Plant Stress Monitoring

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Traditional approach to irrigation decisions

Climate

Weather forecasts

Evapotranspiration (& Kc)

Plant

Wilting, yellowing

Pressure bomb (SWP)

Soil

Dig stick

Soil moisture sensors

Human

Knowledge/common sense

Experience (trial and error)

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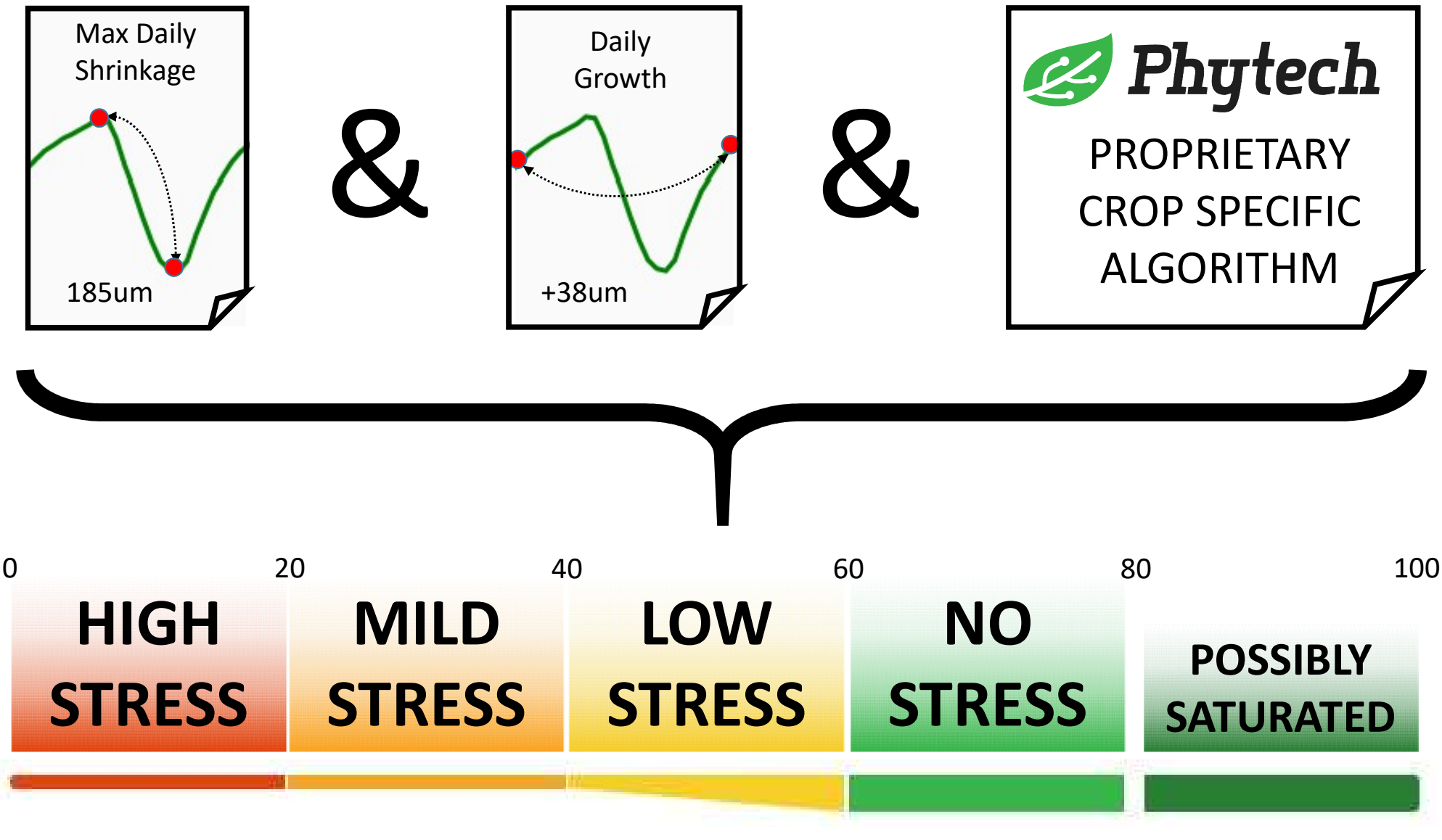
Video – Phytech Explained

Phytech Hardware

Dendrometer: -

- 5µm Resolution – 0.005mm
  - Human Hair = 100µm (0.1mm)
- 3 installed per irrigation block (Area serviced by one Irrigation Valve)
- Reading taken every hour
- 12mm shaft to allow for seasonal crop growth


Max Daily Shrinkage
185um
&
Daily Growth
+38um
&
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PROPRIETARY CROP SPECIFIC ALGORITHM
0
20
40
60
80
100
HIGH STRESS
MILD STRESS
LOW STRESS
NO STRESS
POSSIBLY SATURATED

Phytech Hardware

Irrigation Sensor: -

- 10 minute resolution
- 7-8psi (50kPa) trigger pressure
- Status Change (On/Off) Transmitted immediately
- Actual Pressure Reading Transmitted
- 1 per valve (2 per block on A/B System)
- Convert time to mm (mm/hr - application rate)

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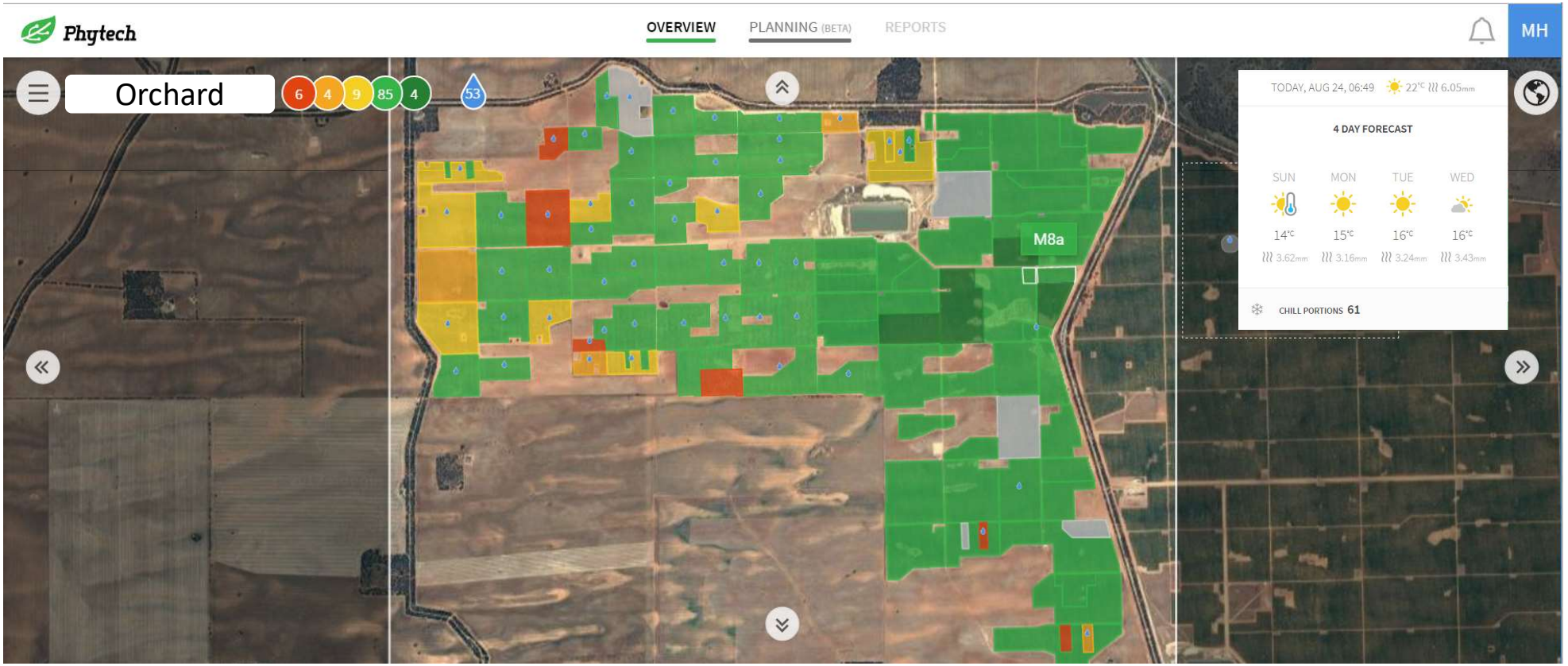
Processed Data

Displayed in Geospatial Format – Entire Operation



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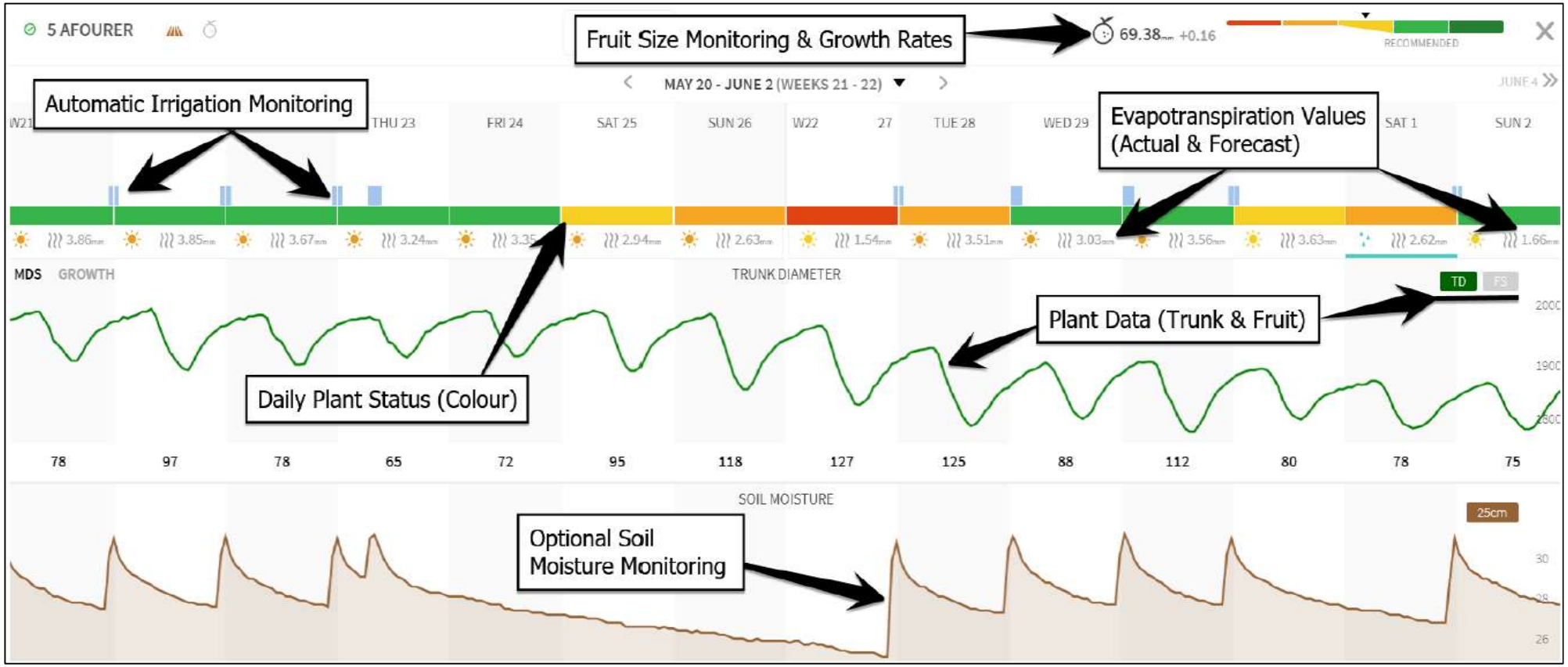
Processed Plant Data

Displayed on Timeline – Individual Block



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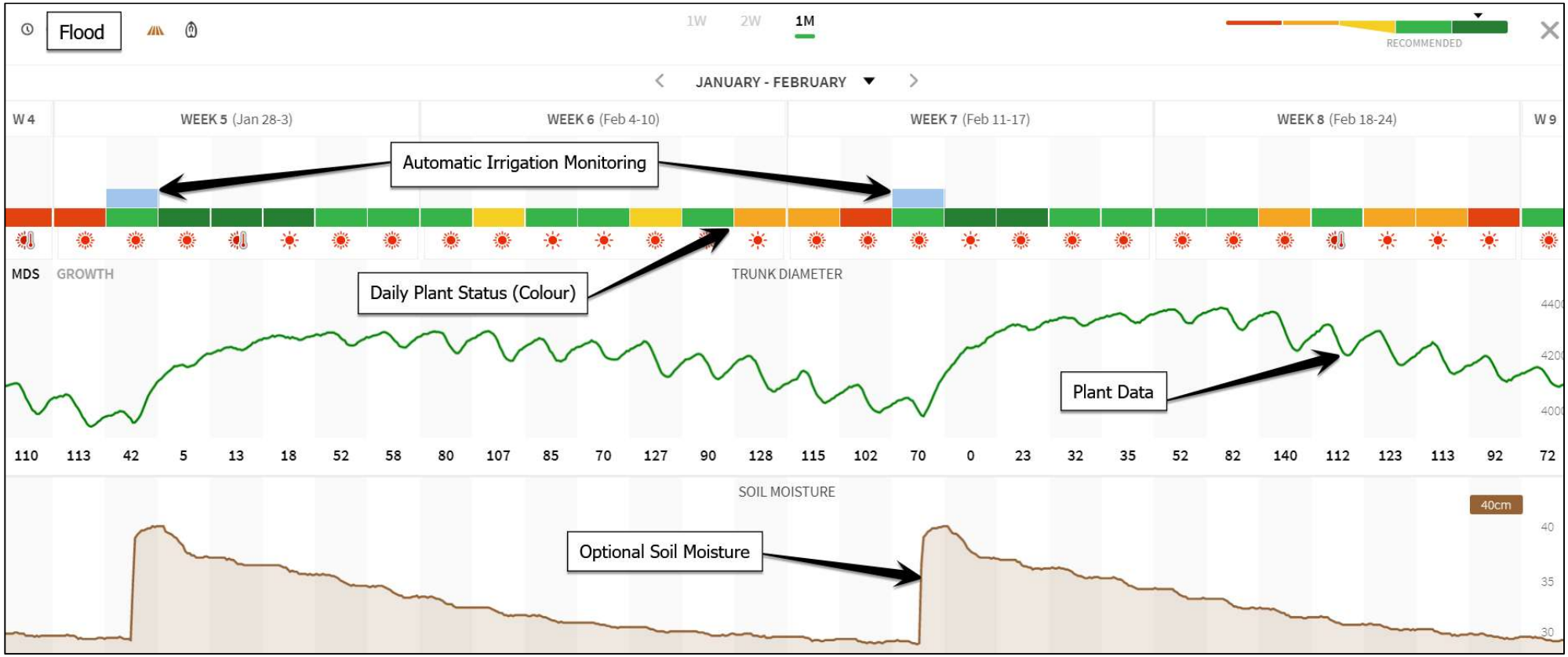
Pecan Processed Data

Displayed on Timeline – Flood Irrigated



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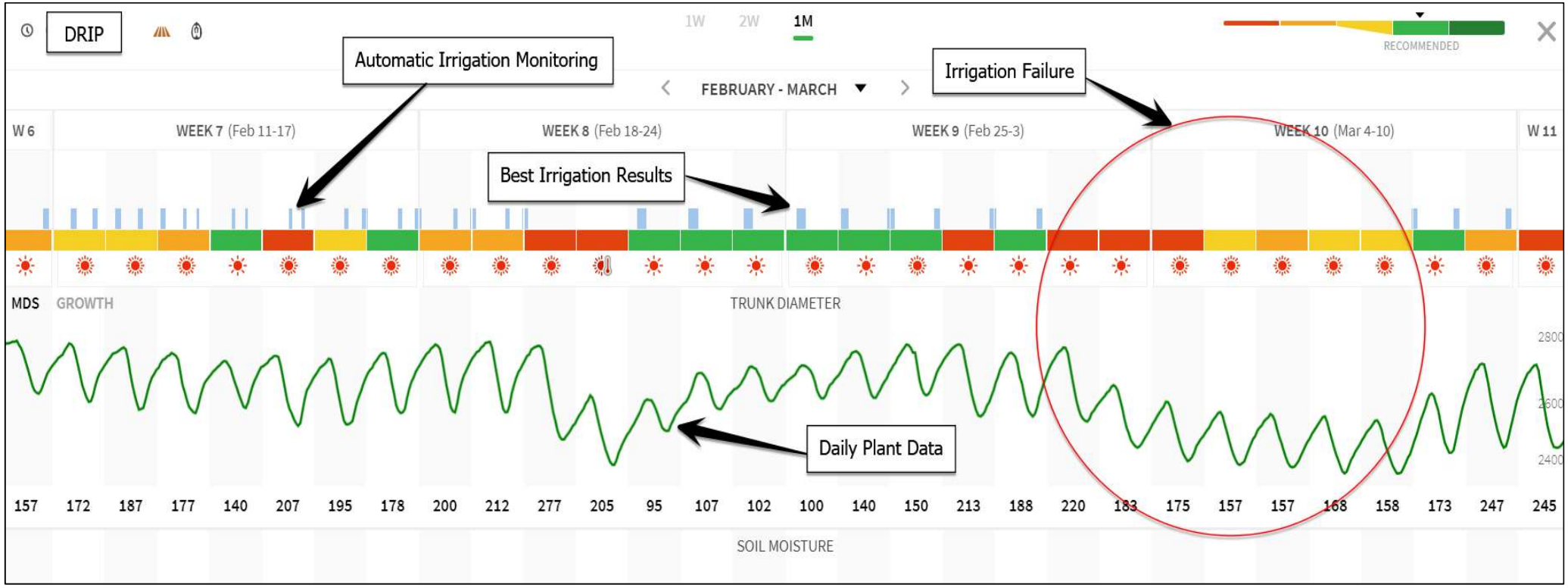
Pecan Processed Data

Displayed on Timeline – Drip Irrigated



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Nut Factory: Production Capacity Reporting

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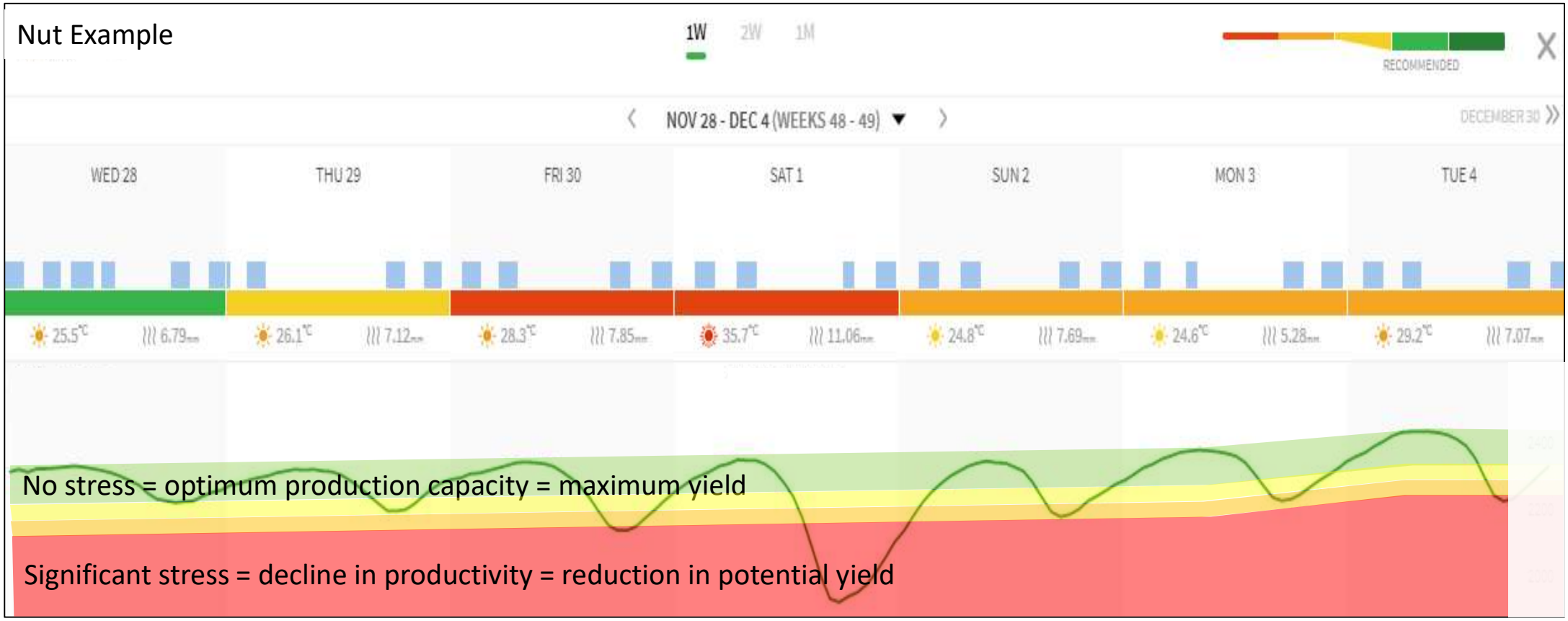
Nut Factory: Production Capacity Reporting



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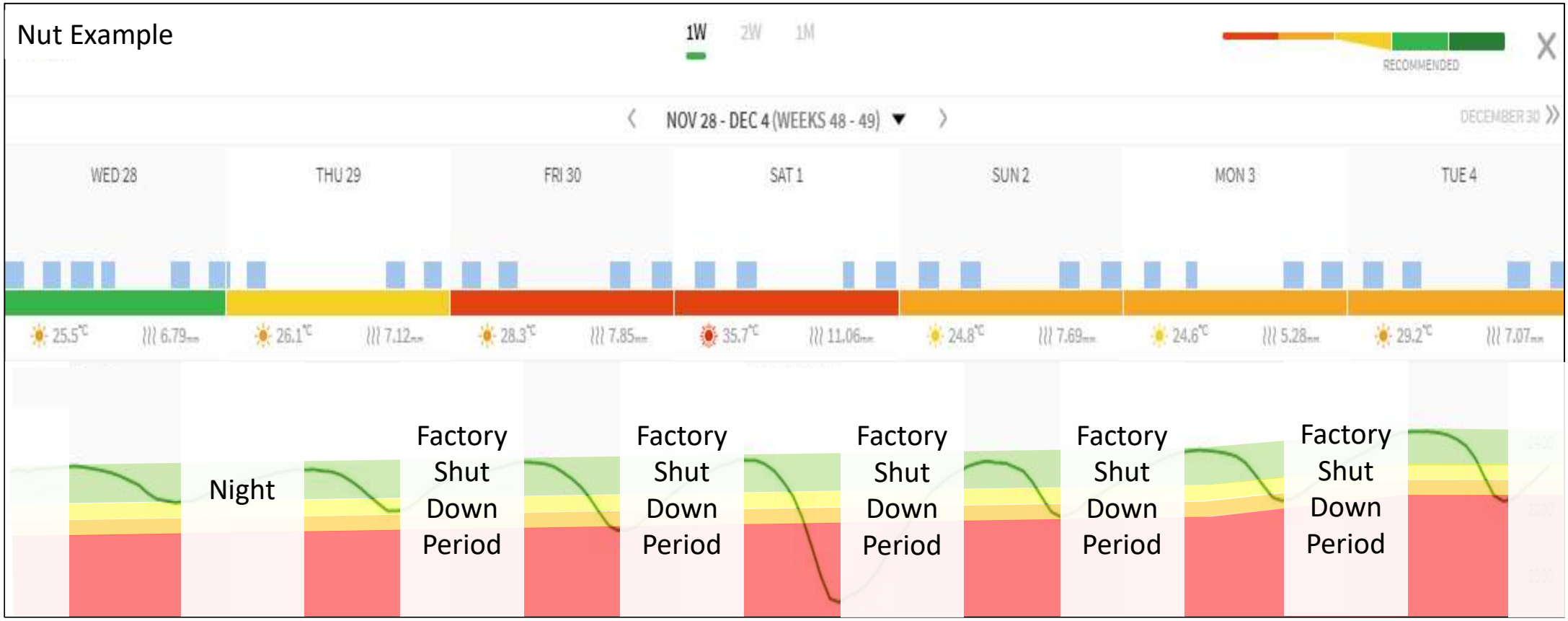
Nut Factory: Production Capacity Reporting



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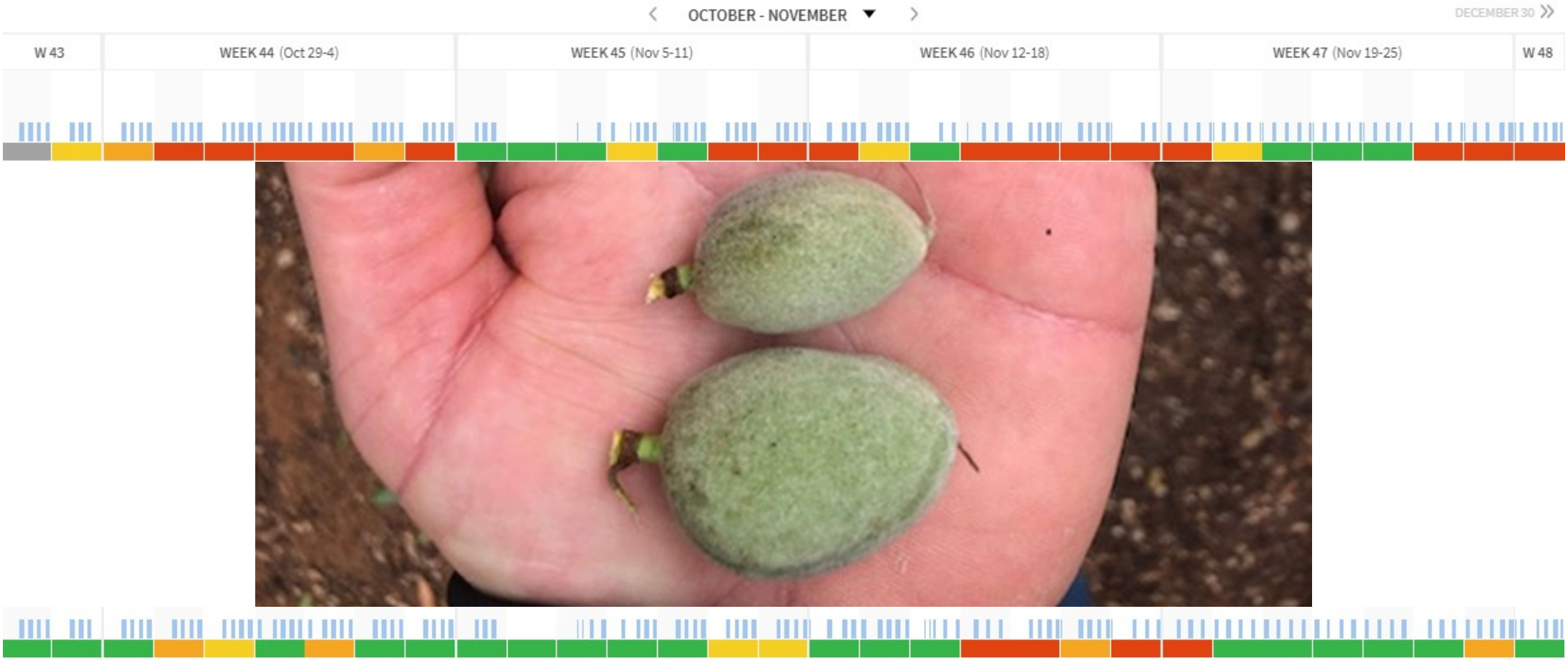
The Effect Of Stress During Cell Division



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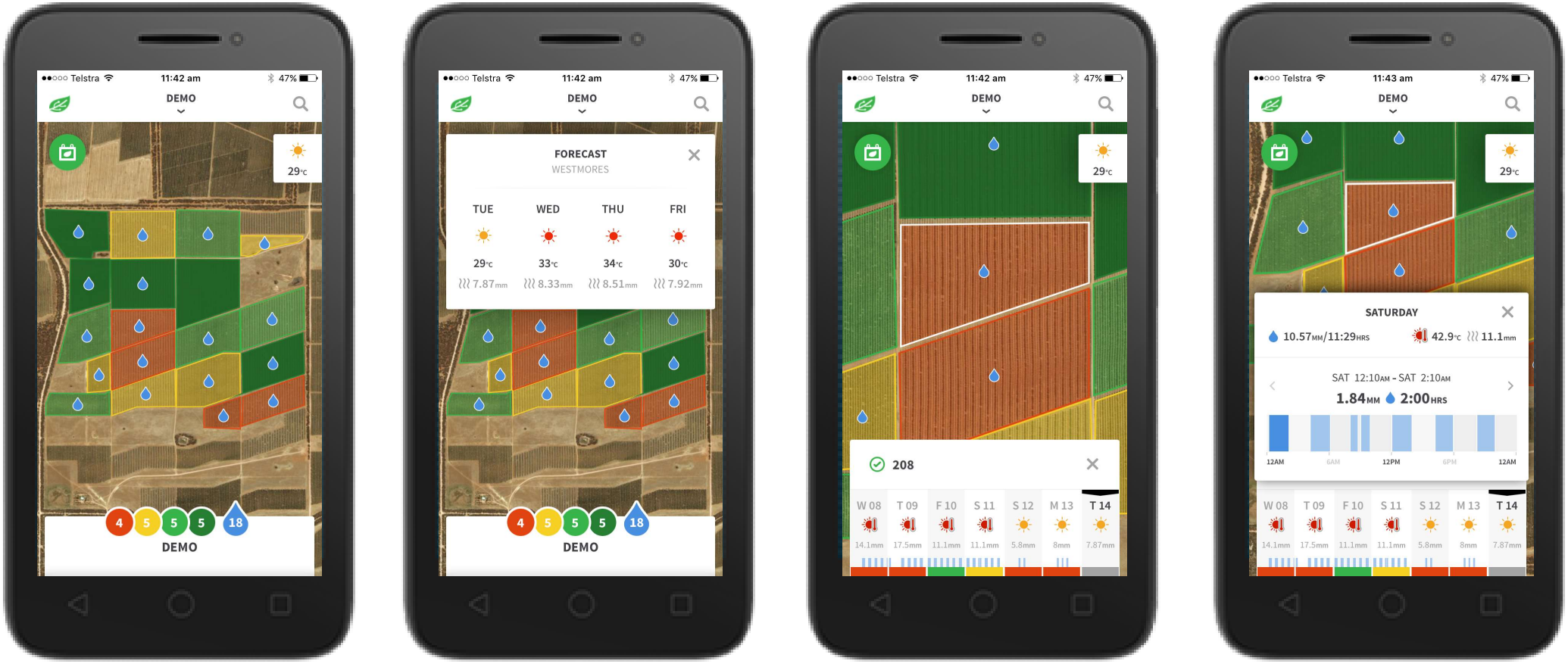
Smartphone App – iOS and Android

Make decisions ‘in the field’ and ‘on the go’



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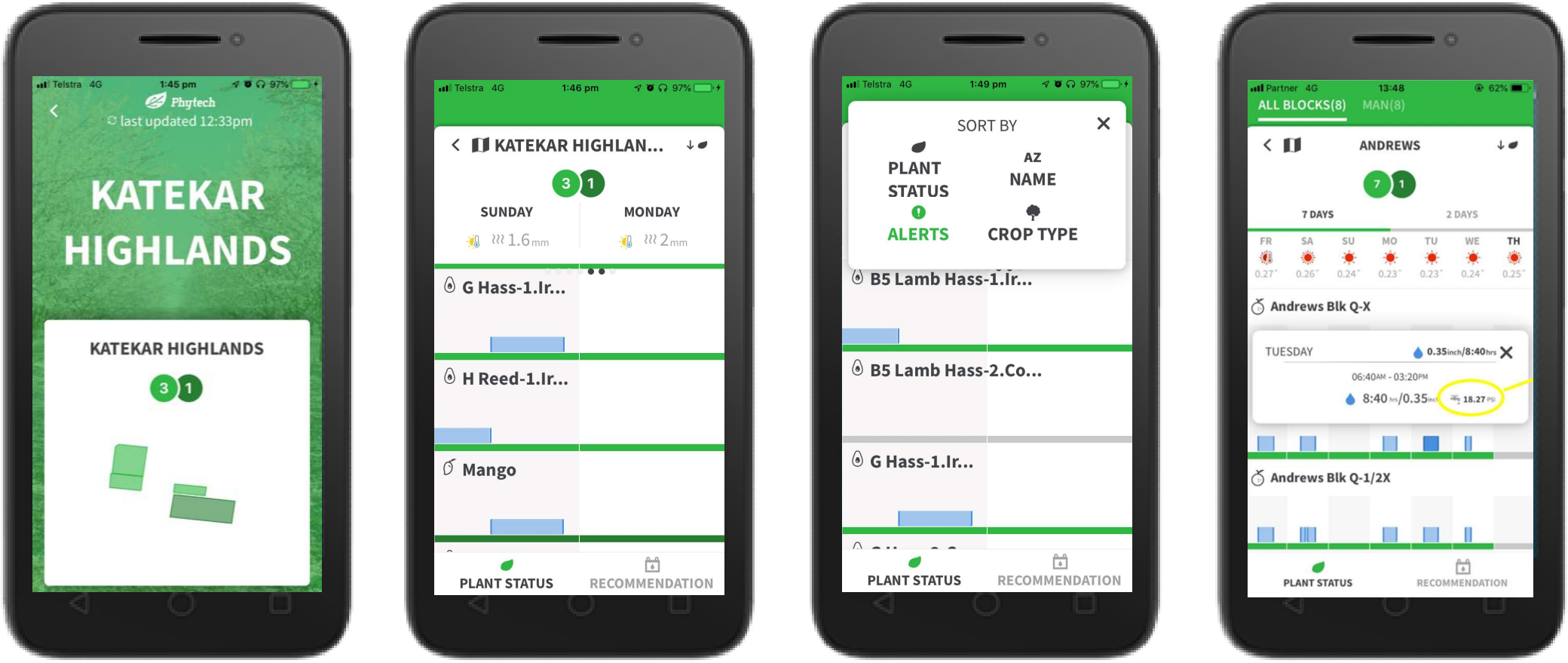
NEW - Phytech Plant

Make decisions ‘in the field’ and ‘on the go’



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Questions?

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