

SURE **TEST**[®]



THE GROGURU ALLOWS YOU TO MONITOR MEDIA PARAMETERS THAT INCLUDE:

- WATER CONTENT PERCENTAGE
- TEMPERATURE
- SALINITY
- EC

THIS DATA IS THEN AVAILABLE FOR VIEWING THROUGH THE MOBILE APP OR ON A PC

SURE TEST[®]

Groguru BASE + CELLULAR MODEM



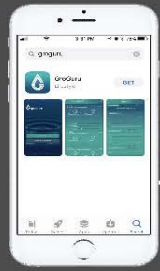
THE GROGURU BASE COMMUNICATES WITH THE GROGURU STEM + SENSORS CREATING A SYSTEM THAT CAN BE REMOTELY MONITORED WITH THE GROGURU APP.

SURETEST[®]

Groguru STEM + 2 SENSORS



MONITOR YOUR MEDIA FOR: WATER CONTENT, TEMPERATURE,
(EC) ELECTRICAL CONDUCTIVITY & SALINITY FROM YOUR MOBILE DEVICE.

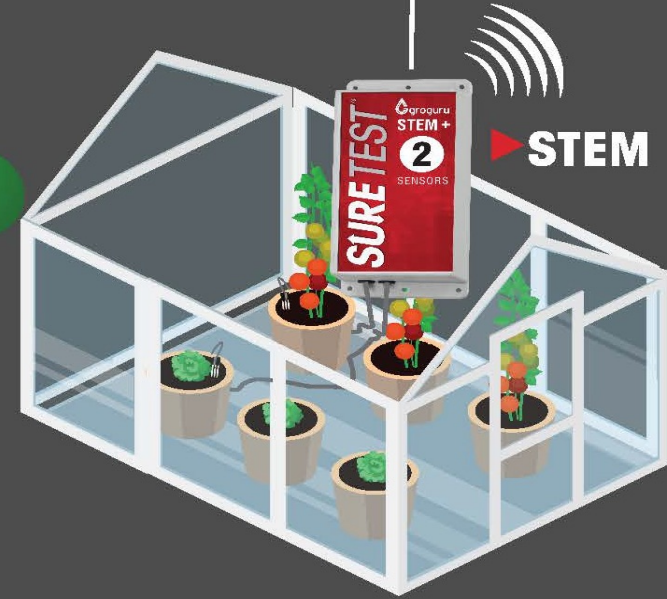


Real-time monitoring of media water content, media EC, media salinity and temperature from cellular enabled base.



BASE

Stem can be up to half-a-mile away from the base.



STEM

Up to 1000 stems can work with 1 base.



STEM



1
DOWNLOAD APP
AVAILABLE FOR ALL DEVICES

2
LOGIN
SIGN UP + CREATE ACCOUNT

3
MONITOR
REAL-TIME ACTIONABLE ALERTS

Back

DISPLAY OPTIONS

- Zoom
- Evapotranspiration
- Soil Moisture
- Salinity
- Soil Temperature

DEPTH

- Top
- Middle
- Bottom

DATA MODEL

- Raw
 - Trend
- SMA20 ▾

LIMITS

- Upper

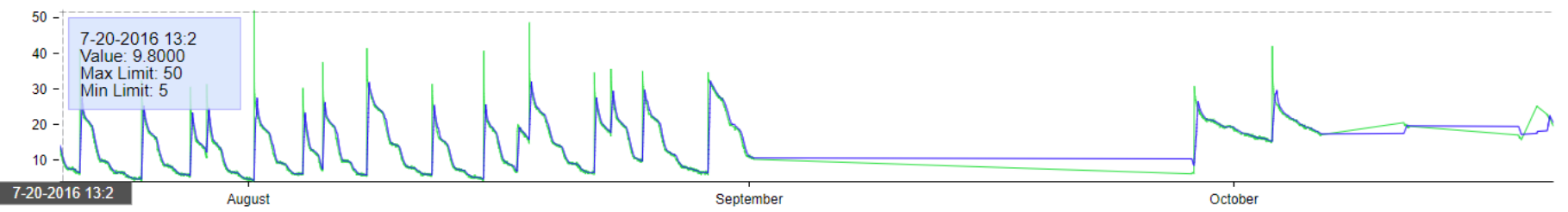
Choose Stem
 @0x504e32313118de56 (0x504e32313118de56) ▾

Date Range
 2 Weeks ▾

Update Chart

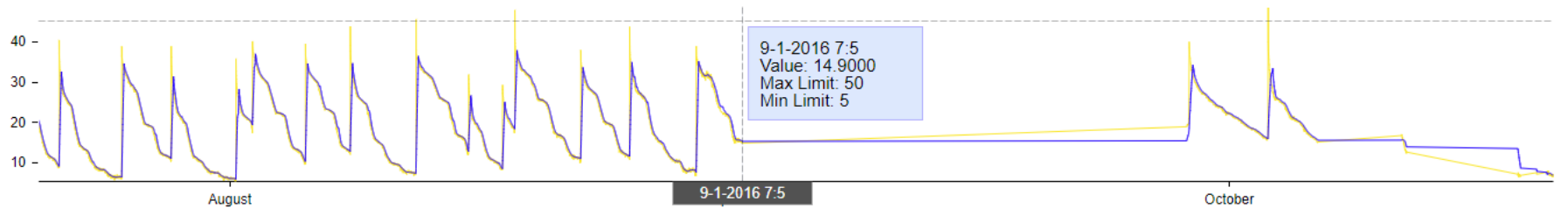
Soil Moisture - Top (%)

Max: 50 Min: 5



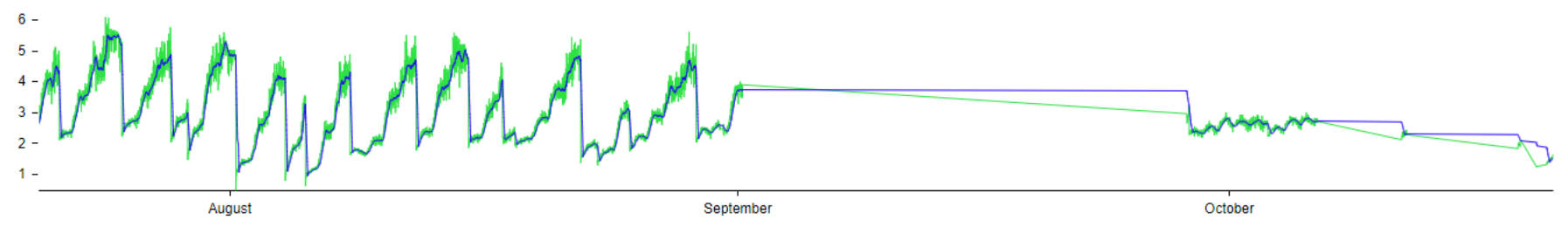
Soil Moisture - Middle (%)

Max: 50 Min: 5



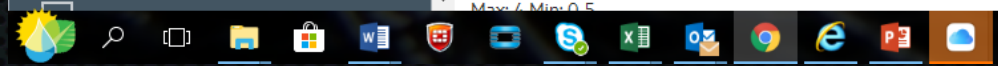
Salinity - Top (dS/m)

Max: 4 Min: 0.5



Salinity - Middle (dS/m)

Max: 4 Min: 0.5



Smart Water Application Technologies®
certified lab grade sensors.

App available for both iOS and Android for
24/7 monitoring.

Cellular enabled base. No monthly charge.

Up to one thousand stems can connect
with a base.

Web app for desktop based access.

Optional subscription based alerts and reports.

1 year warranty.



Passed SWAT certification testing:

Smart Water
APPLICATION TECHNOLOGIES®



GroGuru



Available on the
App Store



ANDROID APP ON
Google play



YouTube

WHAT IS



- SMART WATER APPLICATION TECHNOLOGIES (SWAT) CERTIFICATION IS A TESTING PROTOCOL DESIGNED BY IRRIGATION ASSOCIATION. THIS TESTING PROTOCOL VERIFIES THE ACCURACY AND RELIABILITY OF SOIL SENSORS. SPECIFICALLY THE PROTOCOL TESTS THAT THE SOIL MOISTURE AND SOIL SALINITY READINGS ARE ACCURATE. THE TEST ITSELF SPANS MULTIPLE WET AND DRY CYCLES AS WELL AS INVOLVES SOILS OF DIFFERENT SALINITY LEVELS. AS A RESULT THE TESTING REQUIRES SEVERAL MONTHS TO COMPLETE.
- THE BENEFITS OF SWAT CERTIFICATION IS THAT AN INDEPENDENT THIRD PARTY HAS VERIFIED THE WORKING OF THE SOIL SENSOR UNDER DIFFERENT CONDITIONS. SO A GROWER CAN REST ASSURED OF GETTING A RELIABLE PRODUCT. IN ADDITION, SOME WATER AGENCIES ALSO PROVIDE REBATES FOR PURCHASE OF SOIL SENSORS THAT HAVE PASSED SWAT CERTIFICATION. PLEASE CHECK WITH YOUR WATER AGENCY IF THIS IS THE CASE.

CELLULAR DRIVEN BUT NO SUBSCRIPTION IS NECESSARY

- 24 HR GRAPHING
- HOURLY SAMPLINGS OF DATA (~2 YEAR BATTERY LIFE)

OPTIONAL SUBSCRIPTION

- SET HIGH AND LOW VALUE ALERTS (TEXT, PHONE, EMAIL)
- INCREASE /CONTROL SAMPLING INTERVALS (DOWN TO ONCE EVERY MINUTES. THIS WILL REDUCE BATTERY LIFE FASTER.)
- WEEKLY/MONTHLY/YEARLY (ALL DATA AVAILABLE)
- \$5 PER YEAR PER SENSOR (DISCOUNT AVAILABLE FOR 1 YEAR COMMITMENT)

MEDIA MOISTURE

- THIS PARAMETER MEASURES THE AMOUNT OF WATER PRESENT IN THE MEDIA IN TERMS OF “VOLUMETRIC WATER CONTENT”- VWC. THIS REPRESENTS THE AMOUNT OF WATER PRESENT IN THE MEDIA EXPRESSED AS A PERCENTAGE OF THE VOLUME OF THE MEDIA. FOR EXAMPLE, IF WE HAVE 10 INCHES OF DRY SOIL AND APPLY 1 INCH OF WATER, THE VWC WILL BE 10% IN THE SOIL (ASSUMING UNIFORM WATER DISTRIBUTION). THERE ARE TWO CONCEPTS ASSOCIATED WITH VWC NAMELY PERMANENT WILT POINT (PWP) AND FIELD CAPACITY (FC).
- PWP IS THE VALUE OF VWC WHERE THE PLANT WILL SUFFER PERMANENT DAMAGE. FC IS THE VALUE OF VWC WHERE THE SOIL IS SATURATED WITH WATER AND WILL DRAIN IF DRAINAGE IS POSSIBLE. TYPICAL SOILS HAVE A PWP VALUE THAT RANGES FROM ABOUT 5% - 30% VWC AND A FC VALUE THAT RANGES FROM ABOUT 10% - 50%VWC. SANDY SOILS HAVE LOWER FC AND VWC VALUES, WHILE CLAYS AND HIGH ORGANIC SOILS HAVE HIGHER VALUES. IN SOME SOILS WHICH CONTAIN VERY HIGH ORGANIC MATTER CONTENT OR IN ARTIFICIAL GROWING MEDIA SUCH AS ROCKWOOL, COCO-FIBER, SHREDDED BARK, ETC. PWP AND FC CAN BE QUITE DIFFERENT THAN FOR MINERAL SOILS MENTIONED ABOVE. PWP VALUES CAN BE HIGHLY DEPENDENT ON THE COMPOSITION OF THE MEDIA RANGING FROM 5% TO HIGHER THAN 40% VWC AND FC CAN BE AS HIGH AS 80-90% VWC. **THE SURE TEST® GRO GURU SYSTEM SHOULD BE USED AS A REFERENCE TOOL TO MAXIMIZE THE EFFICIENCIES OF YOUR FERTIGATION PRACTICES. MAKE ONLY SMALL CHANGES AT A TIME AS YOU GET TO KNOW YOUR GRO GURU. CONTINUE USING OLD METHODS AND TOOLS WHILE YOU FAMILIARIZE YOURSELF WITH THE GRO GURU.** GRO GURU PROVIDES SPECIFIC CALIBRATIONS FOR THESE ARTIFICIAL GROWING MEDIA. PLEASE SELECT THE RIGHT SOIL TYPE TO ENSURE THAT THE SOIL MOISTURE VALUES YOU SEE ARE TAILORED TO THE GROWING MEDIUM.

MEDIA ELECTRICAL CONDUCTIVITY (EC)/ SALINITY

- SALINITY IS A MEASUREMENT OF THE SALTS (BOTH FERTILIZER AND NATURAL SALTS) DISSOLVED IN THE WATER PRESENT IN THE MEDIA. THE SENSOR REPORTS TWO DIFFERENT MEASUREMENTS- THE BULK ELECTRICAL CONDUCTIVITY (EC) AND AN ESTIMATE OF THE SOIL'S SATURATION PASTE EXTRACT CONDUCTIVITY (SPEC) MARKED AS SALINITY BOTH IN UNITS OF DS/M. SPEC IS A STANDARD LABORATORY PROCESS WITH EXTENSIVE LITERATURE DETAILING ITS EFFECT ON PLANT GROWTH.
- IN GENERAL, SALINITY SENSITIVE PLANTS WILL EXPERIENCE LOSS OF VIGOR/GROWTH/YIELD AS SPEC APPROACHES 4DS/M, MODERATELY SENSITIVE PLANTS IN THE RANGE OF 4-8DS/M, RESISTANT PLANTS FROM 8-16DS/M, AND ALL BUT THE MOST SALT TOLERANT PLANTS WILL BE DRAMATICALLY AFFECTED OR KILLED BY SALINITY LEVELS MORE THAN 16DS/M. THE ESTIMATE OF SPEC WILL BE MOST ACCURATE FOR MINERAL SOILS, BUT WILL TRACK CHANGES IN SALINITY IN ARTIFICIAL GROWING MEDIA SUCH AS ROCKWOOL, COCO-FIBER, ETC.
- IT IS IMPORTANT TO NOTE THAT THE EC OF THE WATER SOLUTION APPLIED TO A SOIL, WILL NOT BE IN GENERAL THE EC MEASURED DIRECTLY IN THE SOIL. THIS RESULTS FROM THE AIR/SOIL PARTICLE ACTING TO BLOCK THE CONDUCTIVITY OF THE WATER SOLUTION. **WHEN THE SOIL IS NEAR SATURATION, IT IS COMMON FOR THE BULK EC OF THE SOIL TO BE 20-80% OF THE EC OF THE APPLIED WATER SOLUTION. THIS LARGE RANGE IS IMPACTED MAINLY BY THE POROSITY AND FC OF THE MEDIA. THE HIGHER THE POROSITY AND FC THE CLOSER IT WILL BE TO THE 80% VALUE AND VISE VERSE.**