### Scouting Thresholds

<table>
<thead>
<tr>
<th></th>
<th>Silver Tip</th>
<th>Tight Cluster</th>
<th>Early Pink</th>
<th>Late Pink</th>
<th>Bloom</th>
<th>Petal Fall</th>
<th>June</th>
<th>July</th>
<th>August</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STLM - Spotted Tentiform Leaf Miner</strong></td>
<td>Set Red Visual Traps</td>
<td>Check traps weekly for thresholds</td>
<td>Continue Monitoring</td>
<td>Check traps for updated thresholds</td>
<td><strong>White Apple and Potato Leafhoppers</strong></td>
<td>Examine leaves for presence of 1st gen. nymphs and adults. Threshold: 25/100 lvs</td>
<td>Continue Monitoring</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TPB - Tarnished Plant Bug</strong></td>
<td>Set White Sticky Traps</td>
<td>Check traps weekly for thresholds</td>
<td>Continue Monitoring</td>
<td>Check traps for updated thresholds</td>
<td><strong>No Insecticides!</strong></td>
<td>Bee &amp; Bumble Bee</td>
<td></td>
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<tr>
<td><strong>EAS - European Apple Sawfly</strong></td>
<td>Set White Sticky Traps</td>
<td>Check traps weekly for thresholds</td>
<td></td>
<td></td>
<td><strong>European Red and Two-Spotted Spider Mites</strong></td>
<td></td>
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</tbody>
</table>

### Orchard IPM Resources

- UVM Fruit Page: Tree Fruit and Viticulture  
  http://www.uvm.edu/~fruit
- NEWA: Decision support systems for insect and disease models  
  http://newa.cornell.edu
- Great Lakes IPM: Trapping Supplies  
  http://greatlakesipm.com
- UVM Plant Diagnostic Clinic: Pest and disease identification  
  https://www.uvm.edu/extension/pdc
- Cornell IPM Fact Sheets  
  http://www.nysipm.cornell.edu/factsheets/treefruit/default.asp
- Tree Fruit Field Guide  
  http://netreefruit.org

### IPM 'Quick' Summary for Monitoring Apple Arthropod Pests

Terence Bradshaw, Jessica Foster, & Sarah Kingsley-Richards, University of Vermont Apple Program.
**Mite Sampling Charts & Procedure**

- This procedure involves examining middle aged leaves for motile mites (any stage except eggs). You will not be counting mites, but will only determine whether they are present or absent on each leaf sampled.

- Starting with a random tree and sampling every other tree, collect 4 leaves in a plastic bag from each of 5 trees, choosing from each quadrant of the canopy. To make sure the leaves are of an intermediate age, pick them from the middle of the fruit cluster.

- Using a magnifier, examine the top and bottom surface of each leaf for motile mites, and keep track of the number of leaves containing motile mites. When all 20 leaves have been examined, compare this number with the numbers on the decision guide to your left based on the month you are scouting (June, July, or August). If the number of leaves with mites is equal to the values on the stairstep lines, the decision is the one shown in the area immediately below the value (example in June: For “29” after sampling 40 leaves, the decision is “Continue sampling”; for “8” the decision is to “Sample in 14 days”). When the counts fall into any of the shaded regions, sampling is stopped and a decision is made to either treat, or else re-sample in 7 or 14 days. If the counts fall in the “Continue sampling” zone, take and examine more leaf samples in batches of 10 (5 per tree) until the counts fall into one of the shaded regions. If you reach one of the resample zones, the population is below threshold, and should remain so for at least the number of days stated. Return at the designated time and conduct another sample.

**Scouting Forms and Guides**

- **Mite Sampling Chart**
  https://nysipm.cornell.edu/sites/nysipm.cornell.edu/files/shared/erm-sampling-chart.pdf

- **Obliquebanded Leafroller Sampling Form**
  https://nysipm.cornell.edu/sites/nysipm.cornell.edu/files/shared/oblr-sampling-form.pdf

- **Apple IPM: A Guide for Sampling and Managing Major Apple Pest in New York State**
  A. Agnello, J. Kovach, J. Nyrop, H. Reissig, D. Rosenberger, W. Wilcox

- **Mid-Atlantic Orchard Monitoring Guide (NRAES-75)**
  https://www.virginiafruit.ento.vt.edu/apple-fruit-ipm.html

**Obliquebanded Leafroller Sampling Chart & Procedure**

10% Infestation Threshold

- Examine 10 bud clusters (overwintering generation) or expanding terminals (1st summer generation) per tree for live OBLR larvae. For the 1st summer generation, sample at -600 degree-days (43°F base) after the 1st moth flight in your area; if you do not have access to this information, use July 5 as an estimated best sample date.

- Sample every other tree starting with a random tree and continuing down the row. Remember that you are NOT counting OBLR larvae, but sites infested with LIVE OBLR. If trees are >10 ft tall, try to include some samples from the upper canopy, or from watersprouts.

- If the total number of infested samples falls between the two stairstep lines, sample another tree. If the total is less than the lower line, sampling is stopped and no treatment is recommended. If the total is greater than the upper line, sampling is stopped and treatment is recommended. Refer to New England Tree Fruit Management Guide for a choice of pesticide materials.

- Continue sampling until you reach one of the boldface staircase lines in the chart above, or until you have examined a maximum of 100 clusters. If you reach the intersection of the two lines by the 100th sample, withhold treatment.

- If a no-treat decision is made for 1st summer generation larvae, resample again in 3-5 days (after approximately 100 DO more have accumulated). A second no-treat decision indicates that no treatment is recommended against this brood of OBLR.