

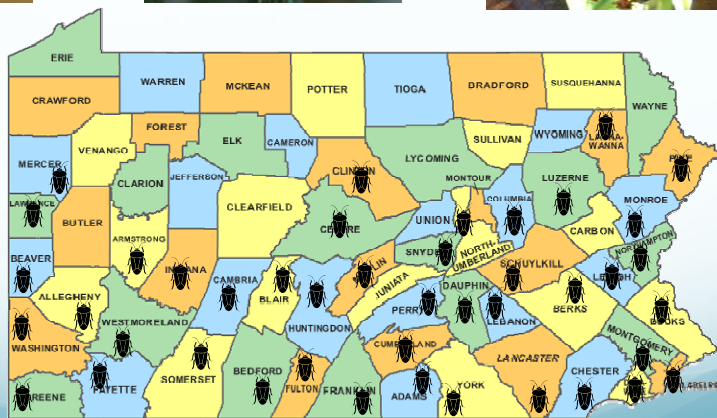
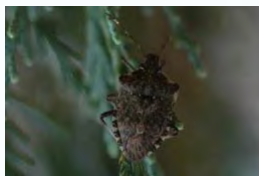
Brown marmorated stink bug, *Halyomorpha halys* (Stål) (Hemiptera: Pentatomidae) Management in Orchards and Research Plans for 2011



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BMSB in Pennsylvania

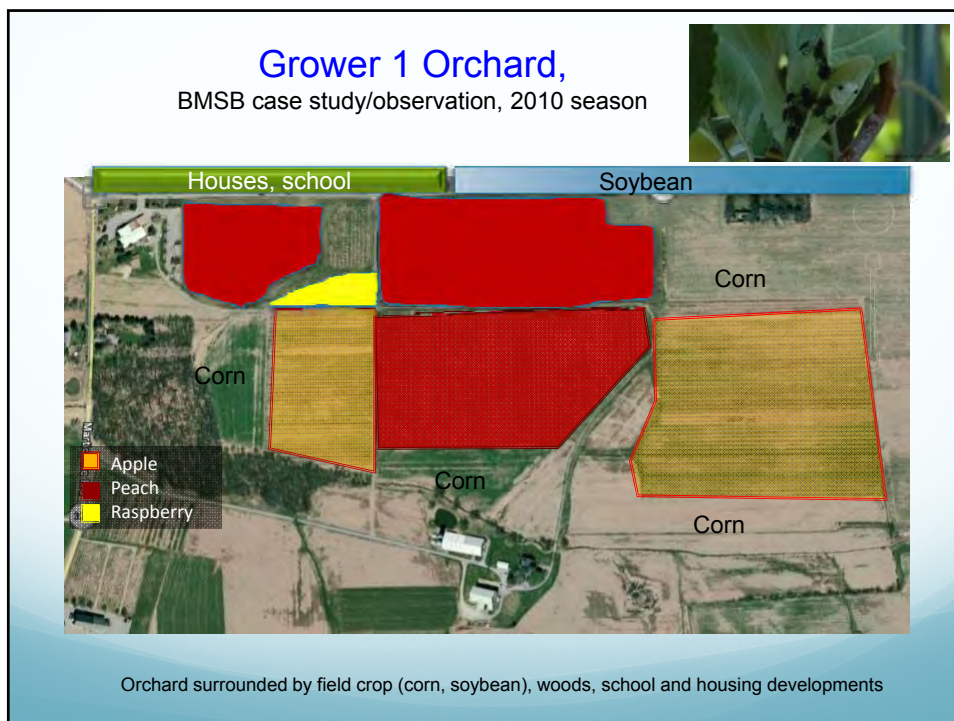


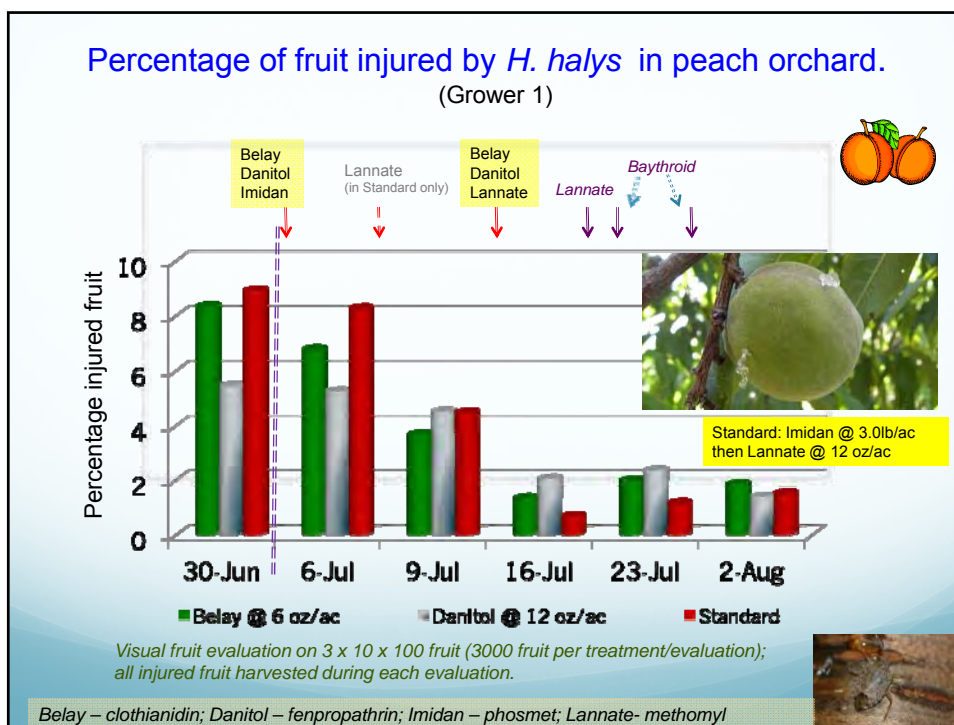
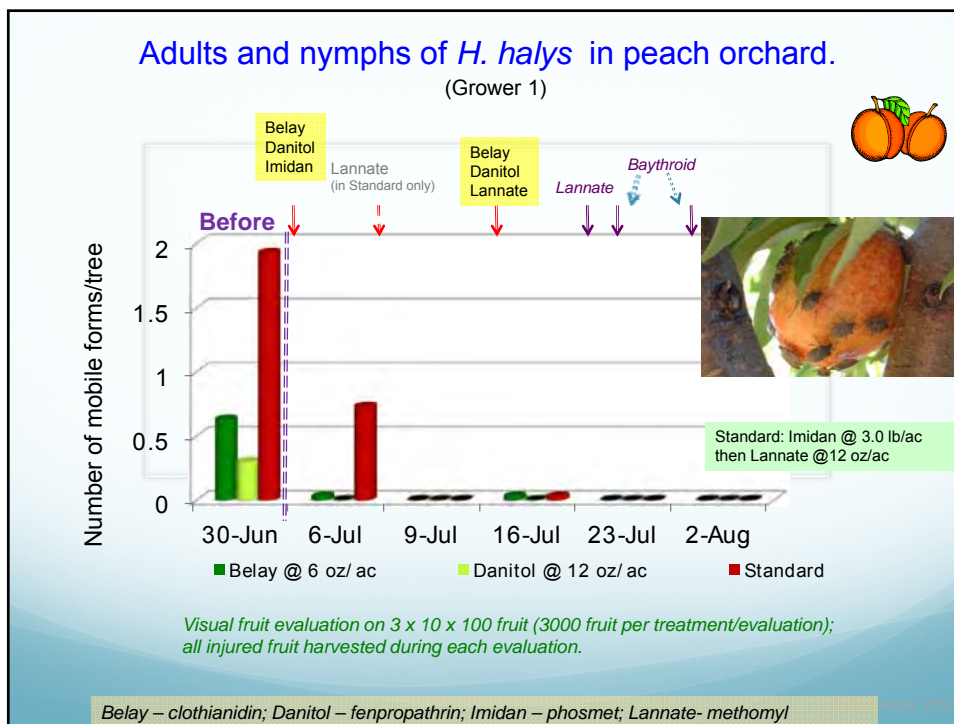
BMSB

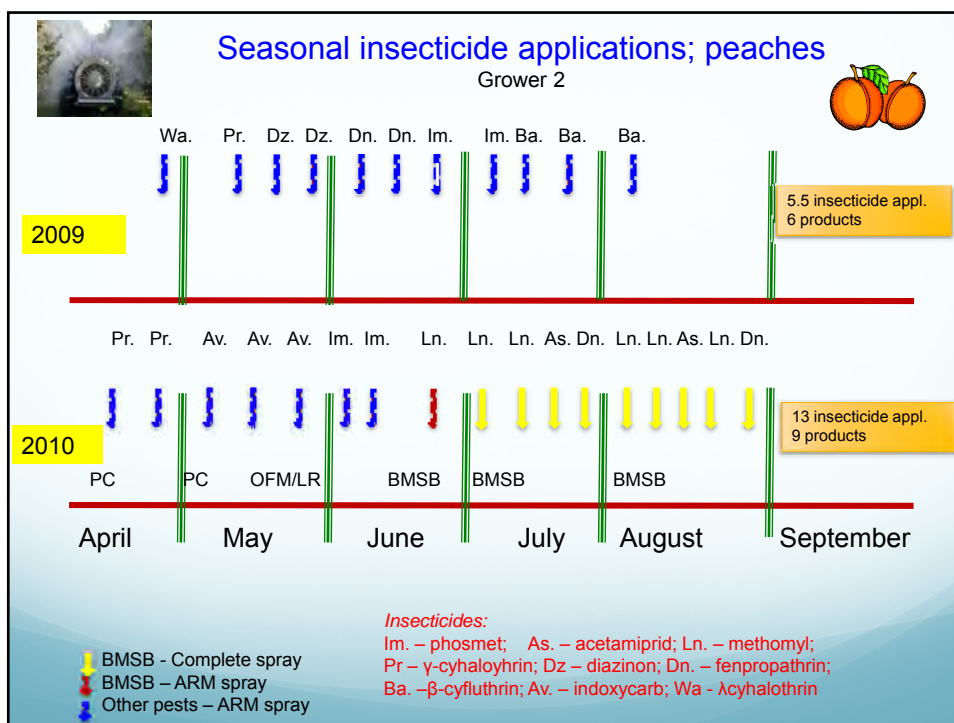
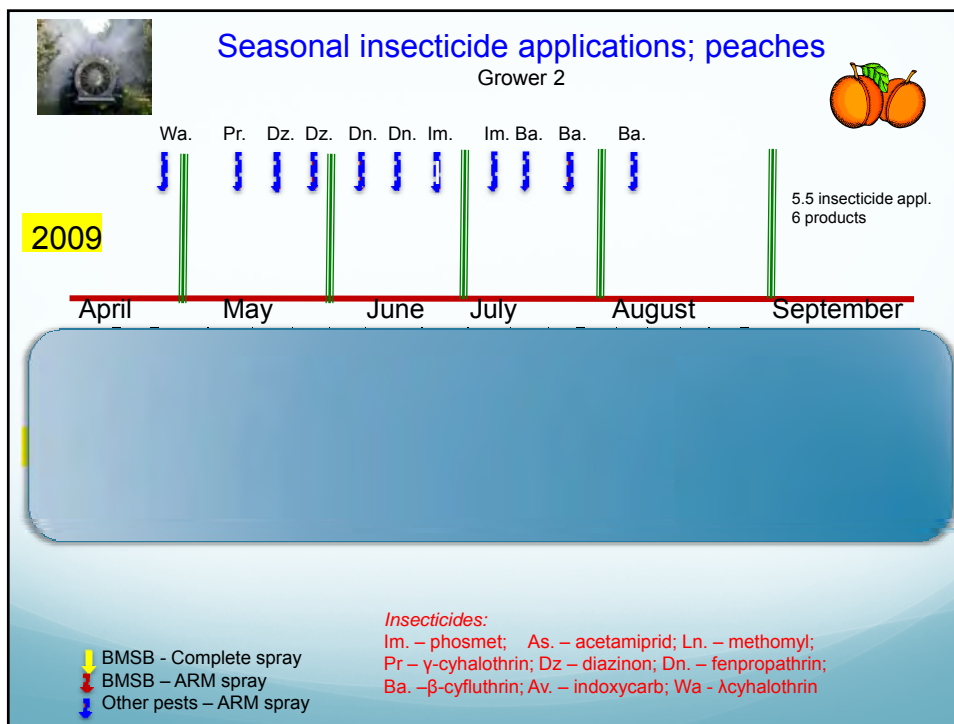
Pre-2011 stink bug control recommendations (examples)

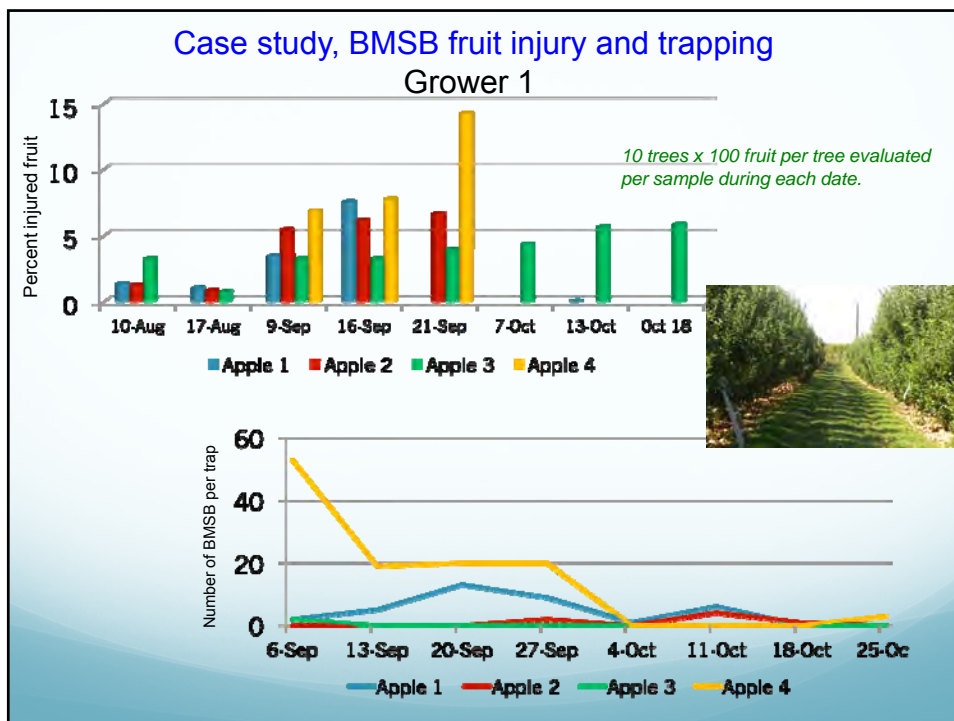
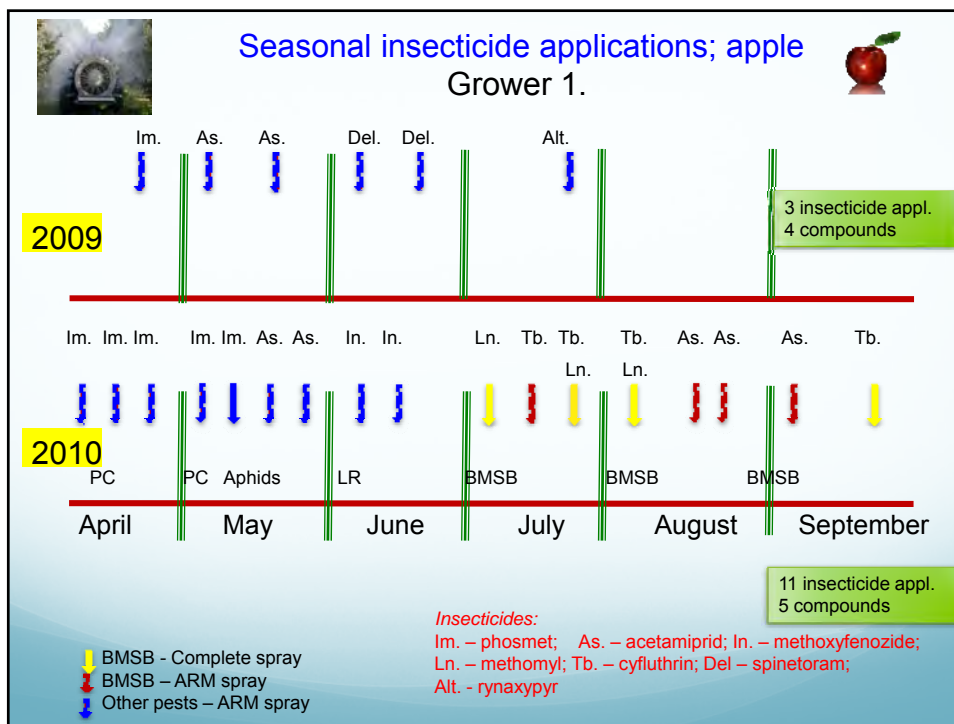
Product	Source			
	PSU '10 Apple, sb/tpb(scale 1-4)	Cornell '10 Apple, tpb only (scale 1-3)	Rutgers '09 Peach, tpb only (scale 1-4)	WSU '09 Apple, tpb, sb (scale 1-4)
Actara	2	2	2	-
Asana	2	1	1	-
Assail	2	2	2	4 (sb)
Avaunt	2	2	2	NR
Baythroid	1	1	NR	NR
Beleaf	2	1	1	-
Calypso	2	3	NR	4 (sb)
Danitol	2	1	-	1
Imidan	3	3	2	NR
Lannate	1	3	2	2
Warrior	1	1	2	1
Delegate/Altacor	NR/NR	NR/3	1/-	NR/NR

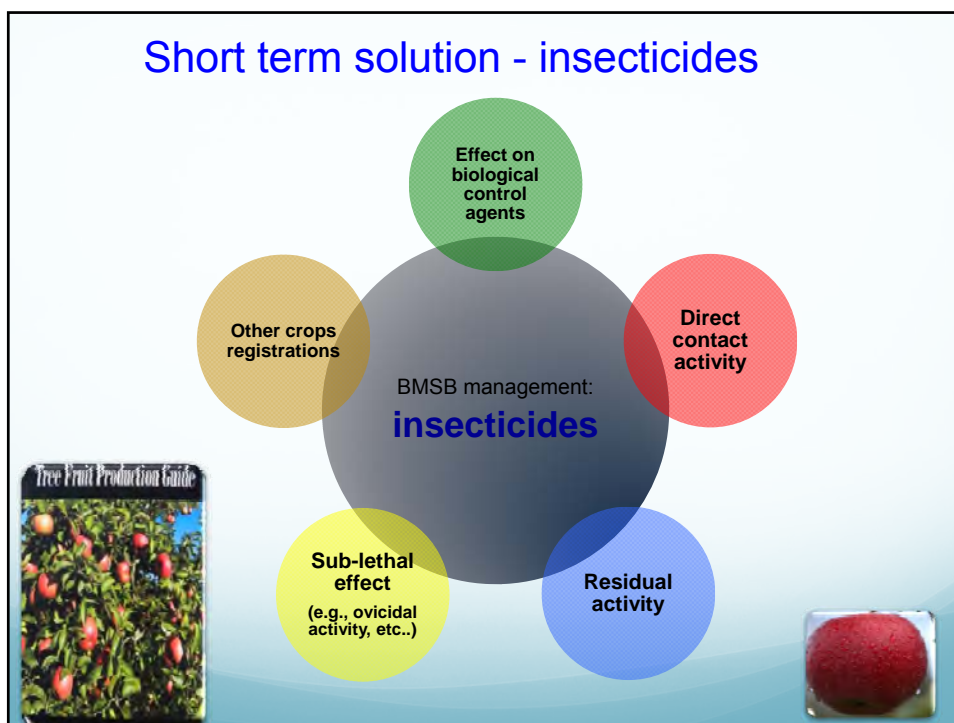
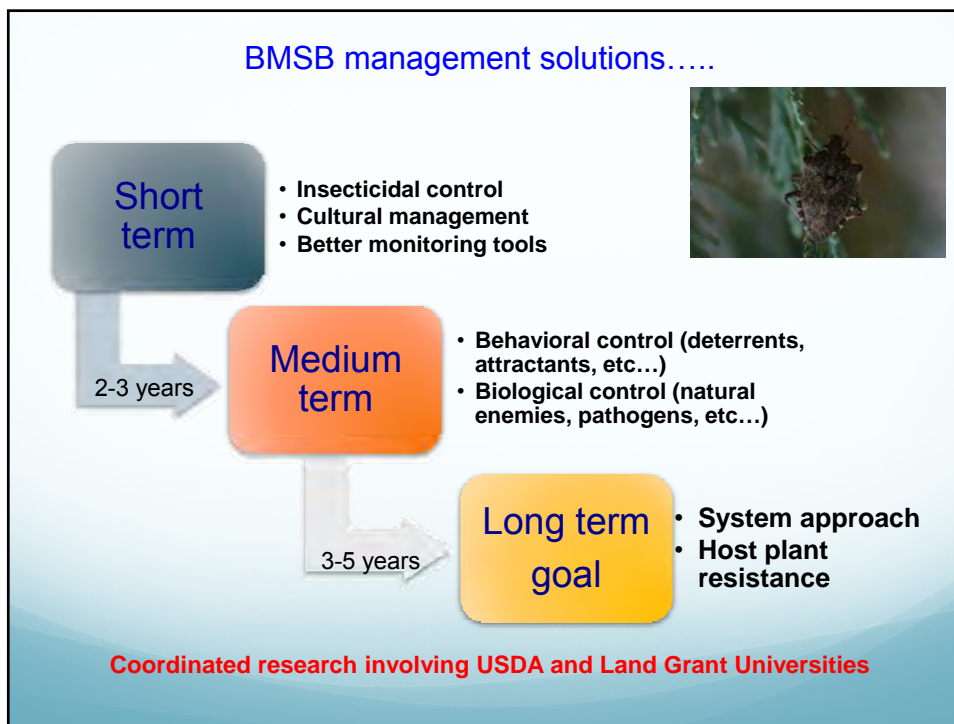
Ranking based on apple recommendations (except NJ); the lower the number the better efficacy












Insecticide activity against BMSB

Direct contact topical bioassays



Subject



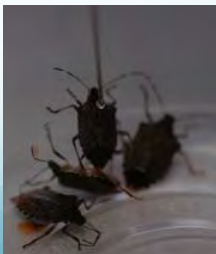
- BMSB from overwintering colony
- Male and female adults tested separately, 6x5 per gender (60 total per product)

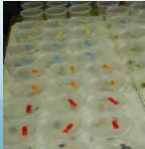


Test

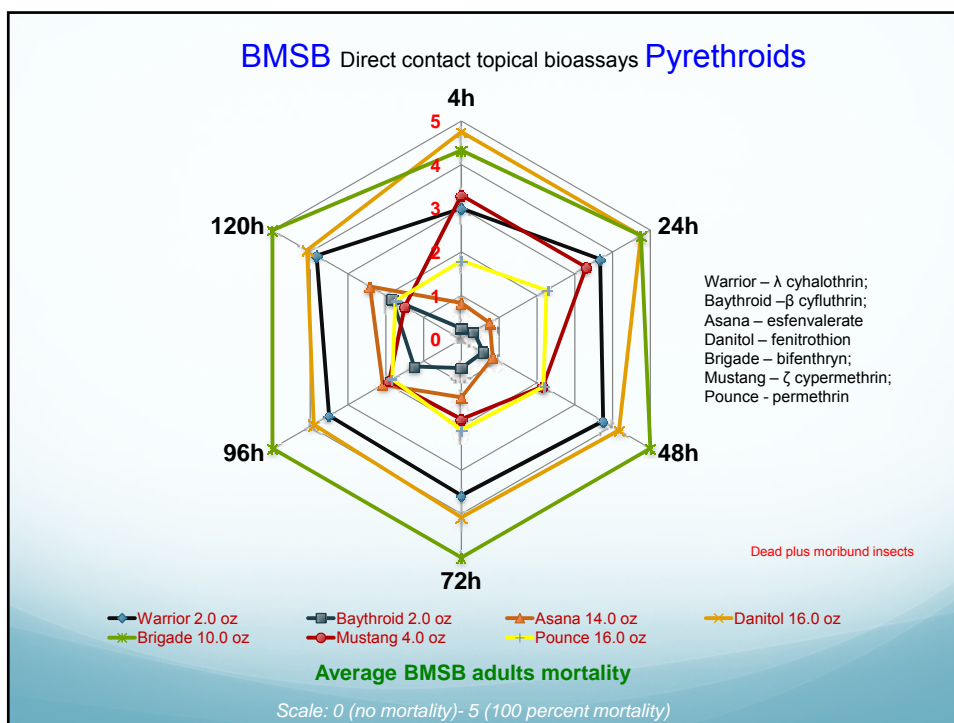
- Commercial grade insecticide solutions at equivalent of field rate (100 gal/acre), surfactant added;
- Each individual bug treated directly with 2 µl of solution

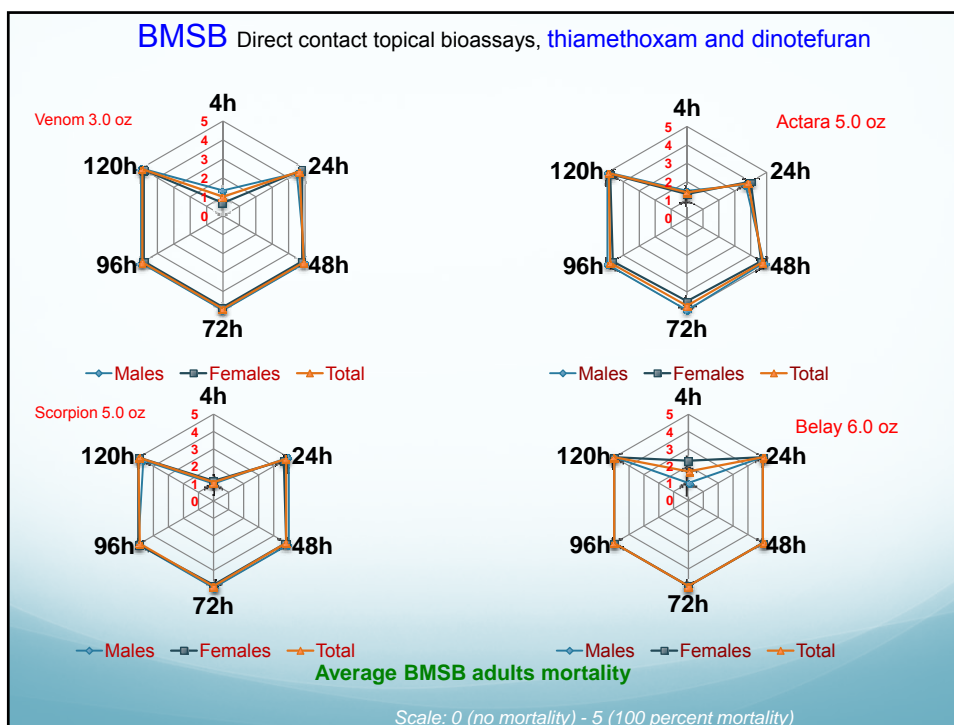
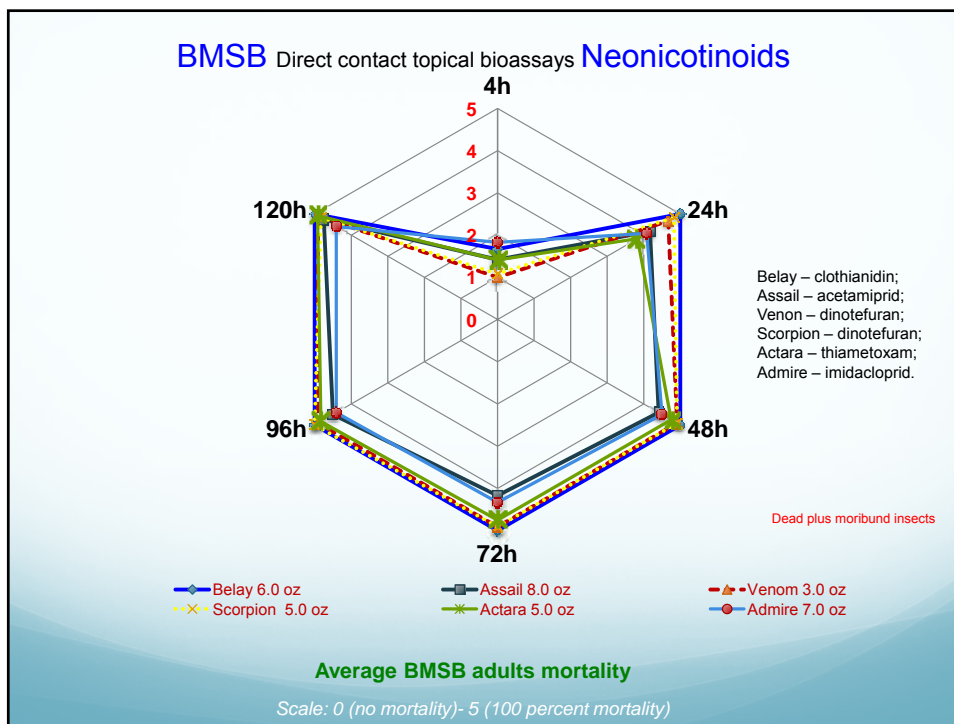
Results

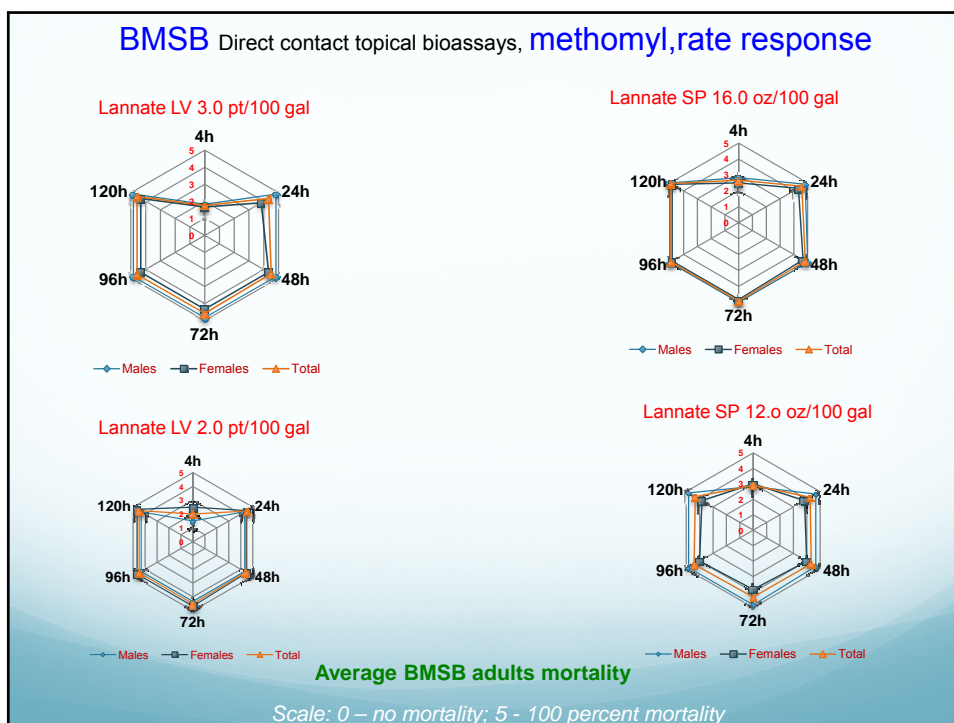
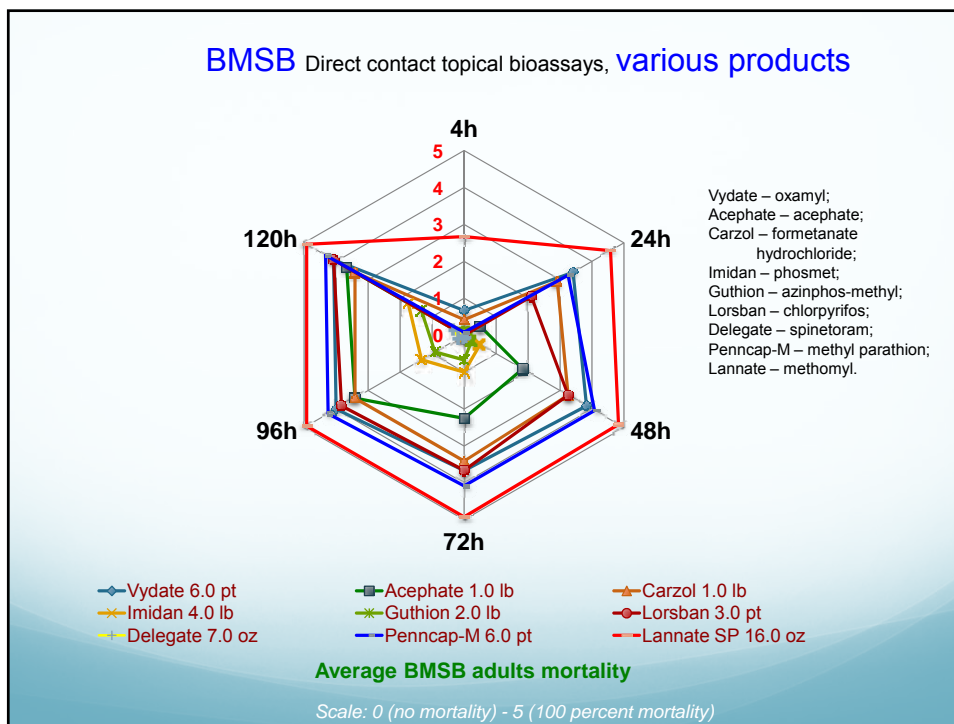
- Mortality assessed at 4, 24, 48, 72, 96 and 120 hours after treatment
- Surviving individuals kept for further observation








Summary


**Brown marmorated stink bug (*aka Asian stink bug*)
is not your usual insect pest**




- Plethora of available host plants
- Unrestricted movement ability
- Undefined biology/monitoring issues
- Inconspicuous initial injury on fruit
- Each instar (except eggs) can cause damage
- No effective biological control

Recommendations.....

BMSB management suggestions for the 2011 season



Monitoring	<ul style="list-style-type: none"> • Start early during the season • Monitor inside / outside • Do not forget late season
Insecticides	<ul style="list-style-type: none"> • Use effective but the least disruptive products to BC • Rotate chemistries • Evaluate impact on other pests • Consider PHI's
Applications	<ul style="list-style-type: none"> • Only when and where needed • Alternate row middle applications • Border rows only applications • Applications at surrounding vegetation • Early season applications are important



Questions ?



Photo by T. Haas



Photo by T. Haas



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