NEWA welcomes the addition of Weather Stations in the Network.

Introduction to NEWA

The Network for Environment and Weather Applications (NEWA) delivers weather data from weather stations primarily located on farms through the Internet at newa.cornell.edu and automatically calculates and displays weather data summaries, crop production tools, and integrated pest management (IPM) forecasts. NEWA tools promote precision IPM and crop production practices.

NEWA was formed in 1995 and continues to evolve with advances in pest and weather forecasting. It is operated at Cornell University by the New York State IPM Program and the Northeast Regional Climate Center (NRCC). Read more at About NEWA, newa.cornell.edu/index.php?page=about-newa.

The weather stations are owned by farmers, commodity groups, agricultural industries and state land grant universities. RainWise, Inc. is our partner for hardware and software development for the weather stations, see Get a NEWA Weather Station, newa.cornell.edu/index.php?page=get-weather-station.

Weather data is radio transmitted from the weather station to the internet and then uploaded into NEWA. Climate data is archived in NEWA and run through quality control routines prior to calculating and displaying weather summaries and forecast tools for precision agriculture.

Degree days (DD) with base temperatures for different crops, insects and plant diseases, including growing degree days (GDD), are calculated and displayed. There are over 20 weather-based IPM forecast tools in NEWA. More tools are added when developed and validated.

In addition, NEWA links to climate, weather and IPM forecast products developed by other groups and researchers (National Oceanic and Atmospheric Administration, NRCC, National Weather Service, ipmPIPE, the North American Plant Disease Forecast Center, etc.)

NEWA Expansion

Extension faculty and growers aware of the benefits of NEWA want NEWA coverage in their geographic regions. NEWA is active in Connecticut, Massachusetts, New Jersey, New York, Pennsylvania, and Vermont. Individual farmer members are located in Wisconsin and New Hampshire.

Currently, expansion of NEWA can occur by either a land grant university partner subscribing to NEWA, allowing all farmers in that state to opt into the network, or outside member states by individual farmers subscribing to NEWA. Contact Julie, jec3@cornell.edu.
**Benefits to NEWA Weather Station Network Members**

- Technical support on installing and managing weather stations and networks.
- Technical support on methods for collecting and transmitting weather data.
- Set-up and data acquisition to the NEWA NRCC database.
- Data flow / archiving / quality control.
- Automated “Data Outage” emails to the weather station contacts.
- A NEWA station page with location-specific tools, maps, reports, and biofix dates.
- Access to all the IPM and crop tools on the NEWA website.
- Information on crop pages.
- National Weather Service information.
- Weather and climate data.
- Access to weather data summaries (hourly, daily, DD, etc.)
- Access to historical climate data.
- A website structure and platform to develop weather-based tools for precision agriculture.

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**NEWA’s IPM & Crop Production Tools**

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<thead>
<tr>
<th>apple scab infection events</th>
<th>apple maggot</th>
<th>cabbage maggot</th>
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<tr>
<td>apple scab ascospore maturity</td>
<td>Cornell apple irrigation model</td>
<td>tomato early blight TomCast</td>
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<td>fire blight Cougar Blight</td>
<td>apple carbohydrate thinning</td>
<td>potato early blight</td>
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<tr>
<td>sooty blotch &amp; flyspeck</td>
<td>black rot of grapes</td>
<td>late blight BLITECAST</td>
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<td>grapevine powdery mildew</td>
<td>onion Botrytis blight</td>
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<td>Phomopsis cane &amp; leaf spot</td>
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<tr>
<td>oriental fruit moth</td>
<td>grape berry moth</td>
<td>alfalfa weevil</td>
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**What farmers say about NEWA**

A 2007 survey found that NEWA users in NY can save, on average, $19,500 per year in spray costs and prevent, on average, $264,000 per year in crop loss as a direct result of using NEWA IPM forecast tools.

“The orchard was largely “scab-free” for the first time in several years. The orchard manager depended heavily on NEWA and could see significant differences between the on-site station and the one we had been using.”

“I use the NEWA site almost every day early in the season.”

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**NEWA Expansion Network participation disclaimer** -

Accuracy of the weather data is the responsibility of the owners of the weather station instruments. The Network for Environment and Weather Applications (NEWA) is not responsible for accuracy of the weather data collected by instruments in the network. **The pest forecast models are theoretical predictions and forecasts.** The theoretical models predicting pest development or disease risk use the weather data collected (or forecasted) 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. **In no event shall Cornell University or any weather station be liable to any party for direct, indirect, special, incidental, or consequential damages, including lost profits, arising out of the use of NEWA.**