On-Farm Measurement of ET

Tom Shapland
Tule
Tule Service

Surface Renewal Background

Tomato Example
What is the water status of my field?

How much do I irrigate?
Three Building Blocks

1. Water Stress
2. Actual Evapotranspiration
3. Irrigation Application Amounts
What is the water status of my field?

1. Water Stress Level

What much do I irrigate?

2. Actual Evapotranspiration

3. Irrigation Application Amounts
Tule Service

1. Mobile
2. Website
3. Weekly Email Reports
4. Alerts

Status = f(production goal)

Canopy development
Service Model
Geography
History
Tule Service

Surface Renewal Background

Tomato Example
Energy Balance
Surface Renewal
Irrigation Application
Tule Service

Surface Renewal Background

Tomato Example
The PRI graph allows you to track the progress of your canopy development during the early part of the season. The Target Max Canopy is the expected PRI at full canopy. For this field, the Target Max Canopy was determined by the average maximum canopy for a nearby similar field. To ensure maximum canopy growth and limit any threats to yield, the goal is for your Actual Max Canopy (blue line), which is the maximum weekly average PRI after cover crop senescence, to meet or exceed the Target Max Canopy (green line) during the canopy development stage. Next year, track the development of your canopy against this season’s performance and similar fields to anticipate any adjustments that should be made before it’s too late.

Your Actual Maximum Canopy suggests the canopy was smaller than its potential this season.
Tomato FieldStat

FieldStat

Actual ET / Reference ET Normalized for Max Canopy

- Measured FieldStat
- 3 Day Avg FieldStat
- Similar Fields FieldStat
- Targets
- Irrigation
- Missing Data
- > 75% Low Stress
- 65-75% Mild Stress
- 50-65% High Stress
- <50% Extreme Stress

Daily Data

May 24, May 31, Jun 07, Jun 14, Jun 21, Jun 28, Jul 05, Jul 12, Jul 19, Jul 26, Aug 02, Aug 09
Irrigation Recommendations

The chart below shows the irrigation application amounts (blue bars) compared to the Tule average weekly irrigation recommendation* (green dash) for each week. Compare this chart to the FieldStat graph above, so you can easily see how each irrigation application affected the crop water stress in your field.

*Irrigation recommendations are shown starting June 9, 2015. Note that irrigation recommendations are based on your FieldStat Targets.
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