Implementing an Orchard Monitoring Program

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What is Scouting?

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noun: Scouting
1.  
the action of gathering information about enemy forces or an area.
2.  
the characteristic activity and occupation of a Boy Scout or Girl Scout
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Enemy Forces?

Insects
Diseases
Weeds
Other Orchard Issues
Why Scout

GATHERING INFORMATION ABOUT THE STATUS OF YOUR ORCHARD SO TIMELY DECISIONS CAN BE MADE AND ACTIONS TAKEN.
How

TRAP INSPECTION

TREE INSPECTION
Insect Traps
How often should scouting occur?

IDEALLY- WEEKLY
Scale of Scouting

10-ACRES BLOCKS
Spotted Tentiform Leafminer (STLM)

Trap: Red trunk visual sticky traps

Timing: Silver Tip

Placement: South side of tree trunks. Minimum of 4 traps per 10 acre block

Tight Cluster:
- MacIntosh: 4/trap
- Non-Macs: 8/trap

Late Pink:
- MacIntosh: 9/ trap
- Non-Mac: 21/trap

Petal Fall: Check for 1st gen. sap mines in leaves
- Macs: 7 mines/100 leaves
- Non-Macs: 14 mines/100 leaves

July
- Macs: 50 Mines/100 leaves
- Non-Macs: 100 Mines/ 100 leaves
Tarnish Plant Bug (TPB)

Trap: White Visual Traps: 6X8” 2 traps/10 acres.
Timing: Silver Tip
Placement: near the edge of the block, at Hang traps at about 2’ above ground, on an outer branch.

Tight Cluster Thresholds
- Wholesale: 3/trap
- Retail: 5/ trap

Late Pink Thresholds
- Wholesale: 5/ trap
- Retail: 8 trap
European Apple Sawfly

Traps: White Visual Traps: 6X8” 2 traps/10 acres.
Timing: Early Pink
Placement: Orchard Edges, south side of the tree, outside branches at 5-6 feet above ground
Early Pink: Place White Sticky Traps in Orchard

Threshold:
No Pre-Bloom Insecticide: 5/trap
Blocks receiving Pre-bloom Insecticide: 9/trap
Codling Moth

Trap: Delta Trap, 1 trap/5 Acres, Larger Orchards Blocks- 5 traps, corners and middle.
Timing: Bloom
Placement: 6-7 feet above ground level.

**Traps should be checked daily until first capture, then weekly.**

Petal Fall: For 1st generation CM, Calculate DD from first adult catch to time of insecticide spray in block where CM is a problem: 250-350 DD base 50F.

July: For 2nd Gen CM, Calculate DD from first adult catch to time insecticide sprays in blocks where CM are a problem: 1260-1370 DD, base 50F
Plum Curculio

Visual inspection of 10 fruit per tree.

Late Bloom - begin to inspect fruit on early-blooming cultivars in perimeter rows for fresh egg-laying scars
Oblique Banded Leaf Roller

Petal Fall: hang pheromone traps in orchard

Begin to accumulate 360 DD base 43F from first capture

June: When 600 DD base 43F are reached examine 10 expanded terminal shoots per tree from as wide and are of the block as possible. Record number of terminals infested.

Use Cornell Sampling Form to determine whether or not to treat.
White Apple and Potato Leafhoppers

Examine the underside of randomly selected leaves during the period from petal fall through first cover.

Petal Fall-June: examine leaves for presence of 1st gen.
Nymphs and Adults Threshold: 25/100 Leaves

August: examine leaves for presence of 2nd gen.
Nymphs and Adults Threshold: 25/100 Leaves
European Red and Two Spotted Spider Mites

Leaf Inspection - Starting at Petal Fall - Middle Aged Leaves

Figure 7.1.3 - Mite Sampling Chart
Threshold = 2.5 mites/leaf (June 1 - 30)

Treat
Continue sampling
Sample in 7 days
Sample in 14 days
Apple Maggot Fly

Trap: sticky red spheres baited with essence of apple volatile lures.

Hang traps during last week in June in early cultivar blocks, rest in July.

Four traps per block

Traps should be positioned above 5-6 feet above ground

Inspected weekly. Insecticide should be sprayed when an average of 5AM /trap are caught in a week.

Thresholds:
- Non Baited Spheres: 2/trap
- Baited Spheres: 5/ trap
Priorities.

Redbanded Leaf Roller - no thresholds established
Dogwood Borer - no thresholds established
San Jose Scale

Redbanded Leaf Roller  Dogwood Borer  San Jose Scale Trap
White Traps
Delta Traps
AMF Traps
Leaf/Fruitlet

UVM Horticulture Research Center, South Burlington, VT - 4 Acres
White Traps
Delta Traps
AMF Traps
Leaf/Fruitlet

UVM Horticulture Research Center, South Burlington, VT - 4 Acres
How Much Time Will Scouting Take?
Summary

Scout your orchard at least once a week to be aware of what is going to catch problems as they develop.

Monitor weather/environmental conditions for degree day calculations, disease models, etc., and to determine optimal conditions for spraying to optimize coverage and minimize drift.
Thank you

• UVM Apple Program
• Crop Production Services, Addison, VT
• Vermont Agriculture Experiment Station
• USDA NIFA CPPM #VTN29202
• UVM Agricultural Risk Management and Crop Insurance Education Program
  RM17RMETS524005
Mating Disruption