

Elements of IPM for Apples in New York State: Insect & Mite Forecasting and Monitoring

| Information on Apple IPM Practices for Specific Pests | | |
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| Pest | Activity | Suggested Action Threshold |
| Apple Maggot (AM) | <p>Volatile-baited sphere traps used to determine need for sprays. Monitoring AM is warranted primarily in orchard blocks without a reliable history of either very light or very heavy AM pressure, or where the likelihood of economic infestation is variable from year to year. In such blocks, monitoring the edge adjacent to the most likely source of immigrating flies is recommended. Place 2 to 3 baited red sticky spheres in each block to be monitored (about 10 to 15 acres in size). Traps have a short range of 10 to 15 meters and AM is unevenly distributed among orchards. Apply an appropriate insecticide within 2 days when an average of 5 flies per trap are exceeded. Resume checking traps 10-14 days after insecticide application.</p> | <p>Avg. 5 adults / trap.</p> <p>Apple Maggot Monitoring Form 189k pdf file</p> |
| Codling Moth (CM) | <p>Pheromone traps used to monitor 1st generation flight. Biofix reached on date of first sustained trap catch. Daily max and min temperatures are monitored from biofix date forward and the 50°F DD model is used to time sprays for 1st and 2nd generations. Weather data and DD calculations are available from NYS IPM NEWA.</p> | <p>1st gen: 250 to 360 DD base 50°F after 1st catch biofix.</p> <p>2nd gen: 1260 to 1370 DD.</p> |
| European Red Mite (ERM) | <p>Monitor for and maintain knowledge of predatory mite populations and past history of ERM. Spurs examined for overwintered eggs. In summer, from mid June to mid August, leaves sampled for motiles. Record the number of motiles per leaf.</p> | <p>Overwinter: 10% spurs with eggs.</p> <p>Summer: 2.5 to 7.5 motiles / leaf.</p> <p>June 1—30: 2.5 Mites/Leaf 276k pdf file</p> <p>July 1—31: 5.0 Mites/Leaf 292k pdf file</p> <p>August 1—15: 7.5 Mites/Leaf 304k pdf file</p> |

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| Green Apple Aphids (GAA) | Terminals inspected for infestations and predators during the growing season. Record the percent infested terminals and the percent of infested terminals with aphid predators. | 30 to 40% infested, or 50% infested and <20% with predators. |
| Mullein Plant Bug | Flower-bearing shoots tapped over beating tray for nymphs. | 10 nymphs / 40 limbs. |
| Obliquebanded Leafroller (OBLR) | Pheromone traps used to monitor 1st summer generation flight. Biofix reached on date of first sustained trap catch. Daily max and min temperatures are monitored from biofix date forward and the 43°F DD model used to time sprays. OBLR sprays for summer brood can be based on past history of fruit damage. In low-risk blocks with no prior history of OBLR damage, inspect fruit clusters or expanding terminals for 3rd instar larvae approximately 600 DD base 43°F after biofix. Record the percent of clusters infested with live larvae. In high-risk blocks with past history of OBLR damage, time sprays for egg hatch at 360 DD base 43°F after biofix date. Weather data and DD calculations are available from NYS IPM NEWA . | Low risk blocks: 3% infested. OBLR 3% Sampling Form . 192k pdf file High risk blocks: 360 DD base 43°F after 1st catch biofix. |
| Oriental Fruit Moth | Pheromone traps used to monitor 1st generation flight. Biofix reached on date of first sustained trap catch. Daily max and min temperatures are monitored from biofix date forward and the 45°F DD model used to time sprays for the 1st and 2nd generations. Routinely monitor traps for moths and orchards for damage (OFM 45°F DD model in research-mode). Weather data and DD calculations are available from NYS IPM NEWA . | 1st gen: 350 to 375 DD base 45°F after first catch biofix. 2nd gen: 1450 to 1500 DD. |
| Plum Curculio | Classify blocks for plum curculio (PC) risk based on past history of fruit infestation. In low-risk blocks, apply a single spray at petal fall. In high-risk blocks, protect fruit at petal fall and apply subsequent sprays to maintain protection until 340 DD base 50°F after the petal fall date. 50°F degree day model used to terminate sprays. Weather data and DD calculations are available from NYS IPM NEWA . | Stop sprays 340DD, base 50°F, after petal fall date. |
| Rosy Apple Aphid | Fruit clusters examined at pink for RAA nymphs. | 1% infested clusters. |
| San Jose Scale | Daily max and min temperatures are monitored from March 1 forward and the 50°F DD model used to time monitoring or sprays against crawlers. Monitor with sticky tape around limb. Weather data and DD calculations are available from NYS IPM NEWA . | 1st gen: 500 DD base 50°F after March 1. 2nd gen: 1451 DD. 1-2 crawlers / trap. |

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| Spotted Tentiform Leafminer | For 1st generation, examine fruit cluster leaves for eggs or sap-feeding larvae. For 2nd generation, starting in July, examine mature terminal leaves for sap-feeding larvae. Alternatively, start sampling for 2nd generation based on 43°F DD model. Use pheromone traps to monitor 2nd generation flight. Biofix reached on date of first sustained trap catch. Daily max and min temperatures are monitored from biofix date forward and the 43°F DD model used to time start of 2nd gen sampling. | 1st gen: 2 eggs per leaf, or 1 mine per leaf. STLM Pink Sampling Form 179k pdf file STLM Petal Fall Sampling Form 192k pdf file 2nd gen: 2 mines per leaf. STLM Summer Sampling Form 266k pdf file Start sampling 690 DDbase 43°F. |
| White Apple Leafhopper | Fruit cluster or terminal leaves inspected for nymphs. (also rose leafhopper) | 1 nymph per leaf. |

DD — degree days

Consult [Cornell Pest Management Guidelines for Commercial Tree-Fruit Production](#) for further information.