

FIRE  
'N'  
ICE

ORCHARD  
RADAR  
DIGEST



### Redbanded Leafroller

Peak trap catch and approximate start of egg hatch: April 23.

### San Jose Scale

First adult SJS caught on trap: May 13.

### Spotted Tentiform Leafminer

1st STLM flight, peak trap catch: May 1.

1st generation sapfeeding mines start

showing: May 17.

Optimum sample date is around May 18, when a larger portion of the mines have become detectable.

### Roundheaded Appletree Borer

RAB adult emergence begins: May 27;

Peak emergence: June 12.

RAB egg laying begins: June 7. Peak egg laying period roughly: June 28 to July 12.

### Codling Moth

1st generation 3% CM egg hatch: June 8 (= target date for first spray where multiple sprays needed to control 1st generation CM).

1st generation 20% CM egg hatch: June 15 (= target date where one spray needed to control 1st generation codling moth).

### White Apple Leafhopper

1st generation WALH found on apple foliage: May 8.



### Lesser Appleworm

1st LAW flight, 1st trap catch: May 4.

### Mullein Plant Bug

Expected 50% egg hatch date: May 14, which is 5 days before rough estimate of Red Delicious petal fall date.

The most accurate time for limb tapping counts, but possibly after MPB damage has occurred, is when 90% of eggs have hatched.

90% egg hatch date: May 19.

### Obliquebanded Leafroller

1st generation OBLR flight, first trap catch expected: June 8.

### Oriental Fruit Moth

1st OFM flight starts: April 21.

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- ❖ Pest forecasts in real time - NEWA

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### UPCOMING PEST EVENTS

## WHAT'S NEWA?

PEST FORECASTS IN  
REAL TIME  
(Art Agnello & Harvey  
Reissig, Entomology,  
Juliet Carroll, NYS IPM  
Program, and Kerik Cox,  
Plant Pathology & PMB,  
Geneva)

❖❖ Since last season, the NYS IPM's NEWA (Network for Environment and Weather Applications) weather and degree day website has contained an "Insect Models" utility that takes real-time weather data from a number of sites around the state, and compares it against historical records and developmental models to give a prediction of pest species development and activity in those locations. We are pleased to announce that an improved version of this resource has recently gone live and is now available to all users.

Insect pest developmental stages are calculated from Degree Day (DD) accumulations at NEWA and National Weather Service airport

weather stations throughout the state. The insect pests addressed by this website are: apple maggot, oriental fruit moth, codling moth, plum curculio, obliquebanded leafroller, and spotted tentiform leafminer. Disease predictions are available for apple scab and fire blight, and a summer disease (sooty blotch and flyspeck) development model is due to be made available this summer.

Access to the Apple Insects models is through the "Pest Forecasts" list or the "Apples" link on the NEWA homepage (<http://newa.cornell.edu>). From the Apples homepage, clicking on the link that says "Apple Insect Phenology Models and IPM Forecasts" brings up a state map showing the available weather stations, plus pull-down menus on one side. After the user selects a weather station, pest of interest, and the desired end date for weather data accumulation, pest DD models and historical records are used to calculate: Tree Phenological Stage, Pest Stage(s), Pest Status, and Pest Management Information, all of which appears on a "Results" page (Fig. 1).

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Map Results Help

### Plum Curculio Results for Geneva

You are approximately 319 degree days from petal fall - the critical period for protection.

**Accumulated degree days (base 43°F) 1/1/2010 through 4/14/2010: 261 (0 days missing)**

Phenological stage:  

*The phenological stage above is estimated. Select the actual stage and the model will recalculate recommendations.*

**Pest stage:** Adults still overwintering

Pest Status	Pest Management
No <u>plum curculio</u> activity at this time.	No control measures are recommended at this time because most adults have not yet emerged and will escape residual effectiveness of most insecticides.

 Click to enlarge

 

Fig. 1. Results page showing pest and crop developmental status and management information.

## Pesticides for Plum Curculio

Every effort has been made to provide correct, complete, and up-to-date pest information. Searches for multiple pests may return a result with few products, or none. If this occurs, narrow your pest selection and search again to find suitable material(s).

**Growth Stage:**  

  
 Note: "Remarks" Field Changes depending on Growth Stage

**Pest Pressure:** AM: CM/OFM: PC: Aph: GFW: LH: OBLR: RAA: RBLR: SJS: STLM: TPB:

None:	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Moderate:	<input type="radio"/>										
High:	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Program Type:**

All Labeled Pesticides

Conventional

Organic

Non-OP

Reduced-Risk

**Key:**

AM - Apple Maggot	LH - Leafhoppers
FB - Fire Blight	OBLR - Obliquebanded leafroller
AS - Apple Scab	RAA - Rosy Apple Aphid
CM - Codling Moth	RBLR - Redbanded Leafroller
PC - Plum Curculio	SJS - San Jose Scale
Aph - Green Aphids	STLM - Spotted Tentiform Leafminer
GFW - Green fruitworms	TPB - Tarnished Plant Bug

Fig. 2. Pesticide decision filter for selection of appropriate choice based on pest pressure, product efficacy, and management program elected.

The phenological stage can be adjusted according to field observations by selecting from a pull-down menu; this will generally change some of the text provided in the advice boxes. Hyperlinks on this page can take the user to various other online resources, such as color photos of the bud development stages, NYS IPM Fact Sheets of the pests in question, and when appropriate, sampling charts for use in conducting field samples of specific pest life stages (e.g., eggs, larvae, mines). As a new feature this season, when a pesticide spray is recommended, a "Pesticide Information" link in the "Pest Management" box takes the user to the Pest Management Education Program's (PMEP) Tree Fruit IPM home page, where a pesticide decision filter helps users pick an appropriate material to use, based on anticipated pest severity and program type (Fig. 2).

A pesticide search returns a series of profiles of all the NY-registered products fitting the specified pest species and efficacy rating (Fig. 3). The profile gives the common and trade names, labeled use rate, re-entry and pre-harvest intervals, and EPA registration number of each product. Also included are some general remarks on the range of product efficacy, and any known effects on beneficial species. A "Details" link in each profile takes the user to a more extensive list of information, including notes on the active ingredient (including its mode of action classification), an overview of recommended use periods, and a link to a scanned copy of the NYS DEC-approved product label, which can be read or printed out.

continued...

<b>Common Name:</b> indoxacarb	<a href="#">Details</a>
<b>Trade Name:</b> Avaunt 30WDG	
<b>Amount Per Acre:</b> 5-6 oz	
<b>REI:</b> 12 Hours	
<b>PHI:</b> 7 Days	
<b>EPA Registration Number:</b> 352-597	
<b>Pesticide Type:</b> Insecticide	
<b>Remarks:</b> Recommended period for control of codling moth, lesser appleworm, oriental fruit moth, European apple sawfly, plum curculio, spotted tentiform (plus apple blotch) leafminer, white apple leafhopper, potato leafhopper.	
<b>Effect on Beneficials:</b>	
<b>Name</b>	<b>Toxicity</b>
Amblyseius fallacis	L
Aphidoletes aphidimyza	L
Typhlodromus pyri	L
Stethorus punctum	L
<b>L - Low Toxicity</b>	
<b>M - Moderate Toxicity</b>	
<b>H - Highly Toxicity</b>	

Fig. 3. Example of an insecticide product profile generated as one choice by the pesticide filter.

All of the information presented is available online at various other university sites, but this website brings these resources together in one place that is more convenient and efficient to access. Predictions provided by the website can be refined and adjusted to reflect current insect activity by user-entered events obtained through field monitoring (such as pest biofix; i.e., the first sustained flight of a pest species). The pesticide selection filter uses Cornell University product efficacy ratings and the type of management program selected by the user (i.e., conventional, reduced-risk, non-organophosphate, organic).

It is our hope that this decision support website will be a useful tool in allowing growers to optimize their efforts by combining weather-based pest development predictions, historical records, and minimal field monitoring sessions to obtain an acceptable level of fruit quality without having to make excessive spray applications. ❖❖

PEST FOCUS	
Geneva: 1st <b>Oriental fruit moth</b> trap catch 4/16.	

## scaffolds

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## PHENOLOGIES

Geneva:	<u>4/19</u>	<u>4/26 (Predicted)</u>
Apple(McIntosh):	early pink	bloom
Apple(Red Delicious):	early pink	king bloom
Apple(Empire):	pink	king bloom
Pear:	50% bloom	bloom
Sweet cherry:	bloom	bloom-petal fall
Tart cherry	white bud	bloom
Plum:	bloom	bloom
Peach:	bloom	bloom-petal fall

## UPCOMING PEST EVENTS

	<u>43°F</u>	<u>50°F</u>
Current DD accumulations (Geneva 1/1-4/19/10):	285	151
(Geneva 1/1-4/19/2009):	143	51
(Geneva "Normal"):	163	70
(Geneva 1/1-4/26 predicted):	336	172
<u>Coming Events:</u>	<u>Ranges (Normal ±StDev):</u>	
Green fruitworm flight subsides	246-456	111-241
Redbanded leafroller 1st flight peak	231-367	104-188
Spotted tentiform leafminer 1st flight peak	263-387	121-199
Comstock mealybug 1st gen. crawlers in pear	215-441	80-254
European red mite egg hatch	231-337	100-168
Rose leafhopper nymphs on multiflora rose	239-397	96-198
Lesser appleworm 1st catch	260-538	119-287
Obliquebanded leafroller larvae active	158-314	64-160
Pear psylla 1st egg hatch	174-328	60-166
Mirid bugs 1st hatch	331-443	163-229
McIntosh at bloom	349-419	171-219

NOTE: Every effort has been made to provide correct, complete and up-to-date pesticide recommendations. Nevertheless, changes in pesticide regulations occur constantly, and human errors are possible. These recommendations are not a substitute for pesticide labelling. Please read the label before applying any pesticide.

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