

IR-4 BMSB Efficacy Study, 2011

Edith Lurvey
IR-4 Program NE Regional Field Coordinator
Cornell University - NYSAES



IR-4 Efficacy Study

Study Director: Keith Dorschner

Researchers:

- **Galen Dively - Peppers**
- **George Hamilton, Ann Rucker -
Peaches and Apples**
- **Tom Kuhar - Peppers**
- **Doug Pfieffer - Raspberries**
- **Joanne Whalen -
Sweet corn**



IR-4 Efficacy Study

- **The application rate remained the same in all crops.**
- **The number and timing of the applications varied, dependent on the crop.**
- **Other insecticides were evaluated in several of the trials.**



Treatments

Dinotefuran (Venom 70SG)	116 g/A
Dinotefuan	116 g/A
+ PBO*	5 fl.oz./A
Etofenprox (Trebon 280 g/l SG)	237 ml/A
Etofenprox	237 ml/A
+ PBO*	5 fl.oz./A

Untreated

Standard

***Piperonyl butoxide =**

Exponent Insecticide Synergist



Peaches – George Hamilton, Ann Rucher

- **‘John Boy’ peaches at the Bridgeton, NJ AG REC**
- **6 apps, from first significant damage to 3 Day PHI**
- **Visual 3 min. counts of BMSB taken**
- **High BMSB pressure, but low counts**
- **Fruit evaluated for damage at harvest (peeled & cut)**
- **Treatments showed significantly less damage than control, except for Trebon alone**
- **Addition of PBO reduced fruit damage at high end, + 10 stings. Equal to Danitol, the standard**



Apples – George Hamilton, Ann Rucher, Tom Freiberger

- **‘Roma’ apples at the Cream Ridge NJ AG REC**
- **3 apps, from first significant damage to 3 Day PHI**
- **Visual 3 min. counts of BMSB taken**
- **High BMSB pressure, but low counts**
- **Fruit evaluated for damage at harvest (peeled & cut)**
- **Venom + PBO had significantly more fruit without sting damage**
- **Trebon + PBO had significantly lower average number of stings/fruit**



Peppers – Galen Dively

- **‘Paladin’ bell peppers at the Central MD Research Farm, Beltsville, MD**
- **3 apps on July 7, August 9 & 16**
- **Evaluations made on July 13, Aug. 4, 8, 15 & 23**
- **Light BMSB pressure, but both Venom & Etofenprox with or w/o PBO significantly reduced BMSB populations**
- **Fruit evaluated for damage July 13, Aug. 8, 15 & 23**
- **Venom with or w/o PBO sign. reduced damage. Neither Trebon treatment reduced damage**



Peppers – Tom Kuhar

- **‘Aristotle’ bell peppers at the VT Kentland Farm**
- **4 apps on August 1, 6, 15, 25**
- **BMSB were 90% of stink bugs per visual estimate**
- **High BMSB pressure, > 20%**
- **Fruit evaluated for damage Aug. 9 & 19, Sept. 1**
- **Only significant differences on Aug. 9 when Trebon + PBO, Venom + PBO, Danitol and Belay significantly reduced fruit damage**



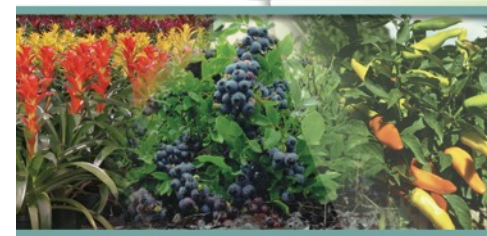
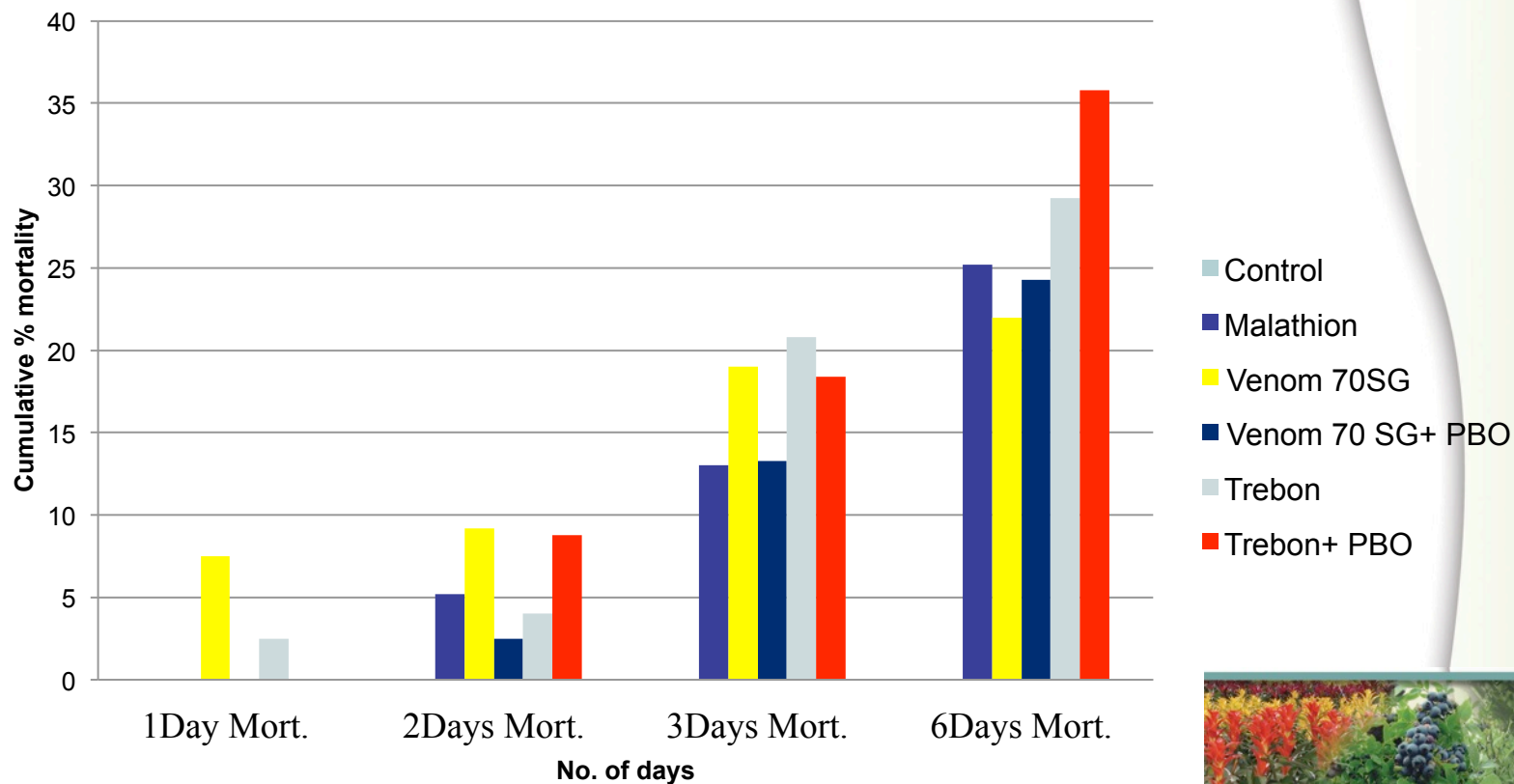
Raspberries – Doug Pfeiffer

- **Raspberries, VT Kentland Farm**
- **Treatments sprayed in 1.2 m section of plot**
- **10 BMSB paced on caged raspberry stem**
- **Counts made at 1, 2 3 and 6 days after treatment**
- **Cumulative % mortality of BMSB significantly better with all 4 treatments and malathion. Addition of the PBO not significantly better, but warrants further research.**



Raspberries – Doug Pfeiffer

Cumulative % mortality of BMSB with Pesticides.



Sweet corn – Joanne Whalen

- ‘WSS0987’ Bt Sweet corn UDEL Newark research farm
- Three apps: tassel emergence, grn silk and brown silk
- BMSB counted pre-app and and 3 days post-app.
- Aug, 1 ears harvested, husked and evaluated for blemished kernels.
- Low pressure: 0 to 1.5 average # BMSB/plant pre-app.
- No significant differences between treatments after each application. The total number of BMSB does drop over the course of the three applications:
 - Untreated # BMSB/plant
 - July 11, 0.25
 - July 25, 0.09



Summary

- **BMSB populations were lower than in 2010, especially towards the end of the season.**
- **There is some evidence that dinotefuran (Venom) and/or etofenprox (Trebon) control BMSB.**
- **The addition of PBO may improve efficacy of both products.**
- **Additional research is needed.**
- **Some other products that showed promise were: malation, Belay, Danitol and Actara 25WG.**

