Potato

Moderator: Monica Jean, Michigan State University Extension

2:00 pm	Colorado Potato Beetle Insecticide Resistance Management (OH 2B, 0.5 hrs) • Zsofia Szendrei, Michigan State University
2:30 pm	Potato Pathology Update (OH 2B, 0.5 hrs) • Jaime Wilbur, Michigan State University
3:00 pm	Nematode Management in Potatoes (OH 2B, 0.5 hrs) • Marisol Quintanilla-Tornel, Michigan State University
3:30 pm	Enviroweather Tools for Potato Production • Keith Mason, Michigan State University

Enviroweather Tools for Potato Production

Keith Mason - MSU Department of Geography, Environment and Spatial Sciences

Enviroweather is an online resource that provides Michigan growers, farm managers and crop consultants with access to local weather information and a suite of weather-based tools available to help manage a variety of crops. These tools include summaries of weather conditions, models that predict pest, disease and crop development as well as important water-use tools. www.enviroweather.msu.edu

A summary of Enviroweather tools that are important for potato production:

Heat Stress Summary - provides a summary of stress conditions for the current season and the 5 previous years.

Daily Heat and Moisture Accumulation – shows daily accumulations of heat and other stress factors

Potato Maturity Graphs - Visualizes when stress periods occur in respect to important stages of crop development (Emergence, Row closure, Tuber initiation, Bulking period, etc.).

European Corn Borer – Predicts when flight and egglaying by this pest of multiple crops are likely to occur.
Variegated Cutworm - Predicts when flight and egglaying by this pest are expected to occur.

Potato Leafhopper colonization (Alfalfa cutting model) - determines when potato leafhoppers are likely to move onto potato fields from nearby alfalfa plantings.

RPET alerts (potential evapotranspiration) – estimates water loss to help with irrigation decisions.

Insect Forecast - predicts risk of pest migrations into our region.

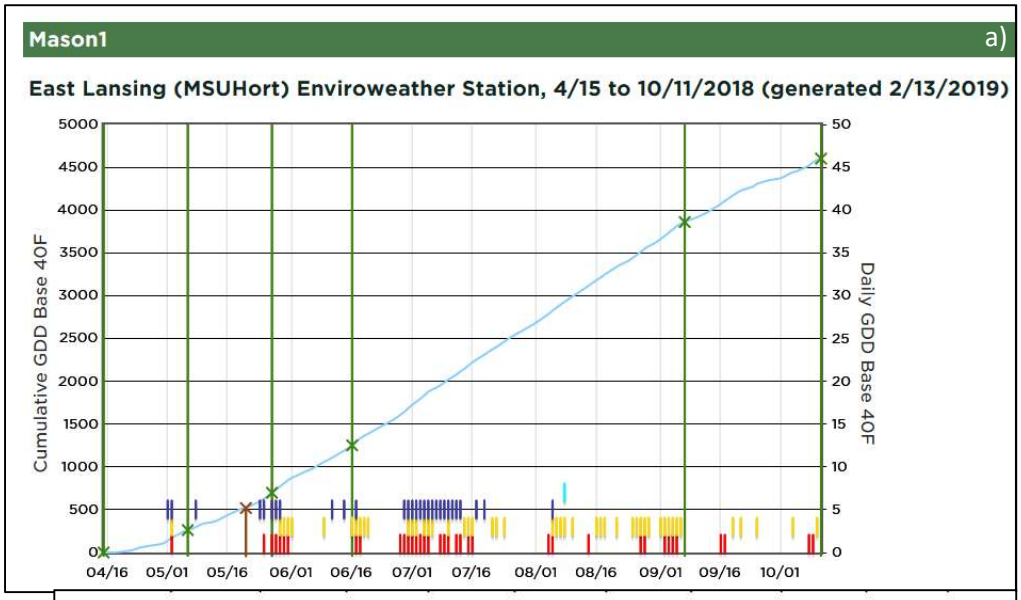
Potato Early Blight (PSMS) - Shows when conditions are favorable for early blight symptoms to develop.

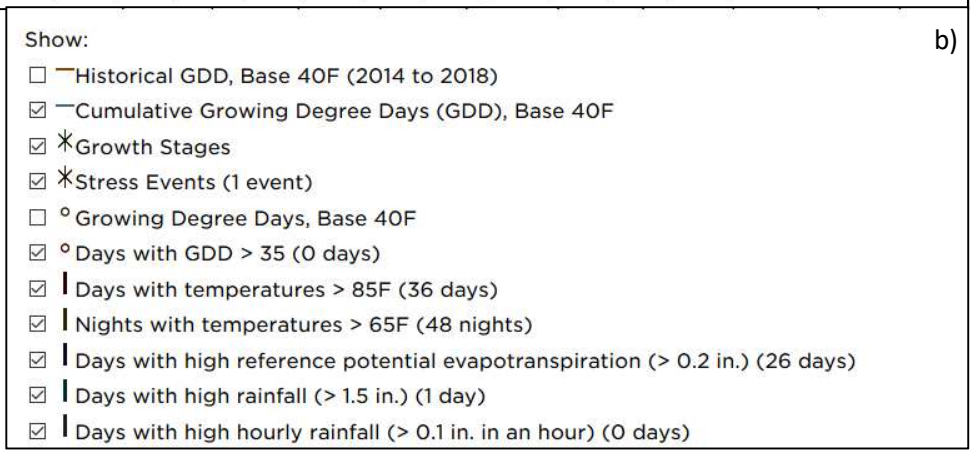
Potato Late Blight (PSMS) - Shows when conditions are favorable for late blight symptoms to develop.

Volunteer Survival Forecast (PSMS) – Shows when emergence from overwintering tubers left in the field is likely to occur.

The Potato Maturity Graphs (a.) are one of the most important tools we have for potato growers. This model allows a grower to enter dates for planting, emergence tuber formation etc., and view those events in the context of environmental stressors (high temperature, excessive rainfall, herbicide applications, drought, etc.) that occur during the times the crop passes through important stages of growth. This can inform management decisions on the farm, such as irrigation timing and pesticide applications. The legend below the graph (b.) allows the user to check off the different variables of interest that are then displayed on the graph.

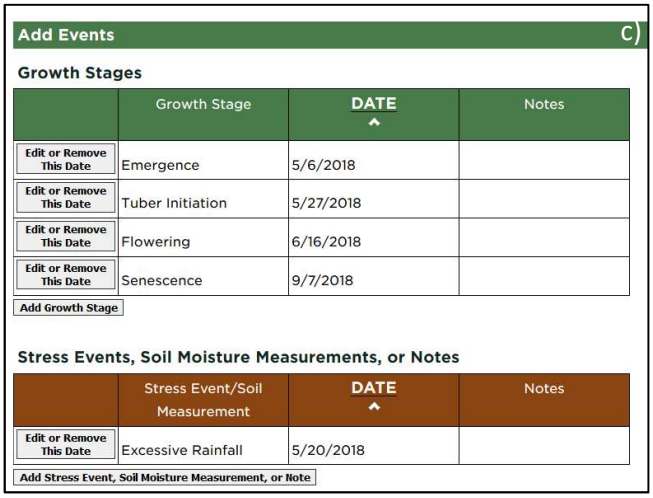
An example of the graphing tool is shown below. It also possible to track stress and maturity in multiple plantings, by setting up and saving information for these fields separately.

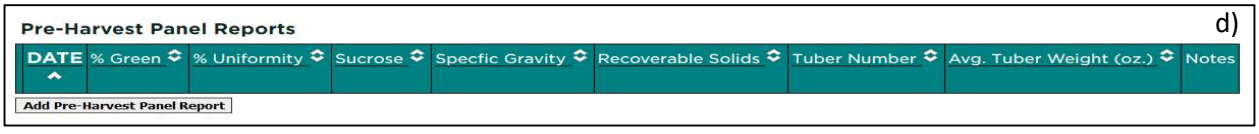




Growth stages, stress events and other important management activities can be entered, edited and saved using the module shown in c).

It is also possible to record preharvest assessments about the quality of the crop, and those measures can be useful in planning harvest. These assessments can be entered in the window shown in d).





The images above are from an example of the Potato Maturity Graphing tool. a) Stress and maturity graph. b) Graph legend for selecting variables. c) Event window to enter growth stages and stress events. d) Preharvest panel reports to record crop assessments.