

METRONOME[®]
a new and unique insecticide in Israel
targeting the low residue market

Ma`ayan Golani

ABIM – Lucerne, 26th October 2011



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AGRAQUEST in Israel

represented by Luxembourg Industries Ltd

Ma`ayan Golani
Agronomist
Luxembourg Industries Ltd

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Israel agriculture

- **Most of Israel agriculture is for export.**
- **Most of export is fresh vegetables & fruits.**
- **\$1,000 millions (1 Billion!!) (Jan-Aug 2011), 70% for Europe.**

- **Due to EU requirements, Limited insecticides permitted for use**
- **Examples:**
 - **Mites/Tomato 11 allowed out of 30, 7-10 days from harvest.**
 - **Scales/Mango 3 allowed out of 4. 90 days! from harvest.**



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Israel agriculture for export



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- **METRONOME (Israel) or REQUIEM (USA)**
a contact sucking pest insecticide
- **Developed and Manufactured by AgraQuest Inc. USA.**
- **Sold in USA in the last two years mainly for controlling Thrips & White Flies in Peppers & Tomatoes. TSSM on grapes & tree nuts.**
- **Sold in the Israel's market from July 2011 after 4 years of development work.**
- **Under registration process in Europe.**



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METRONOME®: a new and unique insecticide



Consist	(%)
Active Ingredient: Terpene Constituents based on the extract of <i>Chenopodium ambrosioides</i> near <i>ambrosioides</i>	16.75
Other Ingredients:	83.25

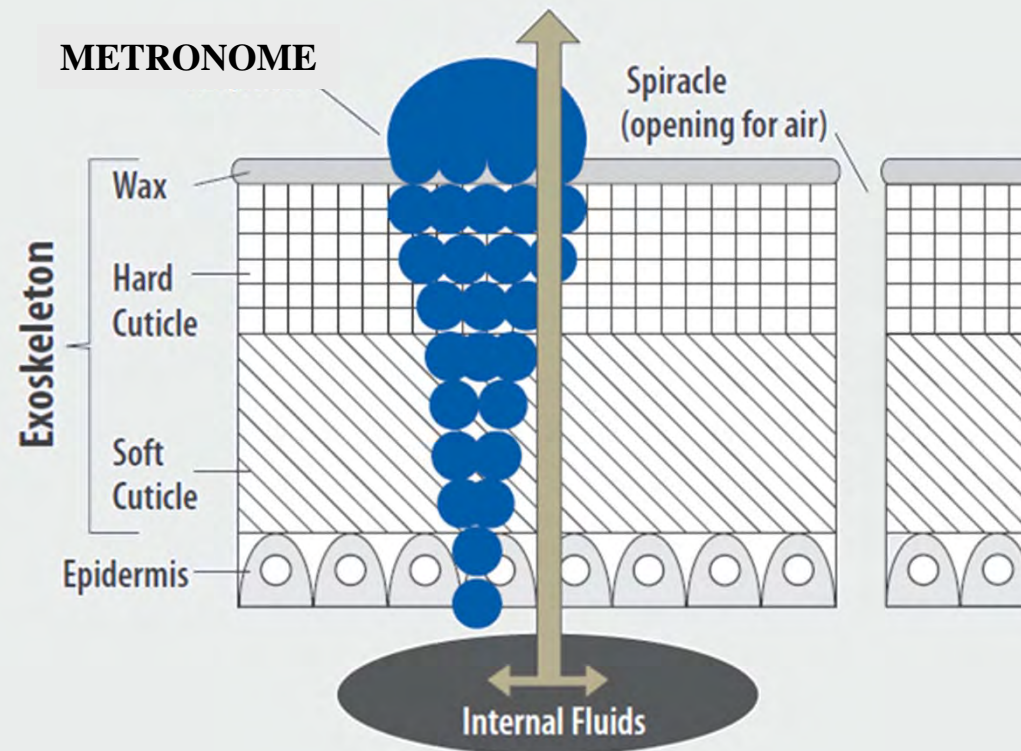


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Modes of Action

1. **Desiccation:** METRONOME active ingredients attacks the exoskeleton and punches holes in it. This action causes a loss of fluids and desiccation.



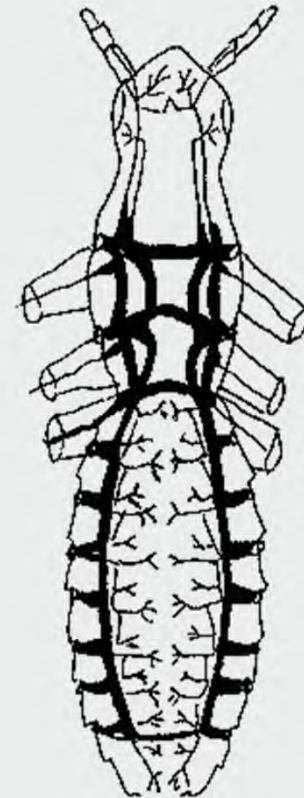
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2. **Asphyxiation:** METRONOME stops the exchange of gases through the spiracles and prevent air diffuses throughout the tracheal system. this process, prevents insect respiration and results in asphyxiation.

3. **Chemoreceptor confusion:** METRONOME insecticide confuses insects' chemoreceptors, discouraging them from feeding on treated plants.

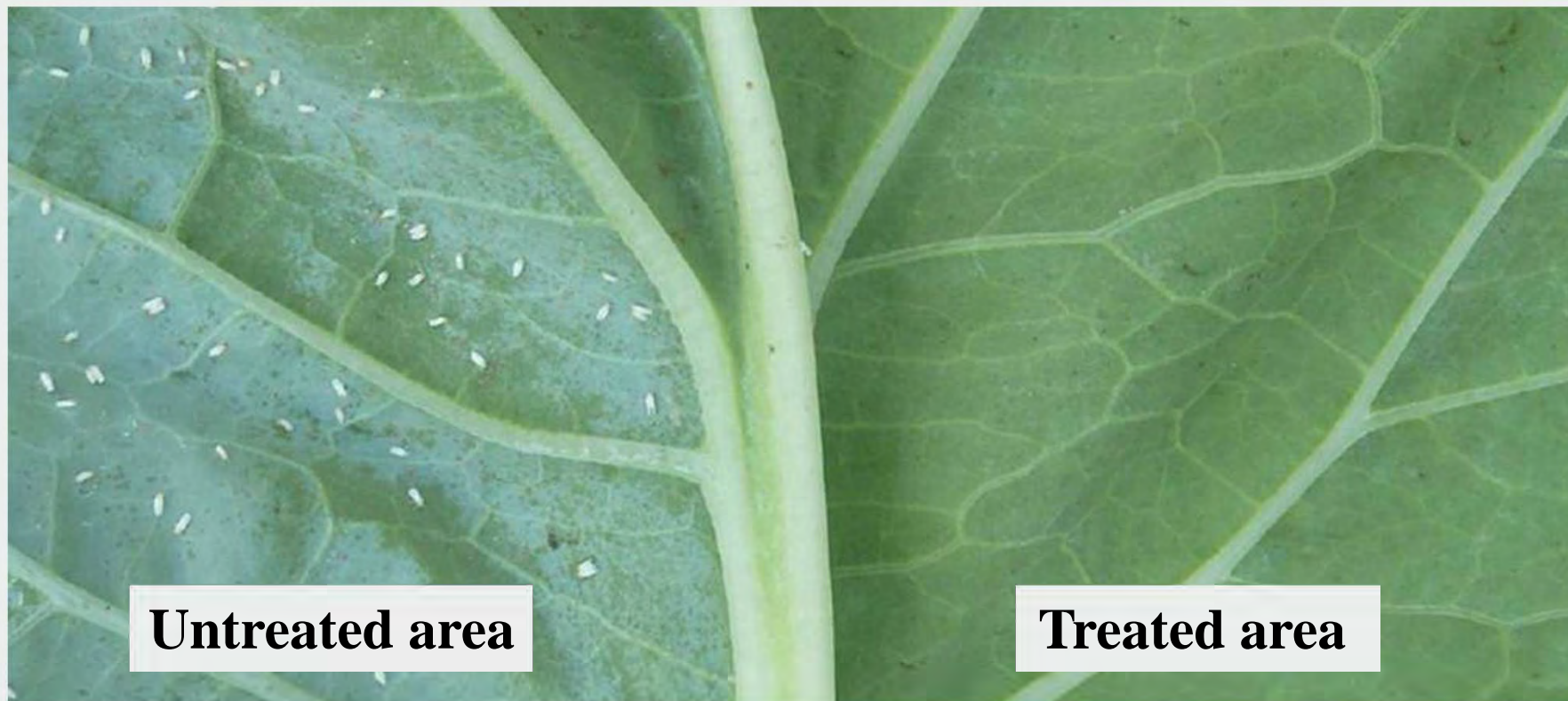
Insect Respiratory System



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The effect of plant coverage on efficacy - in Cauliflower

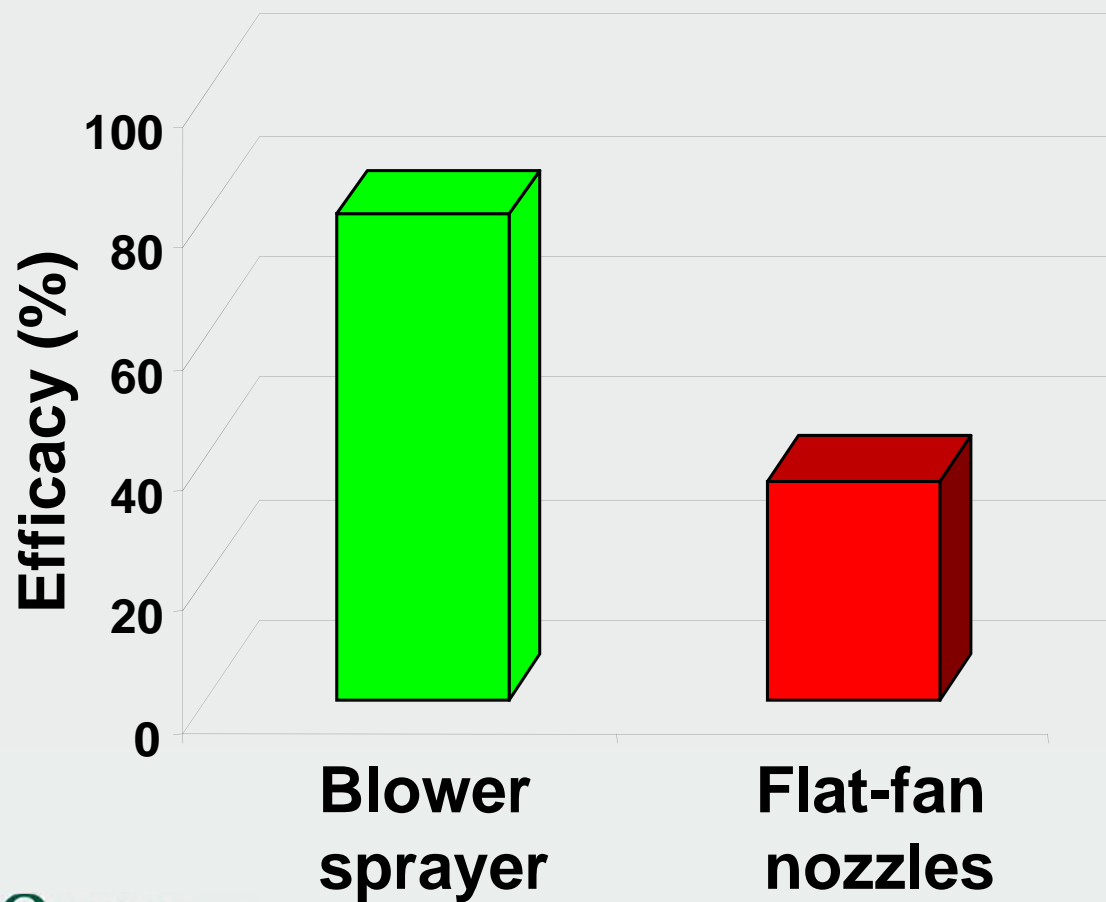


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The effect of application method on efficacy - in Mint

Metronome 0.5%; Spray volume 500 l/h



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METRONOME trials results

Israel 2007-2011



Mango scale (*Coccus mangifera*)



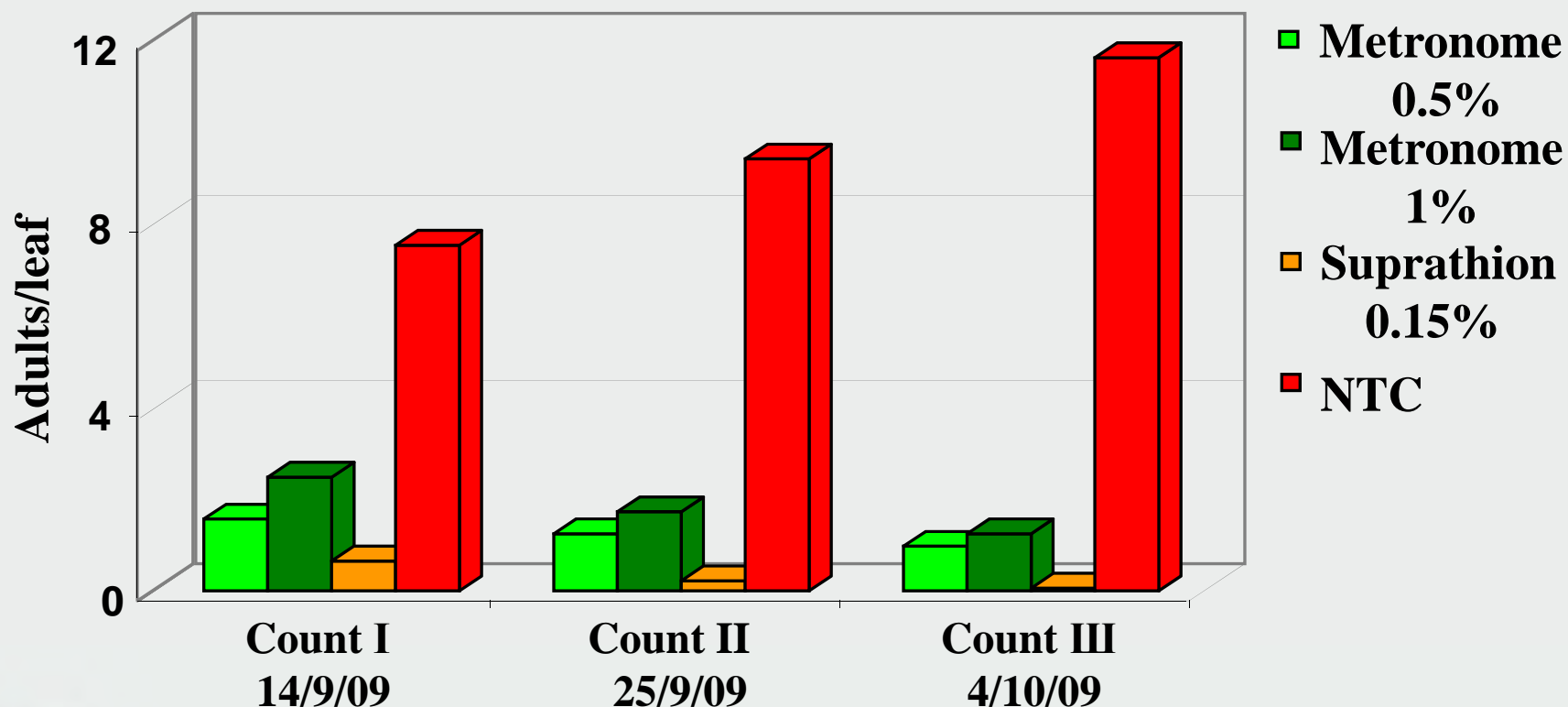
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Mango scale control in Mango – Kachal 2009

App. On 7/09/09, Spray volume 1000 l/h , var Tomi



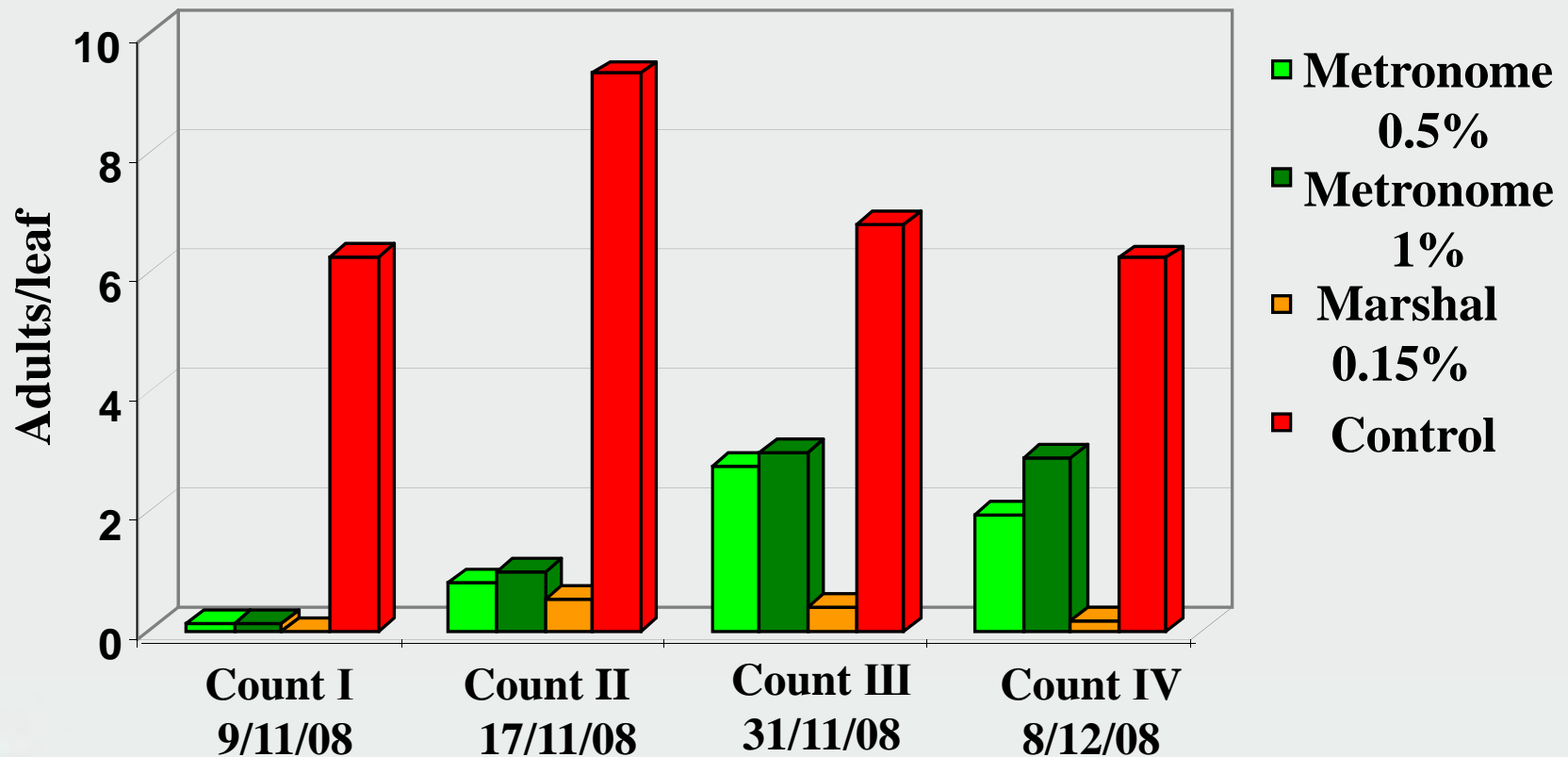
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(Suprathion=Methidathion)

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Mango scale control in Mango – Almagor 2008

App. On 3/11/08, 17/11/08, Spray volume 1000 l/h , var Maya



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(Marshal= Carbosulfan)

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Spider mites

(Tetranychus cinnabarinus & T. urticae)

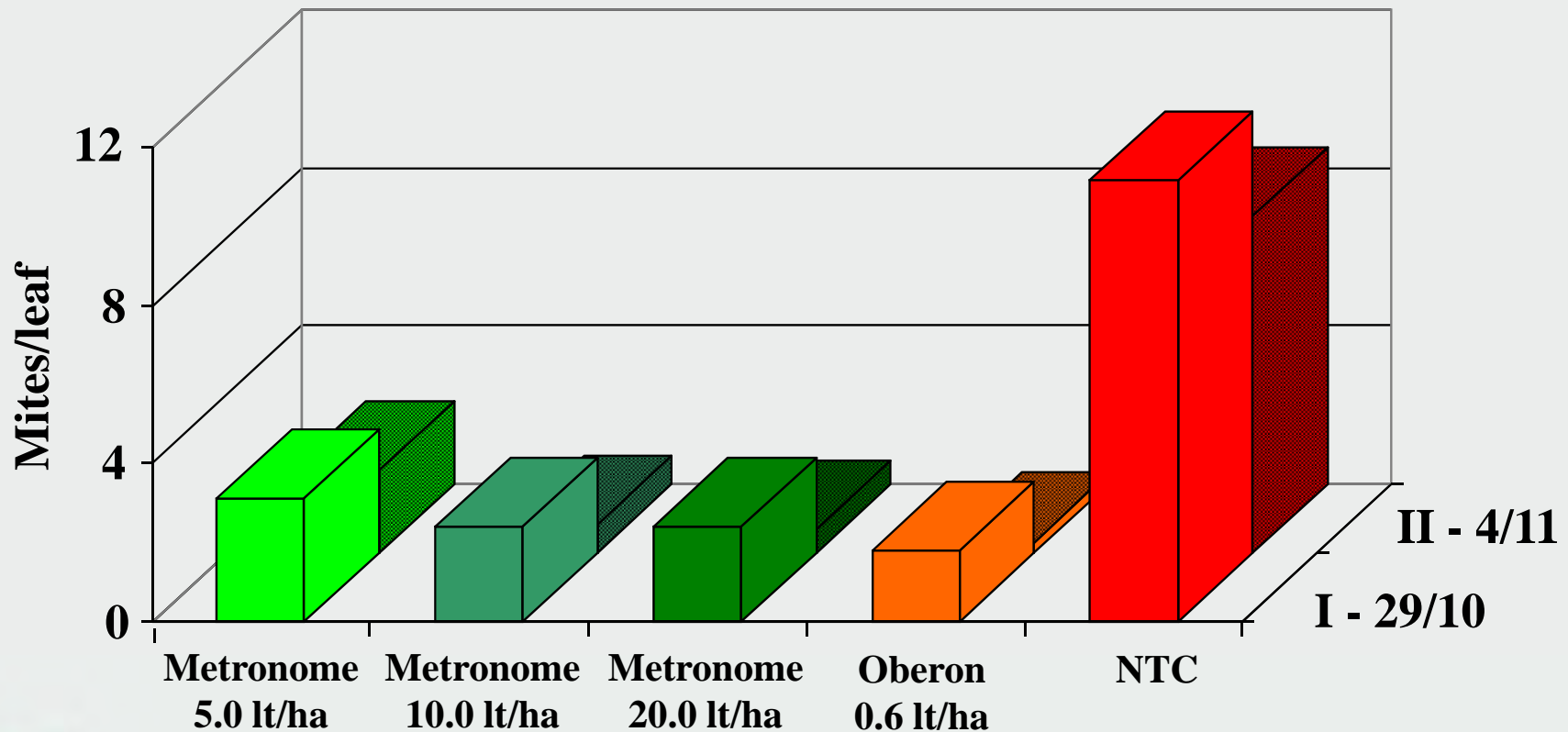


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Red & yellow mites control in Eggplants – Kedma 2007

App. On 17/10, 23/10, 31/10; Spray volume 500 l/h; Zero ass. 10 Mites/leaf



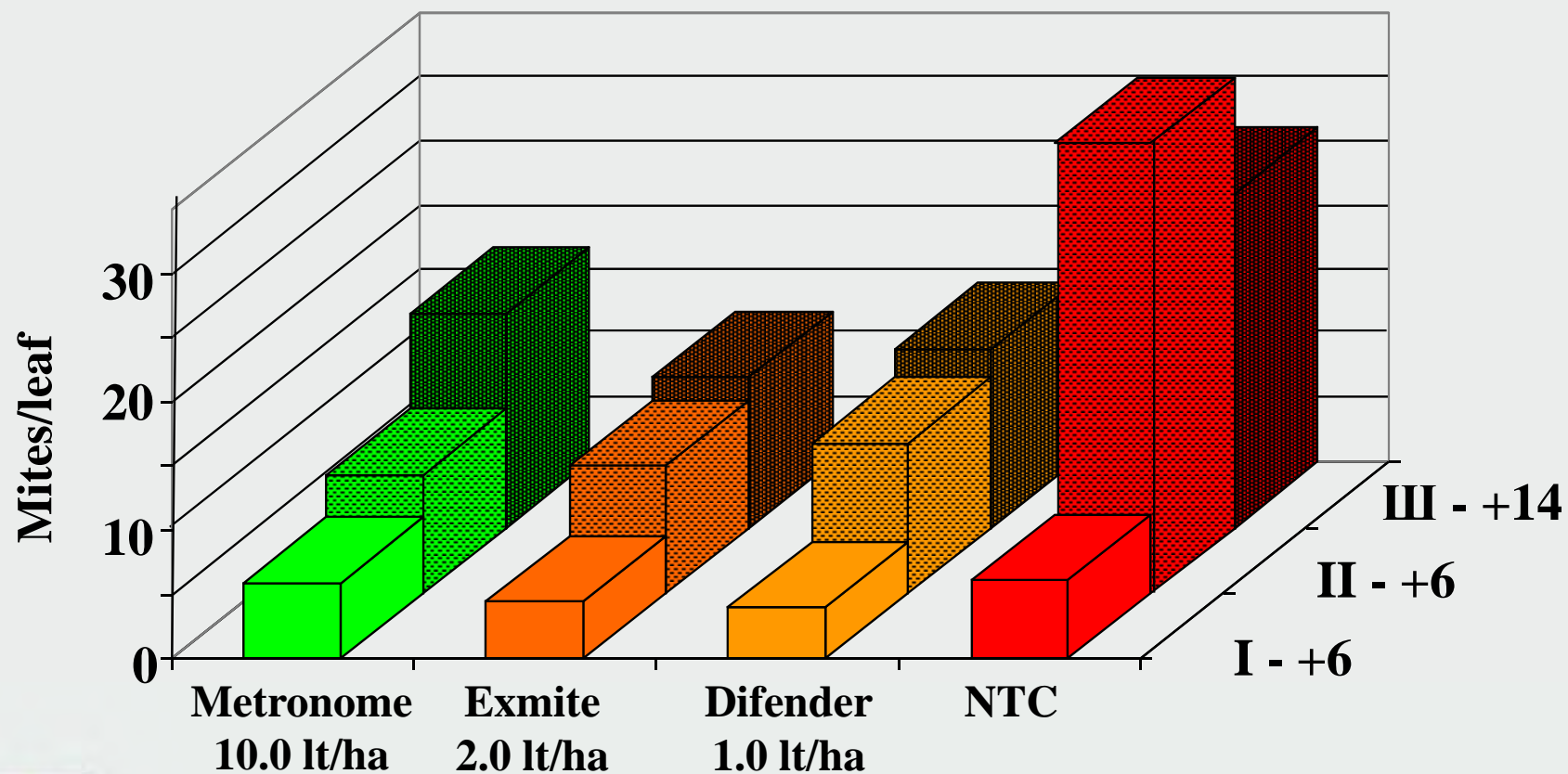
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(Oberon=Spiromesifen)

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Red mites control in Cucumber – Achituve 2008

App. On 10/3, 18/3; Spray volume 1000 l/h



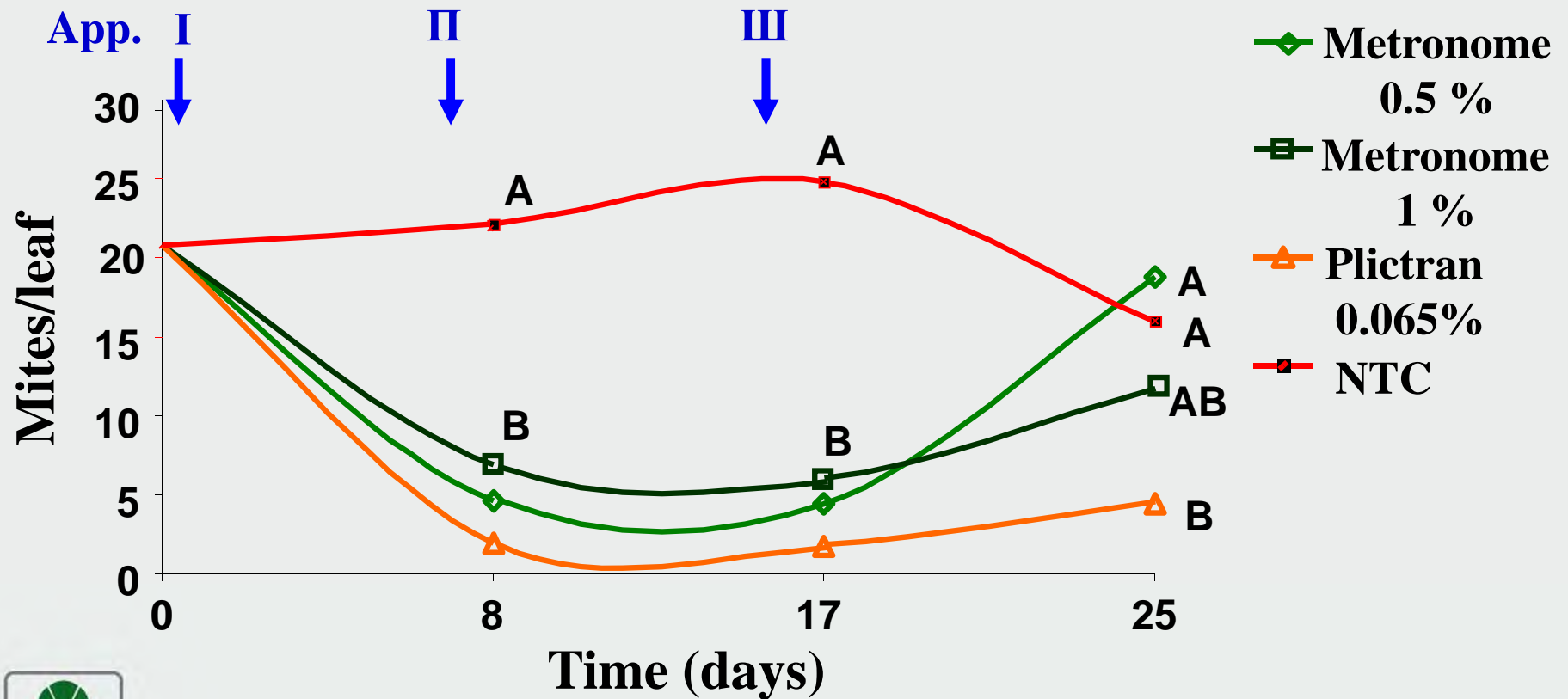
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(Exmite=Acequinocyl)

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Red mites control in Strawberry – Ben-Shemmen 2011

App. On 1/2/11, 7/2/11, 15/2/11; Spray volume 1000 l/h



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(Plictran = Cyhexatin)

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Whiteflies

(Bemisia tabaci)



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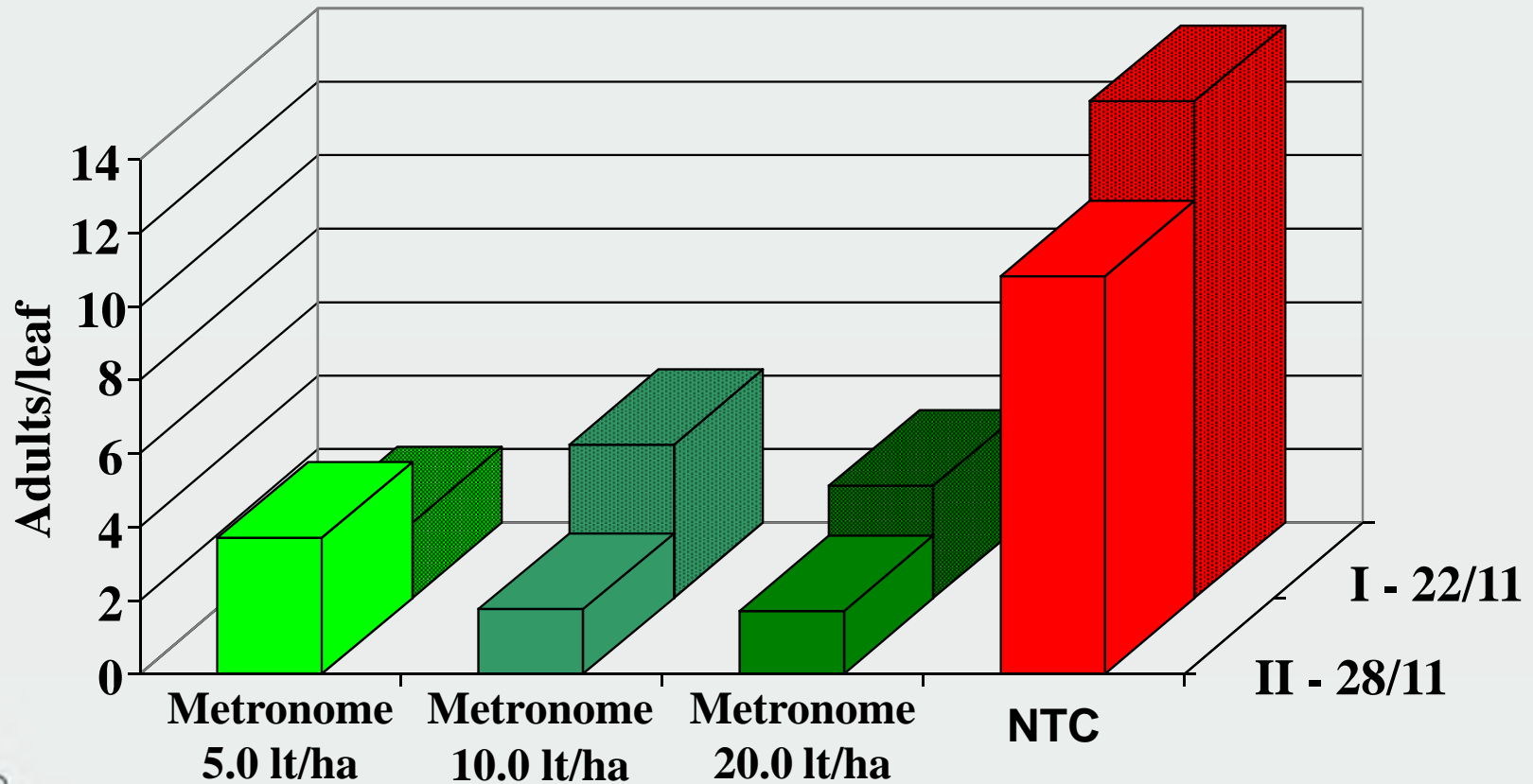


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Whiteflies control in Mondbila (garden flower) – Beet-Hanan 2007

App. On 19/11, 25/11; Spray volume 1000 l/h; Var pink

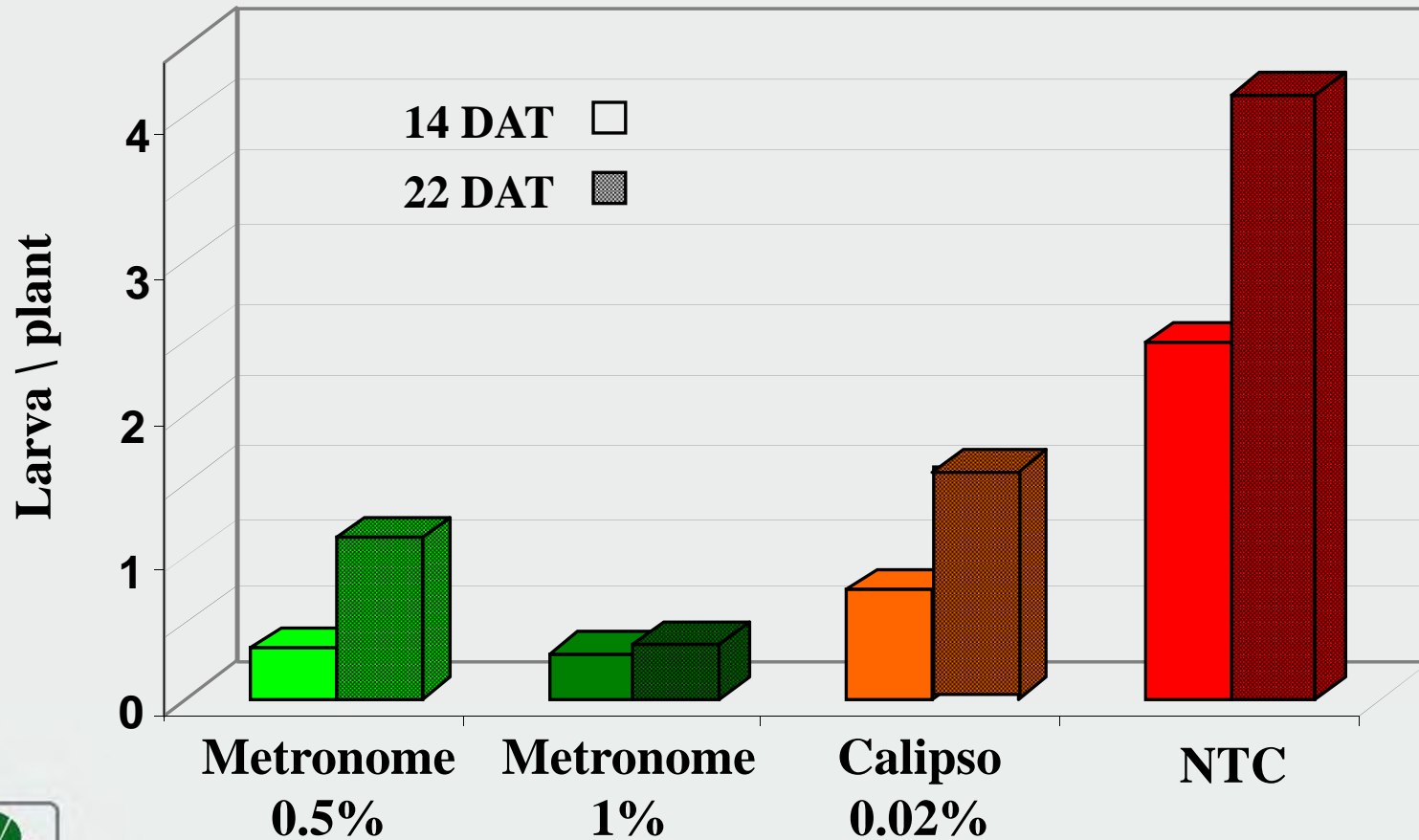


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Whiteflies control in Mint – Tal-Shachar 2011

App. On 13/7/11, 17/7/11, 28/7/11; Spray volume 500 l/h



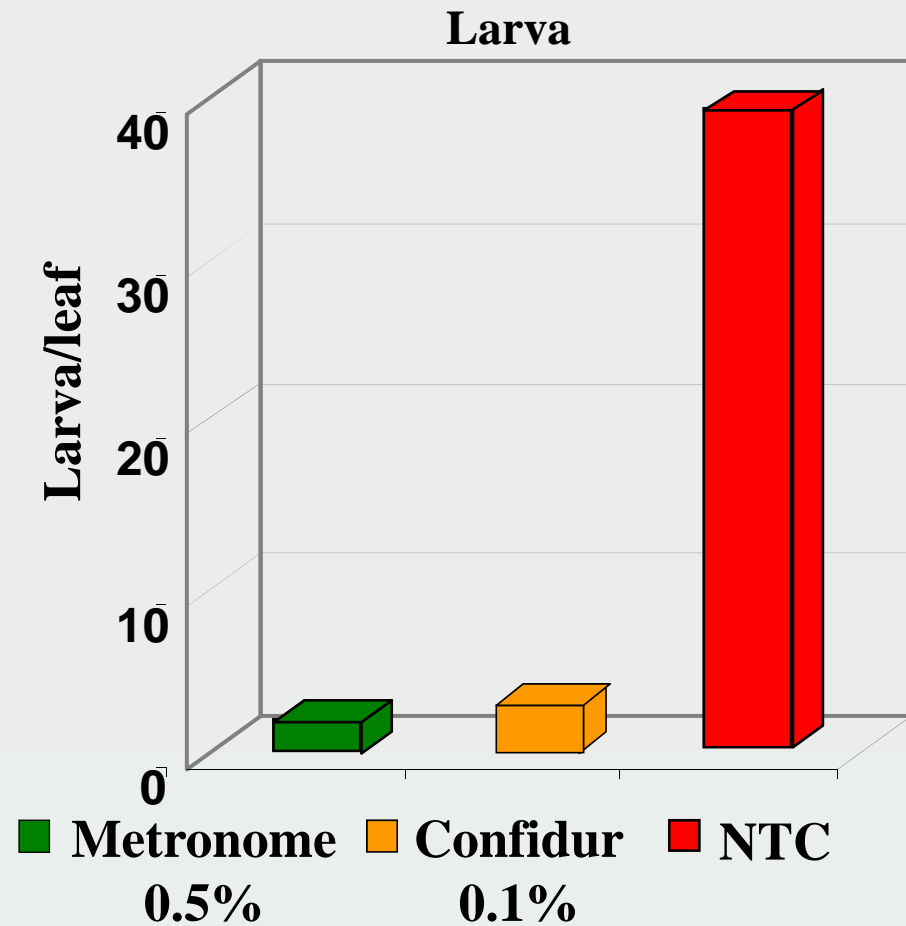
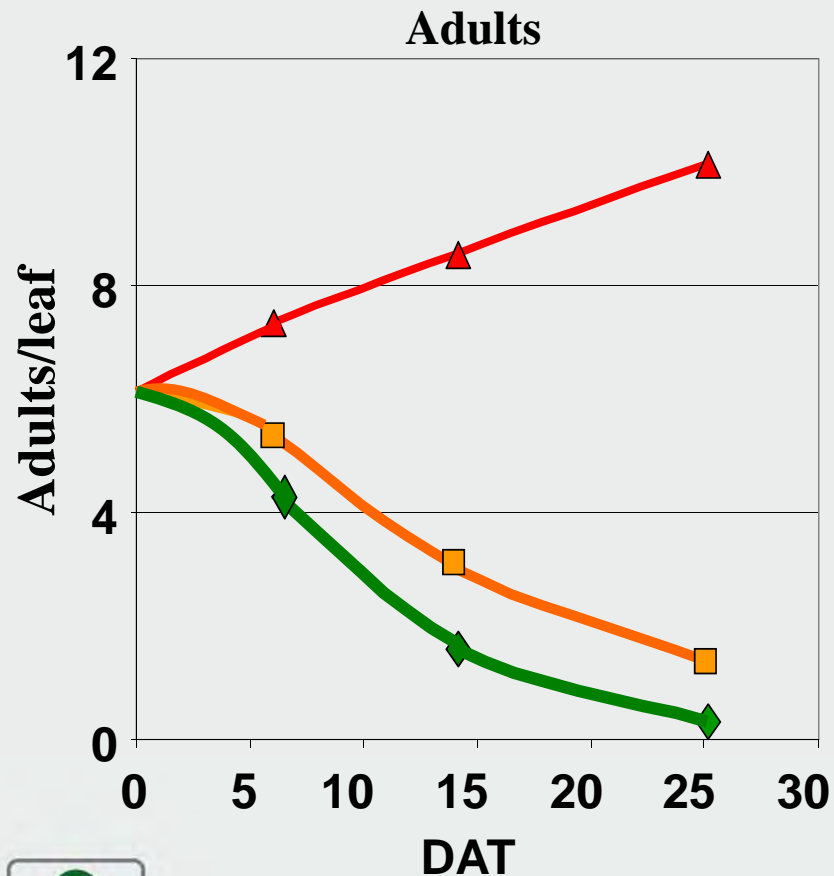
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(Calipso=Thiacloprid)

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Whiteflies control in Eggplants – Yinon 2011

App. On 22/6/11, 26/6/11, 3/7/11; Spray volume 1000 l/h



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(Confidur = Imidacloprid)
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Unique benefits of METRONOME

- **METRONOME controls all stages of key sucking insects as mites, thrips, whiteflies and other pests.**
- **METRONOME insecticide is safe to beneficials and can be used in IPM programs.**
- **METRONOME is exempt from tolerance with no residues in harvested crops and no MRL concerns. Got approval for use in export to the EU (from Wealmoor, UK).**
- **METRONOME insecticide offers unique mode of action for resistance management.**



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Thank you



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