2012 Aerial Sprays

Culiseta melanura Population

Notes: First arrow indicates aerial adulticide application, July 20-22. Second arrow indicates aerial adulticide application, August 13.
EEE Infection Rate in Mosquitoes

2012 vs 2011 *C. melanura* Minimum Infection Rate (MIR) at MDPH Long-term Traps

Notes: First arrow indicates aerial adulticide application, July 20-22. Second arrow indicates aerial adulticide application, August 13.

Abundance Infection Factor

Infection Rate x Population = Abundance Infection Factor

Notes: First arrow indicates aerial adulticide application, July 20-22. Second arrow indicates aerial adulticide application, August 13.
2012 First Spray Efficacy

Reductions reported: Aerial Adulticide Application July 20-22, 2012

<table>
<thead>
<tr>
<th>Species</th>
<th>Bristol MCP</th>
<th>Plymouth MCP 7/20 spray</th>
<th>Plymouth MCP 7/21 spray</th>
<th>DPH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>58%</td>
<td>81%</td>
<td>no control</td>
<td>42%</td>
</tr>
<tr>
<td>Cs. melanura</td>
<td>71%</td>
<td>36%</td>
<td>no control</td>
<td>80%</td>
</tr>
<tr>
<td>Cq. perturbans</td>
<td>81%</td>
<td>81%</td>
<td>14%</td>
<td>41%</td>
</tr>
<tr>
<td>Oc. canadensis</td>
<td>no control</td>
<td>84%</td>
<td>no control</td>
<td>17%</td>
</tr>
<tr>
<td>Ae. vexans</td>
<td>no control</td>
<td>no control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td>9%</td>
</tr>
</tbody>
</table>

2012 Second Spray Efficacy

as measured by DPH longterm traps

Preliminary Efficacy Determinations:

<table>
<thead>
<tr>
<th>Species</th>
<th>Percent Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>36-47%</td>
</tr>
<tr>
<td>Cs. melanura</td>
<td>62-73%</td>
</tr>
<tr>
<td>Cq. perturbans</td>
<td>46-60%</td>
</tr>
<tr>
<td>Ae vexans</td>
<td>no control</td>
</tr>
<tr>
<td>Oc. canadensis</td>
<td>no control</td>
</tr>
</tbody>
</table>
2010 Aerial Spray

Culiseta melanura Population

Figure 3:

2009 vs. 2010 Culiseta melanura Abundance at MDPH Long-term Trap Sites

Notes:
1. Aerial adulticide applications occurred during MMWR 31, 8/5-8/7.
2010 Spray Efficacy
As measured by 3 different agencies

Aerial adulticide Event, Aug 5-7, 2010: Efficacy Results reported by:

1. Plymouth County Mosquito Control
   Results:
   - Overall Total control: 80.84%
   - Cs. melanura control: 68.95%
   - Cq. perturbans control: 87.71%

2. Bristol County Mosquito Control Project
   Results:
   - Ae vexans 100.0 %
   - Cs melanura 96.2
   - Cq perturbans 87.0
   - Oc canadensis 100.0 %
   - Overall (Total Mosquitoes) 87.0%

3. MDPH State Laboratory Institute
   Results:
   - Overall control – 77%
   - Coquillettidia perturbans control - 89%
   - Culiseta melanura – 39%
   - Ochlerotatus canadensis control – Insufficient collections
   - Aedes vexans control – Insufficient collections

Notes:
1. Aerial adulticide applications occurred during MMWR 31, 8/3-8/7.