



Grand Farm Plots - ND

AquaSpy 12 July 2025



Water



Food



Air

We are continuously listening layer by layer.

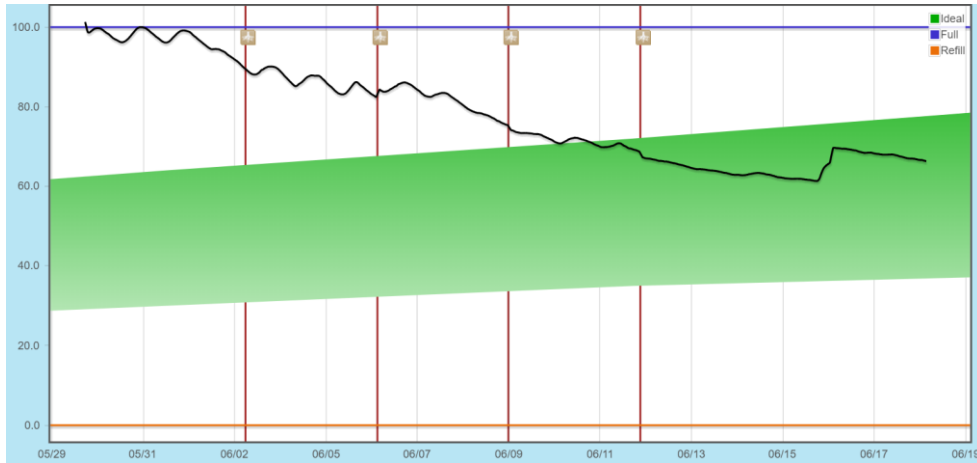


Driving yield and efficiency.

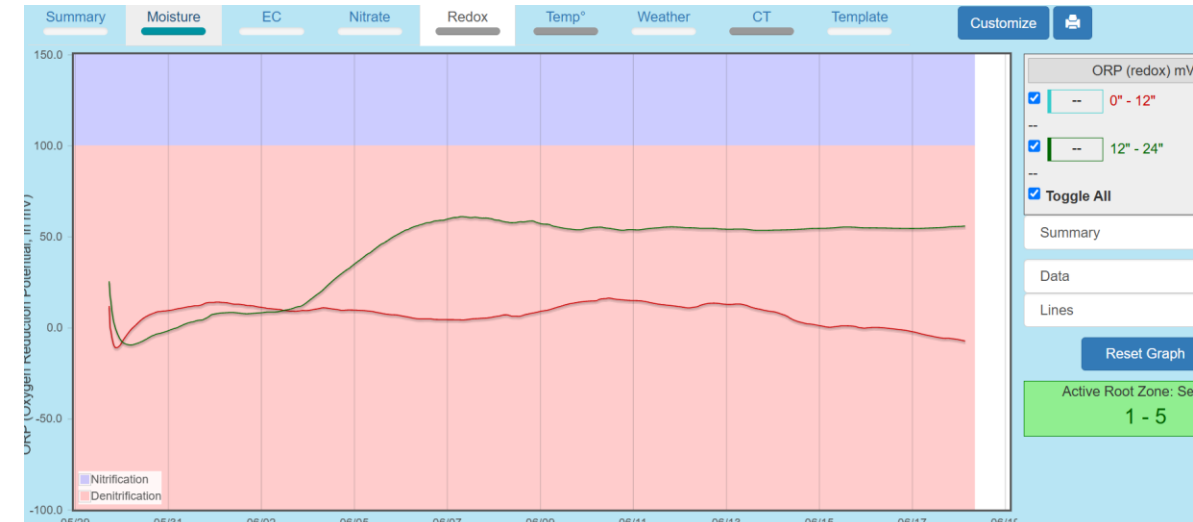
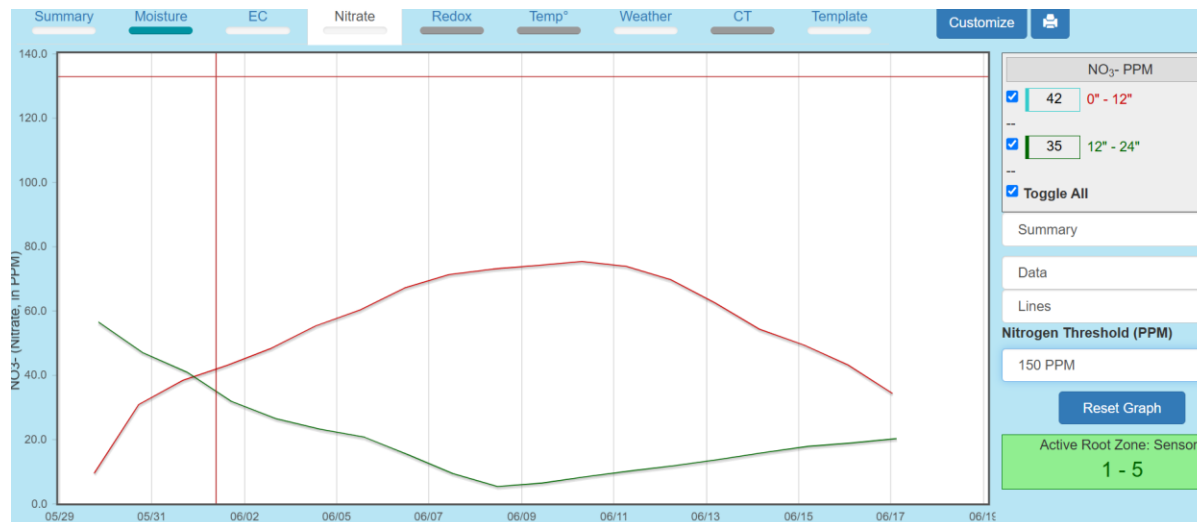
Project summary:

- Most crops have a nutrient use efficiency (NUE) of less than 50% which means millions of pounds of unused fertilizer are lost to leaching or runoff. With CropHesy LS-N, AquaSpy reveals the relationship between water, nitrate, oxygen and temperature, to improve decisions around nutrient management throughout the season. This trial will show in real time the movement through the profile of both water and nitrate in rain fed corn upon periodic fertilizer applications.
- Acreage: 0.5 acre
- Irrigation: None
- Crop: corn
- Planted: May 11
- Experimental Design: two blocks
- Treatments:
 - Full nitrogen rate at planting (180 lb/A N)
 - Half nitrogen rate at planting, half nitrogen rate side dressed (90 lb/A N,
 - July 1 half nitrogen rate side dressed 90 lb/A N)
- Plot Layout:
 - Trial dimensions: 154 feet wide x 160 feet deep
 - Block dimensions: 77 feet wide x 160 feet deep
 - Drain tiles

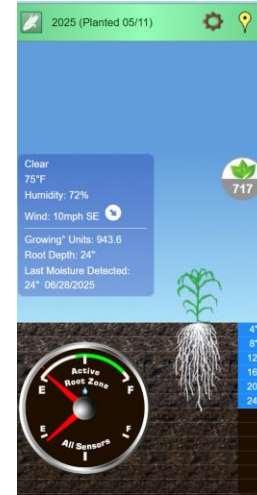
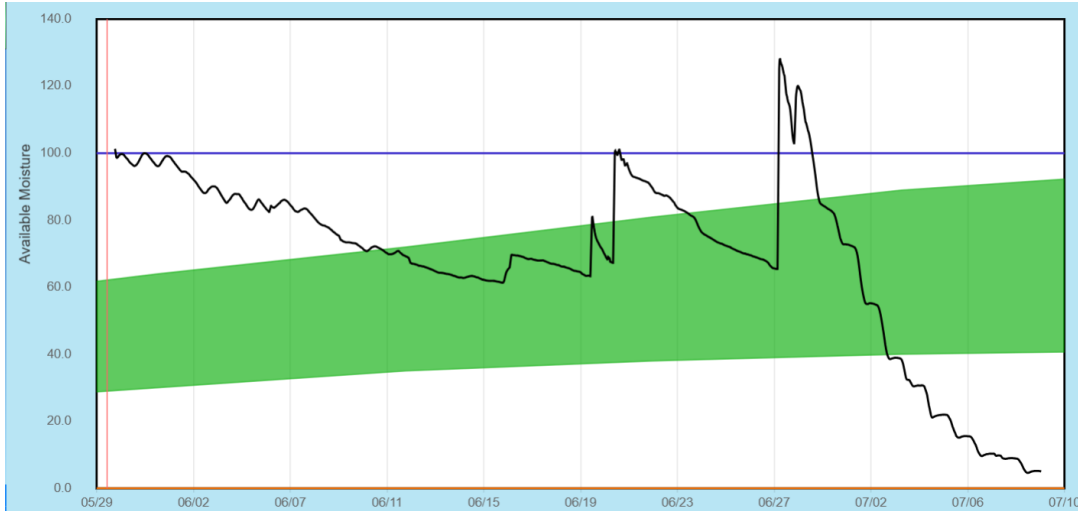
Full 6/18: Roots detected at 20", moisture detected at 4"



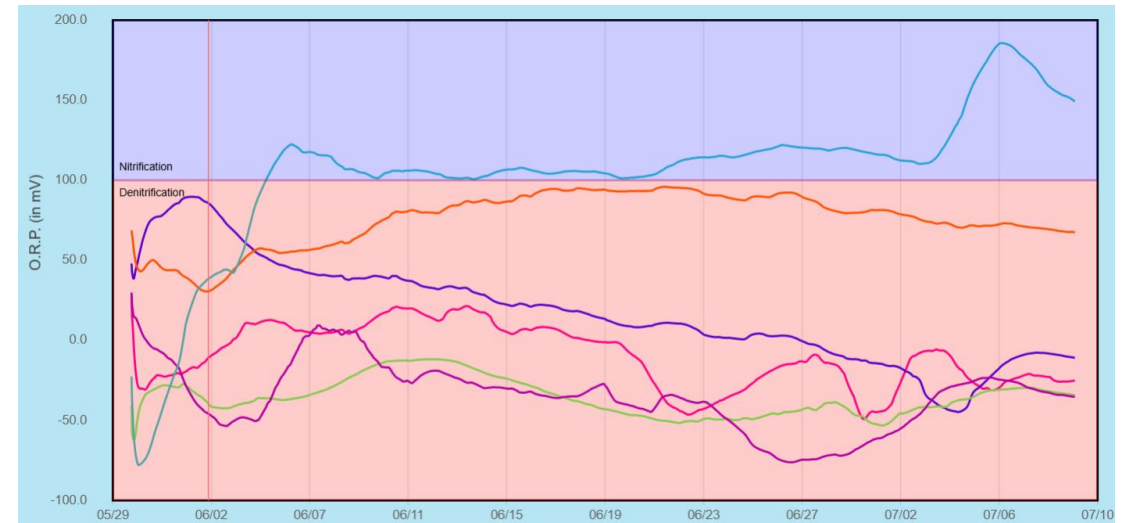
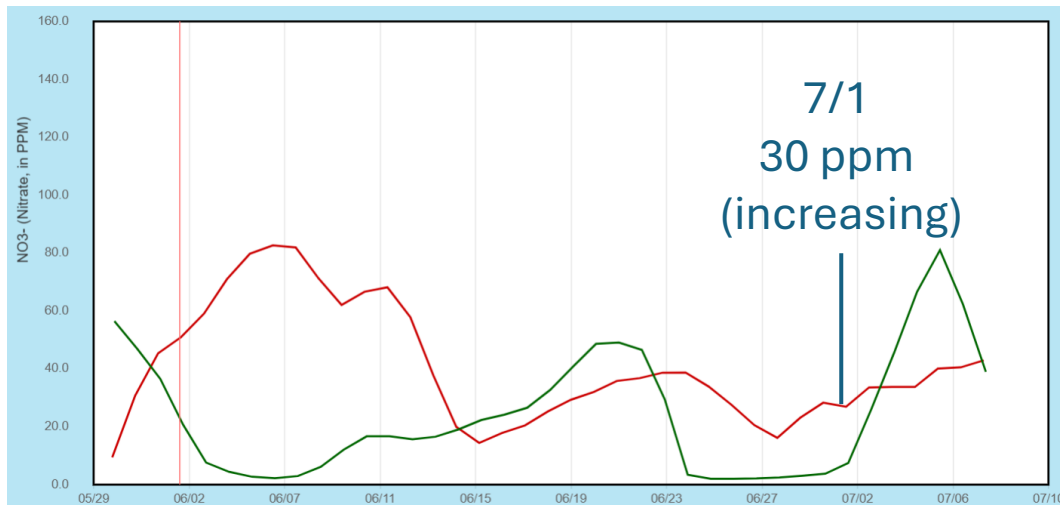
Full nitrogen rate at planting 5/11
(180 lb/A N)
Soil Reports – Pre-Plant 4/16
FULL
0 – 12" 20 lb/acre = 10 ppm



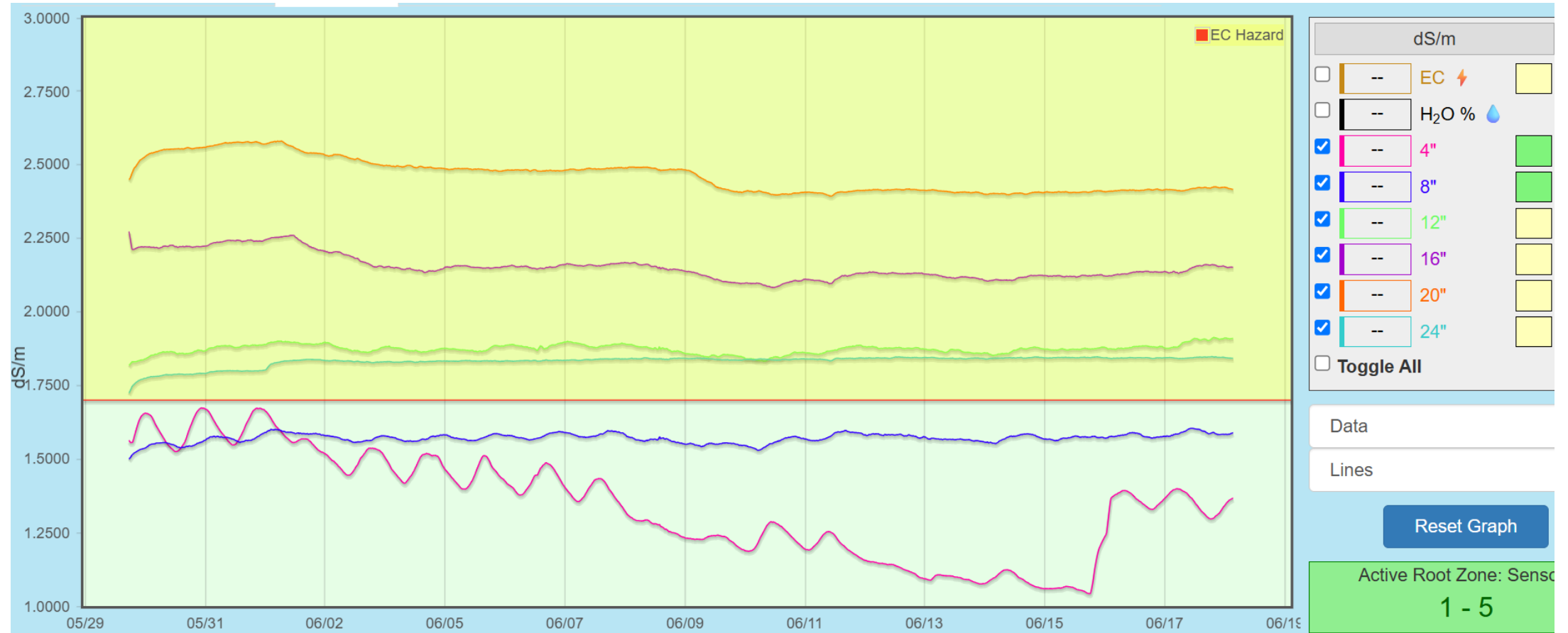
Full 7/9: Roots, moisture at 24" last moisture detected 6/28



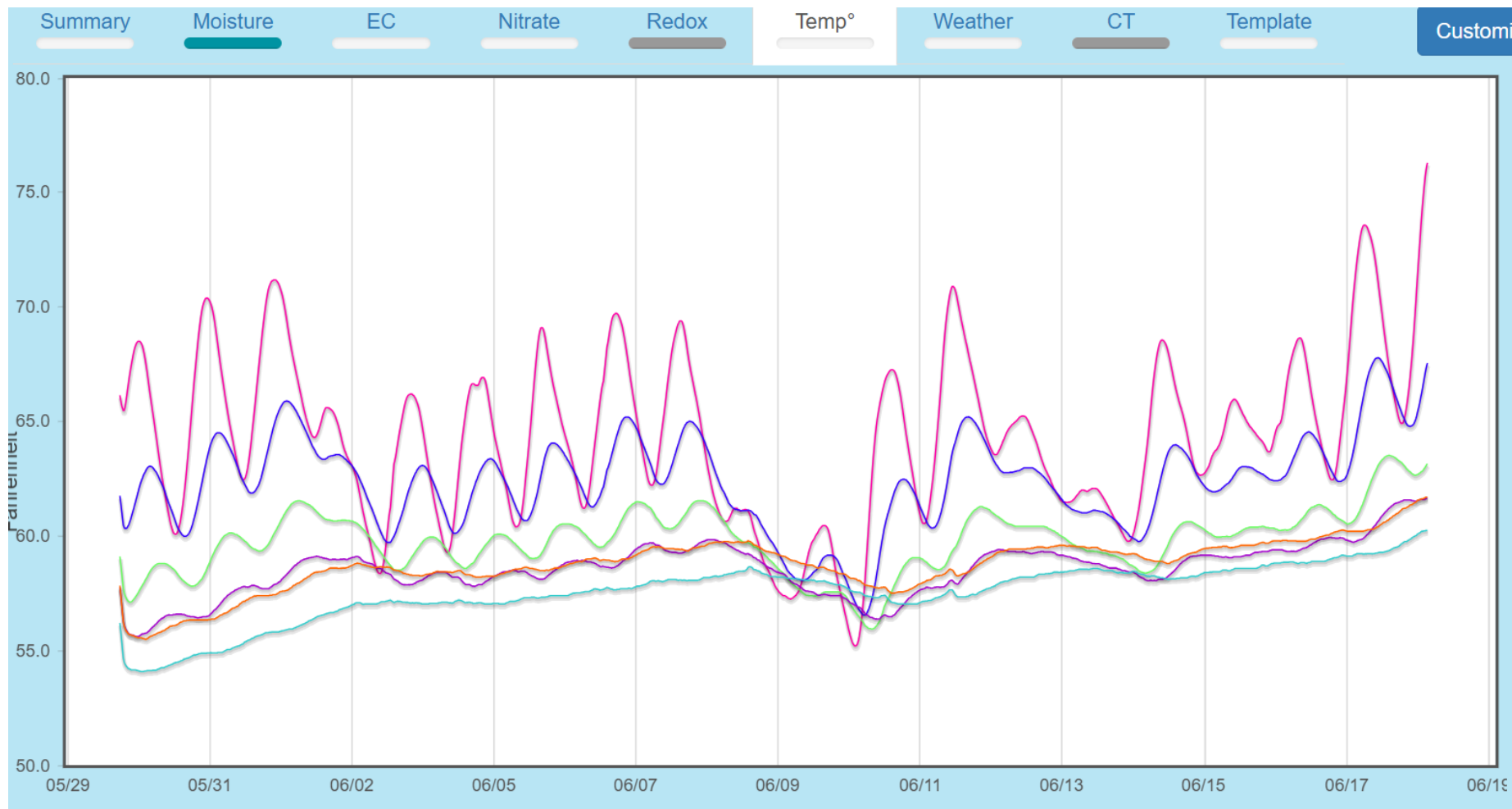
SOIL REPORT 7/1
0 – 12"
84 lb / acre = 42 ppm



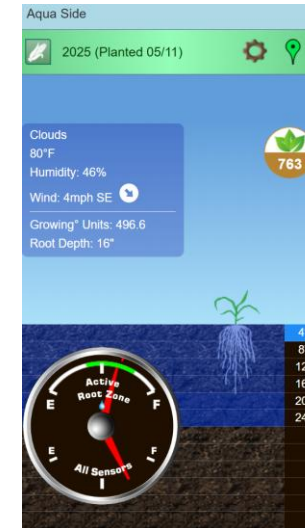
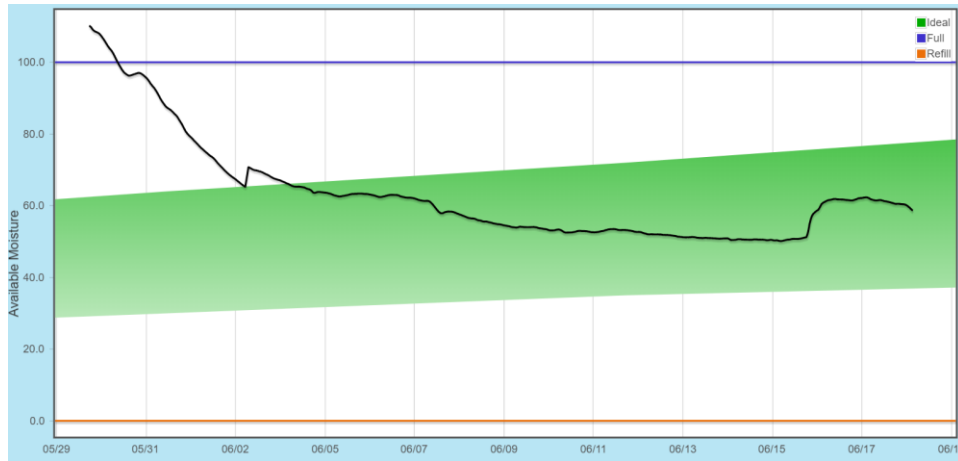
Keep an eye on salinity during the season. Corn is somewhat salt sensitive.



Temperature 6/18

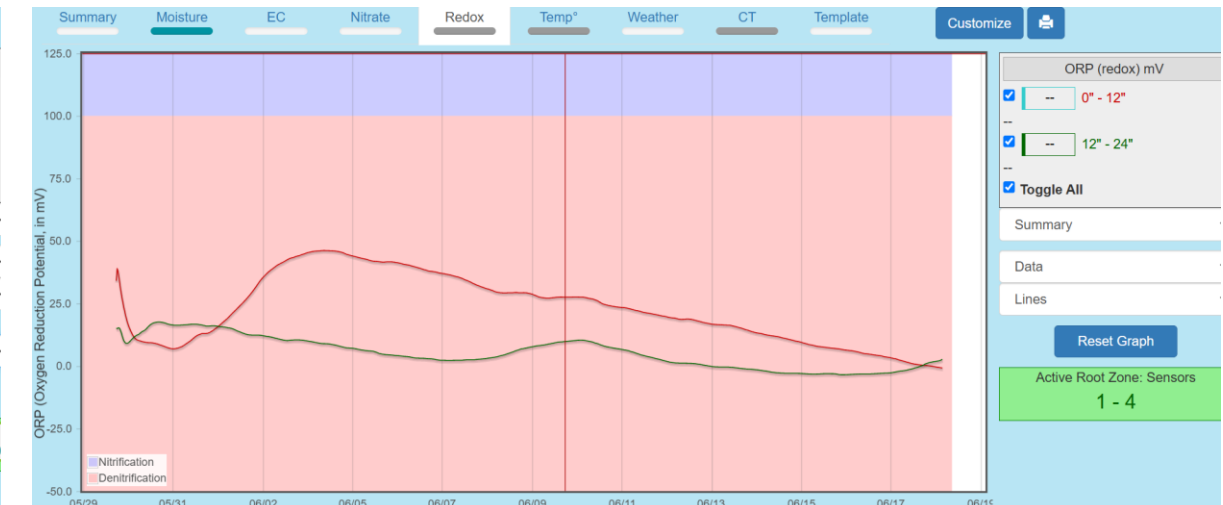
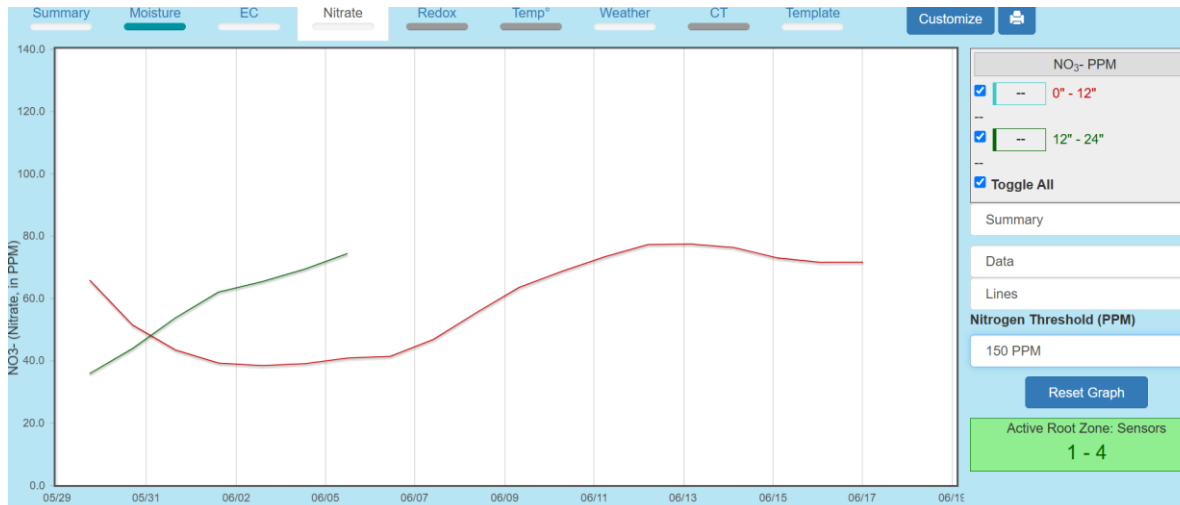


Half 6/18: Roots detected at 16"; moisture at 4"

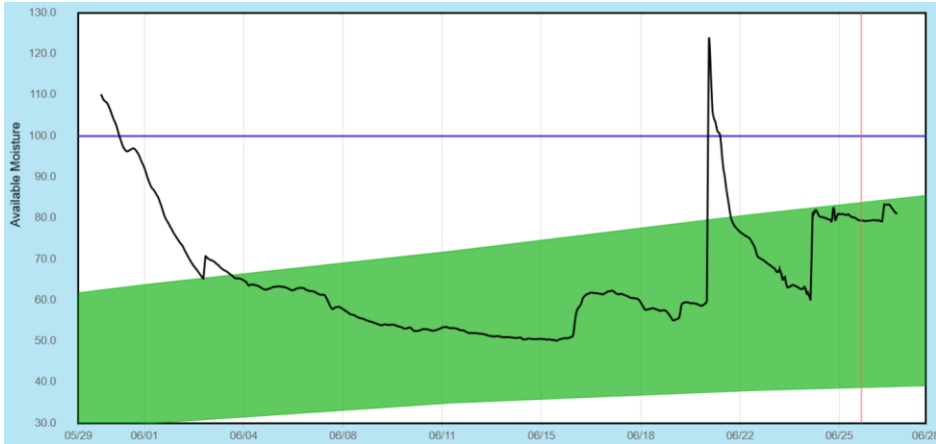


Half nitrogen rate
at planting 5/11,
half nitrogen rate

7/1 side dressed
(90 lb/A N, half
nitrogen rate side
dressed 90 lb/A N)



Half 7/9: currently offline. Last check in 6/27

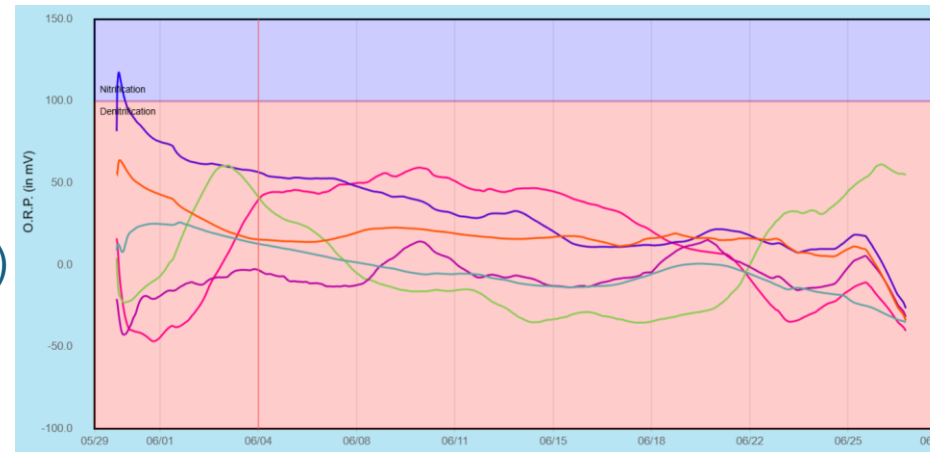
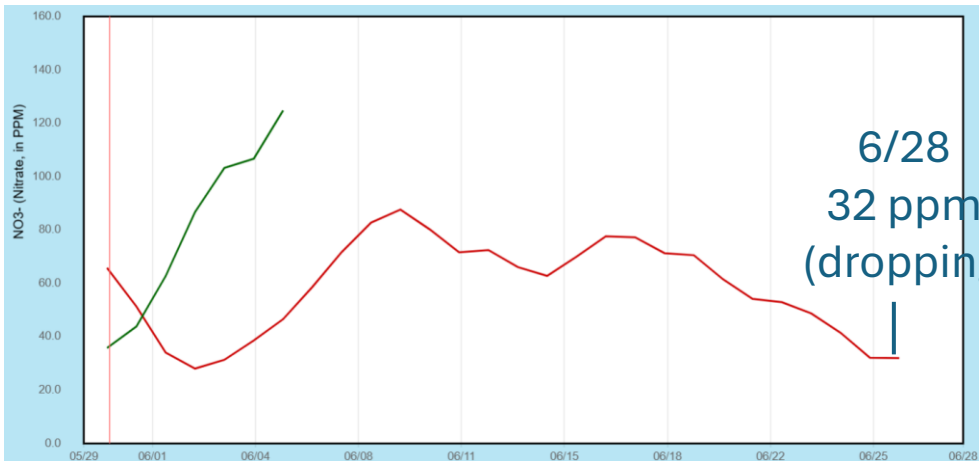


Side dressed 7/1

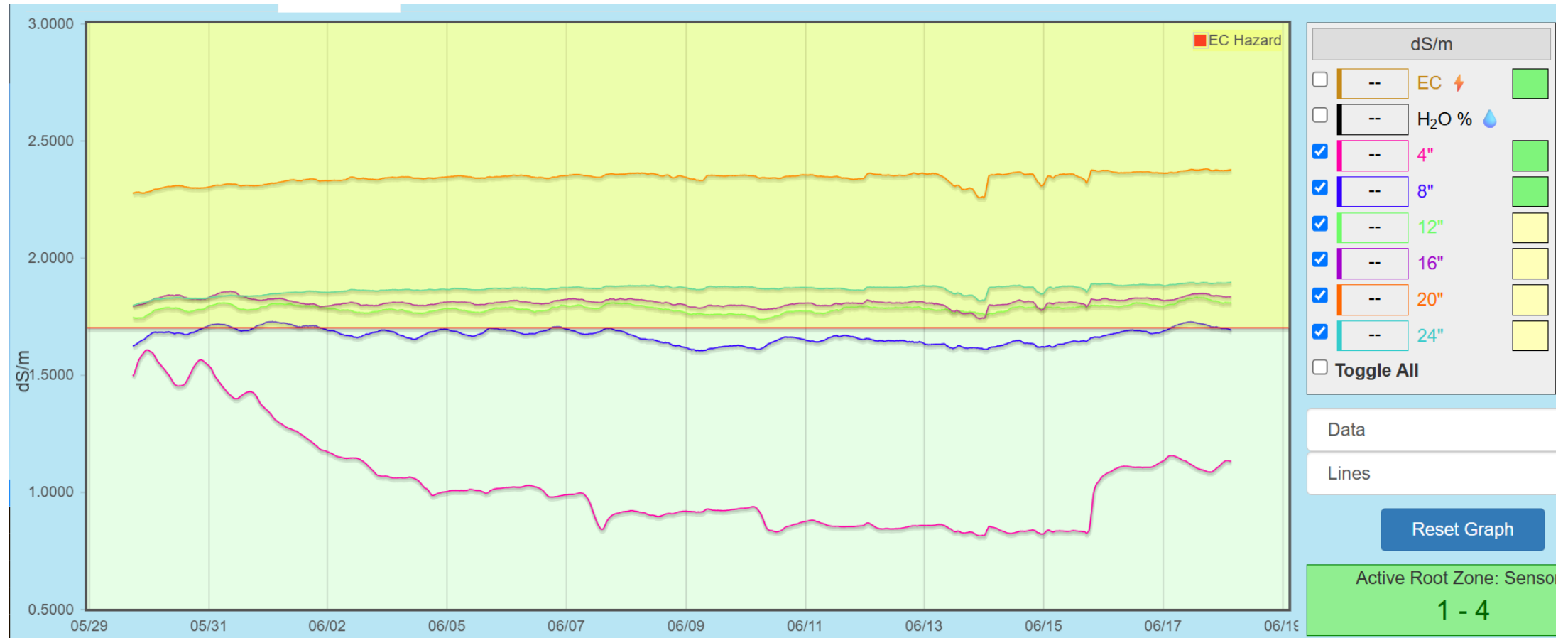
SOIL REPORT 7/1

0 – 12"

56 lb/ acre = 28 ppm

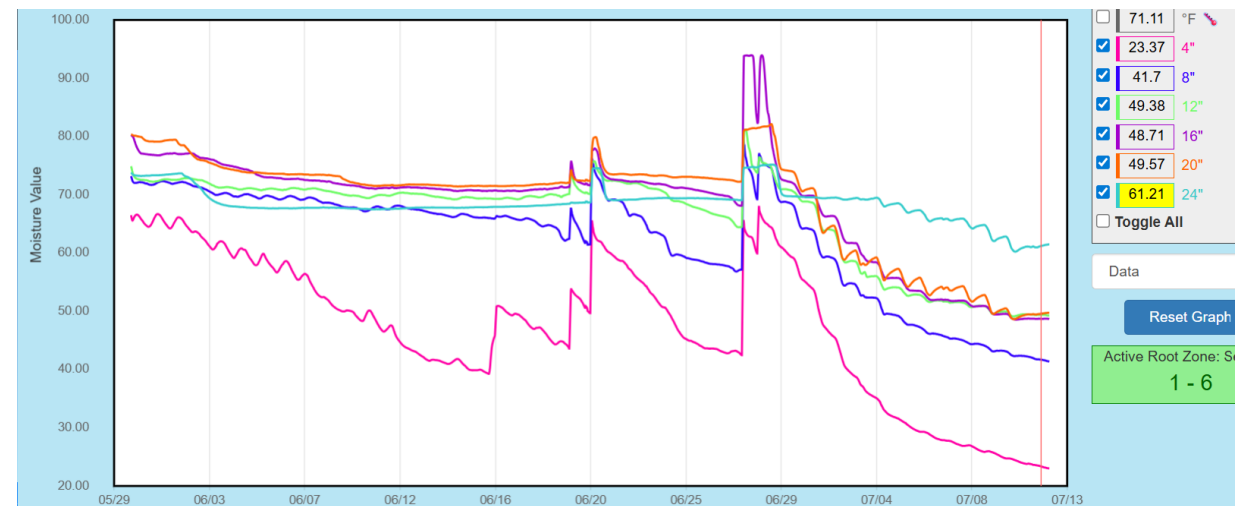
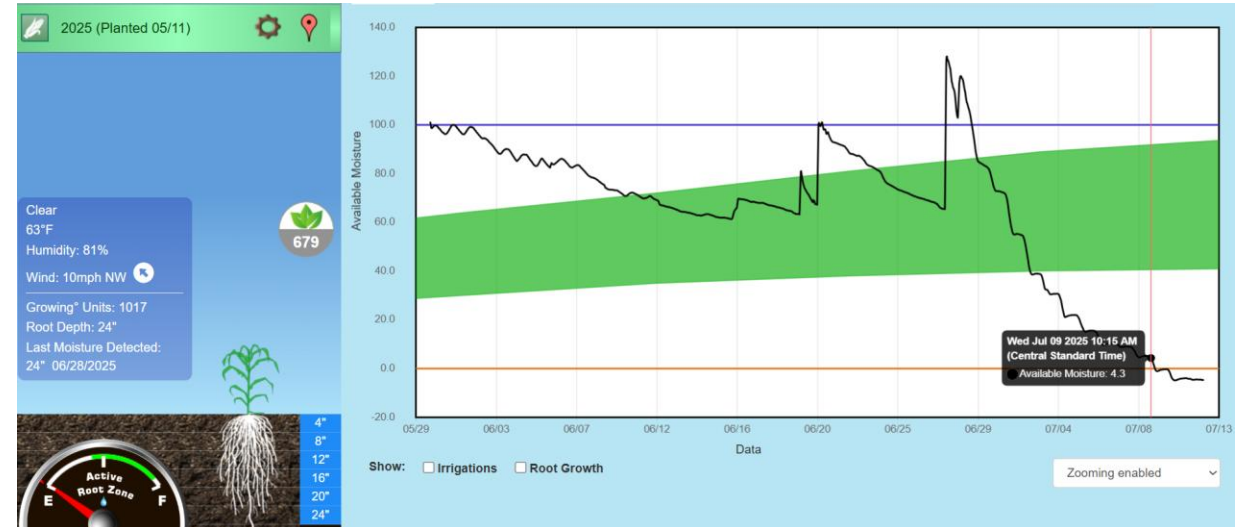


Salts



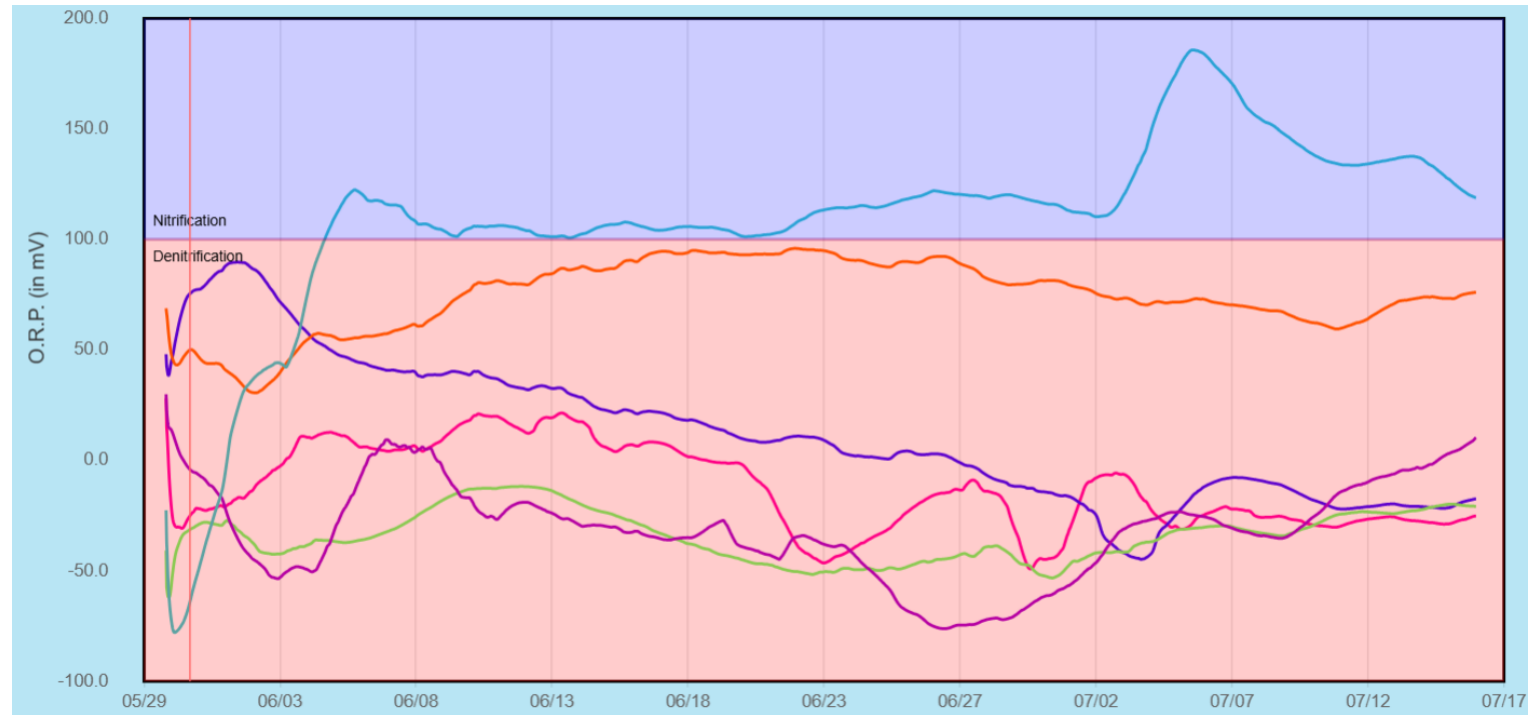
Aqua Full 7/12: Drying down from lack of rain

- Casselton, ND has had a little rain in the past week, but not enough to register “irrigation”
- Last date water detected 6/28
- Summary line dropped below the red line on 7/10
- In the layer view, there is some moisture still in the deeper layers



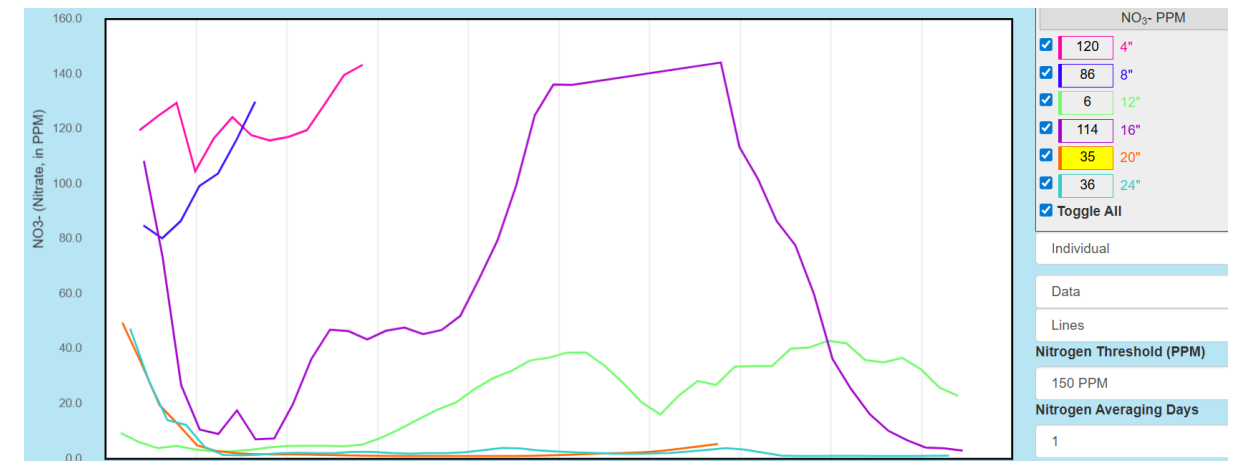
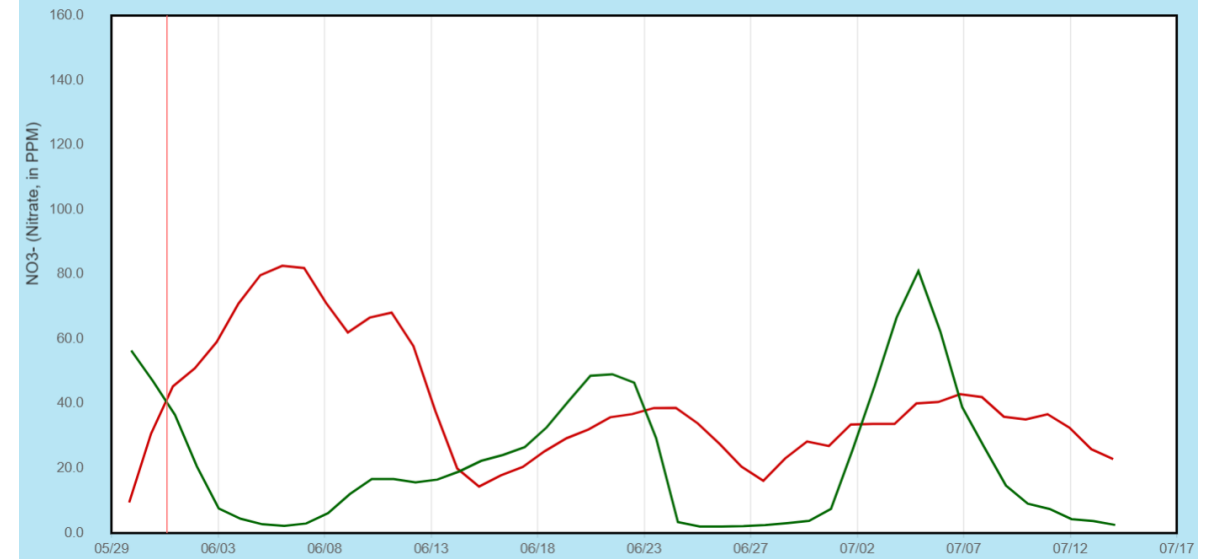
NUE / Redox

- See a lot of energy, aerobic nitrification occurring at 24"
- Nitrification at 20" as well

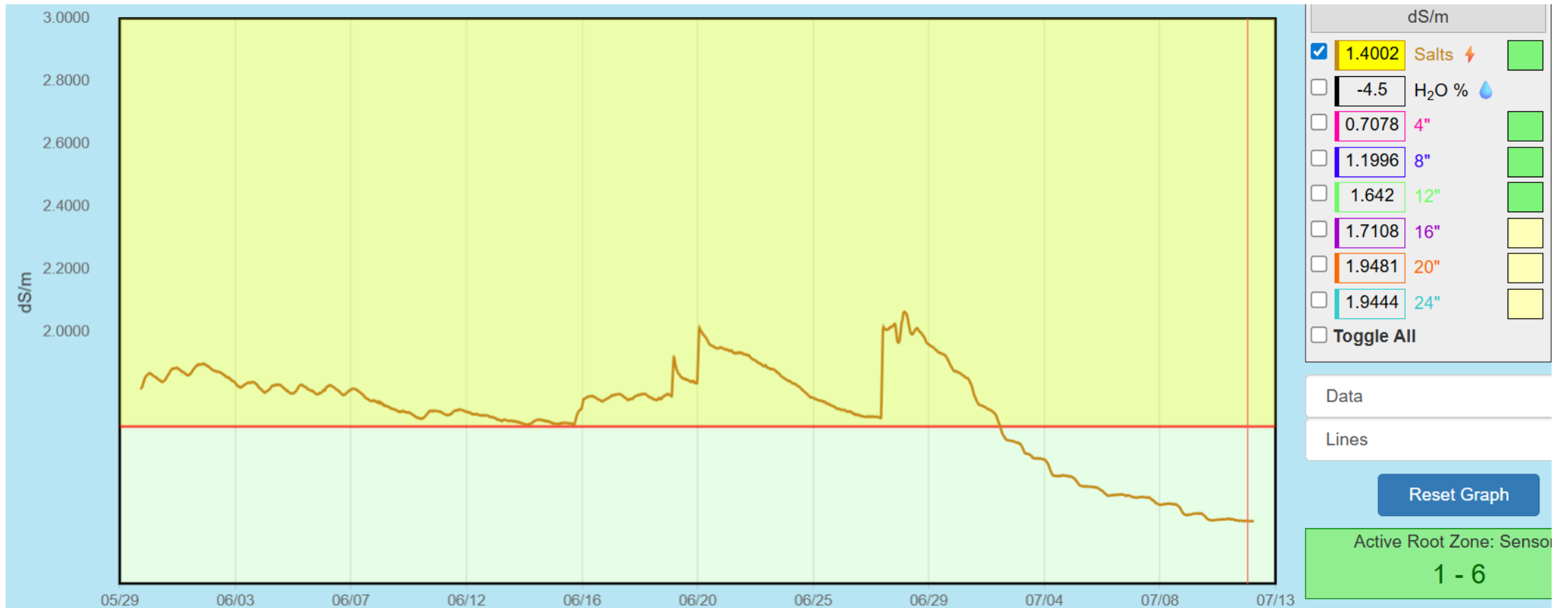


Nitrogen

- See summary lines versus detail
- 4" stopped reading at 6/12 – it was still raining a lot then, most likely washed down (bump in 16" at that time)
- **OF NOTE:** Still reading until 7/17 at 12", 16", and 24" when moisture dropped below the red line
- 16" layer nitrate is dropping fast
- 24" barely has any left. Why is NUE active at that level?



Salts





Crophesy
by **AquaSpy**

It's all about underground intelligence – layer by layer



US-BASED



12 YEARS IN THE
FIELD



16 COUNTRIES



130 DEALERS
AND LARGE
GROWERS



990,000+ ACRES
MANAGED



OVER 38.2
BILLION DATA
POINTS



PERMANENT,
ROW AND
SPECIALTY
CROPS



MOISTURE, ROOT
DEPTH, TEMP,
SALINITY



- It's as easy as staying in the green band
- Any crop
- Any soil type
- Data transmits direct to the Cloud
- No programming or configuration

