

IRAC Executive Committee Team & Working Group SMART Objectives – 2011/12

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IRAC SMART Objectives 2011/12

Specific **M**easurable **A**chievable **R**ealistic (**R**esourced) and **T**ime Bound

A full list of other acronyms, terms and abbreviations used in the documents are given in Appendix I

Introduction

The IRAC Network is made up of a series of inter-company Committees dedicated to prolonging the effectiveness of insecticides and acaricides by countering the development of resistance. The Committees operate at a global level (IRAC Executive) and at a regional or country level (IRAC Country Groups) and the whole network is termed IRAC International (abbreviated to IRAC).

The IRAC Executive Committee provides technical information, coordination and support for IRAC through a series of international Teams and Working Groups. Annual goals and SMART objectives for each of the teams are set in accordance with the overall IRAC Mission and should be reviewed periodically during the year within the teams to measure progress.

The IRAC International Mission

- Facilitate communication and education on insecticide resistance
- Promote the development of insecticide resistance management strategies to maintain efficacy and support sustainable agriculture and improved public health

IRAC Executive – Goals

- Coordinate and facilitate the work of IRAC in accordance with the IRAC Mission
- Encourage formation of new Country Groups to address local IRM issues
- Promote membership of IRAC at a country, regional and international level
- Provide direction and support to IRAC including the Country & Regional Groups
- Facilitate cooperation and communication on insecticide resistance and IRM issues between groups, teams, and countries internally within IRAC, within member companies and with external stakeholders.
- Encourage all International Teams to hold 4-6 conference calls and at least one face-to-face meeting each year to establish and review progress of the team's SMART objectives.
- Work with CropLife International to ensure good communication and compliance as part of the CropLife Product Stewardship Project Team.
- Continue to remind all IRAC members of the importance of following the IRAC Constitution including the Code of Conduct and Guidelines on Antitrust.

Crop Protection Team

Goals	Objectives	Timeline
Identify potential, new or existing resistance issues. Set up, re-establish or disband Crop Protection Working Groups as necessary	<ul style="list-style-type: none"> • Monitor and report to the Executive on any potential, new or existing national, regional or global resistance issues that could require action by IRAC. Research the issues and report to the Executive with a recommended plan of action including the extent of the problem and whether a Country/Regional Group or a Crop Protection WG should be established. • Set up, re-establish (or disband) pest/crop complex or mode of action type WGs as deemed appropriate for the 2011/12 year. Each Crop WG should set goals and SMART objectives. 	On-going
Develop IRM guidelines and monitoring methods with a focus on practical advice.	<ul style="list-style-type: none"> • Work with the Country Groups and WGs to develop IRM guidelines for 3-4 key crop/pest complexes where there are resistance problems as identified. Draft/finalise versions for each complex targeted and circulate at least one example during each quarter 2011/12. • Develop IRAC susceptibility test methods (working with Methods Team and relevant Crop WG) where these do not already exist and carry out or report on monitoring work during the year. 	Q2, 3, 4, 2011 & Q1, 2012 On-going
Develop an IRAC mixture position	<ul style="list-style-type: none"> • Work with EPPO on their strategy for use of mixtures in relation to resistance management and if acceptable propose this to the Executive as an IRAC position and recommendation. 	Q4 2011
Investigate and make recommendations on the extent that IRAC should be involved in other IPM activities that impact IRM	<ul style="list-style-type: none"> • Topics include but not limited to: <ul style="list-style-type: none"> ○ Should the use of beneficial insects for IRM be considered by IRAC ○ Development of a poster for alternative control methods e.g. biologicals 	Q3 2011 Q4 2011

Oilseed Rape WG

Goals	Objectives	Timeline
Coordinated European pollen beetle monitoring	<ul style="list-style-type: none"> Collaborate as member team companies and cooperate with public labs, regulators and other bodies involved in resistance monitoring of pollen beetle in to assemble, share and interpret coordinated set of monitoring data for 2011 season. 	Q3 2011
Provide researchers validated methods.	<ul style="list-style-type: none"> Validate methods for monitoring pollen beetle susceptibility to indoxacarb and publish on IRAC website. Validate methodologies for testing susceptibility of <i>Psylliodes spp</i> and other OSR coleoptera to pyrethroids. 	Q4 2011 Q4 2011
Provide and distribute relevant information on OSR pest sensitivity to growers and regulators.	<ul style="list-style-type: none"> Review and incorporate new learning's from OSR pest research, including 2010 resistance monitoring, into IRAC IRM recommendations for oilseed rape. Present findings at international conferences. Provide summary poster of learning's from 2011 pollen beetle susceptibility monitoring. Provide summary poster of OSR pest resistance management recommendations. Provide set of summary slides of IRAC Oilseed Rape WG activities for WG members to use for national and international meetings and conferences. 	On-going Q4 2011 Q4 2011 Q4 2011 Q2 2011

Diamide WG

Goals	Objectives	Timeline
Maintain currency of the global diamide guidelines based on new experiences and new products (cyantraniliprole).	<ul style="list-style-type: none"> Review and update our global IRM guidelines (label language, poster). 	Q3 2011
Increase global participation in Diamide IRM by creating more country diamide working groups to address the risk of insect resistance.	<ul style="list-style-type: none"> Start Diamide WGs in Morocco (Andrea), Italy (Andrea), Turkey (Robert), Taiwan (Robert), Israel (Andrea), South Africa (Luis). 	Q3 2011
Hasten company participation and compliance within country diamide working groups to communicate MoA, implement IRM strategies, and align IRM label language.	<ul style="list-style-type: none"> Move the existing WGs from planning stage (develop recommendations) to action stage (implementation of IRM recommendations and educational plans). Increase participation of Global Diamide WG members in Country WG meetings. Improve compliance of the labels with the IRM guidelines. Develop measures beyond IRM guidelines to prevent resistance and offer them to high risk countries (Robert to make a first draft). 	Q4 2011
Coordinate creation of assay methodologies for insects at high risk to developing resistance to diamide chemistry for future susceptibility comparisons.	<ul style="list-style-type: none"> Prioritize key insect pests targeted by diamide insecticides in order of resistance risk and commercial importance. Support the use of appropriate IRAC methodologies to assess the susceptibility of pests to diamide insecticides. Critically review and validate newly-developed methodologies. Submit a minimum of 2 new methodologies to the IRAC Methods team for approval by end of 2011. 	Q2-Q4 2011

Sucking Pest WG

Goals	Objectives	Timeline
Follow up on Neonicotinoid resistance in <i>Myzus persicae</i> in peaches in Southern France & Northern Spain	<ul style="list-style-type: none"> • Set up resistance project with Rothamstead UK to monitor, interpret and share a coordinated set of the data for the 2011 season. • To study the spread of resistant <i>Myzus persicae</i> from peaches to neighbouring crops in the relevant regions. • Based upon the above findings to compile recommendations for the following seasons in collaboration with IRAC Spain and other National WGs. 	Ongoing through season Q4 2011
IRAC Posters – Finalize versions of all posters currently been developed	<ul style="list-style-type: none"> • Mite poster (Fergus & Ralf) • BPH poster (Together with IRAC SE ASIA) • Citrus Psylid poster (Together with IRAC Brazil) • <i>Frankiniella</i> poster (Steve & Dan) 	End Q3 2011
	<ul style="list-style-type: none"> • Identity possible future resistance issues for specific key pests that will require monitoring. • Decide which pest/chemistry needs to be addressed. • Compile relevant recommendations based on the above. 	Q4 2011

Lepidoptera WG

Goals	Objectives	Timeline
Provide information on Lepidoptera resistance issues globally	<ul style="list-style-type: none"> • Identification of global resistance problems associated with lepidopteran pests • Monitor resistance status • Analyse findings • Compile relevant recommendations 	On-going
Development of educational material on IRM	<ul style="list-style-type: none"> • Finish BAW Poster • Finish <i>Tuta absoluta</i> brochure • Preparation of film “The Resistance potential of <i>Tuta absoluta</i>” (Methods film as basis) ? http://www.youtube.com/watch?v=LihcoJPjHFU • Preparation of general <i>Lobesia botrana</i> poster • Preparation of general <i>Helicoverpa zea</i> poster • Preparation of general <i>Spodoptera frugiperda</i> poster • Principles of IRM in Lepidoptera control 	Q3 2011 Q2 2011 Q3 2011 Q3 2011 Q4 2011 Q4 2011 Q4 2011
Represent IRAC on relevant international meetings dealing with lepidopteran pests (in co-operation with other WG / country groups)	<ul style="list-style-type: none"> • Attend the Joint International Symposium on management of <i>Tuta absoluta</i> (tomato leafminer), Agadir, MA, 2011-11-16/18 (Co-operate with Diamide WG / Methods WG / IRAC Spain) 	Q4 2011
Support of other IRAC WGs and CGs	<ul style="list-style-type: none"> • Co-operate with IRAC-Spain in regard to <i>Tuta absoluta</i> topics • Collaboration with Diamide WG on DBM project • Support IRAC Philippines and IRAC SEA on IRM Educational Program Philippines 	On-going
Investigate a possible merger with the Codling Moth WG	<ul style="list-style-type: none"> • Implement merger with the Codling Moth WG 	Q1 2011

Public Health Team

Goals	Objectives	Timeline
Identify potential, new or existing resistance issues. Set up Team Working Groups or Focal Points as necessary	<ul style="list-style-type: none"> • Monitor and report to the Executive on any potential, new or existing national, regional or global resistance issues that could require action by IRAC e.g. Vectors and Hygiene Pests. Research the issues and report to the Executive on a recommended plan of action including the extent of the problem and whether and how it should be best tackled. Set up appropriate PH Team WGs as deemed appropriate for the 2010/11 year. 	On-going
Provide expert input into IRM initiatives with identified partners, interact with groups working in the same field and participate/organise relevant meetings.	<ul style="list-style-type: none"> • Set up a schedule of IRAC PH Team conference calls, meetings for 2011/12. Identify and invite relevant experts and observers from groups interested in Public Health IRM e.g. vectors, hygiene pests (WHO, Gates Foundation, IVCC) to participate and ensure that IRAC as an expert group provided input into relevant IRM initiatives. • Maintain, and build on, the role of Liaison Officers to report back to the Public Health Team on the activities of other groups active in the area • Coordinate activities more closely with CLI VCPT • Participate in relevant meetings and provide input into the WHO IR project as required and report back to the PH Team and the IRAC Executive. • Organise workshop with third parties to update team on latest status of insecticide resistance in Anopheline vectors 	On-going
Formulate the IRAC position on ongoing questions and issues as these arise	<ul style="list-style-type: none"> • Formulate position on mosquito larvicides • Consider insecticide resistance risk assessment approach for VC interventions in conjunction with Gates consultation • Formulate the position on the use of mixtures 	Q4 2011 Q4 2011 Q4 2011
Preparation of Public Health communication material	<ul style="list-style-type: none"> • Completion and publication of mini-Vector Manual • Production of educational presentations, based on VM, that can be used by third parties • Production of poster on IRM in mosquito larvicides 	Q2 2011 Q4 2011 Q3 2011

Biotechnology Team

Goals	Objectives	Timeline
Promote practical approaches to resistance monitoring	<ul style="list-style-type: none"> • Deliver method for less-than-high-dose pests, such as Helicoverpa • Develop peer-reviewed paper(s) and training module on proper use of monitoring programs and data • Clarify appropriate use of lab bioassay monitoring and unexpected damage information 	Q3 2011 Q3 2011 Q2 2011
Unified messaging around resistance incidents	<ul style="list-style-type: none"> • Develop internal and external understanding of field-relevant resistance • Promote appropriate interpretations of and responses to resistance reports 	Q2 2011
Continue to deliver practical IRM messaging through workshops, conferences	<ul style="list-style-type: none"> • Promotion of whitepaper via Resistant Pest Management News, IRAC e-Connection, CropLife newsletters, and other avenues • Presentations to key audiences in geographies developing IRM guidelines • Refine slide deck for audiences with biotech grounding; Make slide deck available as pdf on IRAC website 	Q1/2 2011 On-going Q2/3 2011
Promote IRM considerations as integral component of Bt crop development by public and private sectors	<ul style="list-style-type: none"> • Work with public sector scientists and groups to promote responsible, practical IRM programs • Identify opportunities for workshops for the leaders and funding sources of such efforts 	On-going

Steering Group

Goals	Objectives	Timeline
Develop and investigate improved strategies for the effective running of IRAC	<ul style="list-style-type: none"> Continue to assess how IRAC is functioning and develop proposals on how the organisation could be improved and more effectively achieve its goals. Maintain the IRAC documentation (Constitution, Team Guide etc) and update as required. 	On-going
Maintain IRAC finances and develop an annual budget process	<ul style="list-style-type: none"> In conjunction with CropLife maintain the IRAC Executive bank account, process invoices for incomings and outgoings and monitor/report on the financial status of IRAC to the Executive Committee. Develop the current financial forecasts by requesting funding requirements and suggestions from each of the Executive Teams, which can be used to develop a prioritised budget for 2011/12. 	On-going Q2 2011
Propose and monitor Coordinator budget and expenditure	<ul style="list-style-type: none"> Provide updates at Steering and Executive meetings/concalls on the status of coordinator spend vs. budget. 	On-going
Maintain and develop the IRAC Network	<ul style="list-style-type: none"> Make contact and offer membership to companies marketing insecticides but not currently IRAC members Encourage and facilitate the formation of new IRAC Country Group. Maintain contact with existing IRAC Country Groups and investigate the option of a Working Group made up of CG Liaison Officers 	On-going Review Q2/3 2011 Review Q2/3 2011

C&E Team

Goals	Objectives	Timeline
Maintain and improve website as main IRAC C&E vehicle for resistance and IRM information	<ul style="list-style-type: none"> • Maintain the IRAC website as the key IRAC C&E vehicle for resistance and IRM information. <ul style="list-style-type: none"> ○ Continue development and improvement of the website and CMS. ○ Add content and develop site as a key resource for IRM information including material in other languages 	<p>On-going On-going</p>
Issue the eConnection Newsletter	<ul style="list-style-type: none"> • Find and/or prepare appropriate IRM stories and other relevant content for the IRAC eConnection and publish 3-4 issues a year. 	<p>Quarterly</p>
Maintain and develop new web based tools as agreed and approved	<ul style="list-style-type: none"> • Maintain existing eTools include eClassification and eMethods also other software tools such as Mail Chimp. 	<p>On-going</p>
Generation/maintenance of C&E material for the coming year	<ul style="list-style-type: none"> • Formalise a C&E 2010/11 requirements plan with budget and timeline incorporating joint projects with the various WGs. • Work with the IRAC Steering team and the Executive to ensure resources are available or that the needs are prioritised to meet requirements. • Liaise with the WGs, updating or developing new C&E material such as posters, handout material and videos as required. • Organise printing of C&E material as approved and required. This could include posters or further booklets and leaflets. 	<p>Q2 2011 Q2 2011 On-going On-going</p>

Mode of Action WG

Goals	Objectives	Timeline
Continue to review and update the MOA scheme as required.	<ul style="list-style-type: none"> Update as needed the current Version 7.0 to 7.1 to include new actives / classifications. 	On-going
Continue to review & update MoA Booklet	<ul style="list-style-type: none"> Update MoA booklet (2nd ed) – incorporate changes in 7.1. 	Q2 2011
Develop new versions of the MOA Structure Poster (with C&E WG) as needed	<ul style="list-style-type: none"> Using the new version of the scheme (V7.1) update the MOA Structure poster Work with the C&E WG to print copies (v7.1) for distribution Update current non-English versions Develop other language version of the MoA Structure poster (French, Japanese, German) 	Q2 2011 Q2-3 2011 Q3 2011 Q4 2011
Update other MOA posters	<ul style="list-style-type: none"> Work with C&E WG to incorporate updates from new versions of the MoA Scheme into Pest MoA posters. Update General MoA Poster. 	Q3 2011 Q3 2011
MoA Presentation	<ul style="list-style-type: none"> Develop MoA presentation for general use in IRAC covering broad MoAs (IGR, vs. neural, vs. respiration) for use in MoA publications and presentations. Web-based then slide set Develop MoA diagrams (from above) for use in publications 	Q4 2011 Q4 2011 Q4 2011
E-classification	<ul style="list-style-type: none"> Update e-classification on IRAC website as needed 	On-going
MoA reference list	<ul style="list-style-type: none"> Establish MoA references (references for the different MoA Groups) – to be posted on the IRAC website. 	Q3 2011
Resistance mechanisms presentation	<ul style="list-style-type: none"> Develop a general presentation on resistance mechanisms involved with insecticide resistance. 	Q4 2011

Methods WG

Goals	Objectives	Timeline
Develop single point of contact for insecticide and acaricide resistance monitoring methods.	<ul style="list-style-type: none"> • Review “old” approved methods to make improvements to method description and if necessary add additional information. • Populate e-methods tool with a range of methods (sourced from literature, companies and external contacts) used to measure insecticide susceptibility against key agricultural, horticultural and public health pests. • Populate e-methods with additional references. • Once established with new methodologies, promote new e-methods tool through e-connection and design of a poster to be used at industry events. • Finish a procedural video for <i>Tuta absoluta</i> method and initiate new procedural video for a different method. 	<p>Q4 2011</p> <p>Q4 2011</p> <p>Q4 2011</p> <p>Q2 2010</p> <p>Q4 2011</p>
To provide IRAC approved methods in order to steer researchers to use these validated methods, so that data generated by independent researchers can be compared directly.	<ul style="list-style-type: none"> • Deliver minimum of two new crop IRAC approved methods. • Work with PH Team on possibility of approving additional PH method (e.g. bedbugs). Commission appropriate internal or external studies and validate as required to finalise method for inclusion in the IRAC methods series. • Liaise with Biotech Team to deliver SOP for Biotech methods. 	<p>Q2,3,4 2011 & Q2 2012</p>

Resistance Database WG

Goals	Objectives	Timeline
Identify and track the scope and nature of insect resistance issues.	<ul style="list-style-type: none"> • International industry expert survey with data on the occurrence and impact of insect resistance. 	On-going
Inclusion of the IRAC expert survey into the on-line MSU database	<ul style="list-style-type: none"> • To provide the public with perspective on the scope and impact of insect resistance as opposed to just the historical occurrence as now available. • To get validation and additional input from comments from the global audience that will lead to strengthening and greater recognition of IRAC as the experts. 	On-going
Improve utility of survey	<ul style="list-style-type: none"> • Development of web searchable information, geography maps and statistical analysis 	Q4 2011
Expand geographical coverage of survey	<ul style="list-style-type: none"> • To engage additional country groups in the survey and expand geographical coverage 	On-going
Develop Succession Plan for post GT	<ul style="list-style-type: none"> • To ensure continuity need to establish focal points in 2011 	Q2 2011

Appendix I

Definition of Acronyms, Terms and Abbreviations

Acronyms/Terms Abbreviations	Explanation
C&E	Communication & Education
CLI	CropLife International
CM	Codling Moth
CPB	Colorado Potato Beetle
ECPA	European Crop Protection Association
EPPO	European Plant Protection Organisation
EU	European Union
FAO	Food and Agriculture Organisation
GIS	Geographic Information System
IRM	Insecticide Resistance Management
IRAC	Insecticide Resistance Action Committee
IRAC International	IRAC International (or abbreviated to IRAC) is the name for the whole IRAC organisation which operates through the IRAC Executive and IRAC Country Groups
IRAC Executive	IRAC Executive (or Executive Committee) operates at a global level and consists of a matrix of Teams and Working Groups.
IRAC Country Groups (CGs)	IRAC Country and Regional Groups operate at a local or regional level to tackle specific insecticide resistance issues and problems. CGs work independently but are encouraged to use the IRAC brand, follow the IRAC Constitution and participate as part of IRAC International.
IVCC	Innovative Vector Control Consortium
OSR	Oilseed Rape
MoA	Mode of Action
MSU	Michigan State University
PCA	Pest Control Advisors
PH	Public Health
RM	Resistance Management
VM	Vector Manual
WG	Working Group
WHO	World Health Organisation