



I R A C - B R

COMITÊ BRASILEIRO DE AÇÃO A RESISTÊNCIA A INSETICIDAS

www.irac-br.org.br

Luis Pavan
Chairman

Topics

- **IRAC-BR Update**
 - **History**
 - **Members**
 - **Mission**
 - **Projects**
 - **Challenges**

History

- **Established: 05 / May / 1997**
- **Board of Directors : two years term of office**
- **Members: 14 + 1**
- **Consultants: 2**
- **Fees (2013):**
 - **Entry: R\$ 10,000 (~US\$ 5,000)**
 - **Annual: R\$ 10,000 (~US\$ 5,000)**
- **Meetings:**
 - **~ twice a year - next meeting: Mar 26th (38th)**

Members



Arysta | BASF | BAYER | Dow AgroSciences | DuPont | FMC | Iharabras | Milenia
Monsanto | Nufarm | Sipcam-UPL | Syngenta | Sumitomo | UPL | MAPA

Board of Directors

President: Luis Pavan (Dow AgroSciences)

Vice-President: Odnei Fernandes (Bayer)

1º Treasurer: Francisco Lozano (Bayer)

2º Treasurer: Cristiane Muller (Dow AgroSciences)

1º Secretary: Rosana Serikawa (Dupont)

2º Secretary: Ximena Vilela (Ihara)

Consultants

Dr. Celso Omoto (ESALQ/USP)

Dr. Raul Guedes (UFV)

Mission

Keep all chemical groups of insecticides and acaracides and genetically modified alternatives for management of insects and mites through consultations, Research and Extension, to the management of these control tactics in a sustainable way .

***“Objectives of IRM are to delay resistance, not prevent it”
Tim Dennehy***

Projects

- **Research**
- **Educational**
- **Institutional**

Research Projects

- *Spodoptera frugiperda*
- *Tuta absoluta*
- *Grapholita molesta*
- *Bemisia tabaci*
- *Tetranychus urticae**
- *Euschistus heros**

* Institutional



Spodoptera frugiperda

- **Researcher: Dr. Celso Omoto**
- Base Line and Field Monitoring: carbamates, organophosphates, pyrethroids, spinosyns, B.t., benzoylureas, diacylhydrazines, indoxacarb, diamides.
- Corn and Soybean
- BA, MT, MS, GO, MG, SP, PR, RS
- Challenges: - collect field populations samplings
- strategies implementation



Tuta absoluta

- **Researcher: Dr. Herbert Siqueira**
- **Base Line and Field Monitoring:**
chlorfluazuron, metaflumizone, teflubenzuron,
clorfenapyr, flubendiamide, spinosyns,
methoxyfenozide, clorantraniprole, indoxacarb,
cartap, novaluron, B.t., abamectin.
- Tomato
- CE, BA, GO, ES, SP, RS
- **Challenges:** - bioassay
- strategies implementation



Grapholita molesta

- **Researcher: Dr. Oscar Neto Silva, Dr. Celso Omoto & Dr. Marcos Botton**
- Base Line and Field Monitoring :
phosmet, metaflumisone,
chlorantraniliprole, spinetoram,
tebufenozone, pyriproxyfen.
- Apple and Peach
- São Paulo and Rio Grande do Sul
- Challenges: - collection of population from commercial orchards
- rearing in laboratory



Bemisia tabaci

- **Researcher: Dr. Marcelo Poletti - Promip**
- Base Line and Field Monitoring :
buprofezin, acetamiprid, clothianidin,
spirotetramat, imidacloprid,
diafenthiuron, thiamethoxam ,
pyriproxyfen.
- Tomato (dry beans)
- São Paulo & Minas Gerais.
- Challenges: - collection of population from field
- sample shipment



Tetranychus urticae

- **Researcher: Dr. Mário Eidi Sato**
- Base Line and Field Monitoring:
abamectin, chlorfenapyr,
diafentiuron, etoxazol,
fenpyroximate, milbemectin,
propargite.
- Algodão, Feijão, Morango, Mamão,
Frutíferas Temperadas e Flores.
- Paraná, São Paulo, Minas Gerais,
Espírito Santo e Goiás.
- Challenges: - strategies implementation



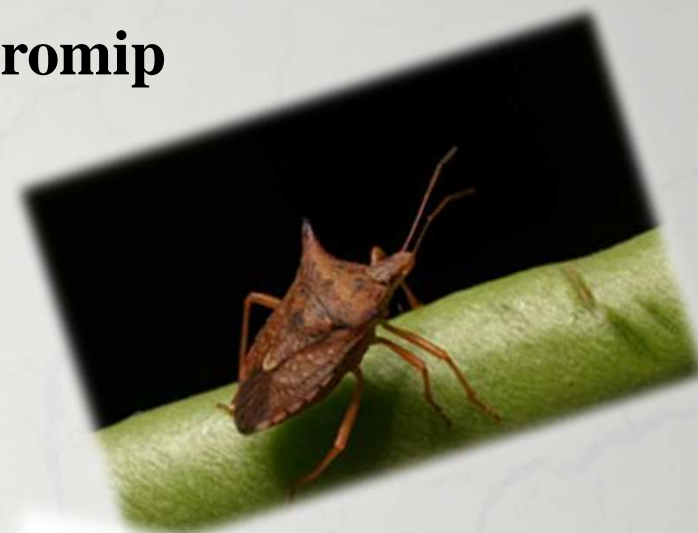
Euschistus heros

- **Researcher: Dr. Daniel Sosa-Gomez (up to 2012)**
- Base Line and Field Monitoring:
endossulfam, methamidophos
- Soybean
- South BR
- Challenges: - methodology / bioassay
- specialists



Euschistus heros

- **Researcher: Dr. Marcelo Poletti - Promip**
- **Methodology Development:**
 - Tarsal Contact (vial)
 - Direct Contact (topical)
 - Ingestion (treated pods)
 - Ingestion (artificial diet)
- Thiamethoxam and LCH
- Soybean
- **Challenges:** - costs (US\$ 25,000)
 - lack of communication



- **Working Group dedicated to GMOs**
 - Dow AgroSciences, DuPont, Monsanto, Syngenta
 - Traits Resistance Management
 - Harmonized language

- **Challenges**
 - Lack of leadership
 - Organizations outside IRAC-BR
 - Regulatory Issues
 - Overcome the current Corn Bt issues in BR
 - Gain Credibility

Diamide WG

- **Working Group dedicated to diamides**
 - Initiated in 2009
 - Restricted to DuPont / Syngenta / Bayer
 - Harmonized IRM program
 - First mention inside of IRAC-BR – March 2012
 - First proposal to IRAC-BR – Sep 2012
 - First open meeting (partial) – Feb 2013

Educational

- Professionals
- Students
- Growers



Educational - Events



Title: Management of pest resistance to insecticides in crop production systems in Brazil.

Coordinator: Luis Pavan (Dow)

Panelist 1: Luis A Pavan (Dow)

Title: Realizações e Desafios do Comitê Brasileiro de Ação a Resistência a Inseticidas (IRAC-BR).

Panelist 2: Celso Omoto (ESALQ/USP)

Title : Impacto dos cultivos transgênicos no manejo da resistência de *Spodoptera frugiperda* a inseticidas.

Panelist 3: Herbert Álvaro Abreu de Siqueira (UFRP)

Title : Manejo de Resistência de *Tuta absoluta* e *Plutella xylostela* a inseticidas no Brasil.

Panelist 4: Paulo Edimar Saran (Solo & Planta Consultoria Agronômica S/S Ltda)

Title : Sistemas de Produção Agrícola e o Desafio do Manejo de Resistência de Insetos no Brasil.

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More than 500 attendees !!!

Educational - Events

- ✓ **Joint Event - 3 “RACs”**
- ✓ **IRAC-BR, FRAC-BR & HRAC-BR**
- ✓ **Local: FAFICH Goiatuba /GO**
- ✓ **Date: 27/September/2012**
- ✓ **Panelist: Eng. Agr. Shizuo Dodo**
- ✓ **Attendees:**
 - ✓ **Afternoon (3 hours session) - Students (~120 attendees)**
 - ✓ **Night (2 hours session) – Agronomists (~20 attendees)**

Pilot Event

Educational - Events

- ✓ **III Symposium on Resistance Management to Plant Protection Products.**
 - ✓ Tema: PLANEJAMENTO DO SISTEMA DE PRODUÇÃO DE CULTIVOS: CHAVE PARA O MANEJO DA RESISTÊNCIA
 - ✓ 3 e 4 Outubro / ESALQ - Piracicaba

- ✓ **25th RAIB – Insecticide Resistance Management**
 - ✓ 5 a 8 Novembro / Instituto Biológico – SP

Educational - Folders

“IRM Collection”

- ✓ ***Bemisia tabaci*: delivered**
- ✓ ***Tetranychus urticae*: delivered**
- ✓ ***Spodoptera frugiperda*: updated and delivered**
- ✓ ***Grapholita & Bonagota*: ready and to be delivered soon**
- ✓ ***Euschistus heros*: ready and to be delivered soon**
- ✓ ***Tuta absoluta*: new version under revision**
- ✓ ***Diaphorina citri*: under revision (based on IRAC Inter)**
- ✓ **MoA: under revision (based on IRAC Inter New Version)**

Institutional

- **Slide Story – time to be updated**
- **Sponsorship of the key regional and national events**
- **Home Page**
 - **New home page**
 - **SmartPhones and Tablets applications**
 - **Video (possible from IRAC Inter)**

Institutional



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Comitê Brasileiro de Ação a Resistência a Inseticidas [Home](#)

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Missão:
"Manter todos os grupos químicos de inseticidas e acaricidas e as plantas geneticamente modificadas como alternativas viáveis de manejo de insetos e ácaros por meio de programas de parceria com Produtores e Instituições de Ensino, Pesquisa e Extensão, para o gerenciamento destas táticas de controle de uma maneira sustentável".

Projetos e Pesquisa

Spodoptera frugiperda uma praga cujo controle está cada vez mais difícil. [saiba mais ...](#)
PROGRAMA IRAC-BR
Manejo da Resistência de Tuta absoluta a Inseticidas na Cultura do Tomate ([clique](#) para fazer o download)

Eventos
Aguarde a agenda de eventos para 2013.

Notícias
Manejo da resistência de *Spodoptera frugiperda* a inseticidas e plantas Bt
[NOVO]
[saiba mais ...](#)

 Dow AgroSciences

Membros do IRAC-BR

Caixa Postal 168 - Cep: 13800-970 - Mogi Mirim - SP e-mail: irac@irac-br.org.br

Área Restrita Login: Senha:

Challenges !!!

- Lack of specialists on IRM;
- Data generation;
- Complexity of agroecosystem;
- Awareness professionals and farmers;
- Few commitment from ANDEF.





Obrigado / Thank You

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**Caixa Postal 168 | Fax: 19 3022 5736
CEP: 13800-970 | Mogi Mirim | SP**