Using Enviro-weather to assist pest management decisions
Generated for IPM Academy 2014, Ecologically-based fruit pest management session
Emily Pochubay, MSU Extension

Enviro-weather is an online resource that can be used to monitor weather conditions that influence crop and pest development at various locations in Michigan. Enviro-weather models provide insight on the progress of disease and insect development and predict when management of these pests may be necessary in the current season. Making crop and pest management decisions, however, involves several factors that are not directly related to weather. Therefore, Enviro-weather tools are intended to assist not dictate farm management decisions.

1. Open your internet browser, type enviroweather.msu.edu into the address bar, and press ‘enter.’

2. Select the weather station from which you would like weather data by selecting a yellow dot on the map or by using the drop-down menu in the upper right corner of the website.

3. Choose a commodity from the green toolbar near the top of the page. For example, to view tools and data relating to fruit crops, select “Fruit.” Folders for various fruit crops will appear on the left side of the webpage.

4. Click on the desired folder for a drop-down menu of tools for that fruit crop. Depending on the selected fruit crop, tools related to crop development and pest management and additional resources may be available.

5. Here are a few examples of what is available for apples.
   a. Using Enviro-weather to track degree days for Obliquebanded Leafroller development in apples.
      i. Select ‘Obliquebanded Leafroller’ under the apple folder.
ii. Double-check that the correct station and model are selected. Enter the current date and click “Execute.” In this scenario, we will use data from last year (2013). Please note that an output from the current year will look different and will include forecasted or predicted data.

iii. Locate the column with the appropriate Biofix date. Under the Biofix date are the numbers of accumulated degree days for each corresponding date. For example, if the Biofix is 4/30 and the current date is 5/20, there have been 405 accumulated degree days since 4/30 (circled in red).

iv. Additional information (highlighted in yellow) on how to interpret the output and use the model, and pest management recommendations are also available for this model.

---

b. Using Enviro-weather to track the risk of Fire Blight infection in apple blossoms.
   i. Select ‘Fire Blight of apple blossoms’ under the apple folder.

   ii. Double-check that the correct station and model are selected. Enter the current date and click “Execute.” In this scenario, we will look at a ‘real-time’ output from last year (2013).
iii. Select the Biofix date that best corresponds to the first day that blossoms opened in your orchard or the date that the most recent spray for fire blight was applied. Under the Biofix date are the numbers representing Epiphytic Infection Potential (EIP) for respective dates in the column on the left. For example, if blossoms opened on 5/23, the risk of fire blight infection is low (58) on the current date (5/29). However, due to the nature of the model, the EIP for fire blight can change drastically and quickly (see 5/30 where EIP is 156). When EIP reaches 100 or more, rain, strong wind, or hail will initiate infection of blossoms. Therefore, orchards need to be protected against fire blight bacteria.

iv. Additional information on fire blight, how EIP is calculated, and conditions that impact the model outcomes are also available for this model.