

# **Session 3**

**International Working Group & Country Group Review**  
**46<sup>th</sup> Meeting of IRAC International, Brussels, Belgium**

**Wednesday - March 30<sup>th</sup>, 2011**

**Diamide WG**

**Veronica Companys**



## Diamide WG members

|                     |               |            |
|---------------------|---------------|------------|
| ■ Verónica Companys | Bayer         | Chair      |
| ■ John Andaloro     | DuPont        | Vice-chair |
| ■ Luis Teixeira     | DuPont        |            |
| ■ Paula Marçon      | DuPont        |            |
| ■ Andrea Bassi      | DuPont        |            |
| ■ Robert Senn       | Syngenta      |            |
| ■ Russell Slater    | Syngenta      |            |
| ■ Ken Chisholm      | Nihon Nohyaku |            |
| ■ Ralf Nauen        | Bayer         |            |
| ■ Alan Porter       | APA           |            |

# Country Diamide Working Group Progress: Update 2011, March

| #  | Global Liaison    | Country      | Relative to the Steps in the Country Guidance Tutorial |   |   |   |   |   |   |   |   |   |    |    |    |
|----|-------------------|--------------|--|---|---|---|---|---|---|---|---|---|----|----|----|
| 1  | John Andaloro     | Australia*   | 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |   |   |    |    |    |
| 2  | John Andaloro     | Argentina    | 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 3  | Luis Teixera      | Brazil       | 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |   |    |    |    |
| 4  | Robert Senn       | China*       | 0  | 1 | 2 | 3 | 4 | 5 |   |   |   |   |    |    |    |
| 5  | Veronica Companys | India        | 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |   |   |    |    |    |
| 6  | John Andaloro     | Indonesia*   | 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |   |   |    |    |    |
| 7  | Andrea Bassi      | Italy        | 0  |   |   |   |   |   |   |   |   |   |    |    |    |
| 8  | Ken Chisholm      | Japan        | 0  | 1 | 2 | 3 | 4 | 5 |   |   |   |   |    |    |    |
| 9  | Ken Chisholm      | Korea        | 0  | 1 | 2 | 3 | 4 |   |   |   |   |   |    |    |    |
| 10 | John Andaloro     | Malaysia     | 0  | 1 |   |   |   |   |   |   |   |   |    |    |    |
| 11 | Luis Teixera      | Mexico       | 0  | 1 | 2 |   |   |   |   |   |   |   |    |    |    |
| 12 | Andrea Bassi      | Morocco      | 0  |   |   |   |   |   |   |   |   |   |    |    |    |
| 13 | Veronica Companys | Philippines* | 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |    |
| 14 | Veronica Companys | Spain        | 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |    |
| 15 | Robert Senn       | Thailand*    | 0  | 1 | 2 | 3 | 4 | 5 |   |   |   |   |    |    |    |
| 16 | Robert Senn       | Turkey       | 0  |   |   |   |   |   |   |   |   |   |    |    |    |
| 17 | John Andaloro     | USA*         | 0  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |   |    |    |    |
| 18 | Robert Senn       | Vietnam*     | 0  | 1 | 2 | 3 | 4 |   |   |   |   |   |    |    |    |

\* Visited by member of Global Diamide WG

0. Haven't met yet  
1. Understand Objectives  
2. Meet and Organze  
3. Review Antitrust  
4. Review Global Guidelines

5. Select High Risk Insects & Markets  
6. Develop Plan to Communicate MOA  
7. Develop IRM Guideline Plan by Crop  
8. Develp Communicate & Educate Plan

9. Act if "R" Occurs  
10. Communicate Social Adv  
11. Implement 6, 7, & 8  
12. Work on more markets



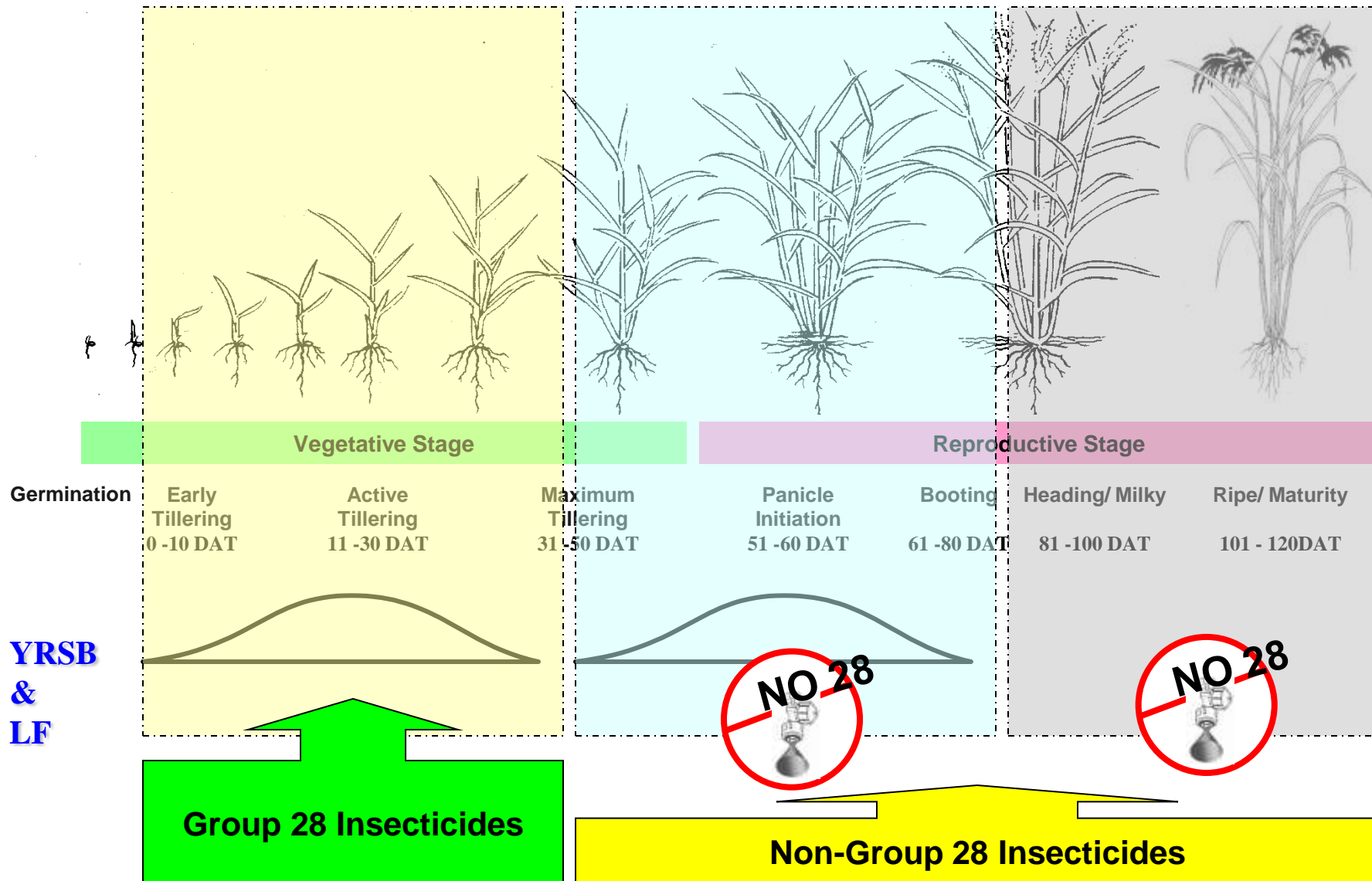
Insecticide Resistance Action Committee

# Country reviews

## ■ India

## Example 1

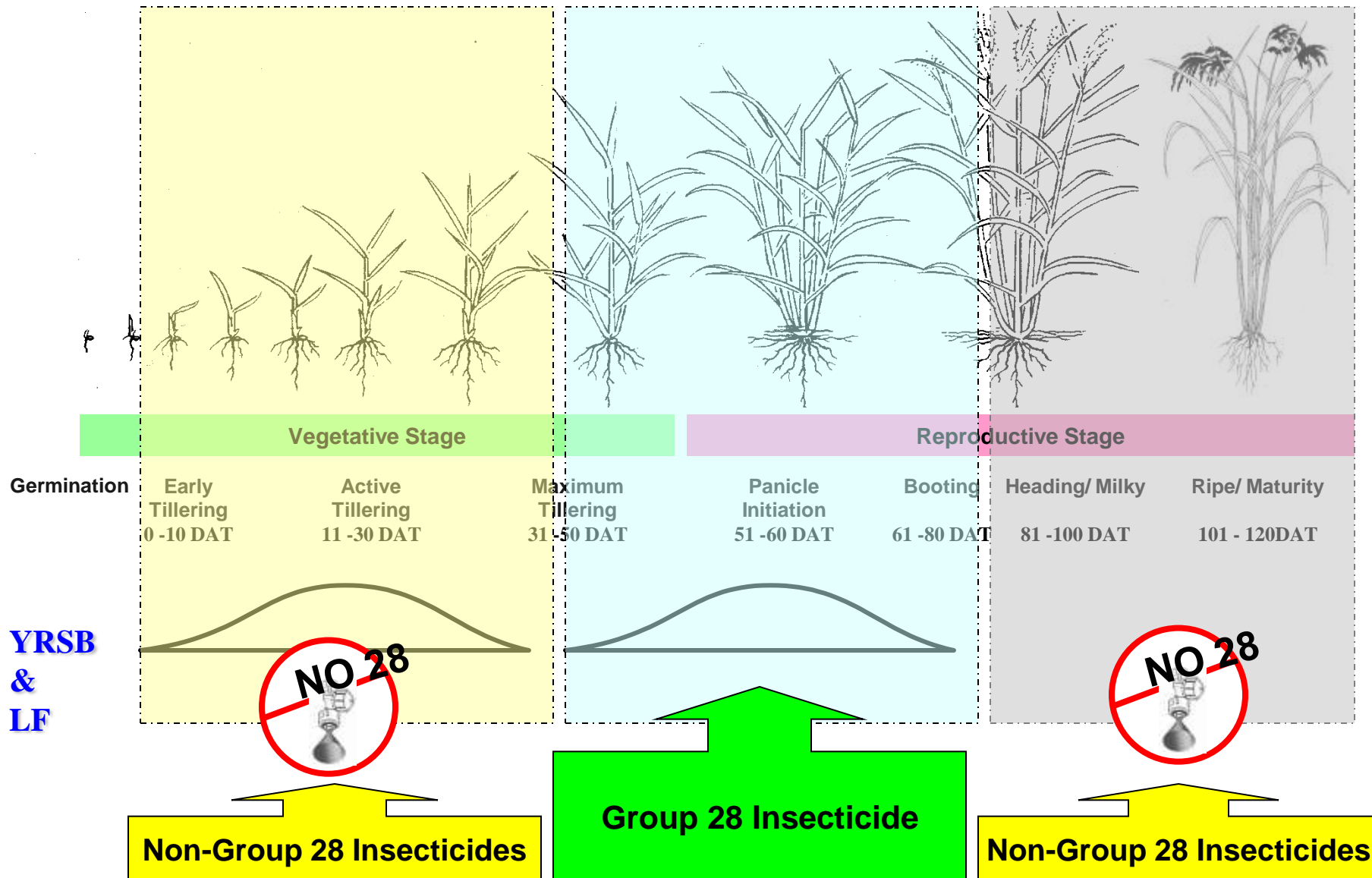
# INDIA WG Update

India Rice Strategy (*under review*)

## Example 2

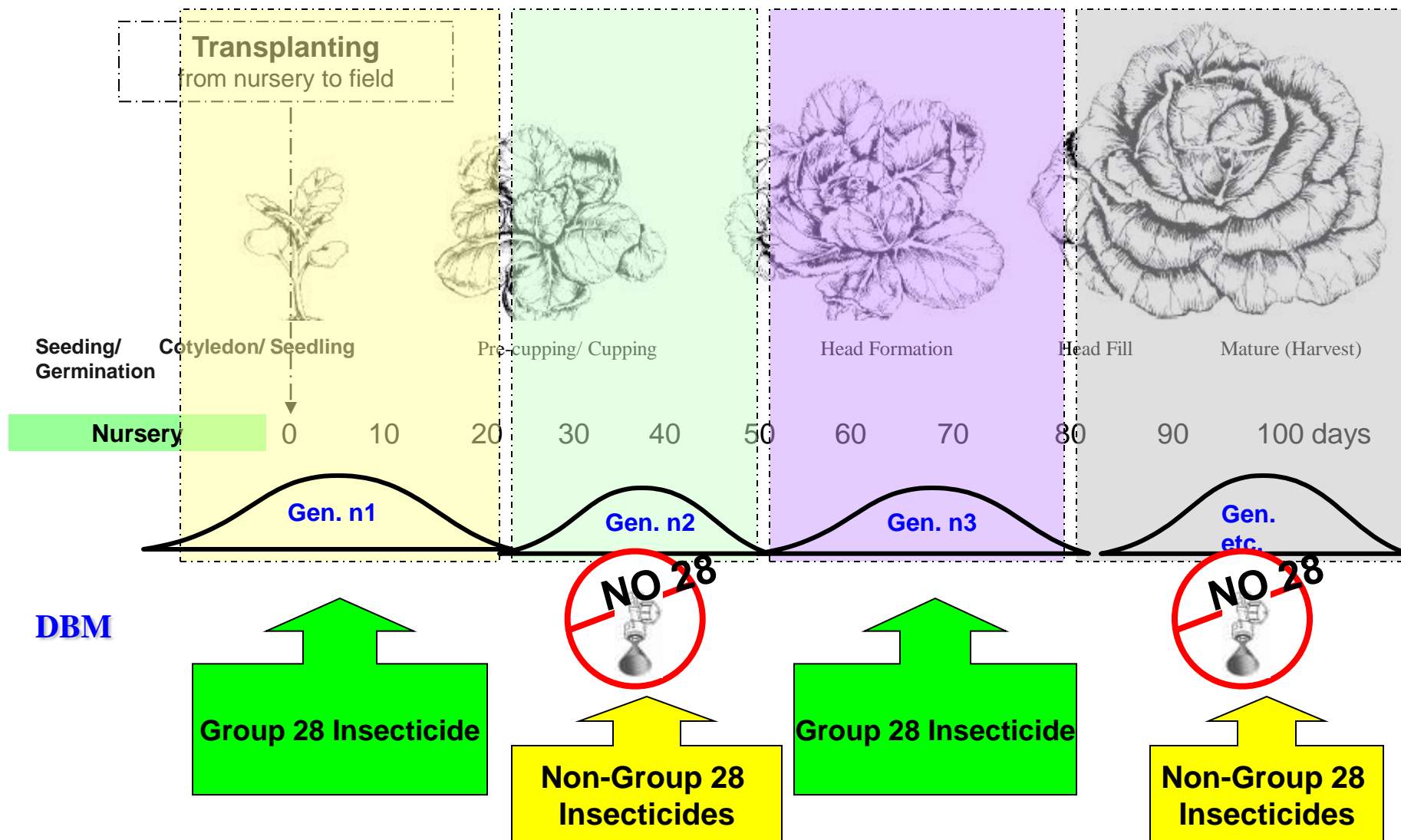
# INDIA WG Update

India Rice Strategy (under review)



## Example 1

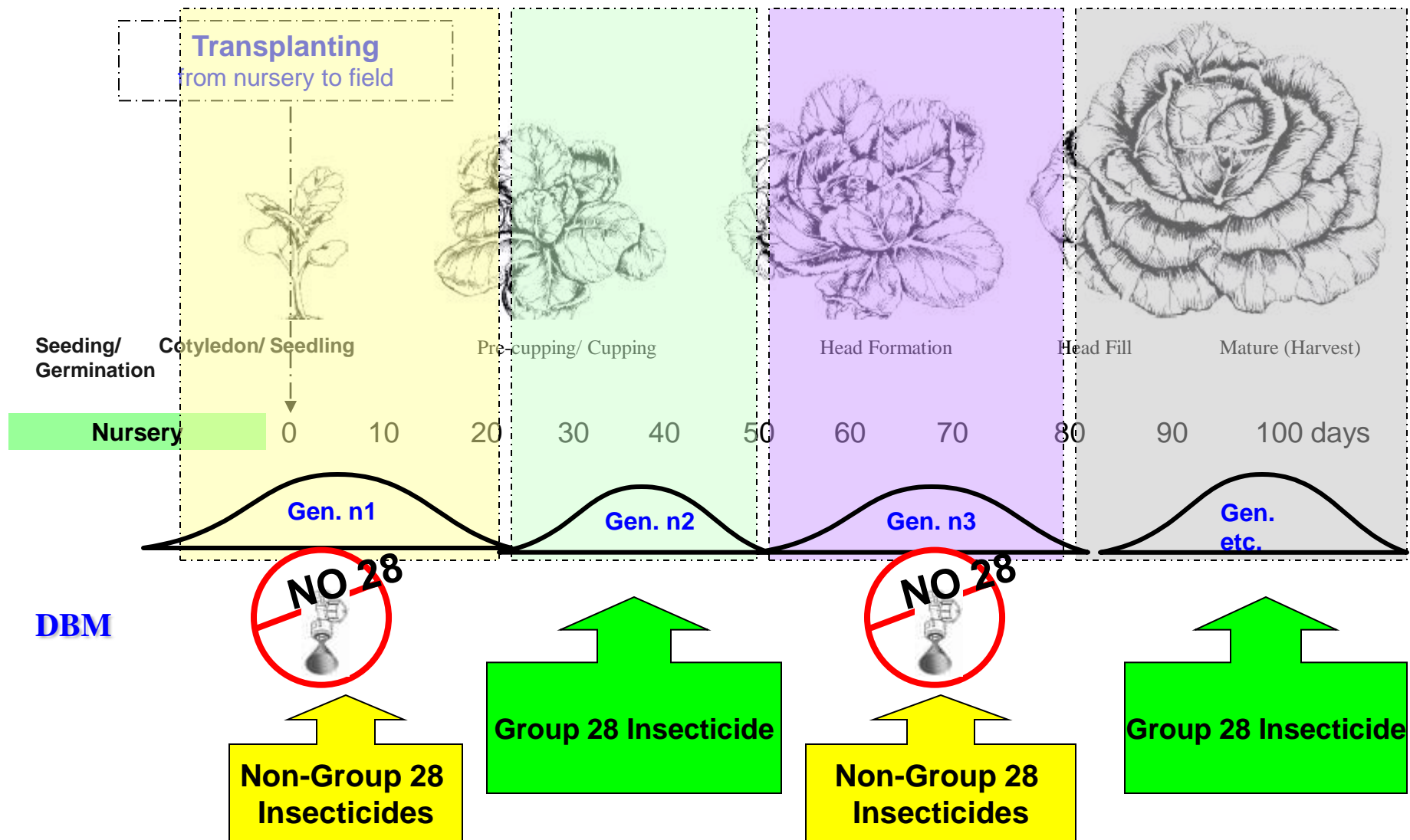
# INDIA WG Update

**India Cabbage Strategy (under review)**



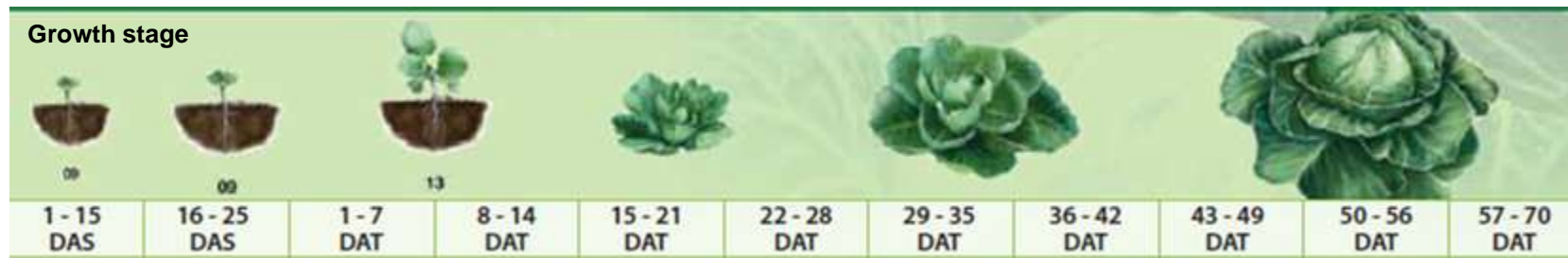
## Example 2

# INDIA WG Update

**India Cabbage Strategy (under review)**

## ■ Indonesia

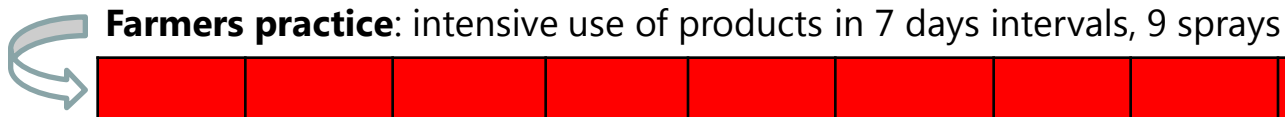
# Cabbage



Life cycle of DBM is 20 days in average with first occurrence mostly at 1-7 DAT. 3 generations in one crop cycle



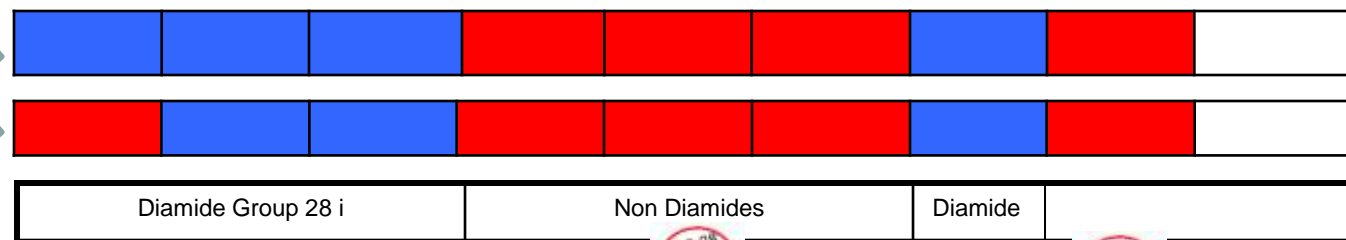
**Farmers practice:** intensive use of products in 7 days intervals, 9 sprays



## Recommendation from ID diamide WG

1<sup>st</sup> Recommendation

2<sup>nd</sup> Recommendation



**Recommendation from ID Diamide WG, there are two option as**  
**First recommendation applying diamide group on 1<sup>st</sup> and 3<sup>rd</sup> generation of target pest, with 4 sprays in total.**  
**or 2 sprays at 1<sup>st</sup> Cycle and 1 spray at 3<sup>rd</sup> Cycle for the second option of recommendation**

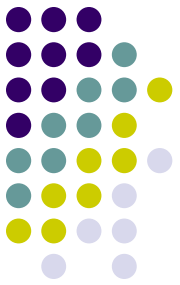
## ■ Thailand



### **Thailand: Areas of Diamide Resistance by DBM**

1. Bang Bua Thong district, Sai Noi district , Nonthaburi province.
2. Sali, Songphinong district , Suphanburi province.
3. Tha muang district , Kanchanaburi province.
4. Lat Lum Kaew district, Pathum Thani

# Status of diamide resistance of DBM in Thailand (Feb-Mar 2011)



- For flubendiamide in **2011**

| Insecticide   | Population            | LC50 (mg/liter) (95%FL)     | RF <sup>2</sup> |
|---------------|-----------------------|-----------------------------|-----------------|
| Flubendiamide | Tub Berg <sup>1</sup> | 0.160 (0.0366-0.811)        | -               |
|               | Tha Muang             | 770.776 (123.325-26336.853) | 4,817           |
|               | Sai Noi               | 65.148 (2.706-157.405)      | 407             |
|               | Lat Lum Kaew          | 4,256.6 (2690.1-9373.2)     | 26,603          |

<sup>1</sup> Tub Berg population was tested in 2009.

<sup>2</sup> Resistance factor = LC50 of a population / LC50 of the Tub Berg population, the most susceptible field population in 2009.

## ■ China



# Virtako 40WG from Syngenta

福  
戈/syngenta/  
先正达

农药临时登记证号:LS20083124  
农药生产许可证(或生产批准文件)号:  
产品标准号:

**氯虫·噻虫嗪**  
**总有效成分含量:40%**  
**噻虫嗪含量: 20%**  
**氯虫苯甲酰胺含量: 20%**  
**剂型:水分散粒剂**



## 使用技术和使用方法:

| 作物(或范围) | 防治对象  | 制剂用药量  | 使用方法 |
|---------|-------|--------|------|
| 水稻      | 褐飞虱   | 6-8克/亩 | 喷雾   |
| 水稻      | 稻纵卷叶螟 | 6-8克/亩 | 喷雾   |

(注:(1)公顷用制剂量=亩用制剂量×15

(2)总有效成分量浓度值(毫克/千克)=(制剂含量×1000000)÷制剂稀释倍数)

1. 防治水稻稻纵卷叶螟,按推荐剂量在稻纵卵孵化高峰至2龄幼虫期叶面喷雾,每亩对水30-45升。  
2. 防治褐飞虱,按推荐剂量在低龄若虫发生期对准水稻中下部喷雾,每亩对水45-60升。3. 一季最多使用次数3次,安全间隔期15天。2. 建议与其他作用机制不同的杀虫剂轮换使用,以延缓抗性产生。

生产企业名称:瑞士先正达作物保护有限公司

地址:上海市浦东新区浦东南路999号新梅联合广场21楼邮编:200120

电话:400-881-2568 传真:021-68882277 网址:<http://www.syngenta-china.com/>

## 产品性能(用途):

本品由两种作用机理的杀虫剂混配而成,具有内吸和胃毒作用。可防治水稻主要鳞翅目和同翅目害虫,如稻纵卷叶螟及褐飞虱。

## 注意事项:

1. 请按照农药安全使用准则使用本品。避免药液接触皮肤、眼睛和污染衣物,避免吸入雾滴。切勿在施药现场抽烟或饮食。在饮水、进食和抽烟前,应先洗手、洗脸。2. 配药时,应戴防渗手套和面罩或护目镜。3. 施药时,应戴帽子、靴子。4. 施药后,彻底清洗防护用具,洗澡,并更换和清洗工作服。5. 使用过的空包装,用清水冲洗三次后妥善处理,切勿重复使用或改作其它用途。所有施药器具,用后应立即用清水或适当的洗涤剂清洗。6. 勿将制剂及其废液弃于池塘、沟渠和湖泊等,以免污染水源。7. 未用完的制剂应放在原包装内密封保存,切勿将本品置于饮、食容器中。8. 施药期间应避免对周围蜂群的影响,蜜源作物花期、蚕室和桑园附近禁用。远离水产养殖区施药,禁止在河塘等水体中清洗施药器具。制造厂敬告用户:严格按照推荐方法使用、操作和贮藏本品。使用时应接受当地农业技术部门的指导。

## 中毒急救:

中毒症状:按标签推荐方法使用,无典型中毒症状。一旦发生中毒,请对症治疗。中毒急救:1. 用药时如果感觉不适,立即停止工作,采取急救措施,并携此标签送医就诊。2. 皮肤接触:立即脱掉被污染的衣物,用大量清水冲洗被污染的皮肤,如皮肤刺激感持续,请医生诊治。3. 眼睛溅药:立即将眼睑翻开,用清水冲洗至少15分钟,再请医生诊治。4. 发生吸入:立即将吸入者转移到空气新鲜处,注意保暖和休息。如果吸入者停止呼吸,需进行人工呼吸,请医生诊治。5. 误服:请勿引吐,立即携带标签,送医就诊。紧急医疗措施:使用医用活性炭洗胃,洗胃时注意防止胃内容物进入呼吸道。注意:对昏迷病人,切勿经口喂入任何东西或引吐。6. 解毒剂:无专用解毒剂,对症治疗。紧急救助电话:400-650-5726

## 储存和运输:

1. 本品应加锁保存,勿让儿童、无关人员和动物接触。勿与食物、饮料、动物饲料、粮食和种子在一起存放或运输。2. 本品应贮藏在避光、干燥、通风处。运输时应注意避光、防高温、雨淋。3. 贮藏温度应避免高于35℃。4. 产品码放高度不宜超过2米,以免损坏包装。自生产日期起,原包装存放在阴凉、干燥处,保质期为两年。

## 其他说明:

原产国: ; 中国境内联系机构:先正达(中国)投资有限公司。防伪编码: ; 辨别真伪:请拨打查询电话4008822800,按语音提示输入防伪编码。

净含量(重量): 毫升(克) 生产日期: 年 月 日 批号: 有效期: 2年

IRM statement: rotation application with other MoA products, not more than 3 applications



## ■ Philippines



# Philippine Vegetable IRM Recommendations and Training Plans

IRAC Philippines Diamide Working Group

Sixth International Workshop on Management of the Diamondback Moth  
Kasetsart University, Thailand  
March 21-25, 2011

## **Train the trainers workshop will be conducted in the following project areas**

| <b>Area</b>       | <b>Crop</b>     | <b>Date</b>      | <b># of Participants</b> |
|-------------------|-----------------|------------------|--------------------------|
| <b>Benguet</b>    | <b>Cabbage</b>  | <b>May 17</b>    | <b>100</b>               |
| <b>Pangasinan</b> | <b>Eggplant</b> | <b>May 19</b>    | <b>60</b>                |
| <b>Cebu</b>       | <b>Cabbage</b>  | <b>June 7</b>    | <b>30</b>                |
| <b>Bukidnon</b>   | <b>Cabbage</b>  | <b>July 5</b>    | <b>36</b>                |
| <b>Davao</b>      | <b>Cabbage</b>  | <b>July 19</b>   | <b>30</b>                |
| <b>Quezon</b>     | <b>Eggplant</b> | <b>August 2</b>  | <b>50</b>                |
| <b>Batangas</b>   | <b>Eggplant</b> | <b>August 16</b> | <b>40</b>                |

## **Farmers Training will be conducted in the following project areas**

| <b>Area</b>    | <b>Crop</b> | <b># of Participants</b> |
|----------------|-------------|--------------------------|
| Benguet/Ilocos | Cabbage     | 3000                     |
| Pangasinan     | Eggplant    | 400                      |
| Cebu           | Cabbage     | 400                      |
| Bukidnon       | Cabbage     | 300                      |
| Davao          | Cabbage     | 300                      |
| Quezon         | Eggplant    | 200                      |
| Batangas       | Eggplant    | 400                      |

## TOPICS IN THE IRM TRAINING

- **Integrated Pest Management – Dr. C.B. Adalla**
- **General Principles of Resistance Management- Dr.E. Bernardo**
- **Insect Resistance Management: Experience in cabbage and eggplant- Dr L. Colting and Dr. M. Navasero**
- **Maintaining Susceptibility to registered products ( e.g diamides) in vegetables, An Industry responsibility- Diamide WG**
- **Product Stewardship- CLP**

# Project Activities and Timelines

## Activities

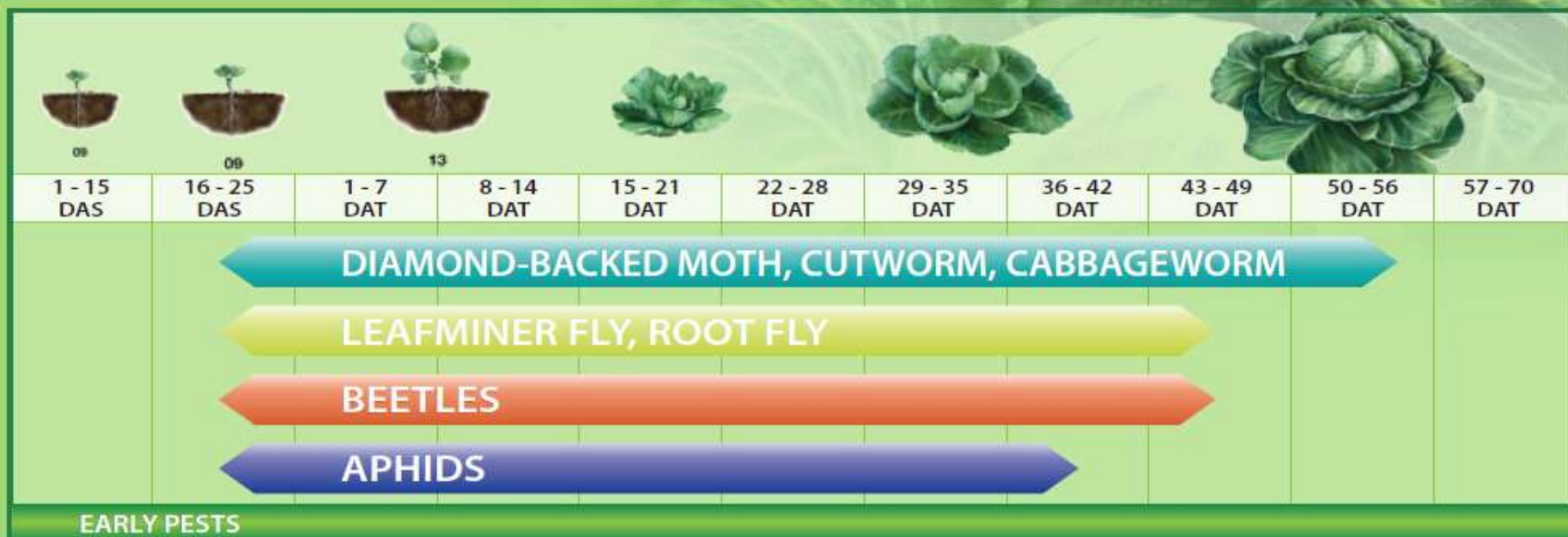
## Timeline

- |  |                      |
|--|----------------------|
| 1. Develop educational material on maintaining susceptibility of DBM to registered compounds e.g diamides in cabbage | 2010                 |
| 2. Obtain funding from IRAC  | Feb 2011             |
| 3. Prepare for the training proper to include training module development  | Feb- April 2011      |
| 2. Train the trainers wokshop  | May- Aug, 2011       |
| 3. Farmers training  | Nov 2011- March 2012 |
| 4. Follow ups and Post evaluation  | May 2012- March 2013 |



# Diamide Resistance Management (DRM) Strategy for Cabbage Worms:

AN EXAMPLE of a DRM program that rotates Group 28 products (Diamide insecticides) with alternative modes of action. For more specific spray timings of Fenos®, Prevathon®, and Voliam Flexi® to initiate the Group 28 active window, see company recommendations.







| SEED NURSERY                     |                                       | TRANSPLANTING                         |                                       | LEAFY STAGES                  |                               | HEAD FORMING                          |                                       | HARVESTING                            |                               |
|----------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------------|-------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-------------------------------|
| 1» Other registered insecticides | Other registered insecticides         | Other registered insecticides         | Other registered insecticides         | Other registered insecticides | Other registered insecticides | Fenos®<br>Prevathon®<br>Voliam Flexi® | Fenos®<br>Prevathon®<br>Voliam Flexi® | Fenos®<br>Prevathon®<br>Voliam Flexi® | Other registered insecticides |
| 2» Other registered insecticides | Fenos®<br>Prevathon®<br>Voliam Flexi® | Fenos®<br>Prevathon®<br>Voliam Flexi® | Fenos®<br>Prevathon®<br>Voliam Flexi® | Other registered insecticides | Other registered insecticides | Other registered insecticides         | Other registered insecticides         | Other registered insecticides         | Other registered insecticides |

**NOTE:** Insecticides belonging to other modes of action and/or other means of control



# Diamide Resistance Management (DRM) Strategy for Eggplant Borer:

AN EXAMPLE of a DRM program that rotates Group 28 products (Diamide insecticides) with alternative modes of action. For more specific spray timings of Fenos®, Prevathon®, and Voliam Flexi® to initiate the Group 28 active window, see company recommendations.

| GROWTH STAGE        | SEEDLING  |    |    |    | VEGETATIVE  |    |    |    | FLOWERING   |    |    | FRUITING  |    |    |     |     |     |     |     |     |     |     |     |     |     |  |
|---------------------|---|----|----|----|---|----|----|----|---|----|----|---|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|                     |  |    |    |    |  |    |    |    |  |    |    |  |    |    |     |     |     |     |     |     |     |     |     |     |     |  |
| DAYS AFTER PLANTING | 7   | 14 | 21 | 26 | 35  | 42 | 49 | 56 | 63  | 70 | 77 | 84  | 91 | 98 | 106 | 112 | 118 | 126 | 138 | 140 | 147 | 154 | 161 | 168 | 173 |  |
| WEEK #              | 1   | 2  | 3  | 4  | 5   | 6  | 7  | 8  | 9   | 10 | 11 | 12  | 13 | 14 | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  | 25  |  |

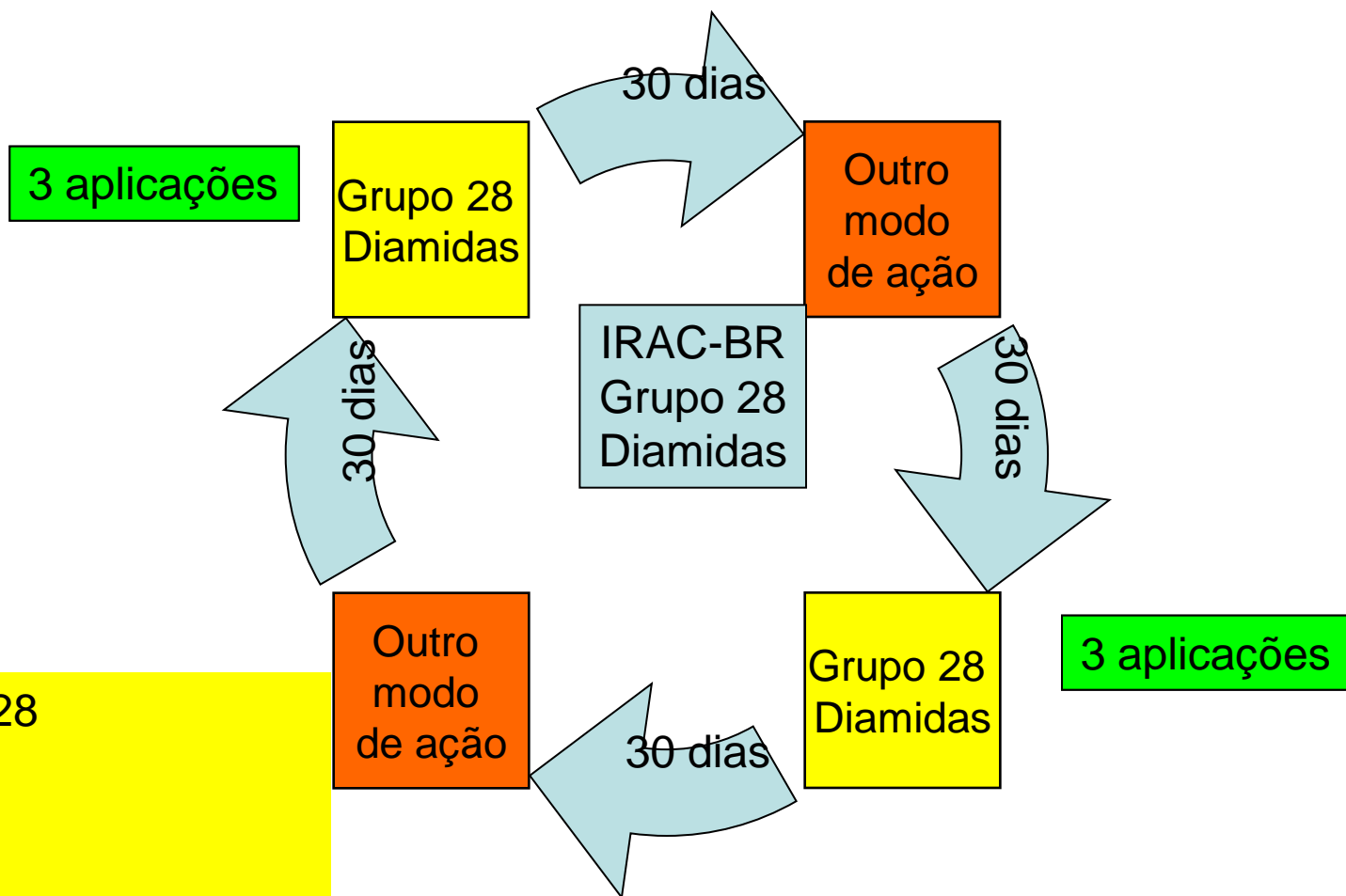
|                               |                                       |                                       |                               |                               |                                       |                                       |                               |                               |                                       |                                       |                               |                               |                                       |                                       |                               |
|-------------------------------|---------------------------------------|---------------------------------------|-------------------------------|-------------------------------|---------------------------------------|---------------------------------------|-------------------------------|-------------------------------|---------------------------------------|---------------------------------------|-------------------------------|-------------------------------|---------------------------------------|---------------------------------------|-------------------------------|
| Other registered insecticides | Fenos®<br>Prevathon®<br>Voliam Flexi® | Fenos®<br>Prevathon®<br>Voliam Flexi® | Other registered insecticides | Other registered insecticides | Fenos®<br>Prevathon®<br>Voliam Flexi® | Fenos®<br>Prevathon®<br>Voliam Flexi® | Other registered insecticides | Other registered insecticides | Fenos®<br>Prevathon®<br>Voliam Flexi® | Fenos®<br>Prevathon®<br>Voliam Flexi® | Other registered insecticides | Other registered insecticides | Fenos®<br>Prevathon®<br>Voliam Flexi® | Fenos®<br>Prevathon®<br>Voliam Flexi® | Other registered insecticides |
|-------------------------------|---------------------------------------|---------------------------------------|-------------------------------|-------------------------------|---------------------------------------|---------------------------------------|-------------------------------|-------------------------------|---------------------------------------|---------------------------------------|-------------------------------|-------------------------------|---------------------------------------|---------------------------------------|-------------------------------|

**NOTE:** Insecticides belonging to other modes of action and/or other means of control



## ■ Brazil

# Proposta de selo para o Grupo 28 – Diamidas – IRAC-BR



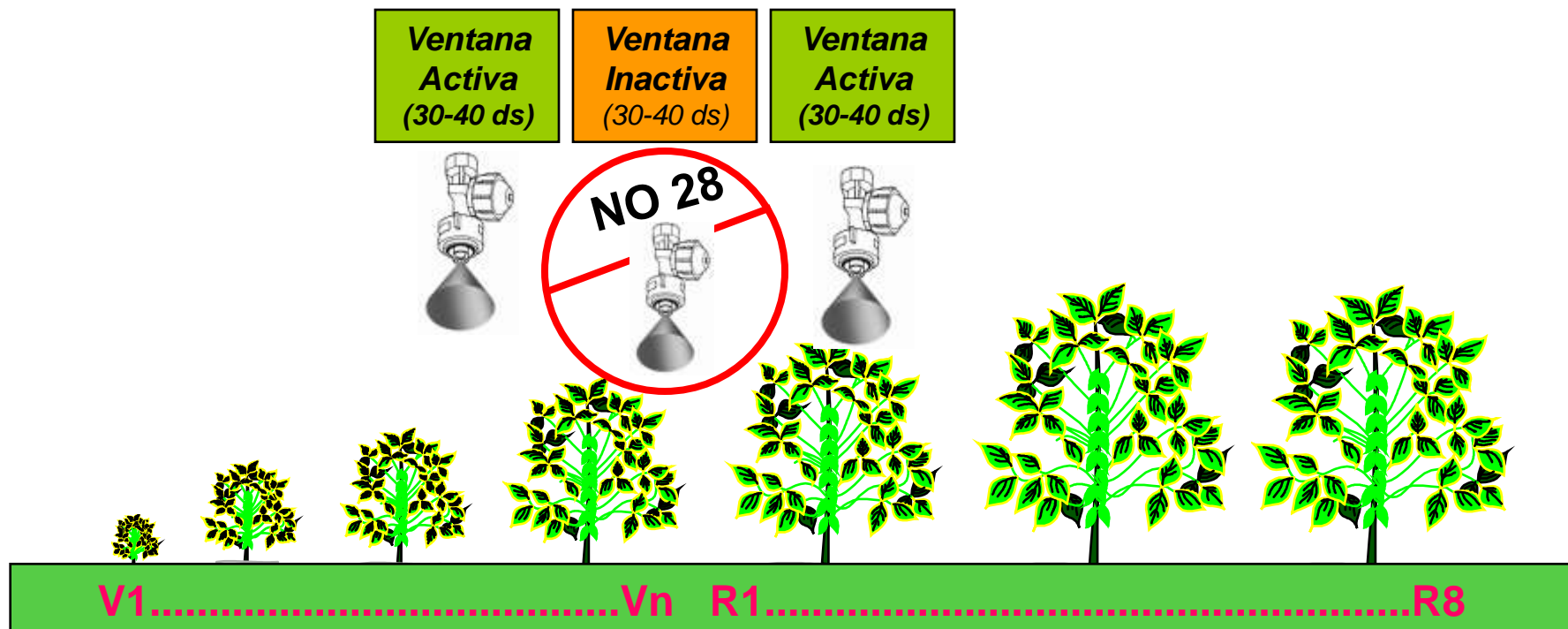
## Produtos do Grupo 28

- Belt
- Ampligo
- Voliam Targo
- Durivo
- Premio
- Colocar a logomarca dos produtos
- Colocar ativo e não marcas

## ■ Argentina

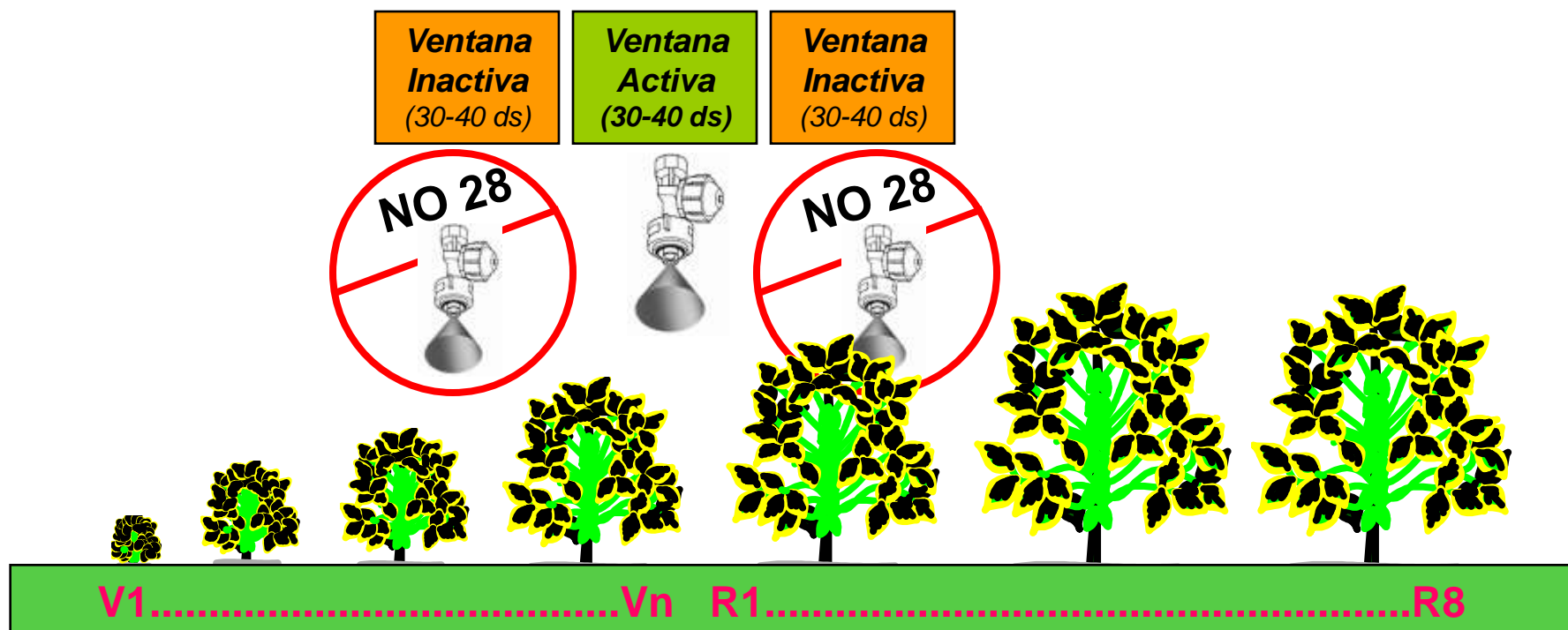
### Rotational Schemes:

#### *Estrategia de “Alternancia de Ventanas” (Versión 1)*



### Rotational Schemes:

#### *Estrategia de “Alternancia de Ventanas” (Versión 2)*



# Country reviews

## ■ USA

# Comparison

## (Brassica-DBM and Lettuce-

| Guideline   |                  | Coragen | Belt  | Synapse | Vetica | Turismo | Durivo | Vol Xpress | Vol Flexi |
|---|------------------|---------|-------|---------|--------|---------|--------|------------|-----------|
| Group 28 Icon (first page)  |                  | Yes     | Yes   | Yes     | Yes    | Yes     | Yes    | Yes        | Yes       |
| Group 28 Description in text  |                  | Yes     | Yes   | Yes     | Yes    | Yes     | Yes    | Yes        | Yes       |
| Chemical class identified (ex. diamide)                                   |                  | Yes     | No    | No      | No     | No      | Yes    | Yes        | Yes       |
| IRM Language Section  |                  | Yes     | Yes   | Yes     | Yes    | Yes     | Yes    | Yes        | Yes       |
| Max ai/season = chlorantraniliprole or flubendiamide-containing products* |                  | Yes     | No    | No      | No     | No      | Yes    | Yes        | Yes       |
| Max number of apps/season*  | Brassica (DBM) = | 4 DBM   | ----- | 2 DBM   | 2 DBM  | ----    | 1 DBM  | 3-5 DBM    | 2-3 DBM   |
|   | Lettuce BAW) =   | 4 BAW   | ----- | 3-4 BAW | 3 BAW  | ----    | 1 BAW  | 3-5 BAW    | 2-3 BAW   |
| Max number of apps or ai/year*  |                  | 6DBM    | No    | No      | No     | No      | No     | No         | No        |
| Do not treat season-long  |                  | Yes     | Yes   | Yes     | Yes    | Yes     | Yes    | Yes        | Yes       |
| Apply MOA using window approach   |                  | Yes     | No    | No      | No     | No      | Yes    | Yes        | Yes       |
| Explanation of window   |                  | Yes     | No    | No      | No     | No      | Yes    | Yes        | Yes       |
| Window approach for short-season multiple cropping                        |                  | No      | No    | No      | No     | No      | No     | No         | No        |
| Do not expose >50% of crop  |                  | No      | No    | No      | No     | No      | Yes    | No         | No        |

\* **Not a Global Diamide Guideline**

# Maui 2010

| Month     | Product                                      | IRAC Code          |
|-----------|--|--------------------|
| January   | Rimon  | 15                 |
| February  | Bt, Radiant, Entrust                         | 11 & 5             |
| March     | Synapse, Coragen, Vetica,<br>Volium Express, | 28                 |
| April     | Avaunt, Movento                              | 22A, 23            |
| May       | Proclaim                                     | 6                  |
| June      | Rimon, Thionex, Lannate,<br>Naled, Movento   | 15, 2A, 1A, 1B, 23 |
| July      | Bt, Radiant                                  | 11 & 5             |
| August    | Synapse, Coragen, Vetica,<br>Volium Express, | 28                 |
| September | Avaunt, Bt                                   | 22A, 11            |
| October   | Proclaim                                     | 6                  |
| November  | Rimon, Movento                               | 15, 23             |
| December  | Bt, Radiant, Entrust                         | 11, 5              |



# Beet Armyworm - Lettuce - Diamide

## University of Arizona

Figure 3

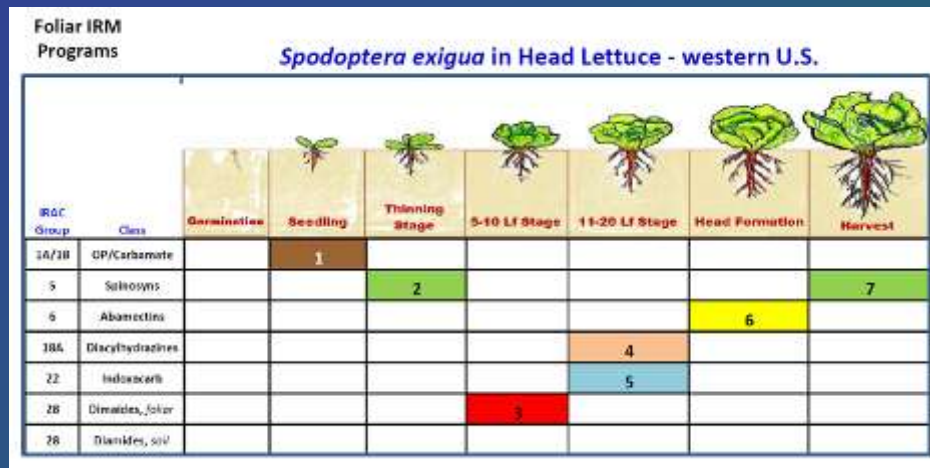


Figure 4

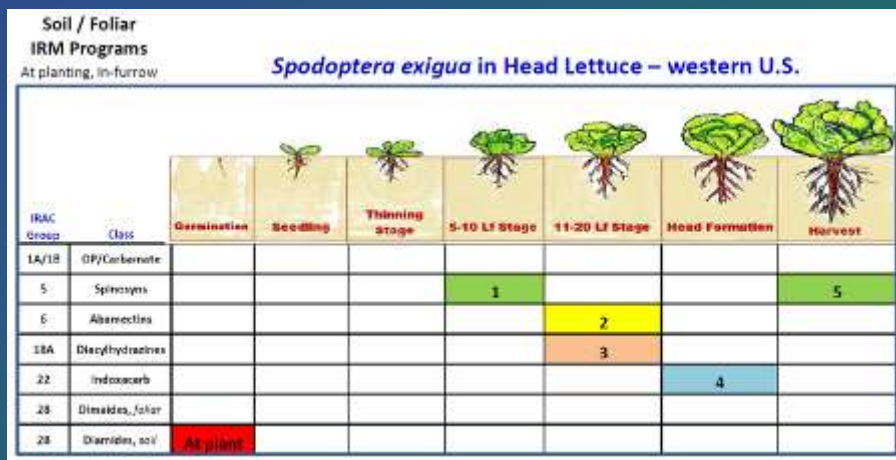
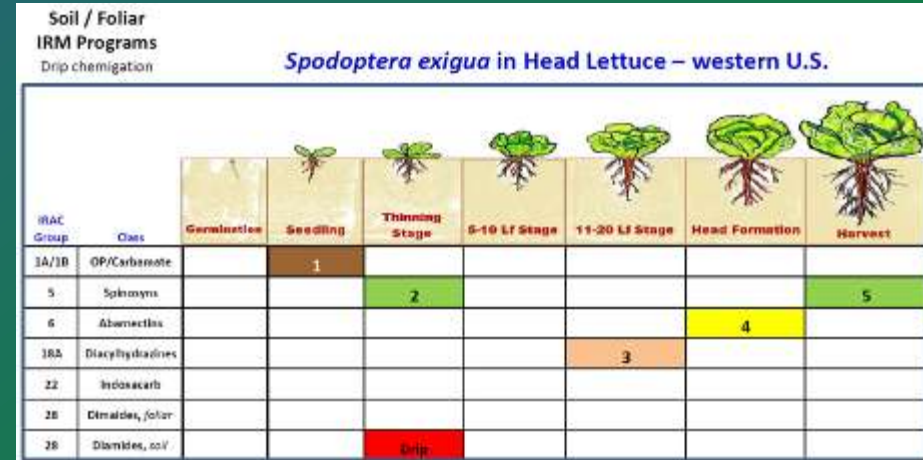


Figure 5



# Process to Review, Edit, and Approve Country IRM Proposals

# Process to Review, Edit, Approve Country IRM Strategy Communication Proposals

- 1. Country mentor submits country IRM communication strategy complete with phenology chart and rotation IRM plan to the Global Diamide Team**
- 2. The IRAC Global Diamide Team will review and make suggestions. (recommend additional slides to help influencers better understand....see slides 42 to 47 to add to your communication) presentation/promotion.**
- 3. Once a final draft is agree... send to International LEP team (and local country IRAC team) to approve. THIS IS CRITICAL...then your strategy will get approval from all the other insecticide companies beyond those selling Diamides. This means that when you communicate the Indonesia Diamide Strategy, you can say it is not just from DuPont, Syngenta, Nihon, and Bayer but from all the companies in International IRAC (Dow, BASF, FMC, Cheminova...etc.)**
- 4. Mentor sends final version to Country Diamide team.**
- 5. Country mentor follow sup with development of a training plan. How, when, and who will communicate to influencers and trainers? Send the plan developed by the Philippines team. This gives a perspective on how to take the next step. Remember that all our company sales and dev reps are influencers/trainers.**



Insecticide Resistance Action Committee

# Methods update



Insecticide Resistance Action Committee

## 7 diamide methods listed on IRAC e-methods web-page (+ 4 compared to 2010)

| IRAC Insecticide Resistance Action Committee            |  |                          |
|---|--|--------------------------|
| Filter by Species... 28 - Ryanodine receptor modulators |  |                          |
| Number  | Description  | Status                   |
| 0017  | <i>Cydia pomonella</i> - larvae                                    | IRAC Approved            |
| 0018  | <i>Plutella xylostella</i> - larvae                                | IRAC Approved            |
| 0020  | <i>Spodoptera</i> , <i>Helicoverpa</i> , <i>Heliothis</i> - larvae | Under Review             |
| 0022  | <i>Tuta absoluta</i> - larvae                                      | Under Review             |
| 0023  | <i>Myzus persicae</i> - nymphs                                     | Under Review             |
| 0024  | <i>Aphis gossypii</i> - nymphs                                     | Under Review             |
| 1036  | Variegated cutworm ( <i>Peridroma saucia</i> ) - larvae            | Reference (Non-approved) |
| IRAC Home   Login                                       |  |                          |



**2 Approved**  
**5 Under Review**  
**+ 1 External Reference**



*Helicoverpa* spp.  
*Heliothis* spp.  
*Spodoptera* spp.



*Cydia*  
*pomonella*



*Plutella*  
*xylostella*



*Tuta*  
*absoluta*



*Aphis*  
*gossypii*



*Myzus*  
*persicae*

# Diamide WG SMART objectives



| Objectives   | Timeline             |
|--|----------------------|
| 1. Review our global IRM guidelines (label language, poster)   | May 2011             |
| 2. Start Diamide WGs in Morocco (Andrea), Italy (Andrea), Turkey (Robert), Taiwan (Robert), Israel (Andrea), South Africa (Luis)                     | Kick off by May 2011 |
| 3. Move the existing WGs from planning stage (develop recommendations) to action stage (implementation of IRM recommendations and educational plans) | Through end of 2011  |
| 4. Increase participation of Global Diamide WGs in Country WG meetings   | 2011                 |
| 5. Improve compliance of the labels with the IRM guidelines  | 2011                 |
| 6. Develop measures beyond IRM guidelines to prevent resistance and offer them to high risk countries (Robert to make a first draft)                 | 2011                 |





Insecticide Resistance Action Committee

# DBM Workshop in Thailand





Insecticide Resistance Action Committee

# DBM Workshop in Thailand

### Common Session

*Venue:* Theater Hall, First Floor, Kasetsart University, Kamphaeng Saen Convention Center

|           |   |    |
|-----------|---|----|
| 1400-1425 | General Introduction to the Insecticide Resistance Action Committee.....  | 58 |
|           | Nauen, R.   |    |
| 1425-1450 | MOA of diamides and other DBM insecticides and general rotation<br>recommendation.....                              | 59 |
|           | Andaloro, J.T.  |    |
| 1450-1515 | Industry's effort to preserve insecticides: Global IRAC Diamide Working Group<br>activities and IRM guidelines..... | 61 |
|           | Company's, V  |    |
| 1515-1545 | Update on DBM diamide resistance from Thailand: causal factors and learnings.....                                   | 63 |
|           | S. Sukonthabhirom   |    |
| 1545-1610 | Coffee break  |    |
| 1610-1635 | Update on DBM diamide resistance from the Philippines: causal factors and<br>learnings.....                         | 64 |
|           | Edralin, O. D.  |    |
| 1635-1700 | Philippine vegetable IRM recommendations and training plans: IRAC Diamide<br>Working Group.....                     | 65 |
|           | Vasquez, F.   |    |
| 0830-0855 | Insect resistance management: the experience on diamondback moth in the<br>Philippines.....                         | 67 |
|           | Colting, L. M.  |    |
| 0855-0920 | Crucifer vegetable insecticide resistance management strategies and issues in<br>Australia.....                     | 68 |
|           | Baker, G.J.   |    |

### IRAC's booth





IRAC's booth



Insecticide Resistance Action Committee

**Thank you for your attention**