Irrigation Research Foundation

Today's topics

History of the Irrigation Research Foundation "IRF"

Farming practices and the importance of Organic Matter

Ogallala Aquifer

Irrigation wells

Technology advancements

Data collection- Pros and Cons

Calmer Corn Head

Calmer Corn Head Video

Calmer Head
Residual Effects

Harvest

Residue effect

Calmer Head

-Under Construction-

Seed Reign planter- Luke Cure

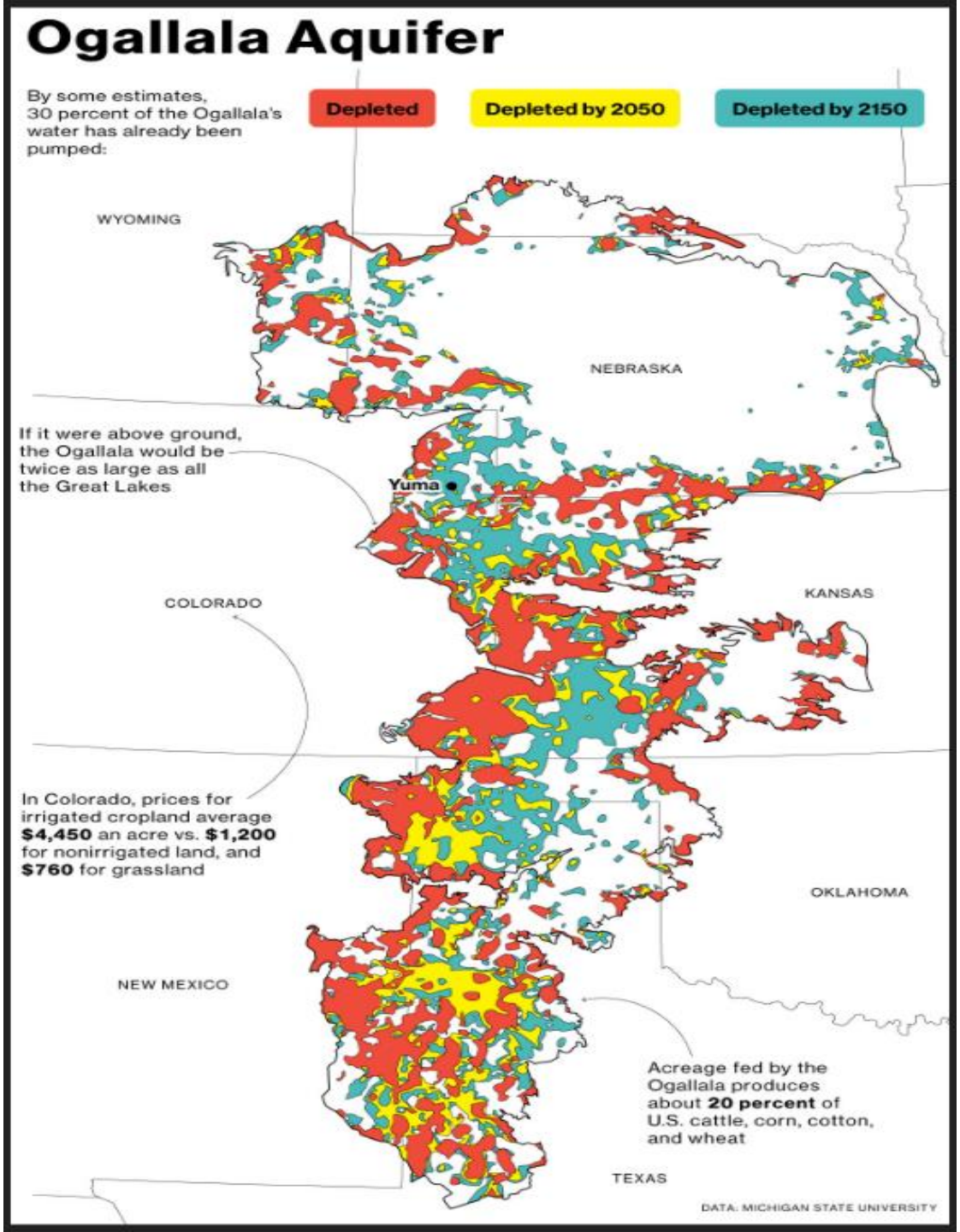
Wray, Colorado

Multi-Hybrid - VR Fertility/seed pop placement 2X2, top of soil 2X2, or In-furrow placement on-the-go


9450
JOHN DEERE


SOUTH DAKOTA
WY
NEBRASKA
COLORADO
KANSAS
OKLAHOMA
NM
TEXAS

Ogallala Aquifer



Fun facts

1 acre foot water = 325,851 gallons

1 acre foot = 66 feet wide X 660 feet Long X 1 foot High or 43,560 cubic feet

350 acre feet well = 750 gpm well = 114 million gallons water

1 acre foot water = Football field filled with water 1 foot deep

27% of Irrigated land in the entire United States lies over the Aquifer

Since 1950 Irrigation has reduced the saturated volume by an estimated 9%

-Yuma County, Irrigated wells- 2,000


Yuma County
© 2016 Google
Image Landsat
Google earth
Imagery Date: 12/31/1969 39°58'48.52" N 102°18'07.42" W elev 3891 ft eye alt 101.51 mi


Lateral North
Circle E
Circle D
Circle G
Base Station
Circle A
Circle B
Lateral South
59
© 2013 Google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USDA Report in October-bit.ly/precison-ag-report

25% of farms had adopted yield mapping

19% of farms were using GPS-based soil-mapping tools

29% of corn farmers in the report used auto guidance

Larger farms that utilized GPS yielding maps and auto guidance topped 80% report shows VRT was only used by 40% of those producers

Source: Western Farmer-Stockman December 2016-Reported by Willie Vogt-USDA full report at bit.ly/precision-ag-report

Key components needed for Variable Rate Technology

VRT fertilizer systems- Strip-till, Planter, and Pivot

VRT Water

- **Variable Rate motor at the well**
- **Zone application vs. Sector applications**

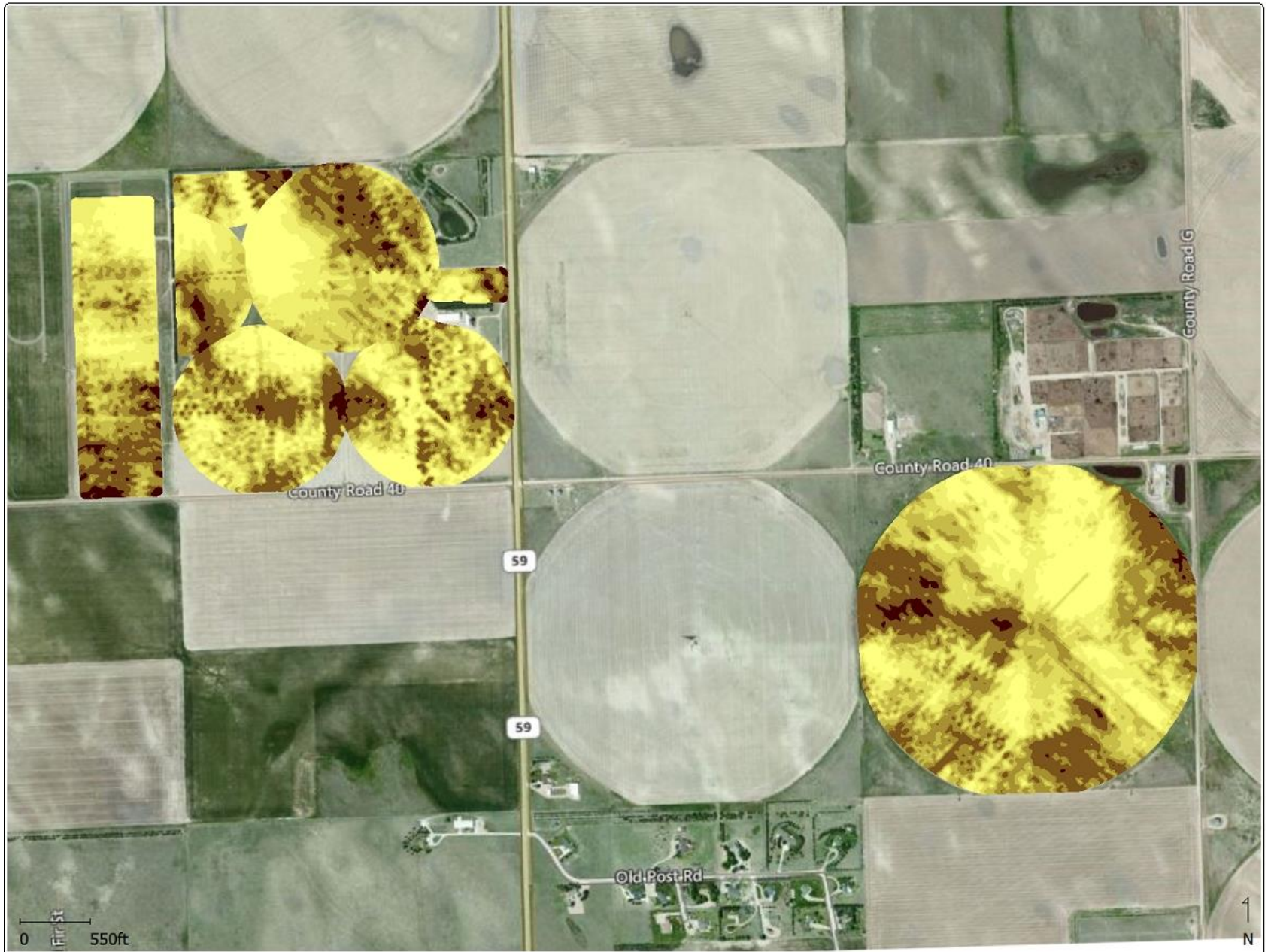
VRT Injection in water flow

- **Agri-Inject- Reflex**

Agri-measures- data collection and analysis control center

Past farming history- data maps - *EC maps, Grid soil samples, Yield maps, Aerial NDVI imagery and soil water \water analysis, capacitance probe with salinity

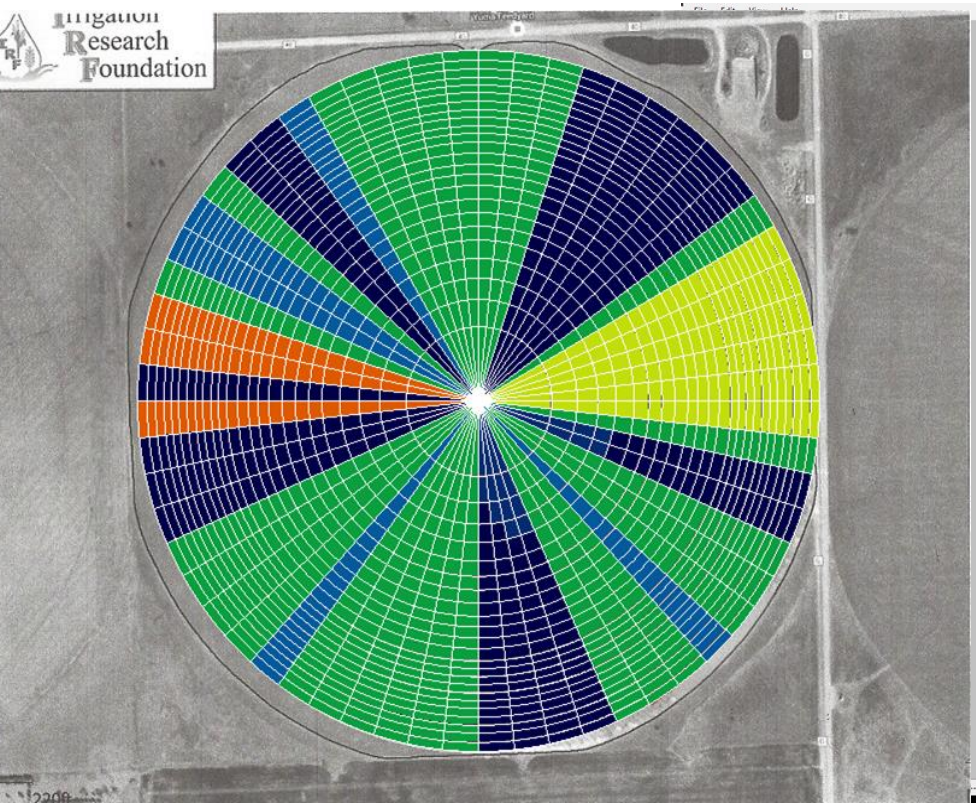
EC map shallow

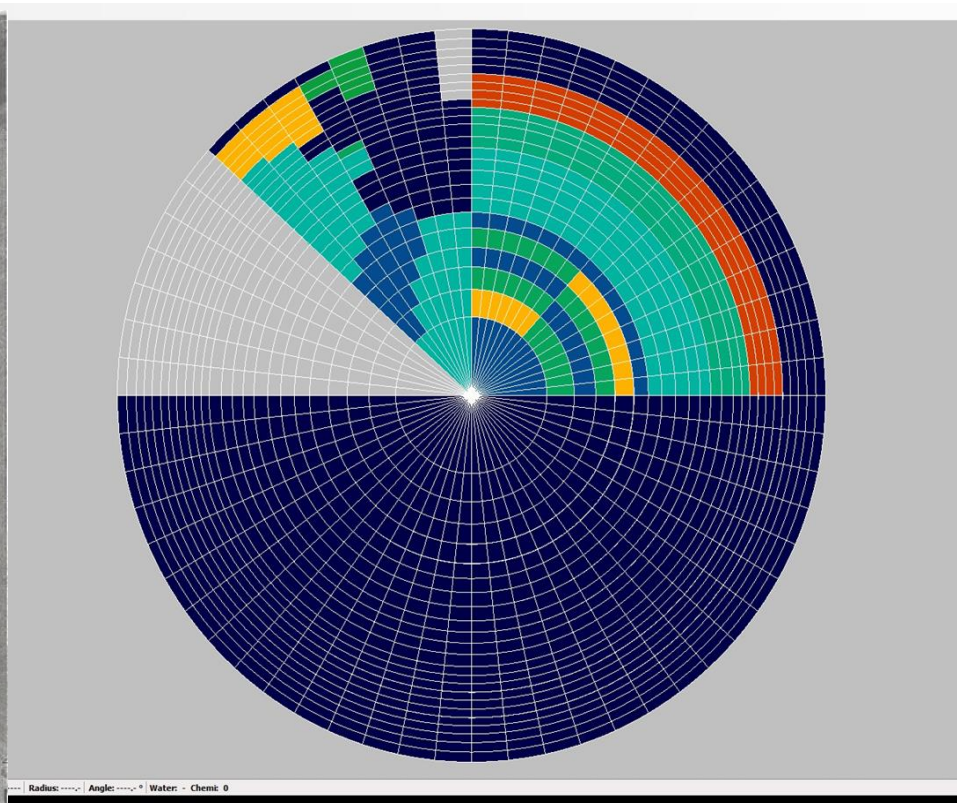


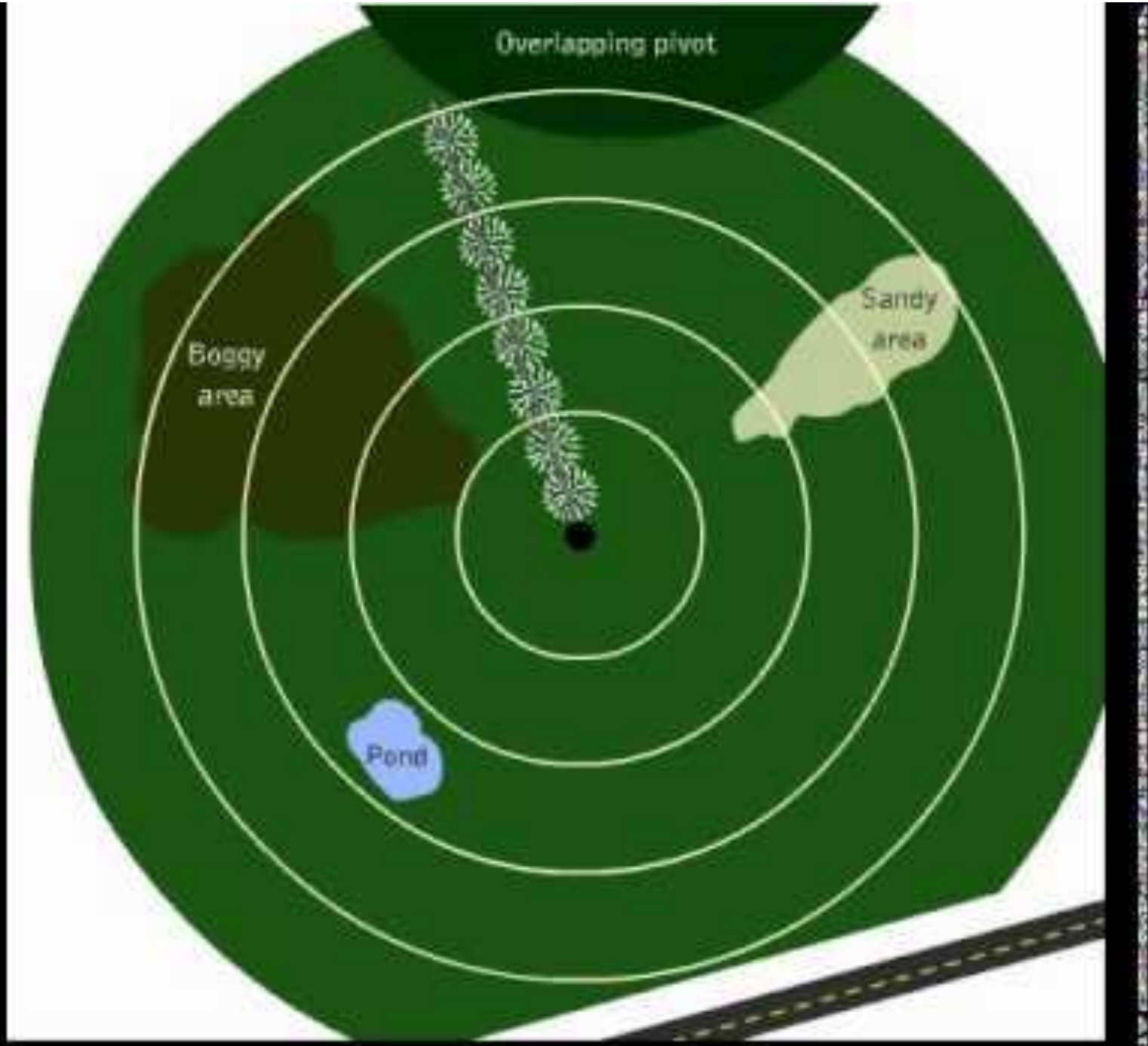
IRF Soil Survey Map

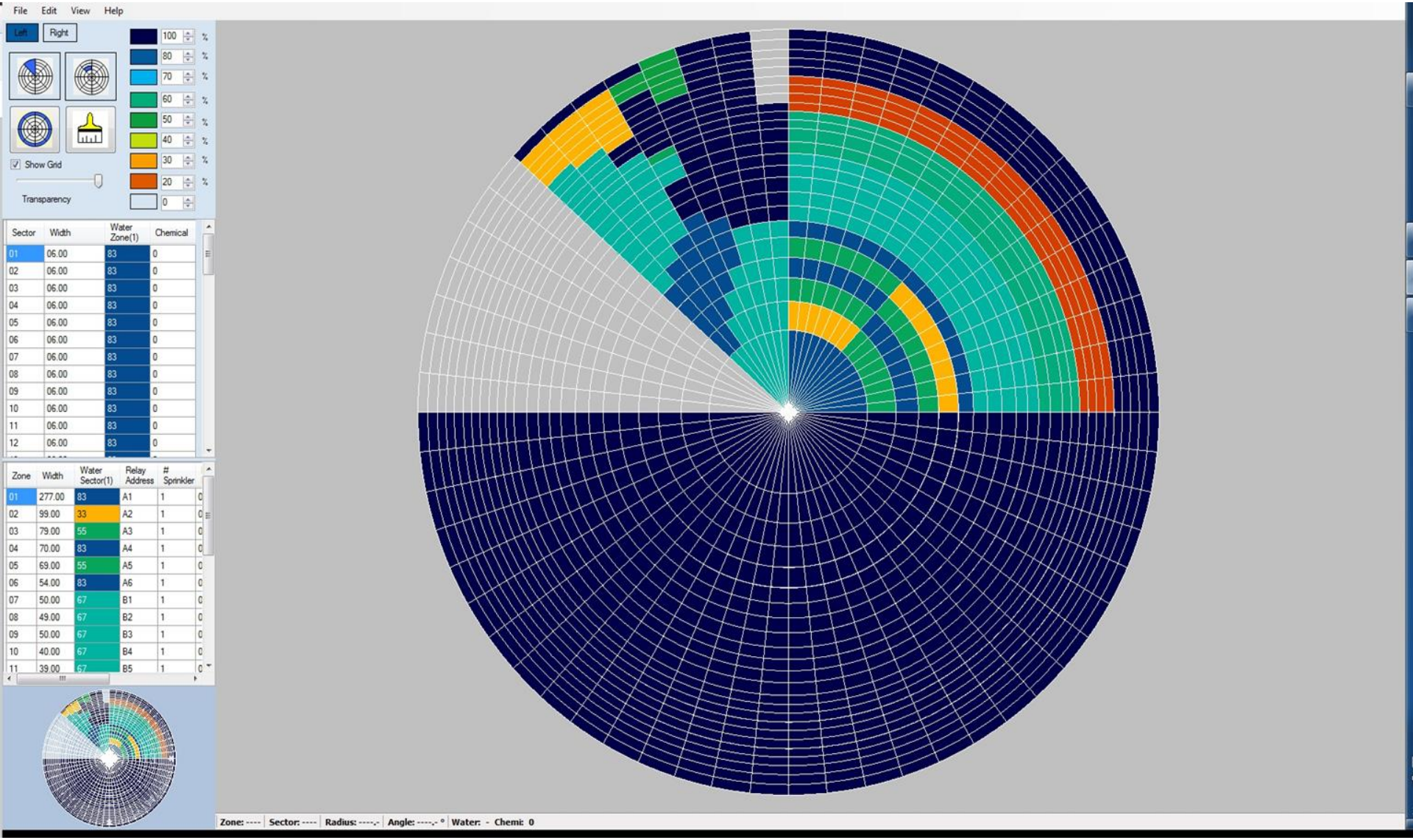
Contrast of EC map and Soil map

Sector Water Vs. Zone water






Overlapping pivot
Boggy area
Sandy area
Pond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Transparency
Sector
Width
Water Zone(1)
Chemical
01 06.00 83 0
02 06.00 83 0
03 06.00 83 0
04 06.00 83 0
05 06.00 83 0
06 06.00 83 0
07 06.00 83 0
08 06.00 83 0
09 06.00 83 0
10 06.00 83 0
11 06.00 83 0
12 06.00 83 0
Zone
Width
Water Sector(1)
Relay Address
Sprinkler
01 277.00 83 A1 1
02 99.00 33 A2 1
03 79.00 55 A3 1
04 70.00 83 A4 1
05 69.00 55 A5 1
06 54.00 83 A6 1
07 50.00 67 B1 1
08 49.00 67 B2 1
09 50.00 67 B3 1
10 40.00 67 B4 1
11 39.00 67 B5 1
Zone: ----
Sector: ----
Radius: ----.-
Angle: ----.- °
Water: -
Chemi: 0

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Transparency

Sector	Width	Water Zone(1)	Chemical
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02	03.00	0	0
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03	79.00	55	A3	1	0
04	70.00	83	A4	1	0
05	69.00	55	A5	1	0
06	54.00	83	A6	1	0
07	50.00	67	B1	1	0
08	49.00	67	B2	1	0
09	50.00	67	B3	1	0
10	40.00	67	B4	1	0
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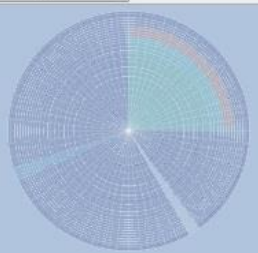
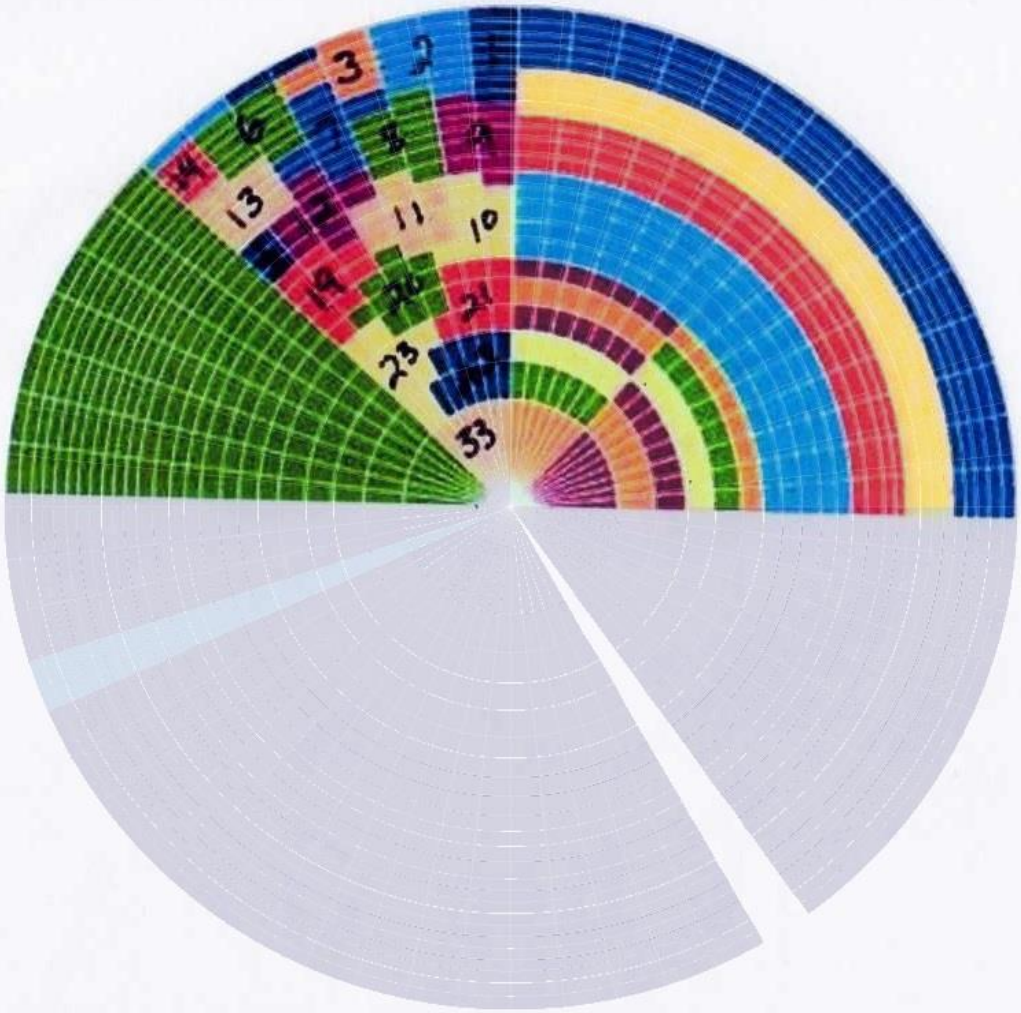
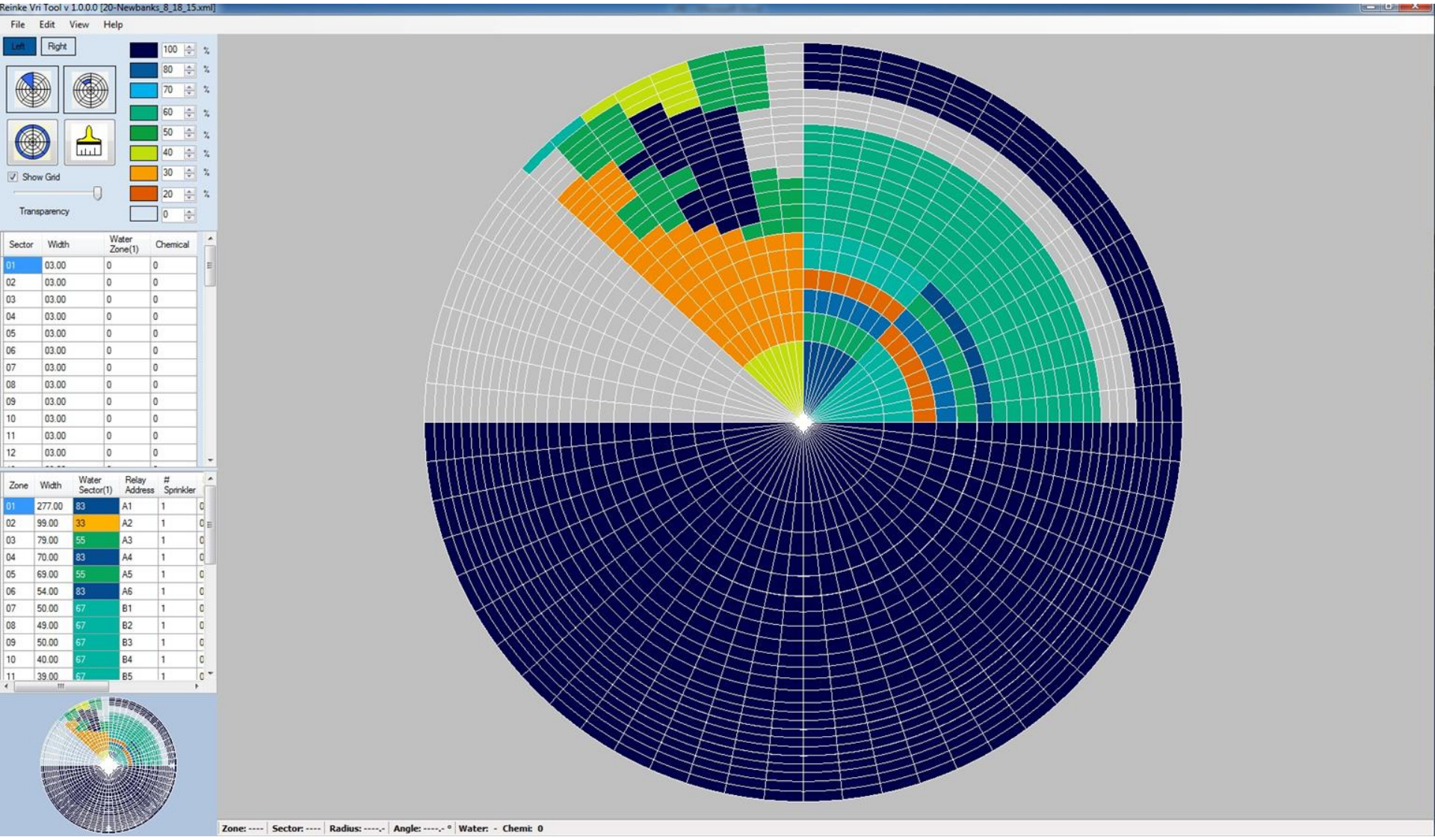




Zone: ---- | Sector: ---- | Radius: ----.- | Angle: ----.- ° | Water: - Chemi: 0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Angle: ----.- °
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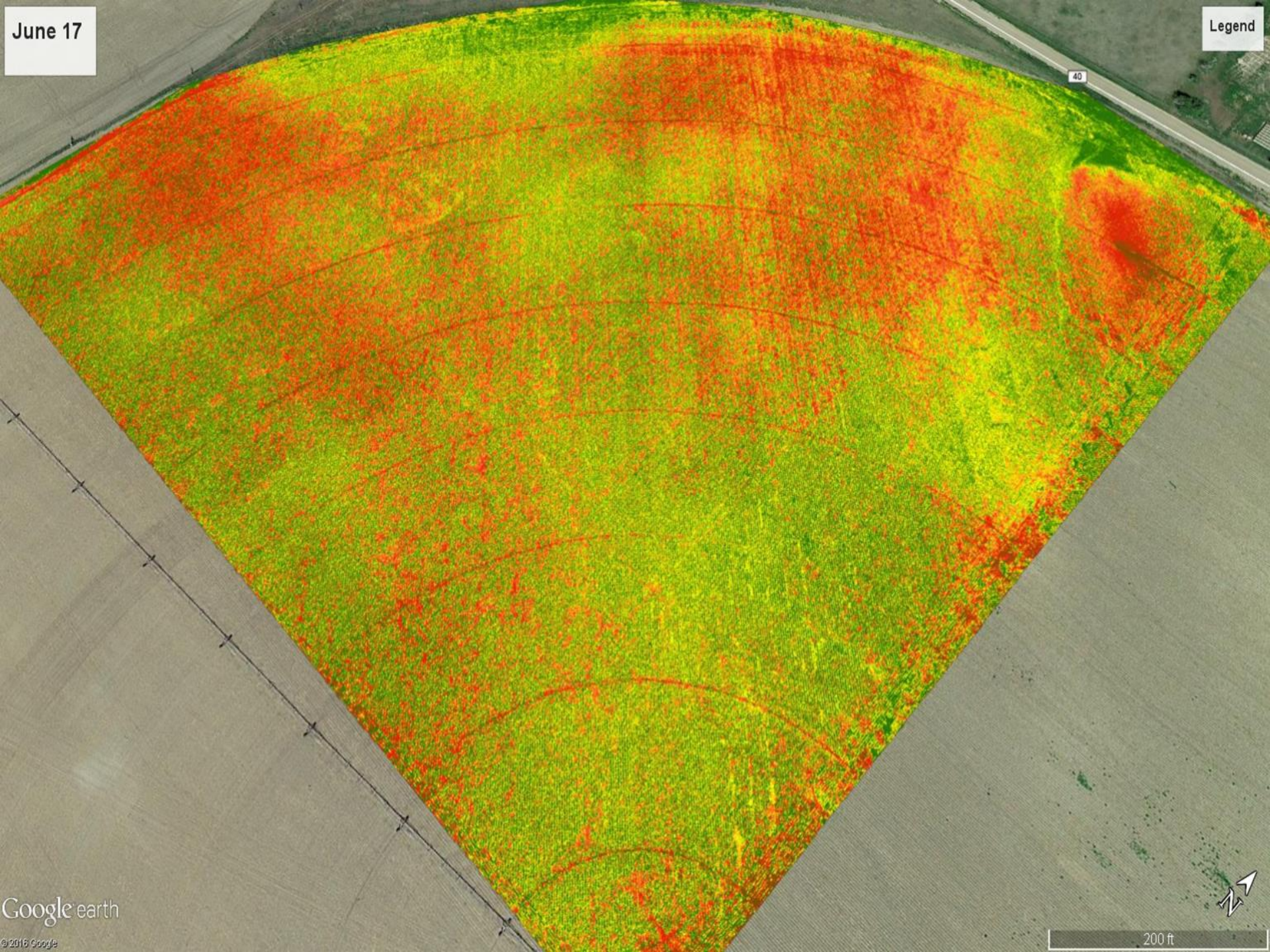
AGRI INJECT
reflex
AGRI INJECT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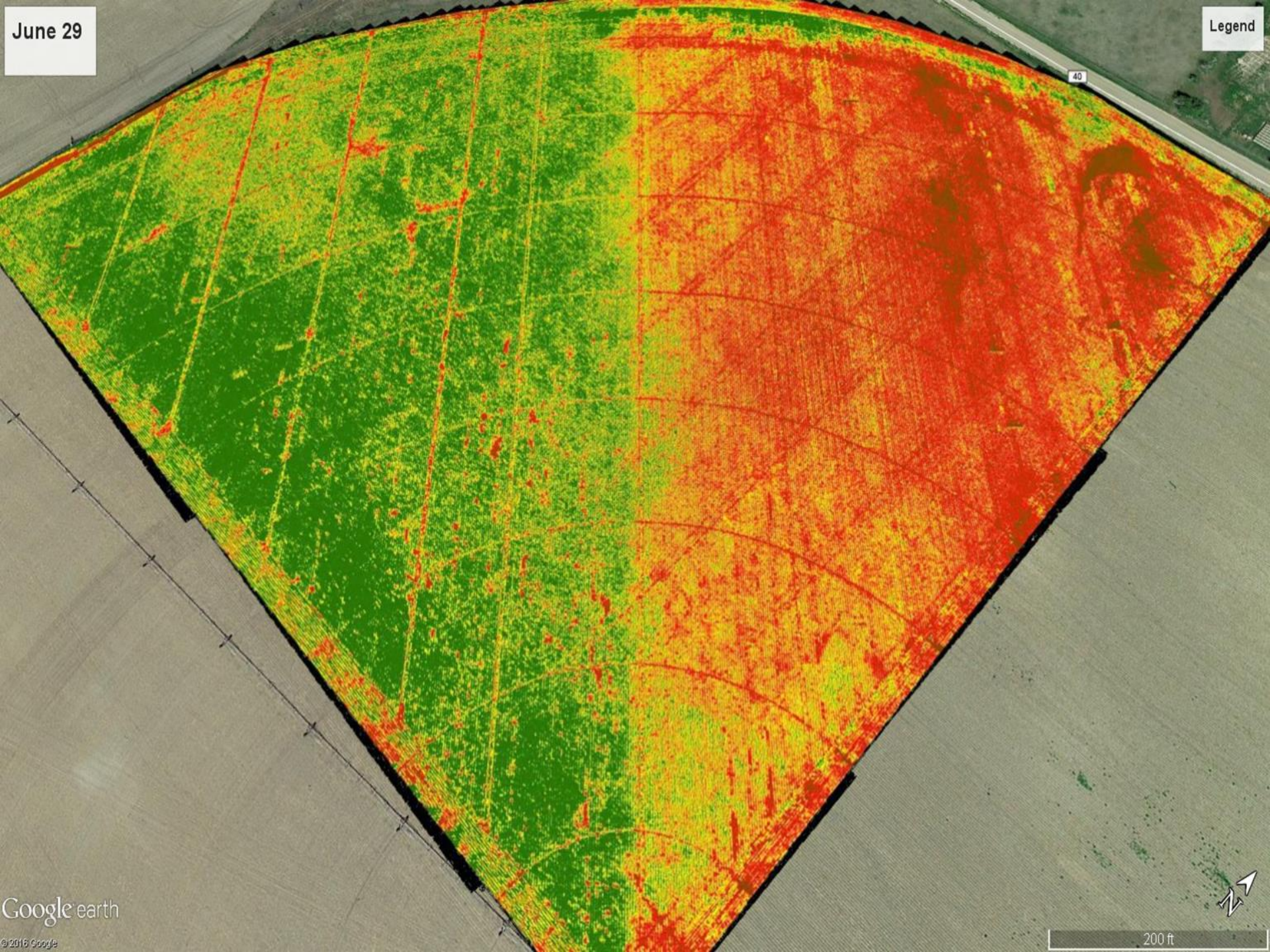
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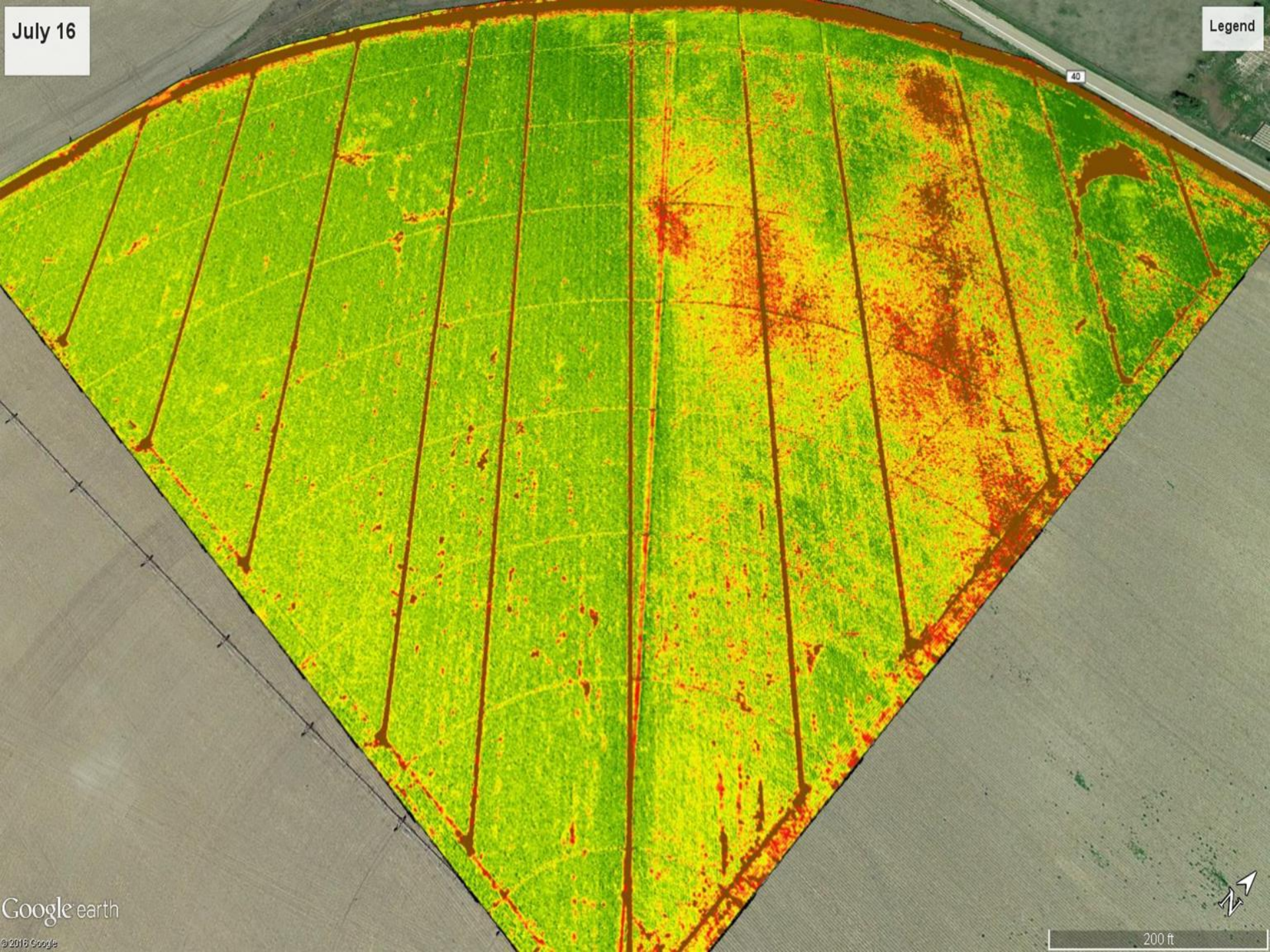
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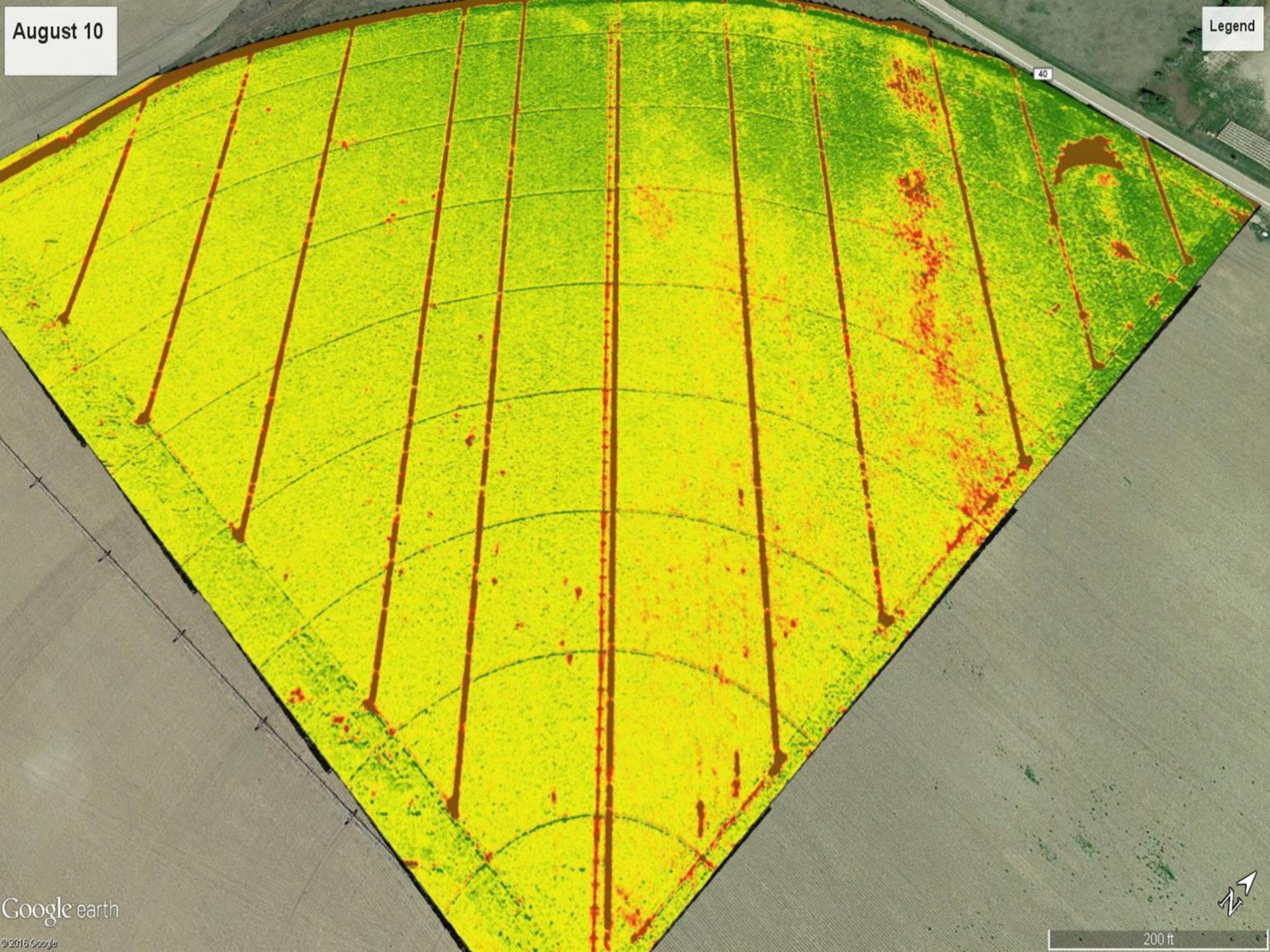
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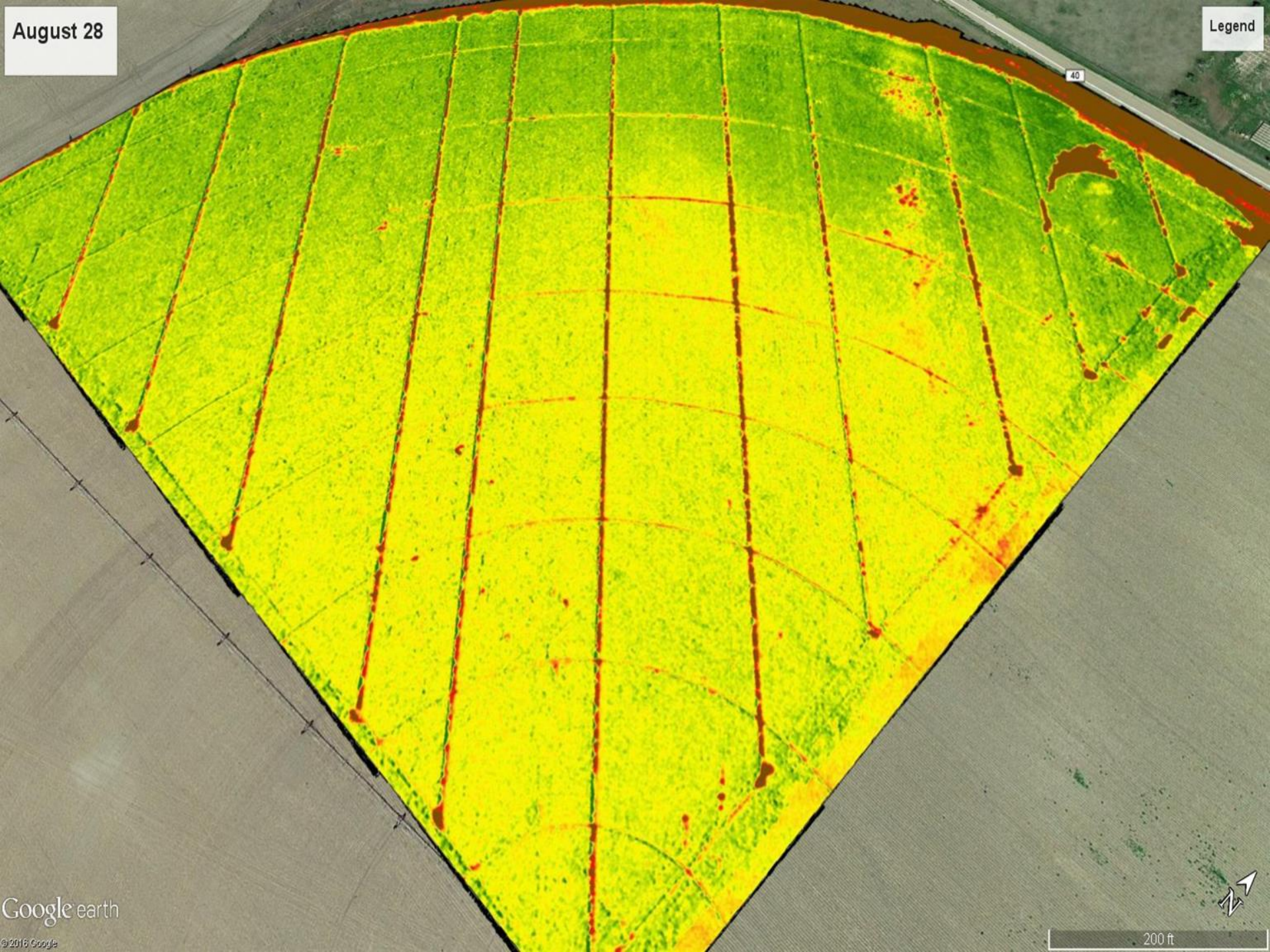
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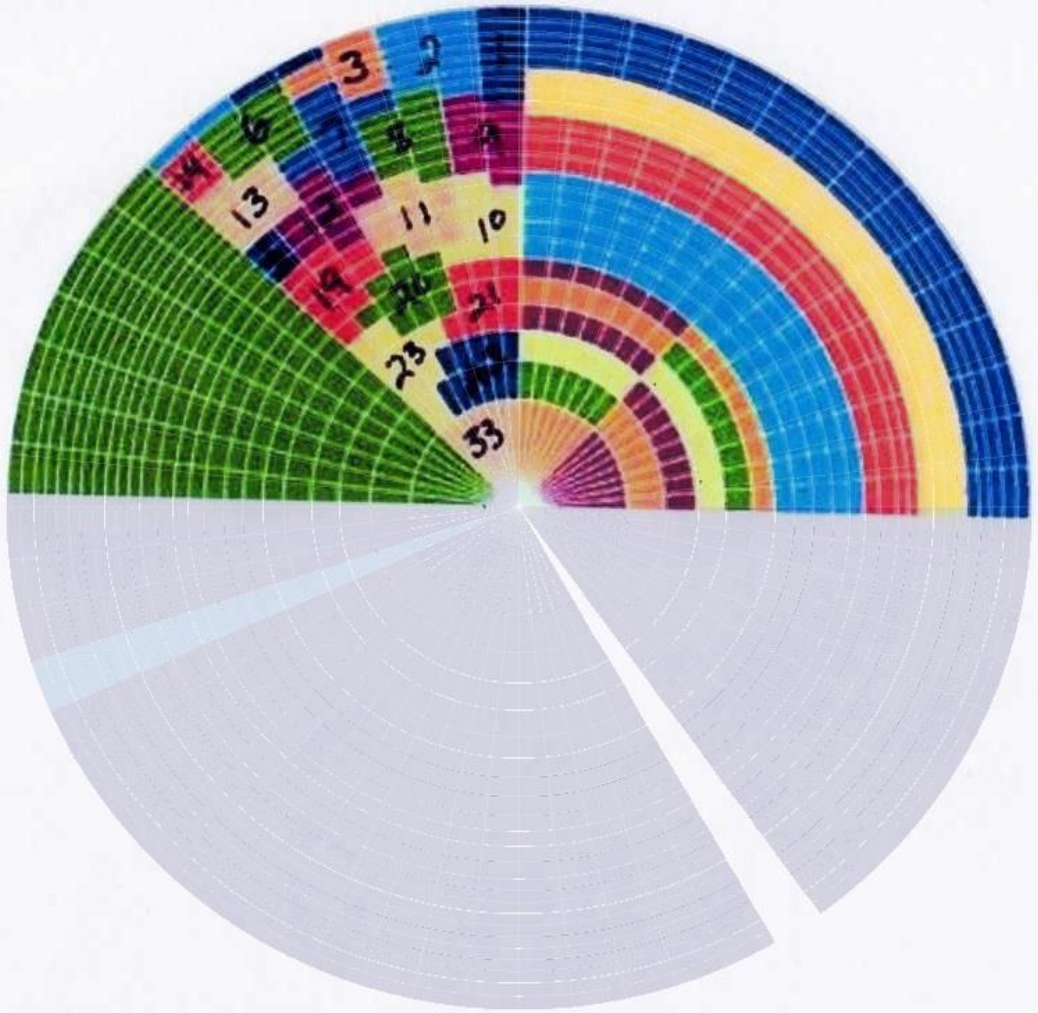

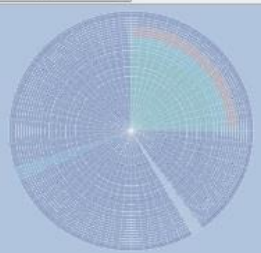

Zone: ---- | Sector: ---- | Radius: ----.- | Angle: ----.- ° | Water: - Chemi: 0

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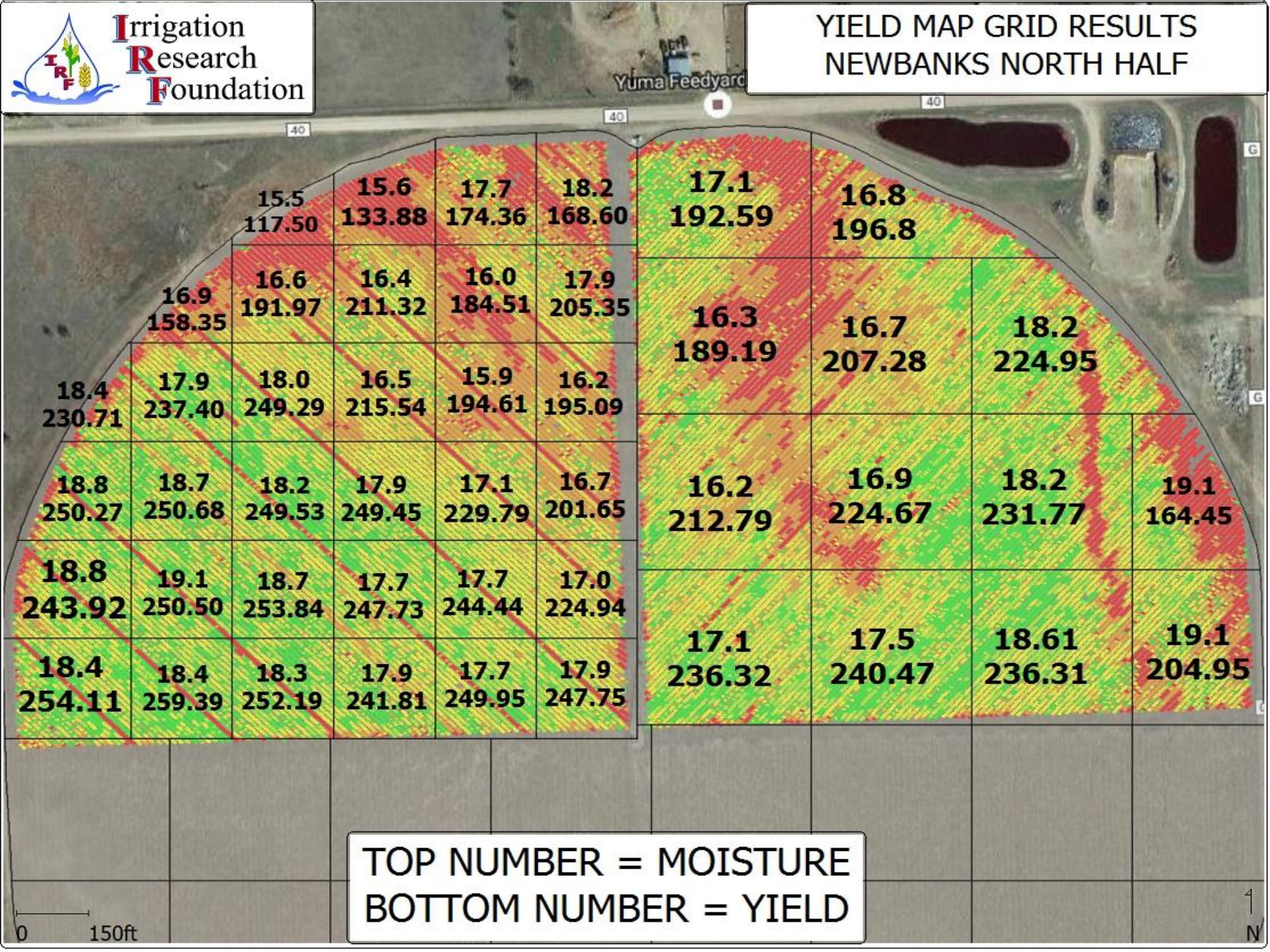
YIELD MAP GRID RESULTS
NEWBANKS NORTH HALF



TOP NUMBER = MOISTURE
BOTTOM NUMBER = YIELD

Irrigation Research Foundation

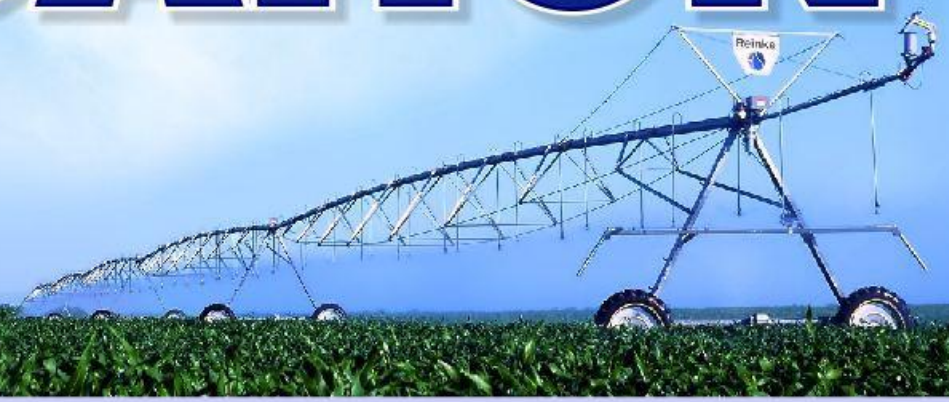
Thank you to the following companies for the innovative tools to make this a successful endeavour!!


agriMeasures
LLC

AGRI-INJECT

Because irrigation can deliver more than just water.

CENTER PIVOT IRRIGATION



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syngenta


From Our Crew to yours,
“Thank You!”