

Delivery of weather and pest information via eNEWA

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NEWA - Network for Environment and Weather Applications

- Web-based, provides weather and pest model data from weather stations across New York State & seven surrounding states
- Now using Rainwise MKIII SP1 Weather Stations

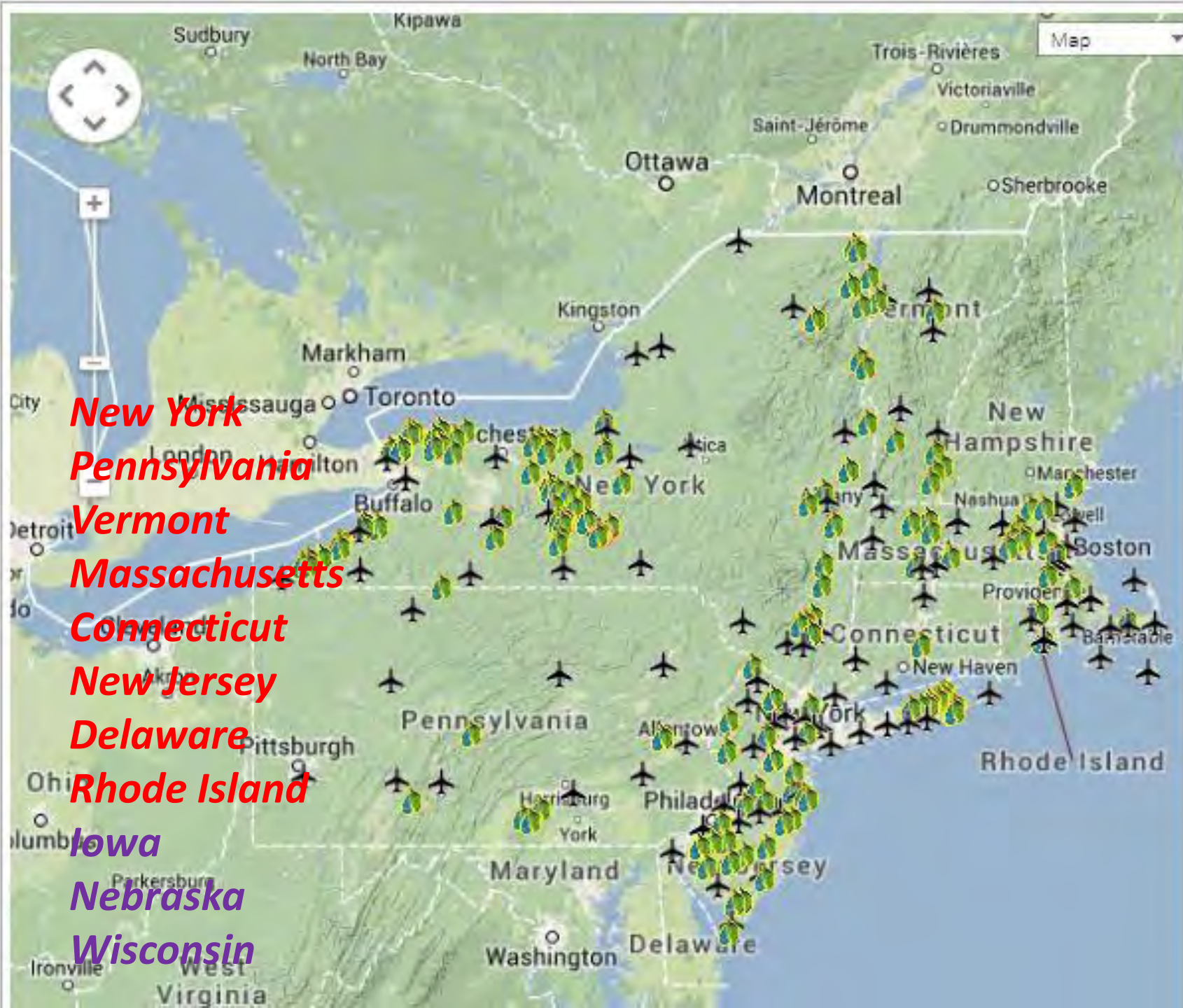
<http://newa.cornell.edu>

RainWise weather stations



Solar-powered & gauge:

- Temperature
- Precipitation
- Relative humidity
- Leaf wetness
- Solar Radiation
- Wind speed & direction
- Barometric pressure



What is NEWA doing?

NEWA...

- summarizes and displays weather data
- displays pest forecast model results
- links to pertinent information
- displays and links to National Weather Service weather radar images and weather forecasts

[Weather Data](#) [Pest Forecasts](#) [Station Pages](#) [Crop Management](#) [Crop Pages](#) [About Weather Stations](#)

National Weather Service Forecast

Welcome to the NEWA Home Page



Enter "City, ST" or "zip code"

City,ST

Go

[National Weather Service Information](#)

NEWA News and Reports

NEWA moved a new server on July 3. This change should provide more reliable access for a wider variety of browsers.

[Updates](#)

[NEWA Press Releases & Reports](#)

[About NEWA](#)

Questions and Comments

Email us at [NEWA](#)

Pest Forecasts

Select a link from list...

Crop Management

Select a link from list...

Crop Pages

[Apples](#)

[Grapes](#)

[Onions](#)

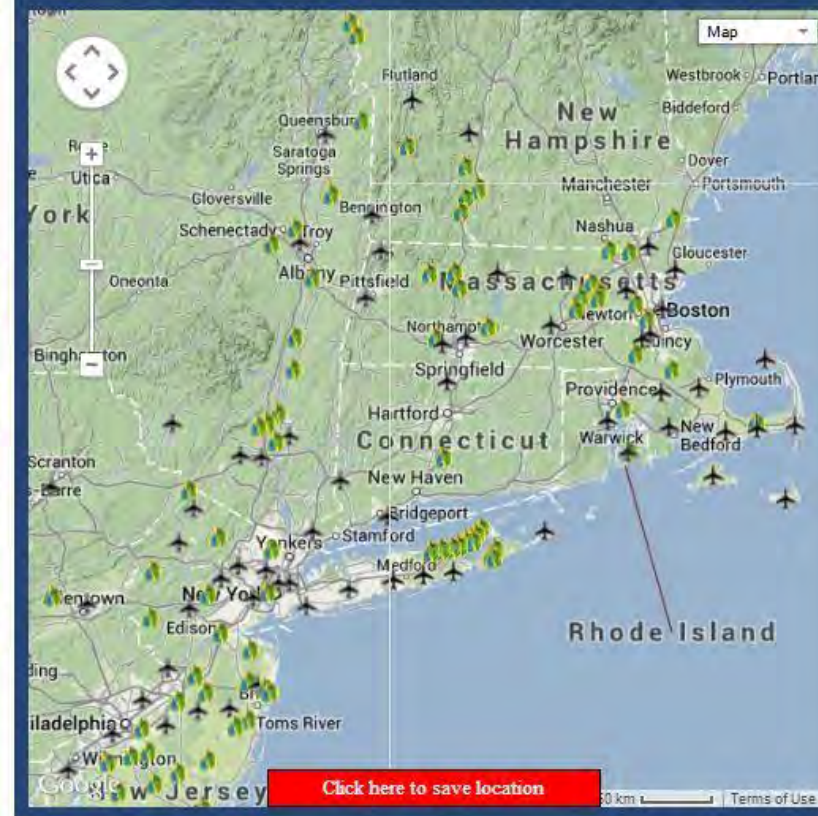
[Potato](#)

[Tomato](#)

[Sweet Corn](#)

Choose a NEWA weather station home page

Click on a map marker to go to the weather station's home page.



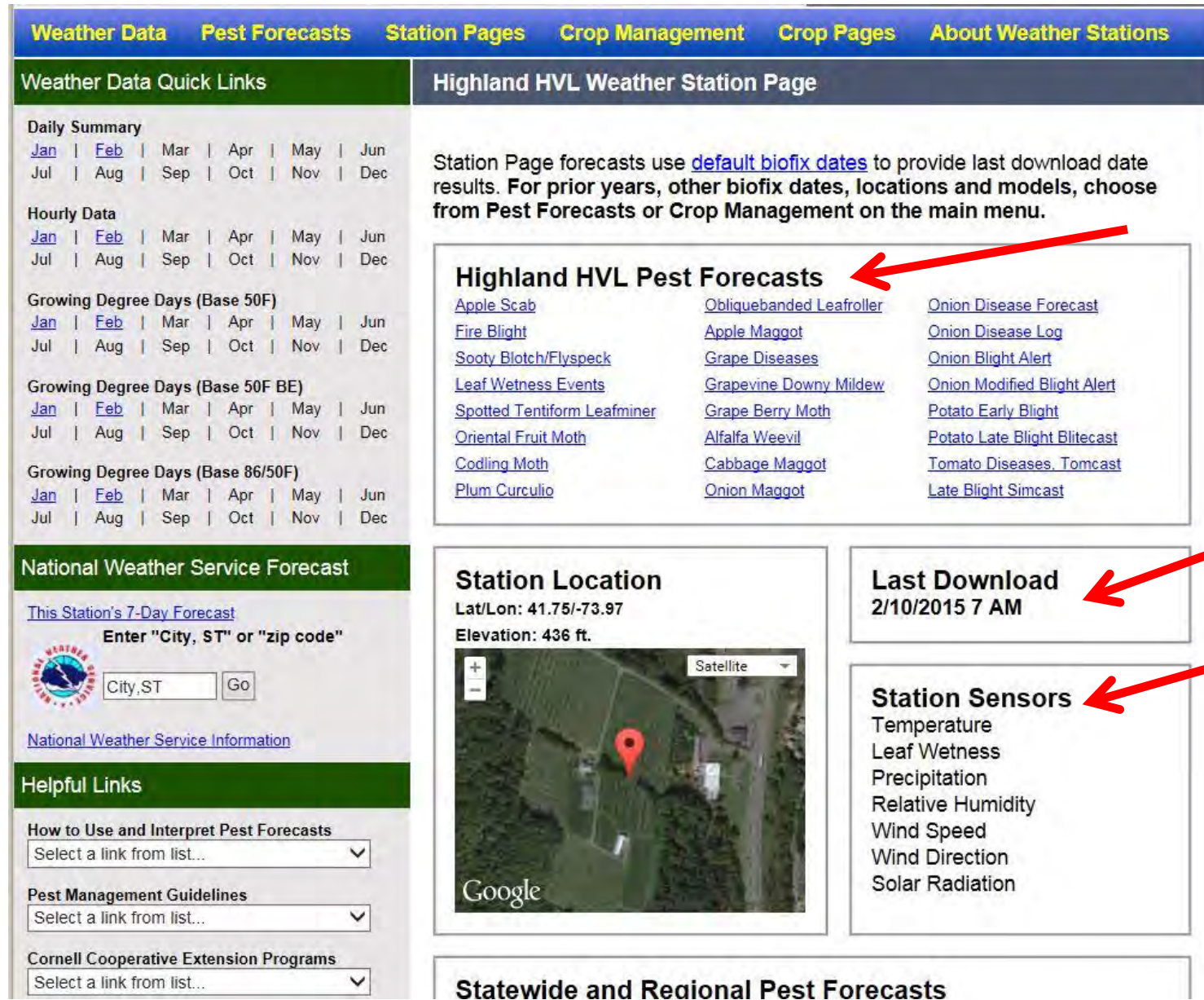
[Buffalo Radar](#)

[Montague Radar](#)

[Albany Radar](#)

NEWA Home Page

Accessing Info via Station Pages



The screenshot displays the 'Highland HVL Weather Station Page' with a navigation bar at the top containing links: Weather Data, Pest Forecasts, Station Pages, Crop Management, Crop Pages, and About Weather Stations. A red arrow points to the 'Weather Data Quick Links' section on the left, which includes links for Daily Summary, Hourly Data, Growing Degree Days (Base 50F), Growing Degree Days (Base 50F BE), and Growing Degree Days (Base 86/50F). Below this is the 'National Weather Service Forecast' section with a link to 'This Station's 7-Day Forecast', a form to enter a city or zip code, and a link to 'National Weather Service Information'. At the bottom left is the 'Helpful Links' section with dropdown menus for 'How to Use and Interpret Pest Forecasts', 'Pest Management Guidelines', and 'Cornell Cooperative Extension Programs'. The main content area on the right is titled 'Highland HVL Weather Station Page' and contains a paragraph explaining that forecasts use default biofix dates. Below this is the 'Highland HVL Pest Forecasts' section, which is highlighted by a red arrow and contains a grid of links for various pests and diseases. To the right of the pest forecasts is a 'Station Location' section with coordinates, elevation, and a satellite map. Further right is a 'Last Download' section showing the date and time of the last update, also highlighted by a red arrow. Below that is a 'Station Sensors' section, highlighted by another red arrow, listing various weather parameters. At the bottom right is a section for 'Statewide and Regional Pest Forecasts'.

Weather Data Quick Links

Daily Summary
[Jan](#) | [Feb](#) | [Mar](#) | [Apr](#) | [May](#) | [Jun](#)
[Jul](#) | [Aug](#) | [Sep](#) | [Oct](#) | [Nov](#) | [Dec](#)

Hourly Data
[Jan](#) | [Feb](#) | [Mar](#) | [Apr](#) | [May](#) | [Jun](#)
[Jul](#) | [Aug](#) | [Sep](#) | [Oct](#) | [Nov](#) | [Dec](#)

Growing Degree Days (Base 50F)
[Jan](#) | [Feb](#) | [Mar](#) | [Apr](#) | [May](#) | [Jun](#)
[Jul](#) | [Aug](#) | [Sep](#) | [Oct](#) | [Nov](#) | [Dec](#)


Growing Degree Days (Base 50F BE)
[Jan](#) | [Feb](#) | [Mar](#) | [Apr](#) | [May](#) | [Jun](#)
[Jul](#) | [Aug](#) | [Sep](#) | [Oct](#) | [Nov](#) | [Dec](#)

Growing Degree Days (Base 86/50F)
[Jan](#) | [Feb](#) | [Mar](#) | [Apr](#) | [May](#) | [Jun](#)
[Jul](#) | [Aug](#) | [Sep](#) | [Oct](#) | [Nov](#) | [Dec](#)

National Weather Service Forecast


[This Station's 7-Day Forecast](#)


Enter "City, ST" or "zip code"




[National Weather Service Information](#)

Helpful Links

How to Use and Interpret Pest Forecasts
Select a link from list... 

Pest Management Guidelines
Select a link from list... 

Cornell Cooperative Extension Programs
Select a link from list... 


Highland HVL Weather Station Page

Station Page forecasts use [default biofix dates](#) to provide last download date results. For prior years, other biofix dates, locations and models, choose from **Pest Forecasts** or **Crop Management** on the main menu.

Highland HVL Pest Forecasts

Apple Scab	Obliquebanded Leafroller	Onion Disease Forecast
Fire Blight	Apple Maggot	Onion Disease Log
Sooty Blotch/Flyspeck	Grape Diseases	Onion Blight Alert
Leaf Wetness Events	Grapevine Downy Mildew	Onion Modified Blight Alert
Spotted Tentiform Leafminer	Grape Berry Moth	Potato Early Blight
Oriental Fruit Moth	Alfalfa Weevil	Potato Late Blight Blitecast
Codling Moth	Cabbage Maggot	Tomato Diseases, Tomcast
Plum Curculio	Onion Maggot	Late Blight Simcast

Station Location
Lat/Lon: 41.75/-73.97
Elevation: 436 ft.



Last Download
2/10/2015 7 AM

Station Sensors

- Temperature
- Leaf Wetness
- Precipitation
- Relative Humidity
- Wind Speed
- Wind Direction
- Solar Radiation

Statewide and Regional Pest Forecasts

The Problem

- LERGREP, Inc. identified increasing the use of NEWA resources as a priority for their research and extension funding.

The Response

- Determine why growers did not use NEWA
 - Not computer savvy
 - Don't have the time
 - Don't have a weather station near me

The Response: Part 2

- Develop an easier way to access information
 - eNEWA –grapes was developed based on eNEWA alerts for apples
 - A daily email containing weather and pest model information pertinent to grape growers was developed

eNEWA - grapes

- Daily email during the growing season
 - Weather info
 - Pest model info (diseases and grape berry moth)
- Cue to visit website if more info is needed

eNEWA grape provides

- 5-day Forecast for GDD (base 50F)
- Previous two days and current infection events for powdery mildew, black rot, Phomopsis
- Pest status and pest management information for grape berry moth
- Does not provide downy mildew model info

eNEWA - grapes

If there are problems with how this message is displayed, click here to view it in a web browser.

From: newa@cornell.edu
To: Keith Lawrence Eggleston
Cc:
Subject: e-NEWA Forecast Update: Ithaca 11/12/2013 10:00

Sent: Tue 11/12/2013 10:52 AM



Cornell University



Daily Forecast

Ithaca - June 6, 2013

Past & Current Weather Data

	Jun 4	Jun 5	Jun 6
Avg Temp (°F)	54.0	58.0	59.0
High Temp (°F)	67.0	71.0	64.0
Low Temp (°F)	42.0	40.0	53.0
Rain (in)	0.0	0.0	0.54
Wind (mph)	3.8	4.0	5.8
RH (hrs ≥ 90%)	8.0	7.0	3.0

5-day Forecast

	Jun 7	Jun 8	Jun 9	Jun 10	Jun 11
Avg Temp (°F)	62.0	62.0	66.0	66.0	66.0
High Temp (°F)	69.0	70.0	79.0	71.0	75.0
Low Temp (°F)	58.0	56.0	52.0	60.0	59.0
Rain Chance (am/pm)	-999/- 999	-999/- 999	-999/- 999	-999/- 999	-999/- 999
Wind (mph)	5.5	5.6	4.0	10.4	9.6
RH (hrs ≥ 90%)	12.0	9.0	5.0	10.0	9.0

Past & Current GDD (base 50F)

Jun 4	Jun 5	Jun 6
5.0	6.0	9.0

Powdery mildew model on eNEWA

Powdery Mildew [NEWA Grape Models](#)

Estimated phenological stage: 10 inch shoot

Disease Management: A lot of powdery mildew the previous year = More primary inoculum to cause infections this spring. The model logs potential primary infection events. **CAUTION:** Prolonged cloud cover (lack of sunshine), high RH (>60%) and warm (63-86F) weather significantly increases the risk of powdery mildew infections.

Do not delay sprays beyond the 10 inch shoot growth stage for [highly susceptible *V. vinifera* and hybrid varieties](#).

Do not delay sprays beyond the immediate [prebloom](#) stage on Concord and other [moderately to slightly susceptible varieties](#).

Fruit is extremely susceptible to powdery mildew from immediate [prebloom](#) through fruit set.

This is the most critical period to protect from fruit infections. Management programs should be at their peak, [emphasizing](#) the use of [effective fungicides](#), full rates, appropriate spray intervals, and superior spray coverage.

Past & Current Infection Events

Jun 4	Jun 5	Jun 6
No infection	No infection	Infection

5-day Forecast Infection Events

Jun 7	Jun 8	Jun 9	Jun 10	Jun 11
Infection	No infection	No infection	Infection	----

Grape Berry Moth model on eNEWA

Grape Berry Moth [NEWA Grape Berry Moth](#)

Pest Status: First generation of grape berry moth larvae are hatching and beginning feeding. Grape berry moth will not be at significant population levels in all but the highest risk vineyards.

Pest Management: Research has shown that this insecticide timing for the first generation provides little, if any, additional control of grape berry moth in vineyards classified as being at low, intermediate or high risk for grape berry moth damage. However, an insecticide timed with the immediate [postbloom](#) fungicide application can be used in vineyards experiencing significant crop loss from grape berry moth on a yearly basis or in high value vinifera blocks.

Past & Current Base 47.14F Degree Days

Date	Jun 4	Jun 5	Jun 6
Daily	8	12	12
Accumulation	106	118	130

5-day Forecast Base 47.14F Degree Days

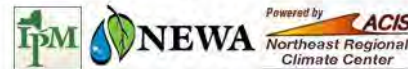
Date	Jun 7	Jun 8	Jun 9	Jun 10	Jun 11
Daily	15	15	19	18	19
Accumulation	145	160	179	197	216

Missing days in degree day accumulation: 0

Disclaimer: These are theoretical predictions and forecasts. The theoretical models predicting pest development or disease risk use the weather data collected (or forecast using NWS data) from the weather station location. These results should not be substituted for actual observations of plant growth stage, pest presence, and disease occurrence determined through scouting or insect pheromone traps.

Customers are urged to obtain the latest official forecast information prior to engaging in any weather sensitive activity, and to monitor National Weather Service (NWS) forecasts for updates during such activities. eNEWA is NOT meant to replace a spot forecast request. If precise wind forecasts are needed, please submit a spot forecast request to your servicing Weather Forecast Office.

eNEWA alerts - to modify your subscription e-mail thw4@cornell.edu



The Evaluation

- EOS survey had 24 of 47 responding (51%)
- 92% of responses indicated that eNEWA –grapes was helpful in implementing their IPM practices (great or above average)

Grower Quotes

- “NEWA is a great source of information, it gives you a great road map to follow and still allows you to make your own decision based on the information
- Overall, I think it was a good program. I found the delivery of information to be timely and the content helped me with my management decisions. I liked that it came to my email and the information was already compiled for me

Take Home Messages

- Need to educate growers on the value (only 36% of growers indicated they would be willing to pay \$5/month for eNEWA-grape)
- Need to develop a true alert system
- Effective method of relaying info for IPM
- Not a cure all. Growers may still need assistance
- Should be considered a gateway to NEWA website for more specific pest model information

Questions?

Contact Tim Weigle

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