

In This Issue

Potato production updates

Disease forecasting and risk assessment tools for potato and vegetable crops

Calendar of Events

July 16, 2020 – UW Hancock Ag Research Station Field Day CANCELLED
 December 1-3, 2020 – Midwest Food Producers Association Annual Convention/Processing Crops Conference, Kalahari, Wisconsin Dells, WI
 February 2-4, 2021 – UW-Madison Div. of Extension & WPVGA Grower Education Conference, Holiday Inn, Stevens Point, WI

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This week’s vlog is about a storage study that we performed in 2019 to investigate the use of thermal cameras to detect hot spots:

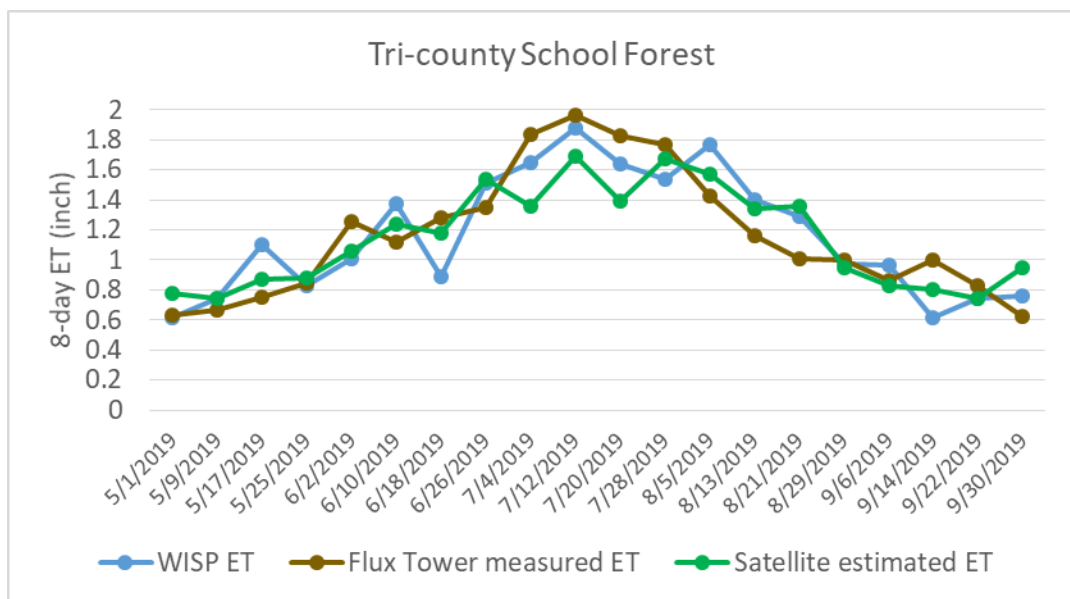
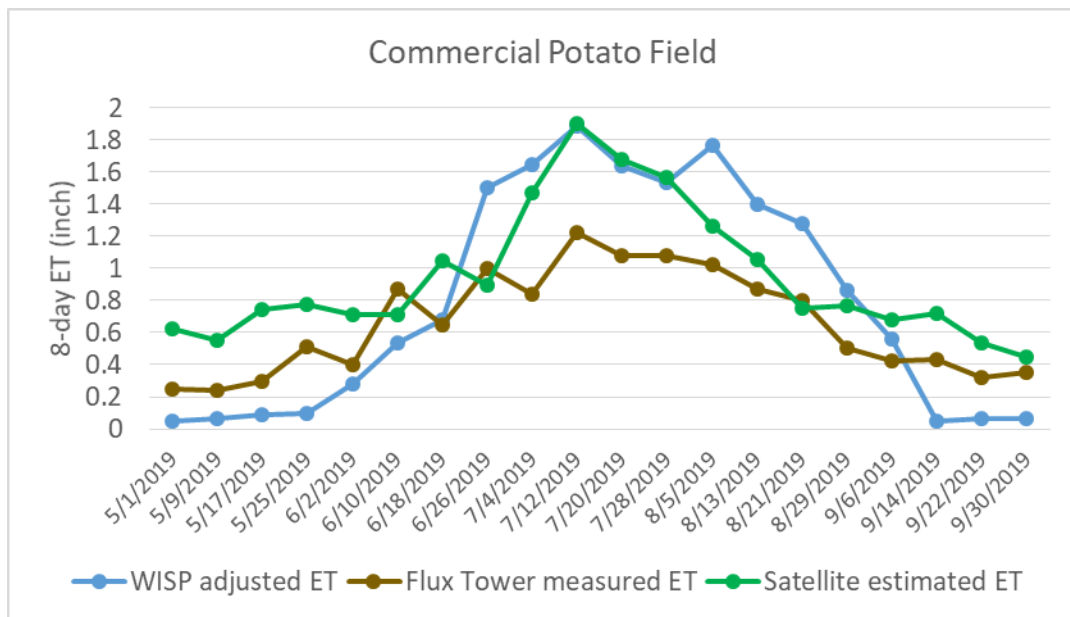
https://www.youtube.com/watch?v=P0jE_iYHxwc



Proud to be a spudbadger! - use of thermal cameras in potato storage
 Proud to be a spudbadger! • 17 views • 2 days ago
 Dr. Yi Wang, assistant professor and state extension specialist in potato and vegetable sustainable production at the Department ...
 New

This year we planted 22 different varieties (covering all market classes that are grown in Wisconsin) at the Hancock Ag Research Station for research. Planting took place in the last week of April. So far we have seen a wide range of emergence, from little sprouts to cracking. Weather has been cloudy and wet, and growing degrees days have been lower than average. First hilling at Hancock was completed this past Thursday.

Evapotranspiration (ET) is a critical parameter for irrigation scheduling. As requested by the WPVGA water task force committee, I compared ET measured or estimated by different sources at two locations between planting and harvesting in the 2019 growing season. I got very interesting findings. The two locations were: a 120-acres commercial potato field at Hancock, and the Tri-county school forest at the same latitude. The ET sources are: WISP estimation and adjustment based on ground cover (assisted by Dr. John Panuska at UW-Madison BSE), Eddy covariance flux tower measurements by Dr. Ankur Desai’s group at UW-Madison AOS, and MOD16 global ET datasets estimated by NASA’s satellite (data sorted by Dr. Bob Smail at WI-DNR). Because MOD16 ET are only provided on an 8-day basis, ET from the other two sources were summed up within each 8-day period.

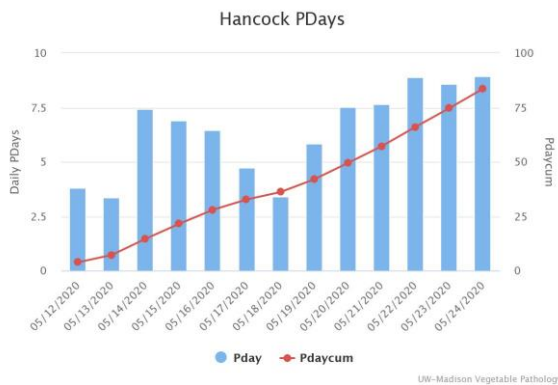
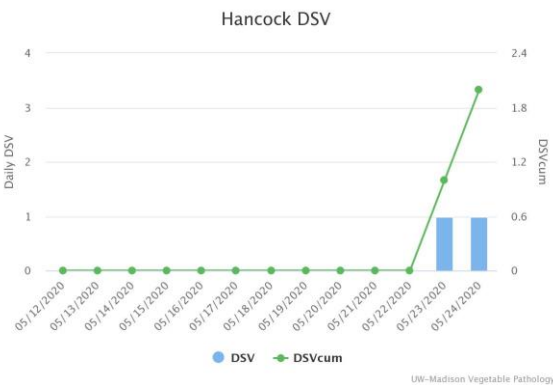
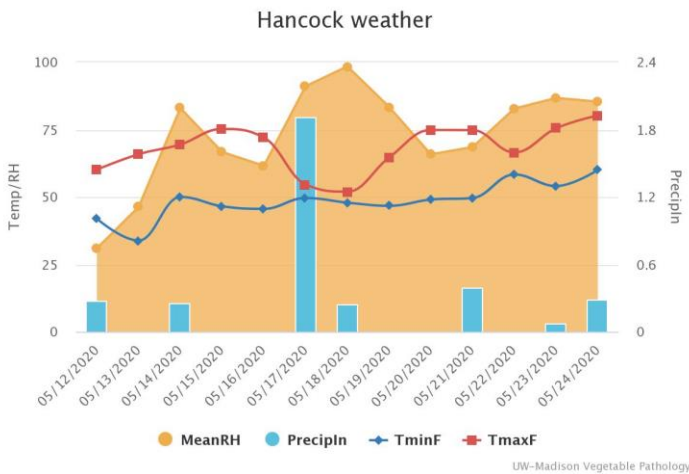


We can see that compared to the potato field, forest ET from the three sources agree with each other at a much better level. For potato field, WISP underestimated ET early in the season and after vine kill, but overestimated ET from canopy closure to vine kill compared to flux tower measured ET. Comparatively, satellite overestimated ET most of the time compared to the flux tower measurements, and agreed with WISP estimated ET during the peak tuber bulking stage in July.

Previous studies have indicated that Eddy covariance flux tower can undermeasure ET by 10-20%. It is not clear with one year of data that which source of ET provides more reliability for irrigation scheduling. We need multiple years for this type of comparison. Reason for higher coherence of ET data for forest from different sources is under discussion.

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Early planted potato fields in southern and central Wisconsin are now seeing some crops at ~50% emergence. I'm working on finalizing planting and emergence dates that can be used to generalize disease risk values for late blight and early blight – however – in the meantime, I did want to report that for fields that reached 50% emergence mid-May, we are beginning to accumulate Disease Severity values. Below, I share figures, accessible at our website: <https://vegpath.plantpath.wisc.edu/dsv/> which indicate accumulation of 1 DSV on May 23 and 24. With persistent high relative humidity, and warming temps, the values will begin to accumulate. Hot, dry conditions limit this accumulation of risk. The DSV accumulation of 18 indicates a threshold at which preventative fungicides should be applied to manage late blight. PDays are steadily accumulating with warmer weather; with a mid-May 50% emergence we are just under 35 PDays. An accumulation of 300 indicates a threshold at which preventative fungicides should be applied to manage early blight.



2020 University of Wisconsin Madison Extension Commercial Vegetable Crop Production Management Guide: Our production guide is updated every October with release of a new guide in January. The book can be downloaded for free as a pdf at the link below, or can be purchased online for \$12.50. <https://learningstore.extension.wisc.edu/products/commercial-vegetable-production-in-wisconsin>