

Issue 15

December, 2007

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Introduction to eConnection

▪ eConnection Issue 15

Welcome to the last IRAC eConnection for 2007. We would like to thank everyone for their support of IRAC during the year and take this opportunity to wish you a prosperous New Year.

In this issue we have news of the expanding IRAC network with new companies joining the Executive Committee and the further development of the SE Asia group. There is also news and links provided to access the new posters from the IRAC Public Health Team and a new method for adult whitefly. Finally under the resistance management section we have an article from IRAC-Brazil on the tomato leafworm. As always remember that eConnection is best read in conjunction with the IRAC website which will often have further information on the topics described. [See the site](#)

Past issues of eConnection (Nos. 1-14) can be found on the website, now under the heading "eTools" or via [this link](#).

▪ Send us your feedback and News

If you have Resistance Management information that you think should appear on the IRAC website or eConnection please contact us with details. For IRAC Country Groups and Teams around the world please send updates on your activities, meeting minutes etc. for inclusion in the relevant areas of the IRAC website. <mailto:aporter@intraspin.com>.

IRAC News

▪ New Member Companies join IRAC International Executive

For a number of years the Executive has consisted of just 6 of the major multinational AgChem R&D companies. Over the last year the Strategy & Finance Team of the Executive Committee has been working to increase IRAC membership to be more representative of the industry. This has been very successful and following the recent additions of Nufarm and Chemtura there are now a total of 11 companies with full membership of the IRAC Executive Committee. Other companies, perhaps those with membership of the Country or Regional Groups, interested in joining the Executive should contact the current chairman, Alan McCaffery (alan.mccaffery@syngenta.com) for further information. A full list of Member Companies can be found on the website. [See the site](#)

▪ New IRAC Public Health Posters

The IRAC Public Health Team has just produced a number of posters describing control methods and resistance management in bedbugs, cockroaches, houseflies and mosquitoes. Posters were also generated describing insecticide modes of action available for vector control and a summary of the long term Mexico Project funded by IRAC a few years ago comparing different IRM strategies. Copies of the posters can be found on the website via [this link](#).

- **IRAC at BCPC/IPPC, Glasgow and NPMA PestWorld, Orlando**
 IRAC was well represented with Exhibition Booths and posters at the British Crop Protection Council International Congress/International Plant Protection Congress and at the National Pest Management Association tradeshow, PestWorld, in the middle of October. There was a lot of interest expressed in the work of IRAC at both conferences and a large number of IRAC folders with copies of the posters and MOA information were given out to those interested. At the Glasgow meeting there was also a session and a forum on resistance and IRAC talks were given at both.
- **IRAC Methods**
 The IRAC Methodologies team is undergoing a review of its scope and is exploring options to expand the list of current methodologies and provide a more user friendly web application. A new method for determining the resistance status of adult whiteflies (IRAC Method 12a) has been added to the portfolio of approved test methods. Anyone wishing to submit new methods is welcome to send a draft protocol to the Team Leader, Russell Slater at russell.slater@syngenta.com. Copies of approved IRAC methods can be found on the website via [this link](#).
- **IRAC SE Asia group makes more progress**
 The recently-formed IRAC South-East Asia Group goes from strength to strength. Most recently, DuPont and Sumitomo appointed Kok Eng Ooi & Tay Boon Liang as their respective representatives to the group. They will join founding members Cecille Ebuenga (BASF), Kai-uwe Brueggen (Bayer), Samsudin Amit (Dow AgroSciences) and Siddharth Jain (Syngenta and group chairman). Additional regional members are warmly welcome as the group begins to tackle key insecticide resistance management (IRM) issues in the region. Following a series of initial conference calls, the group held its first face-to-face meeting in September in Singapore to begin the work of the group in earnest. First, the committee structure and operating procedures were agreed and the role and objective of the group were also agreed. The group then determined a means of prioritising their work and identifying those topics where they could have most beneficial impacts e.g. rice Brown planthopper (*Nilaparvata lugens*). Other subjects considered included resistance monitoring activities and a series of proposed regional IRM workshops. The group plans to meet again in early January 2008 to discuss key IRM priorities for the coming year. Further initial details about IRAC S.E Asia can be found on the website via [this link](#).

Resistance Management News

- **Tomato Leafworm Resistance Management Practices in Brazil**
 (Submitted by IRAC-Brazil)

Tomato leafworm, *Tuta absoluta* (Meyrick)(Lepidoptera: Gelechiidae), is one of the main tomato pests in Brazil. Its larvae affect tomato yield by feeding on the leaf mesophyll and also attacking stems, sprouts (affecting vertical growth), flowers and fruits. Attack intensity varies through the year. In field crops, the occurrence is more severe in high temperature months and less severe in the rainy season, however in greenhouses it occurs throughout the year. Both yield and fruit quality can be significantly reduced by direct feeding of the pest and also through secondary pathogens, which may enter through the holes made by the pest. Severely damaged tomatoes have no commercial value, so growers adopt intensive control measures. Unfortunately preventative insecticide application has become the norm and the current situation has become critical with growers spraying up to three times per week and still often not achieving the desired level of damage prevention. Since 1993, the Entomology Department of Viçosa University (UFV), led by Dr Marcelo Picanço together with IRAC-Brazil has been carrying out studies to establish a resistance management strategy for *T. absoluta* in tomato crops. Four main tomato regions have been studied: South, Southeast, Savannah and Northeast. In the South region, the window of pest attack is between January and March. In the Southeastern region, Savannah and Northeast, the window is observed between October and May. As a result of this research, the recommendation for the South, Southeastern and Savannahs, is to spray only selected insecticide groups such as: avermectin, cartap, chlorfenapyr, phenthoate, methamidophos (on industrial tomato), spinosad and indoxacarb. For the Northeast

region the recommendation is: avermectin, chlorfenapyr, phenthoate, and spinosad. The strategy of temporarily restricting certain chemical groups according to region was put in place after baseline and regular resistance monitoring studies showed the need to reduce selection pressure on high resistance frequency populations. Resistance monitoring will continue in order to determine if the strategy is indeed effective in reducing the resistance levels.

Conferences and Symposia

- **Beltwide Cotton Conference, Nashville, TN, 8-11 January 2008**
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- **IUPAC First International Conference on Agrochemicals Protecting Crop, Health and Natural Environment, Delhi, India 8-11 January 2008**
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- **International Crop Science Conference & Exhibition, Kuala Lumpur, Malaysia, 24-25 January 2008**
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- **Pest Resistance Management Workshop, Fairmont Chateau Laurier, Ottawa, Canada, 19-20th February 2008**
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- **Crop Protection in Northern Britain 2008, Dundee, Scotland, 26th-27th February 2008**
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- **IRAC International/IRAC US Spring Meeting, Washington DC, 1-4th April 2008**
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- **Nicotinic Acetylcholine Receptors 2008, Wellcome Trust, Cambridgeshire, UK, 23-26th April 2008**
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- **9th Int. Symposium on Cytochrome P450 Biodiversity & Biotechnology, Nice, France, June 8-12, 2008**
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- **International Congress of Entomology, Durban S. Africa, 6th-12th July 2008**
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- **3rd European Whitefly Symposium, Almeria, Spain, 20-24th October 2008**
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