › ~160 references available
 - › Covers both crop and public health pests
 - › Most references are hyperlinked to PubMed
- › Searchable by species and MoA