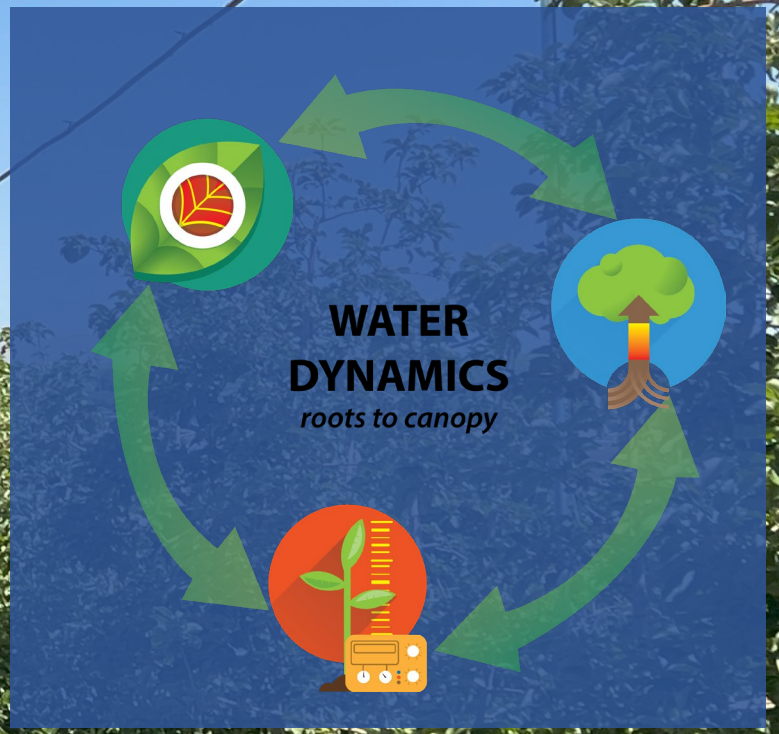
SMART Management Combinational Plant Sensor Systems - 2024



Dynamax

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Introduction

New Combined Agrisensors logger

SPIP-SMART Station:

- Sap Flow East and West Trial Sites
- Soil Moisture
- Stem & Fruit Growth—Dendrometers
- Flow Meter—Drip
- Weather to:
- IRT Temp Sensors – On WiseConn Drip Automation
- Export Data to API to Washington State University
- API Call to Model SWAN Systems

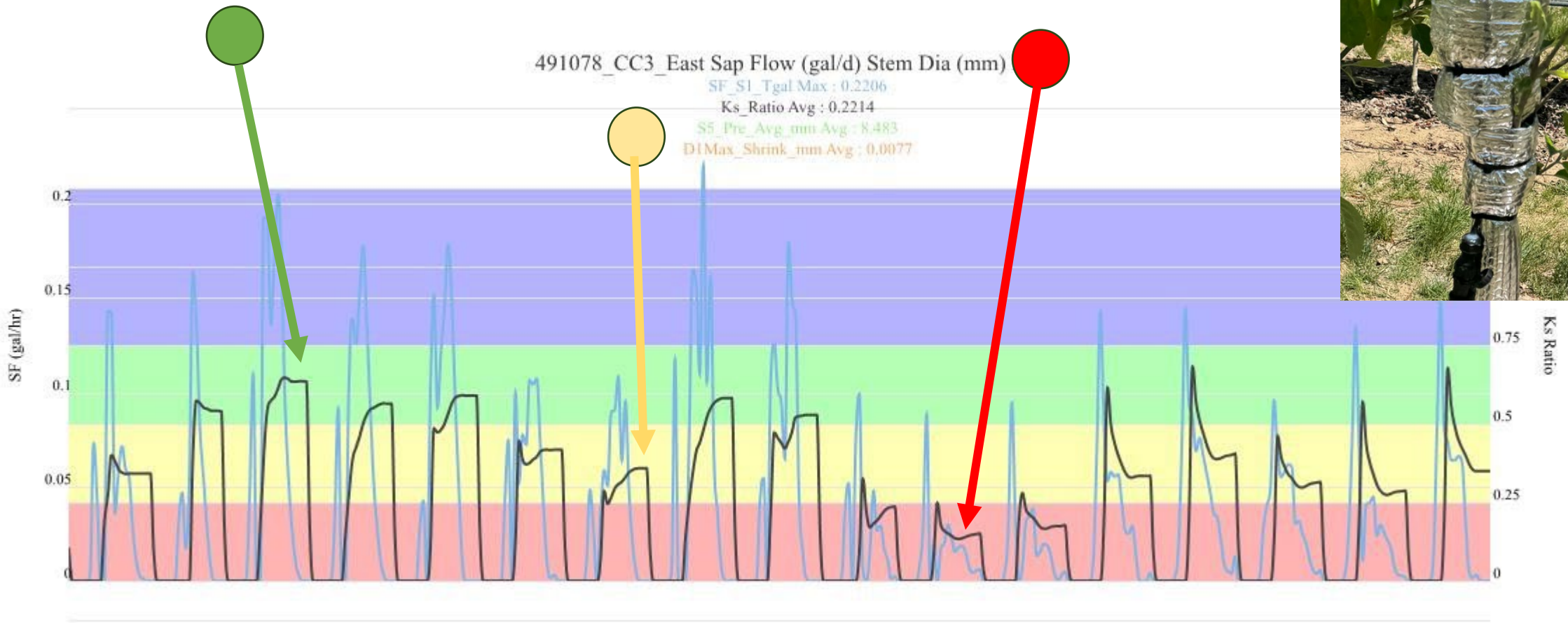
- Key Point: Plant Based Sensors (10) to monitor two sites.
- Sap Flow – Size Fruit / Stem - Canopy Temperature

Dendrometers – Plant and Fruit Size

Small Fruit (50mm) did not grow as well as Larger Fruit (60 mm) and shows declined growth data. (Aug-Sept)

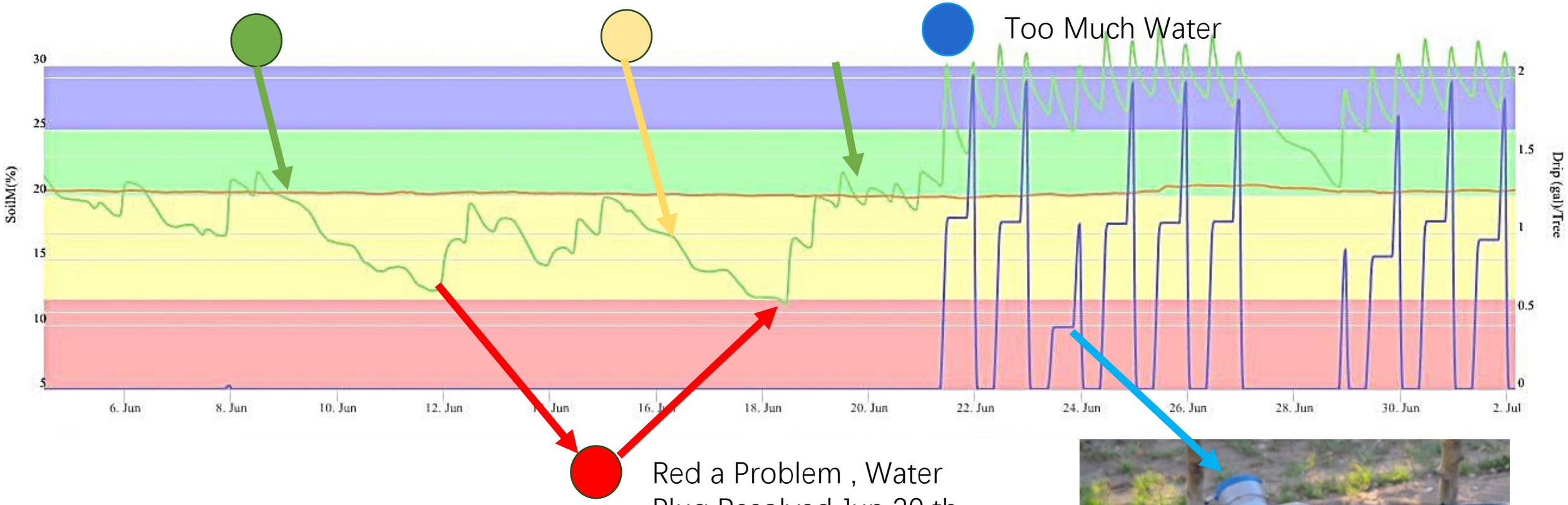
Sap Flow & Crop Coefficient (Ks Indexed)

- Sap Flow Show Stress in East and growth from stress to well watered in West.
- See Sap flow lower and Ks, Crop stress coefficient, decline to RED.



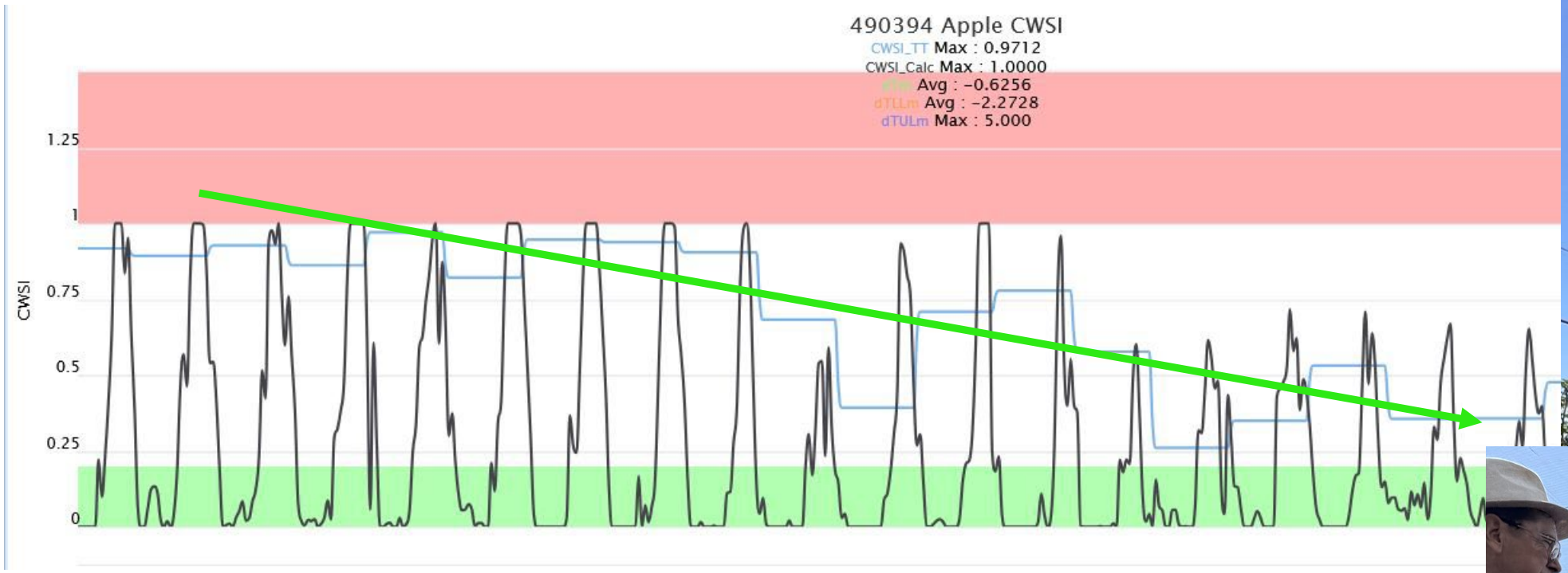
Soil Moisture (SM%) with SPIP SMART

- Basic for a total system is to track Soil Moisture with a VWC – sensors (%)
- Found a blockage of water in West. Some underwater became excess (over the Saturated after July)



Weather -ETo ratio & Generates Crop Water Stress Ratio (CWSI)

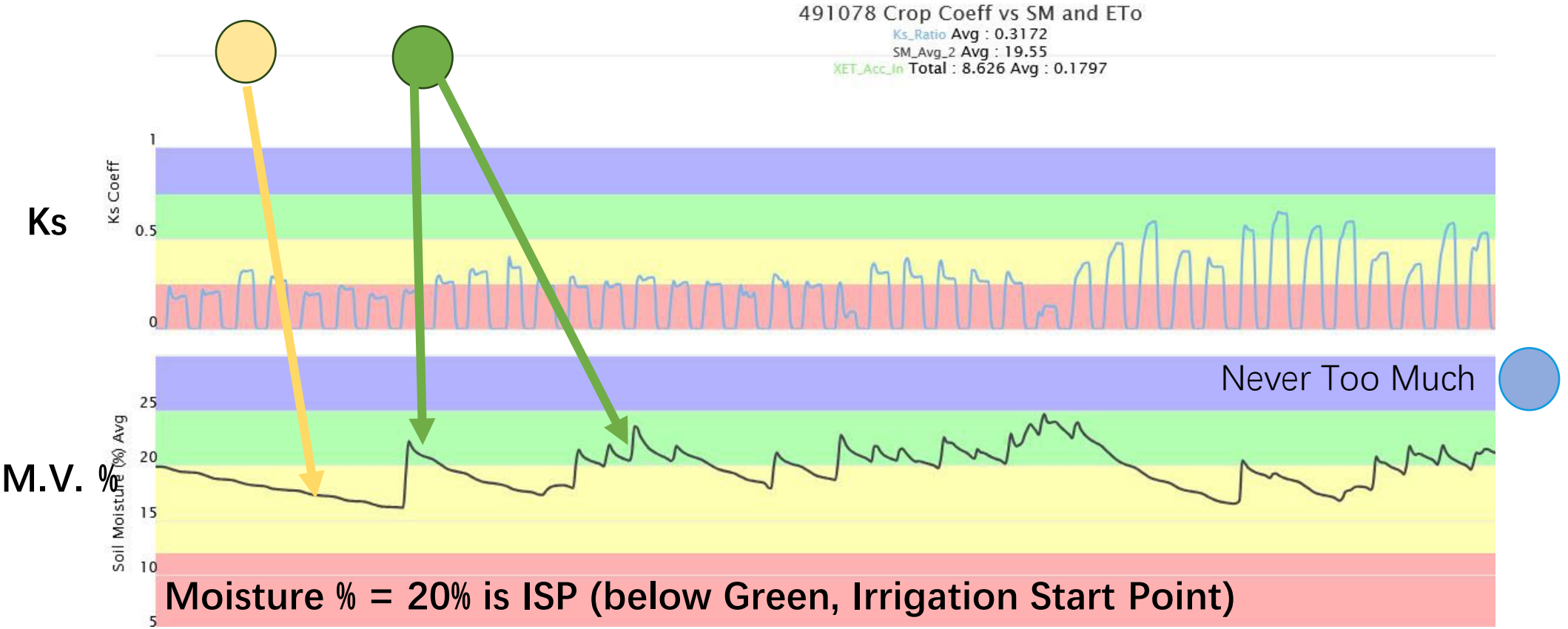
With Infra Red Temp, Sensors East Shows Decline from 1.0 (max Stress CWSI) to 0.2, acceptable range.



Temp Stress to regulate canopy misting.

Soil Moisture (SM%) with SPIP SMART Regulation with SWAN Systems WiseConnin East

- Basic for a total system is Sap Flow and to track Soil Moisture with a S.M.V. – sensors (%)
- **Put it all together :**
  - Stress is reduced (Ks Coeff from Sap Flow)
  - SM range is improved, **nothing wasted.**



Agrisensor.Net Manges Data– Export to Users :

- We believe the key is work the data, manage anti-stress with alerts, then transfer to Sites of Prediction.
  - Example SWAN Systems
- And to Export Data with live sensors to Control Systems
  - Example WiseConn