Delivering Weather-Related IPM Information to Apple Growers via the NYS IPM Program's NEWA System

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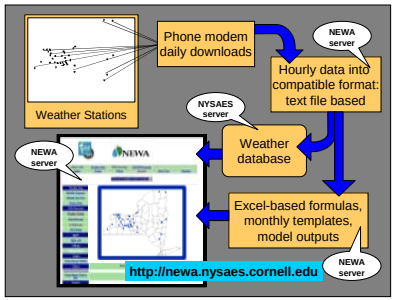
Abstract

The New York State IPM Program's Network for Environment and Weather Awareness (NEWA) maintains a network of weather stations, collects weather data daily, maintains weather data archives and delivers the information to a free-access website, newa.nysaes.cornell.edu. NEWA usage continues to increase, up 62% in 2005 over 2004. The number of people receiving NEWA information is much larger than that measured by web hits since information from NEWA is used in Cornell Cooperative Extension crop updates and newsletters. The NEWA network expanded to include additional sites in eastern New York, including Chazy, Clintondale, Red Hook and Clifton Park as part of NE SARE and NE Regional IPM grants. A weather database provided the basis for several weather data applications developed in 2004 and 2005, including: a Degree Day Calculator, an Apple Pest Degree Day Calculator, and a Specware Data Conversion Program. NEWA delivers pest developmental models for the following apple pests: apple scab, fire blight, plum curculio, codling moth, oriental fruit moth, obliquebanded leafroller, San Jose scale, spotted tentiform leafminer, and apple maggot. The weather network also archives weather data and allows users to browse weather information for items of horticultural interest such as winter temperatures.

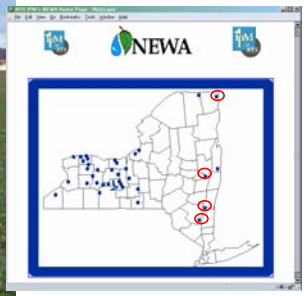
What is NEWA?



Objectives

1. Expand NEWA to Eastern New York apple orchards
2. Improve and create new weather data applications
3. Deliver pest developmental models for:
   - apple scab
   - fire blight
   - plum curculio
   - codling moth
   - oriental fruit moth
   - obliquebanded leafroller
   - San Jose scale
   - spotted tentiform leafminer
   - apple maggot

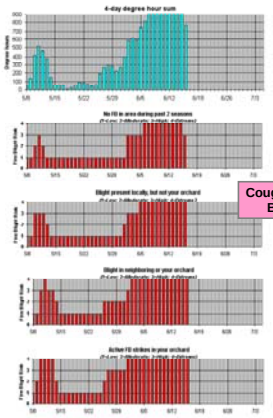
Map of NEWA weather stations



The weather stations installed in apple orchards in 2005 are circled. They are located in Chazy, Clifton Park, Red Hook, and Clintondale. Five more will be installed in 2006.

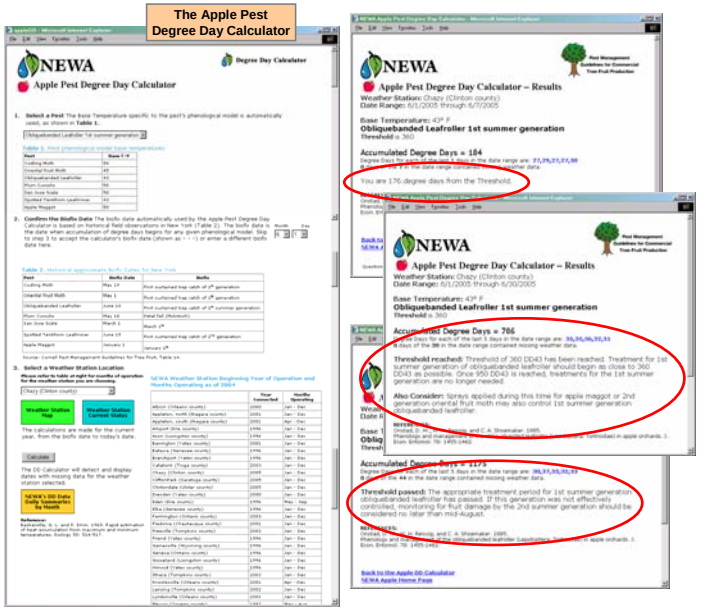
Apple scab risk information

Fire blight risk information



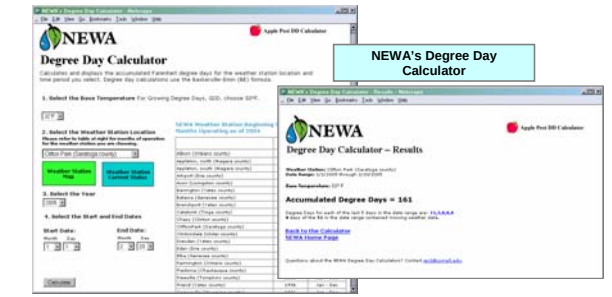
Automated Cougarblight risk charts are updated daily and posted to the Tree Fruit and Berry Pathology website.

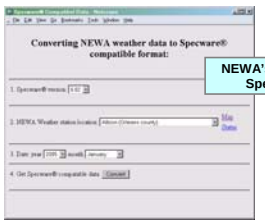
Apple arthropod risk information



The Apple Pest Degree Day Calculator operates like a mini-expert-system. It calculates the accumulated degree days to the current date for arthropod pest models of apple. Results provide the appropriate model interpretation.

New weather data applications





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NEWA

http://newa.nysaes.cornell.edu