

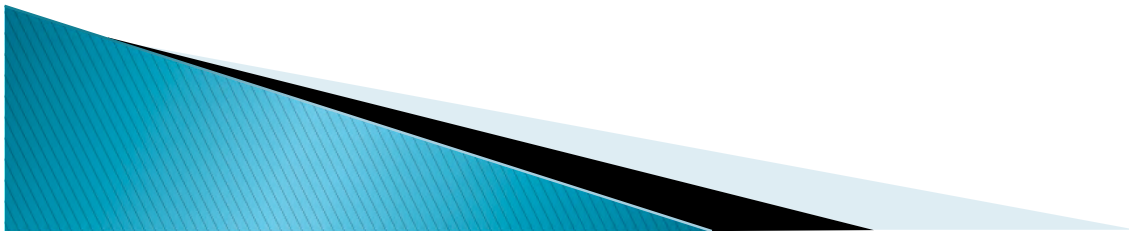
Evaluation of Insecticide-Based Management Options for BMSB in Virginia Apple and Peach Orchards



Chris Bergh and Shimat V. Joseph
BMSB Working Group Meeting
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Can we manage BMSB injury in apples and peaches?

- ▶ Single product evaluation (apple)
- ▶ Seasonal programs (apple & peach)
- ▶ Demonstration trial in commercial apple and peach blocks



Small-Plot, Single Products:

Apple

- ▶ Airblast, complete, ~10-d intervals
 - ▶ Began in 'Gala/Idared' block, with pre-bloom neonic and miticide
 - ▶ Two-tree plots, 4 replicates
 - ▶ Three applications starting at PF
 - ▶ Excessive thinning noted late May
 - ▶ Moved to 'Law Rome' block with no previous insecticides in 2011
 - ▶ Single tree plots (4 reps)
 - ▶ Two applications since June 3
- 

Class	a.i.	Trade name	Rate/A
Pyrethroid	permethrin	Perm-UP 3.2EC	12 fl oz
	beta-cyfluthrin	Baythroid XL 1EC	2.8 fl oz
	fenpropathrin	Danitol 2.4EC	16 fl oz
	gamma cyhalothrin	Declare 1.25CS	1 & 2 fl oz
Carbamate	methomyl	Lannate 90SP	12 oz
	oxamyl	Vydate L	3 pt
Organochlorine	endosulfan	Thionex EC	1.67 qt
Neonicotinoid	clothianidin	Belay 2.13SC	6 fl oz
	dinotefuran	Venom 70SG	6.75 oz
Pyrethroid/neonic	beta-cyfluthrin + imidacloprid	Leverage 3SE	2.8 fl oz

Small-Plot Insecticide Programs:


Apple

- ▶ Airblast, complete, ~14-d intervals
- ▶ Single-tree plots, 4 replicates
- ▶ 7 programs in 'Redspur Delicious'
- ▶ 5 target BMSB primarily, starting at 2C
- ▶ Belay, Scorpion, Venom, Lannate, Thionex EC, Leverage, Danitol, Mustang Max



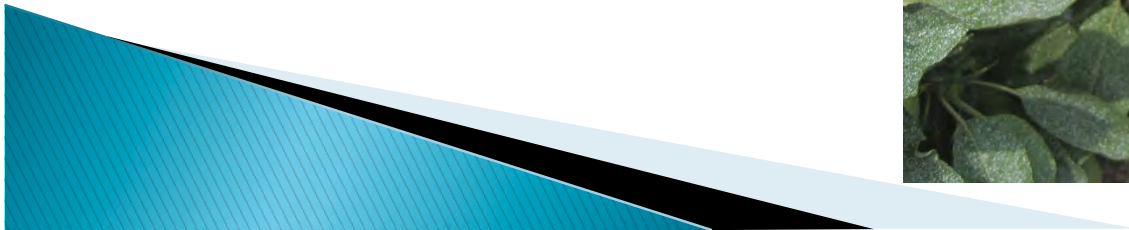
Small-Plot Surround Program:

Apple

- ▶ Airblast, complete, ~14-d intervals
 - ▶ Single-tree plots, 4 replicates
 - ▶ 5 programs in 'Ace Delicious'
 - ▶ Surround at 12.5 and 25 lb/A alone, in combination with a.i., and a.i. alone
 - ▶ Assail, Lannate, Thionex EC, ??
 - ▶ PF through ??
 - ▶ PF spray washed off in mid-May
 - ▶ 2C application still evident
- 



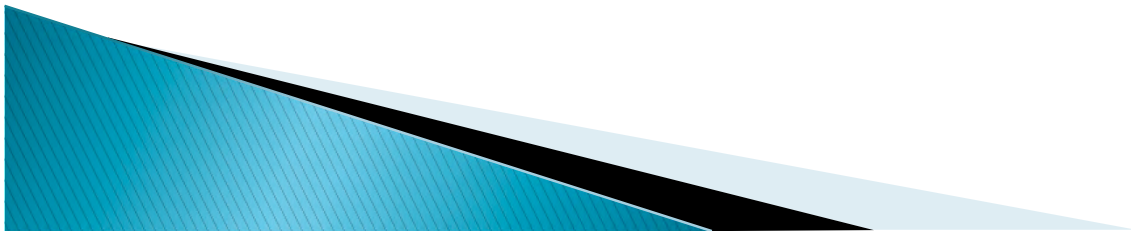
June 18, 2011



Small-Plot Programs:

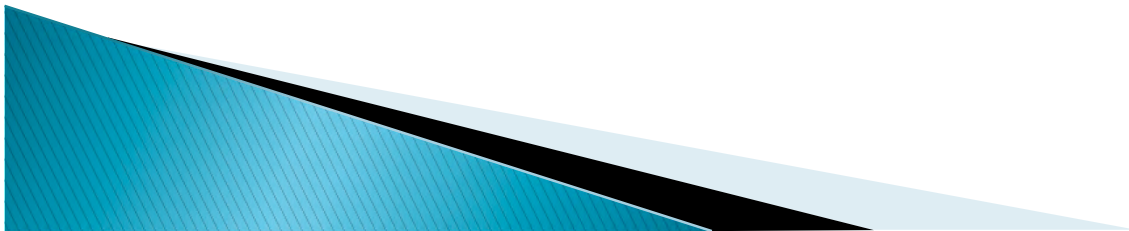
Peach

- ▶ Airblast, complete, ~14-d intervals
- ▶ 2-tree plots, 4 replicates
- ▶ 3 programs in 'Redhaven'
- ▶ Endigo (Actara + Warrior), Perm-UP, Voliam Xpress, Thionex, Lannate, Baythroid, Danitol



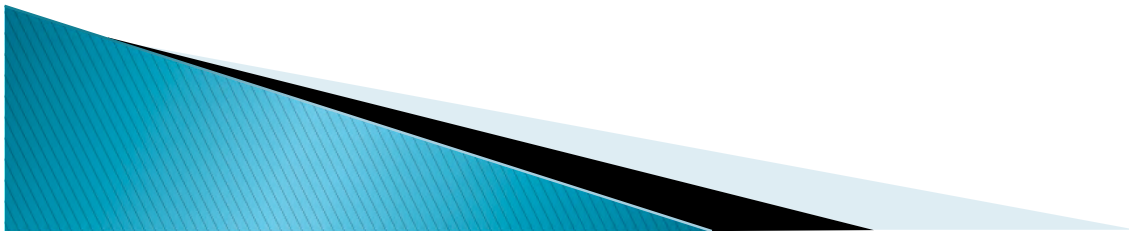
Grower Demonstration Trial: Apple and Peach

- ▶ Blocks in commercial orchards in northern and central VA
- ▶ 5 blocks per crop
- ▶ ~5 A peach and ~10 A apple blocks
- ▶ “Experimental” vs grower STD programs
- ▶ Complete sprays at ~10-d intervals
- ▶ Aggressive programs based on results of USDA, VT and Penn State lab assays



Apples

- ▶ Prebloom: Lorsban/oil and neonic
- ▶ PF: Assail + Abba
- ▶ 1C – 13C (late September)
- ▶ Voliam Flexi, Lannate, Guthion, Guthion + Lannate, Belay, Danitol (1st spray late July), Leverage, dinotefuran (possibly by mid-summer)
- ▶ Altacor as needed for OFM, CM, LR



Peaches

- ▶ PF - 7C
- ▶ Perm-UP + Provado, Thionex EC, Perm-UP + Actara, Lannate, Danitol, possibly dinotefuran toward harvest
- ▶ Altacor and Delegate as needed for OFM





- Significant, widespread hail on May 17
- Impacted 3 of 5 cooperators
- Tagged 300 and 500 uninjured peaches and apples, respectively, per block for in-season and harvest evaluations

Basically nada





“The internal injury hasn’t shown up at this stage, but the halo effect is apparently common. Each of these areas had a feeding hole at its center.” 6.20.11