

# Brown Marmorated Stink Bug in NC Region



**Matt Grieshop, Celeste Welty & Jim Jasinski**  
**Michigan and Ohio State Universities**  
**June 2013**

# **BMSB Projects in Ohio**

- **State-wide survey with traps, 2011, 2012, 2013**
- **Multi-state pheromone trial in apple, 2012, 2013**
- **Natural enemy survey, 2013 (OREI project)**

# Stink bug trap network, 2012: 16 sites, 13 counties mid-June to mid-October pheromone: MDT lure



= blacklight trap



= pheromone in sweet corn



= pheromone in raspberry



= multiple trap types



= pheromone in apple & soybean

# Results: pheromone traps, 2012



Figure 2. Cumulative distribution of BMSB captured in pheromone traps per county from mid June through mid October.

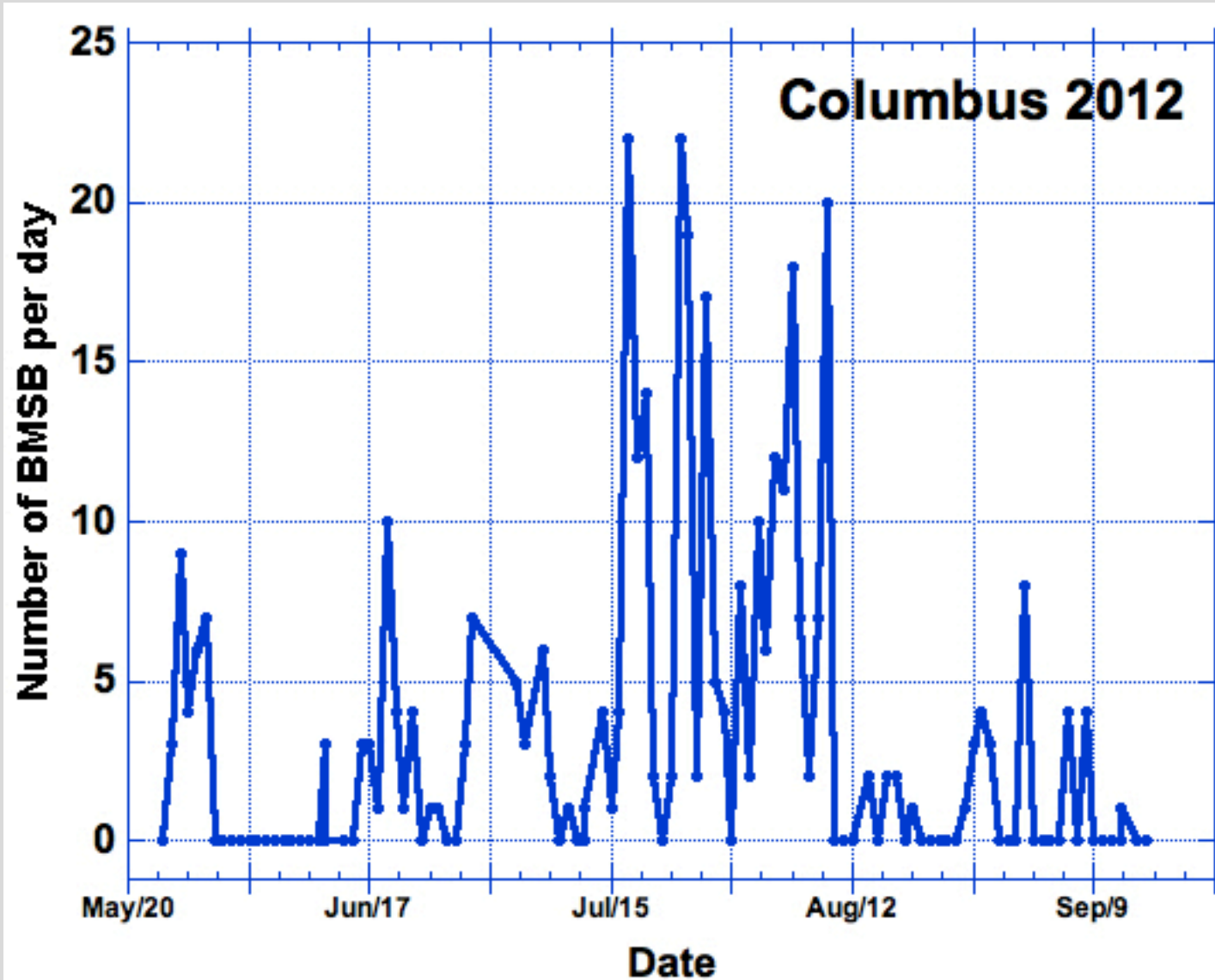
# Results: pheromone traps, 2012

<b><i>County</i></b>	<b><i>Crop</i></b>	<b><i>Total number BMSB</i></b>
<b>Allen</b>	<b>Sweet corn</b>	<b>0</b>
<b>Clinton</b>	<b>Raspberry</b>	<b>1</b>
<b>Highland</b>	<b>Sweet corn</b>	<b>1</b>
<b>Mahoning</b>	<b>Sweet corn</b>	<b>0</b>
<b>Meigs</b>	<b>Sweet corn</b>	<b>1</b>
<b>Monroe</b>	<b>Sweet corn</b>	<b>0</b>
<b>Morgan</b>	<b>Sweet corn</b>	<b>0</b>
<b>Sandusky</b>	<b>Sweet corn</b>	<b>0</b>
<b>Warren</b>	<b>Raspberry</b>	<b>1</b>
<b>Wayne</b>	<b>Raspberry &amp; corn</b>	<b>0</b>

# Blacklight traps, 2012

<i>Trap type</i>	<i>Location</i>	<i>Total number BMSB</i>	<i>Dates caught</i>
<b>Small</b>	<b>Meigs County</b>	<b>0</b>	
<b>Small</b>	<b>Clark County</b>	<b>0</b>	
<b>Large</b>	<b>Piketon</b>	<b>7</b>	<b>7/15 - 9/9</b>
<b>Large</b>	<b>Columbus</b>	<b>356</b>	<b>5/25 – 9/13</b>
<b>Large</b>	<b>Fremont</b>	<b>3</b>	<b>7/3 – 8/10</b>

# Blacklight trap



# Multi-State Pheromone Trap Trial, 2012

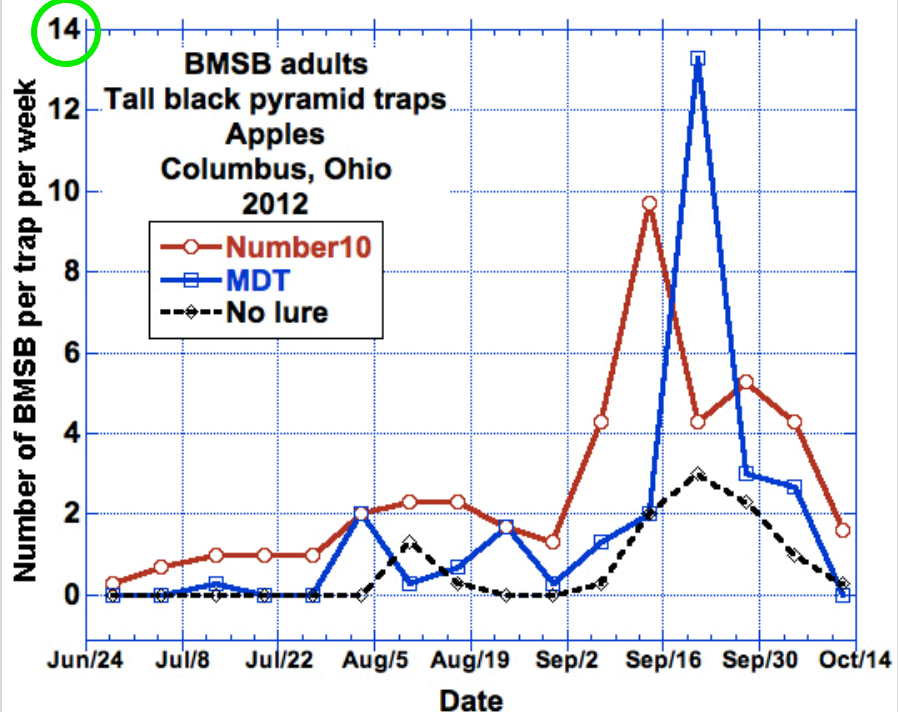
- **3 treatments**
  - **USDA #10 lure (experimental)**
  - **MDT from AgBio lure (commercial)**
  - **No lure**
- **3 replicates**
- **Tall black pyramid trap**
- **In apple**



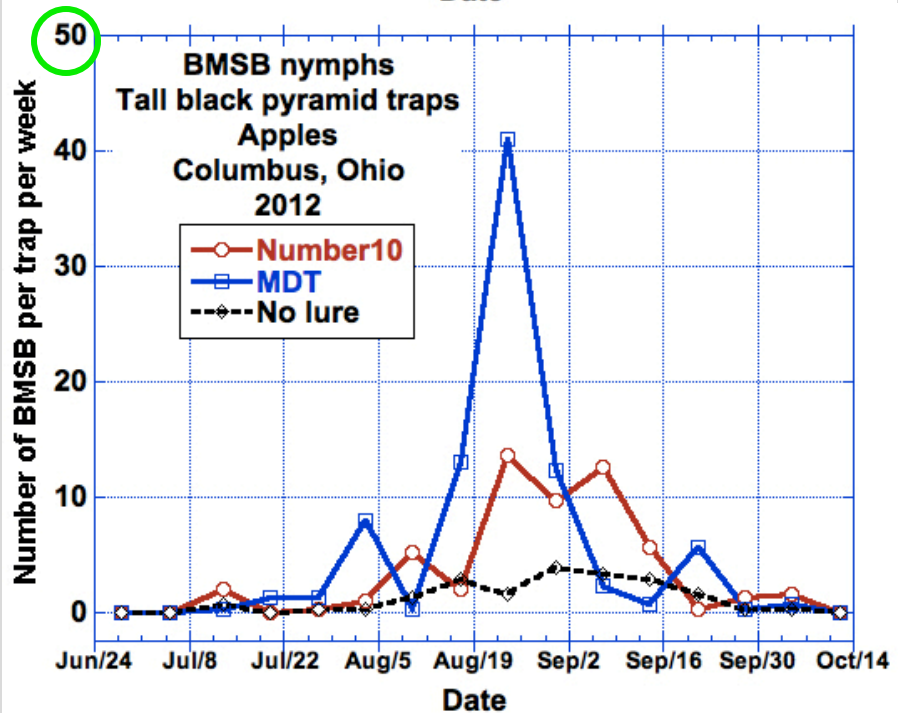


# Apple

adults only →



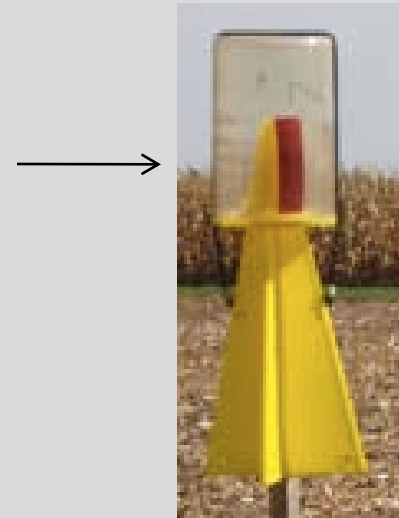
nymphs only →



# Trap trial in soybean, 2012

## Columbus, Ohio

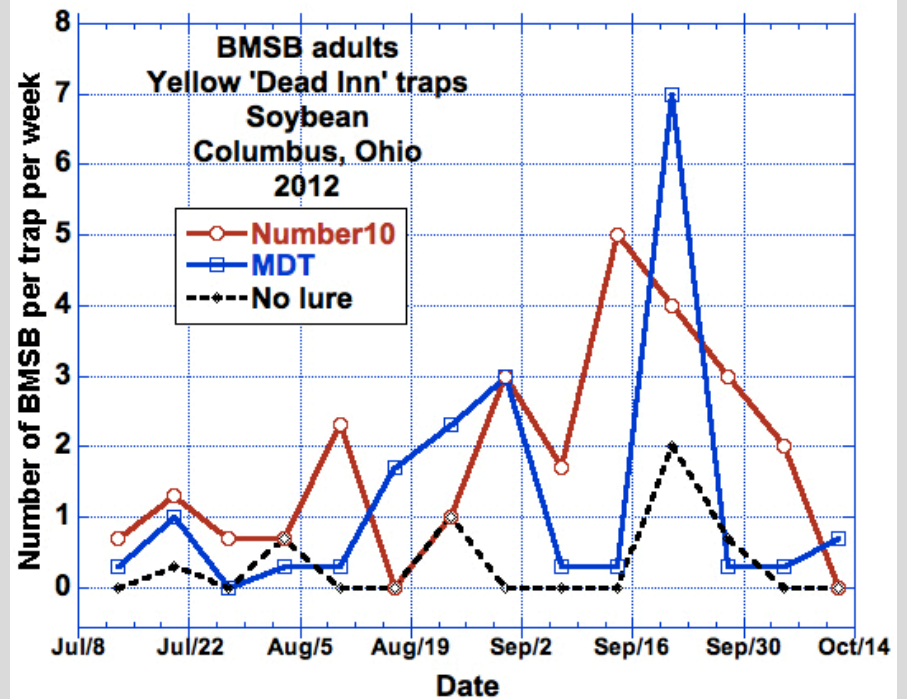
- **Small yellow ‘Dead Inn’ trap on 4’ wood post**
- **USDA#10 vs MDT vs none**
- **3 reps**
- **5 July – 12 October**



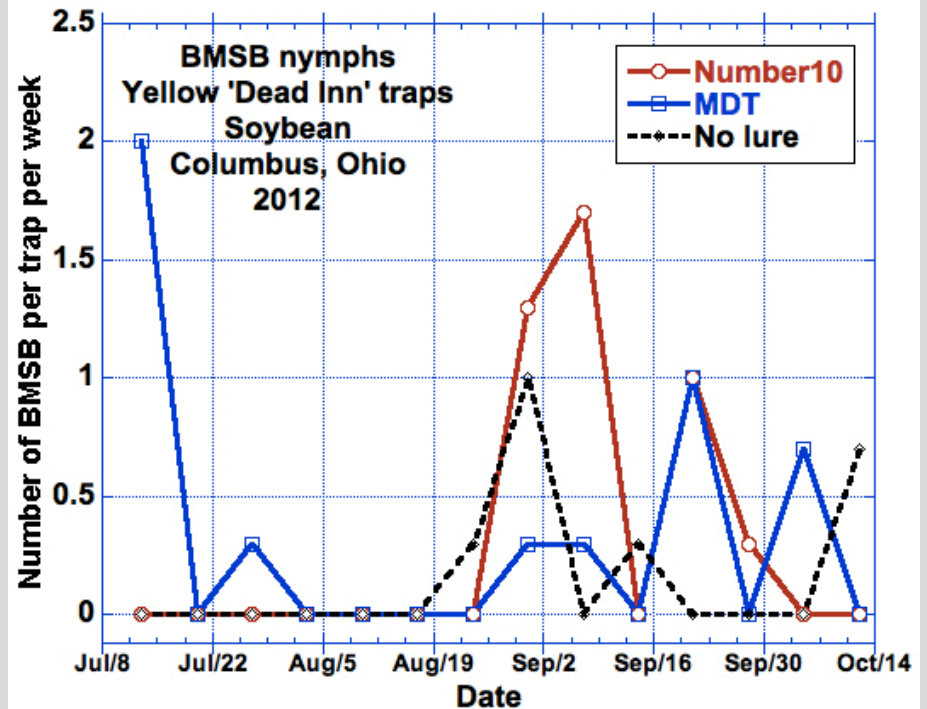


# Soybean

adults only →

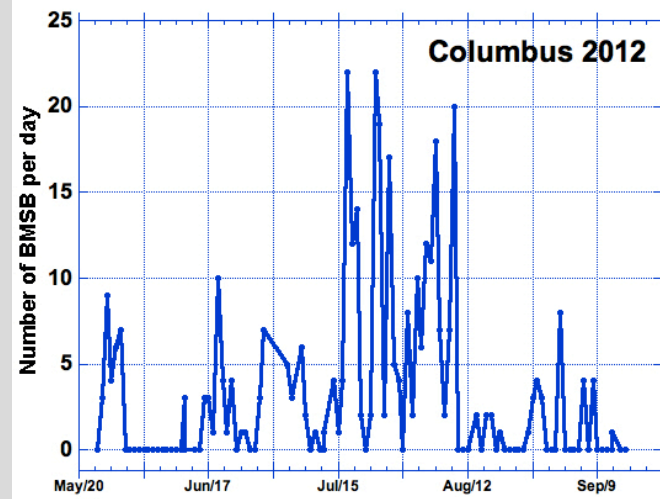


nymphs only →

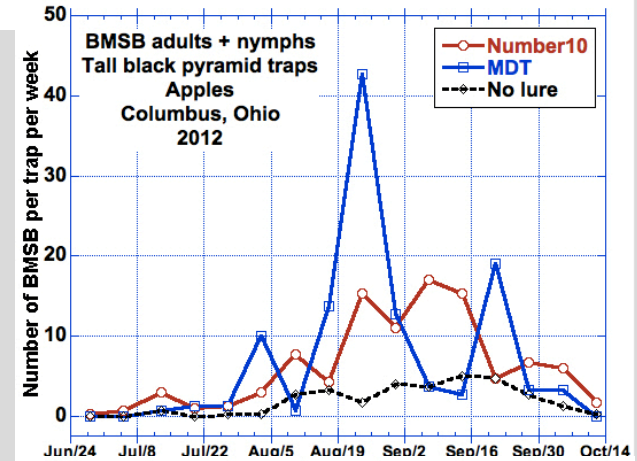


# All traps in Columbus

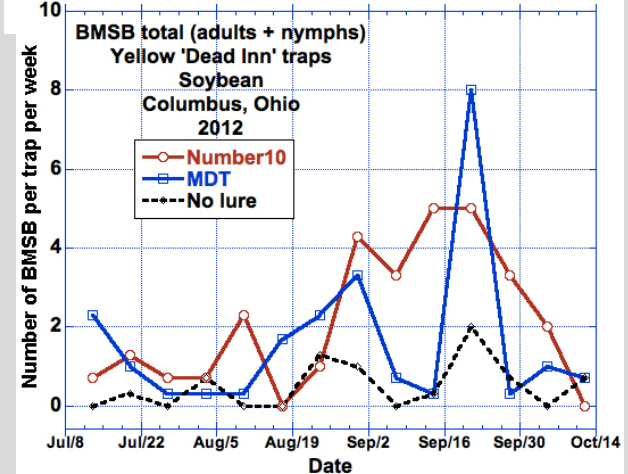
blacklight →



pheromone apple →



pheromone soybean →

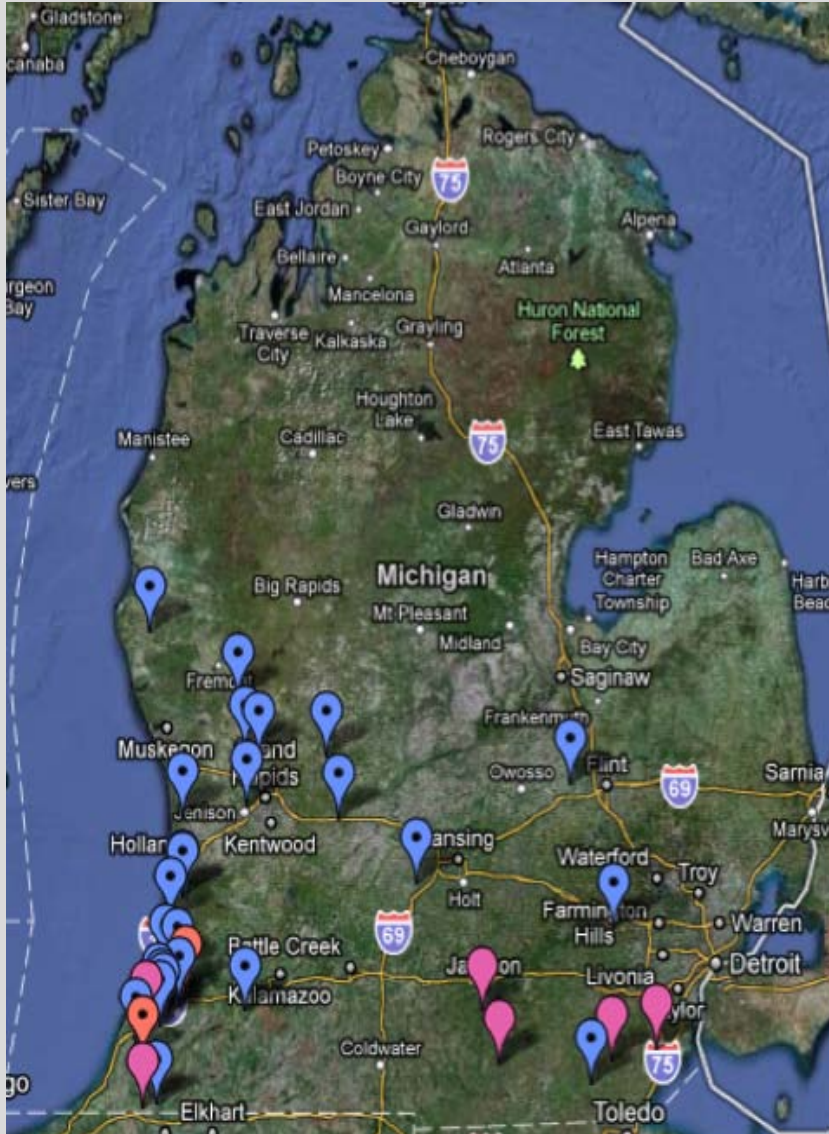


# **BMSB Projects in Michigan**

- **State-wide survey with traps, 2011, 2012, 2013**
- **Multi-state pheromone trial in tree fruit 2013**
- **Natural enemy survey, 2013 (OREI project)**
- **Classical BC project**



# ***BMSB Detection Program in MI***

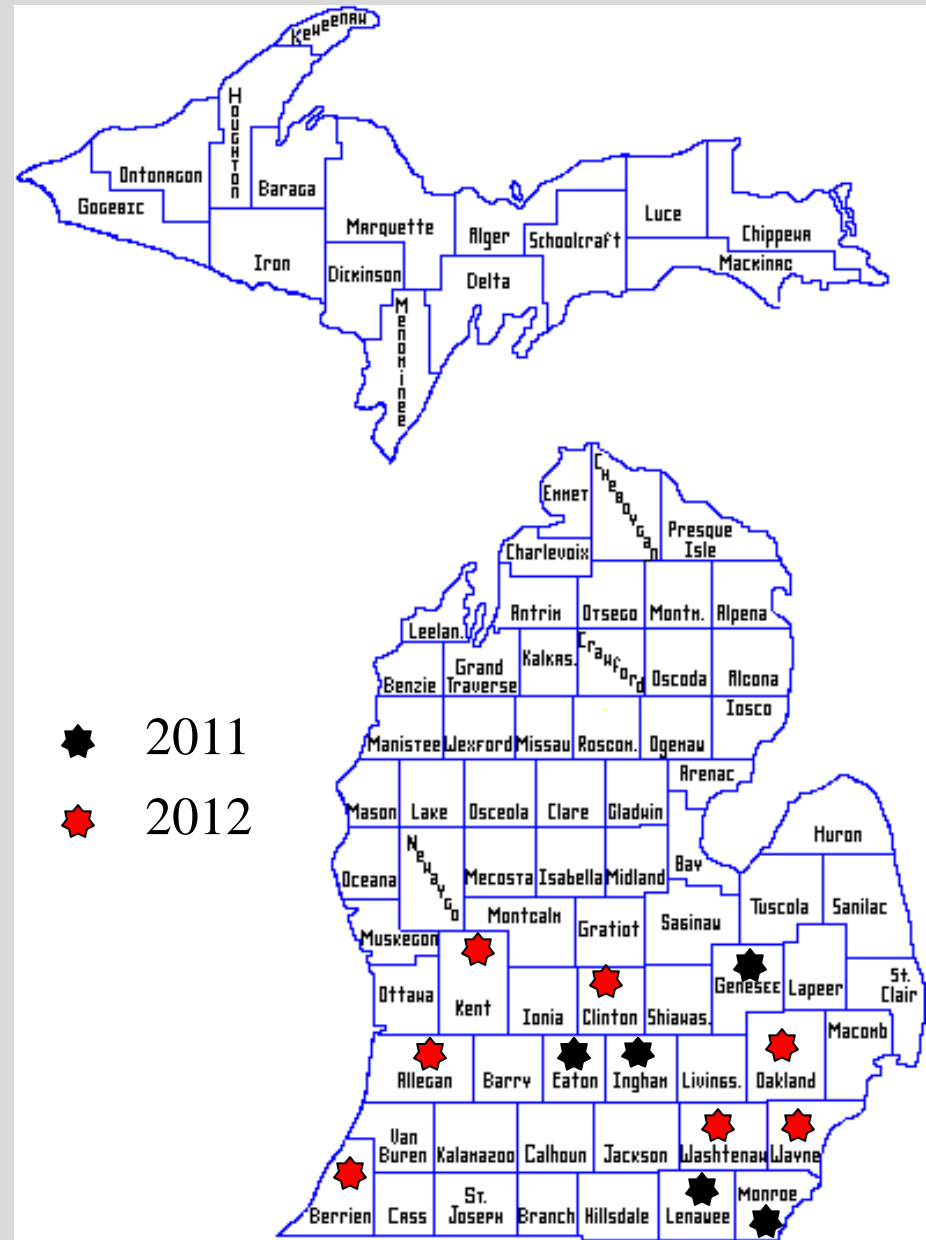


- **2011 – 2012 26 Blacklight traps, sweep net, limb-jarring, attractant trap**



# Results: MI Survey (2011-12)

- **BMSB Collected in 12 counties**
- **All initial specimens collected via sweeps and homeowners.**
- **One bug caught in blacklight trap in 2012 (Berrian Co.)**



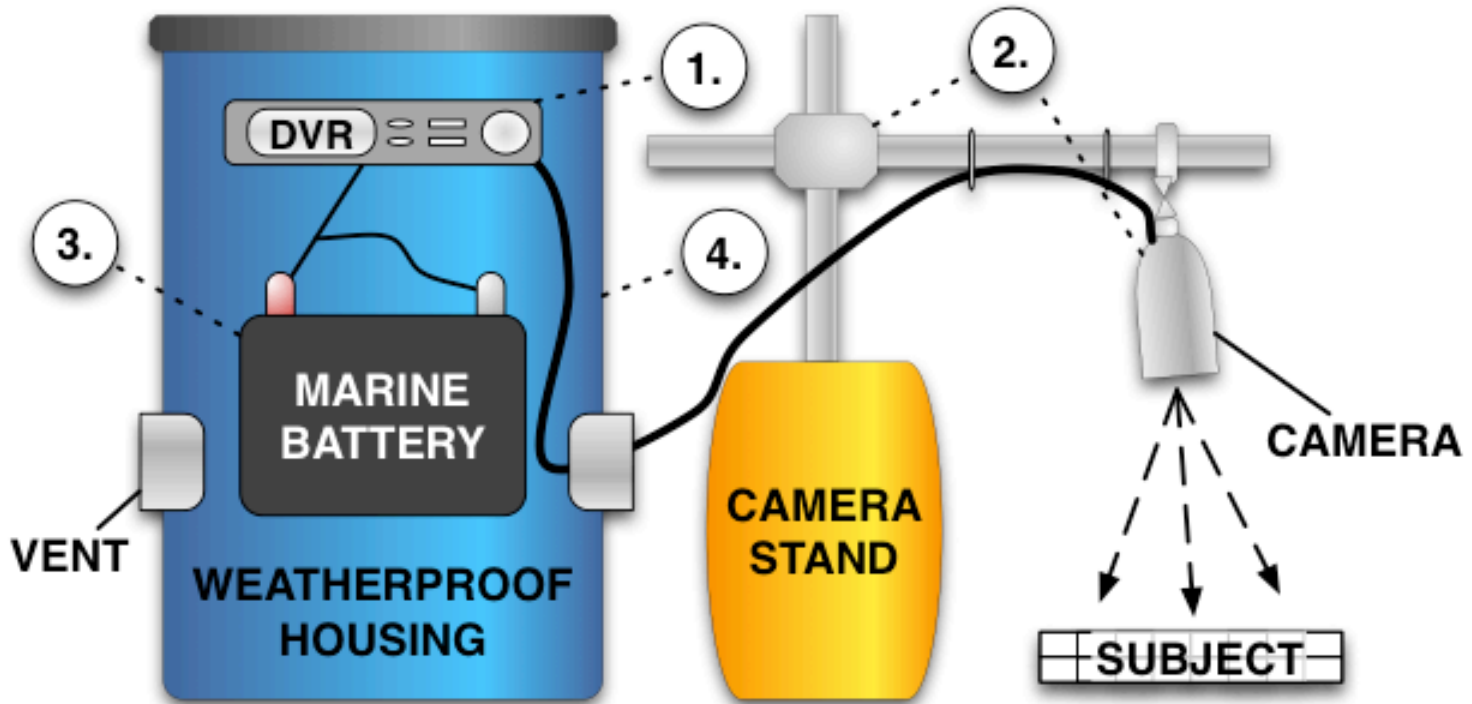
# 2013 MSU BMSB SURVEY

- 100 sites in cherry and apple
- USDA #20 + *Halymorpha halys* pheromone in rescue trap





# Experimental Apparatus



# Updated DVRs

- Avoid h.264 compression:  
proprietary codecs are hard  
to convert
  - mp4 codecs are much simpler
- New single channel micro  
DVR's offer new  
opportunities
  - Less wiring
  - More independence
  - Lower power consumption
  - Utilizes SD cards



# Acknowledgements

- **Larry Gut**
- **Pete McGhee**
- **Zsofia Szendrei**
- **Mark Whalon**
- **USDA OREI**
- **MSU Project GREEN**
- **USDA SCRI Block Grants**