

# Urban Habitats as Sources of Brown Marmorated Stink Bug for Agricultural Lands

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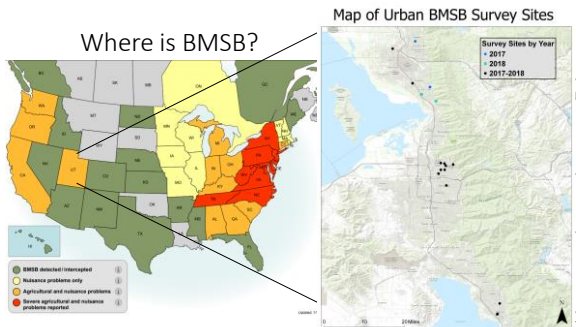
## Brown Marmorated Stink Bug (BMSB)

*Halyomorpha halys* (Stål)

- Invasive from Asia
- Severe agricultural pest and urban nuisance
- Advantageous Traits
  - Polyphagous (150+ plant species)
  - Long distance dispersal
  - Overwinters in/on human structures



### Where is BMSB?



### Urban Landscape

- High number of BMSB
- Wasatch Front contains the majority of Utah's human population
- Urban/suburban areas are within close proximity to agricultural lands



Host Plant Surveys

- 15 sites on Wasatch Front
- 200m long transect at each site
- 20 plants X 15 sites = 300 plants total
- Visual inspection
- Beat sheet sampling



Compiled List of Utah Host Plants

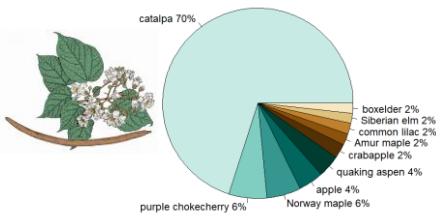
[utahpests.usu.edu/caps/bmsb-host-plants](http://utahpests.usu.edu/caps/bmsb-host-plants)

**BMSB Plant-Hosts of Utah**

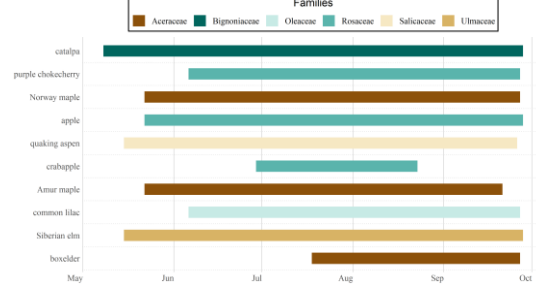
Current Known Host Plants of Brown Marmorated Stink Bug in Utah

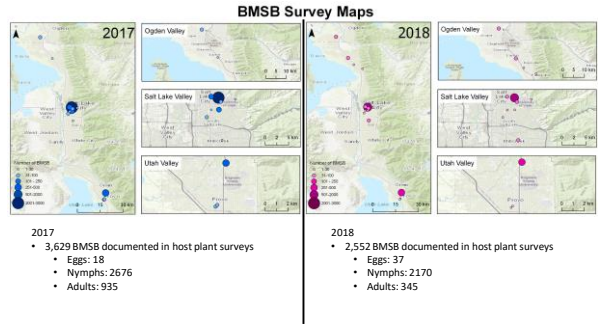
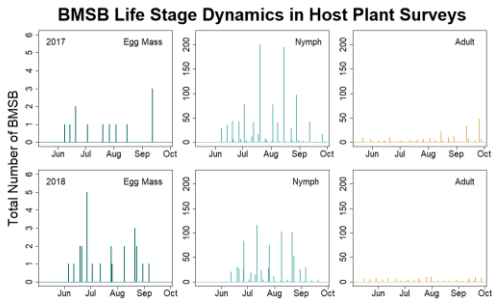
Family Name	Scientific Name	Common Name
Asteraceae	<i>Helianthus annuus</i>	Common Sunflower
Asteraceae	<i>Helianthus scaberrimus</i>	Spiny Sunflower
Asteraceae	<i>Helianthus maximiliani</i>	Maximilian Sunflower
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Top 10 BMSB Host Plants



BMSB Seasonal Occurrence On Top 10 Host Plants

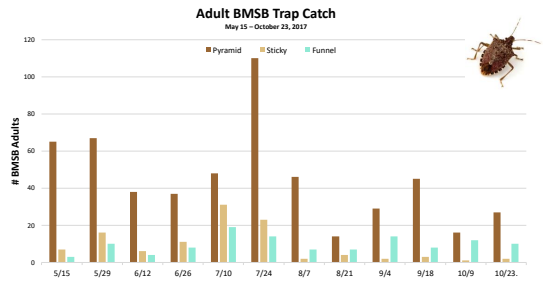


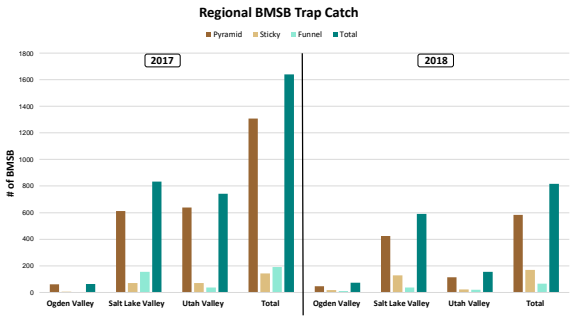
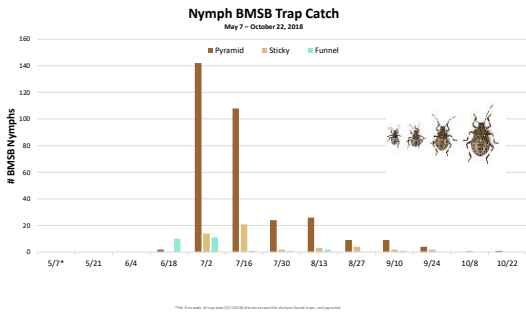
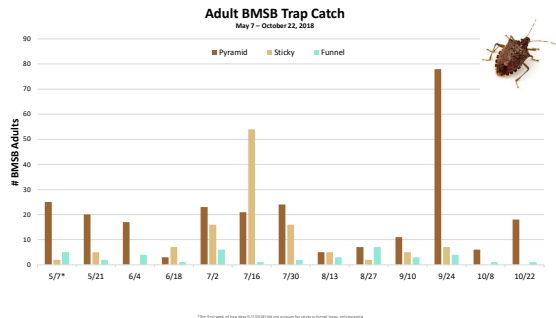
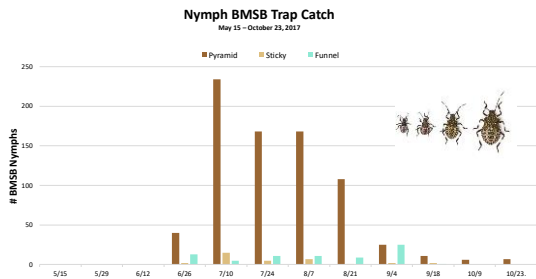


### Pheromone Baited Traps



\*Each survey site had one of each trap type, making for 45 total traps deployed.





## 2018 Trap Catch: Urban vs. Agricultural

### Urban:

- Average of 25 BMSB per trap all season



### Agricultural:

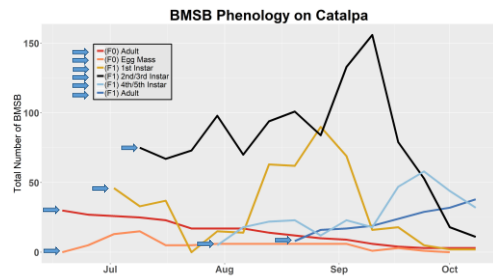
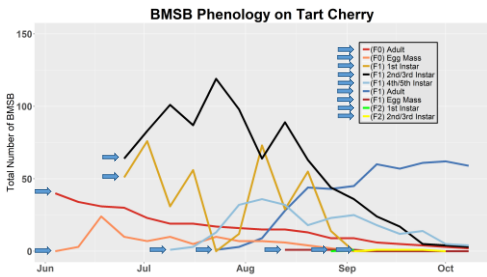
- Average of 7.5 BMSB per trap all season



\*Based on pyramid and sticky trap data from Zach Schumm and Cody Holthouse

## Voltinism

- Observed spring (F0) adults from June to October and documented subsequent progeny (F1, F2, etc.)
- 70 Adult BMSB bagged on Tart Cherry and Catalpa
- F1 egg laying occurred mid Aug - early Sept.
- Single F2 nymph emerged!



### Concluding Remarks

- BMSB is primarily an urban nuisance pest in Utah
- Catalpa is a significant host plant
- Overwintered adults present May and June
- Highest number of BMSB in mid to late July
- Fall aggregation of adults mid to late September
- BMSB numbers were lower in both survey and trap data 2018
- Potential for two generations per season

### Acknowledgements



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