

ELECTRICAL CONDUCTIVITY MAPPING

Correlates the electrical conductivity values and properties that impact yield.

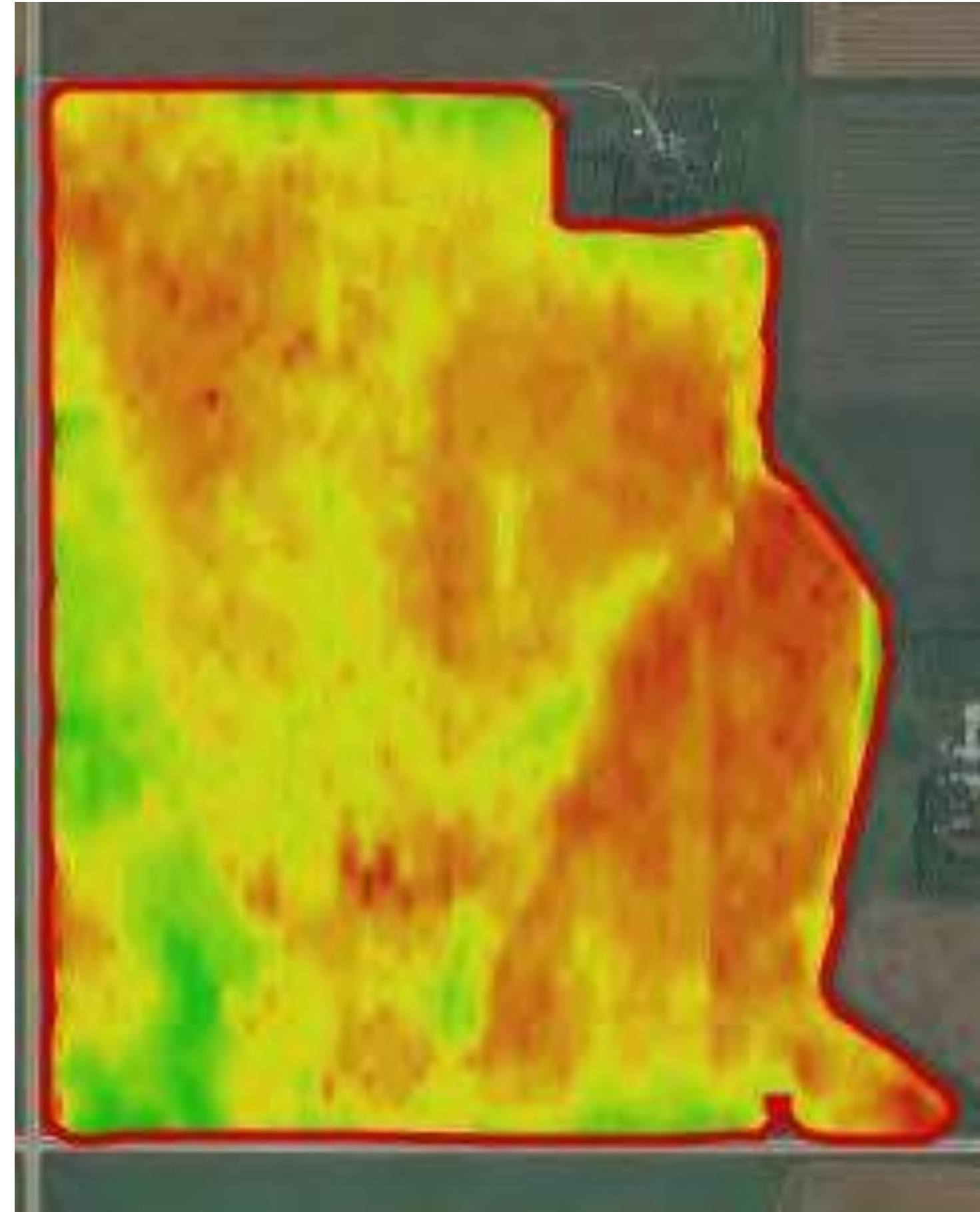
Electrical conductivity (EC) is the ability of a substance to conduct an electrical current. Combined with precision soil sampling, it provides a comprehensive field variability analysis.

Soil Properties Correlating to EC value:

- Soil texture
- Salinity
- Cation Exchange Capacity
- Soil Organic Matter
- Water holding capacity
- Drainage conditions
- Topsoil depth

EC map to create management zones:

- Directed soil sampling
- Variable rate seeding, fertilizer
- Yield map interpretation
- Better placement of field trials
- Soil salinity management



EC Map



Geonics EM 38



Electrical Conductivity / Elevation Mapping



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SMART DATA

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Equipment, Technology, Agronomy:

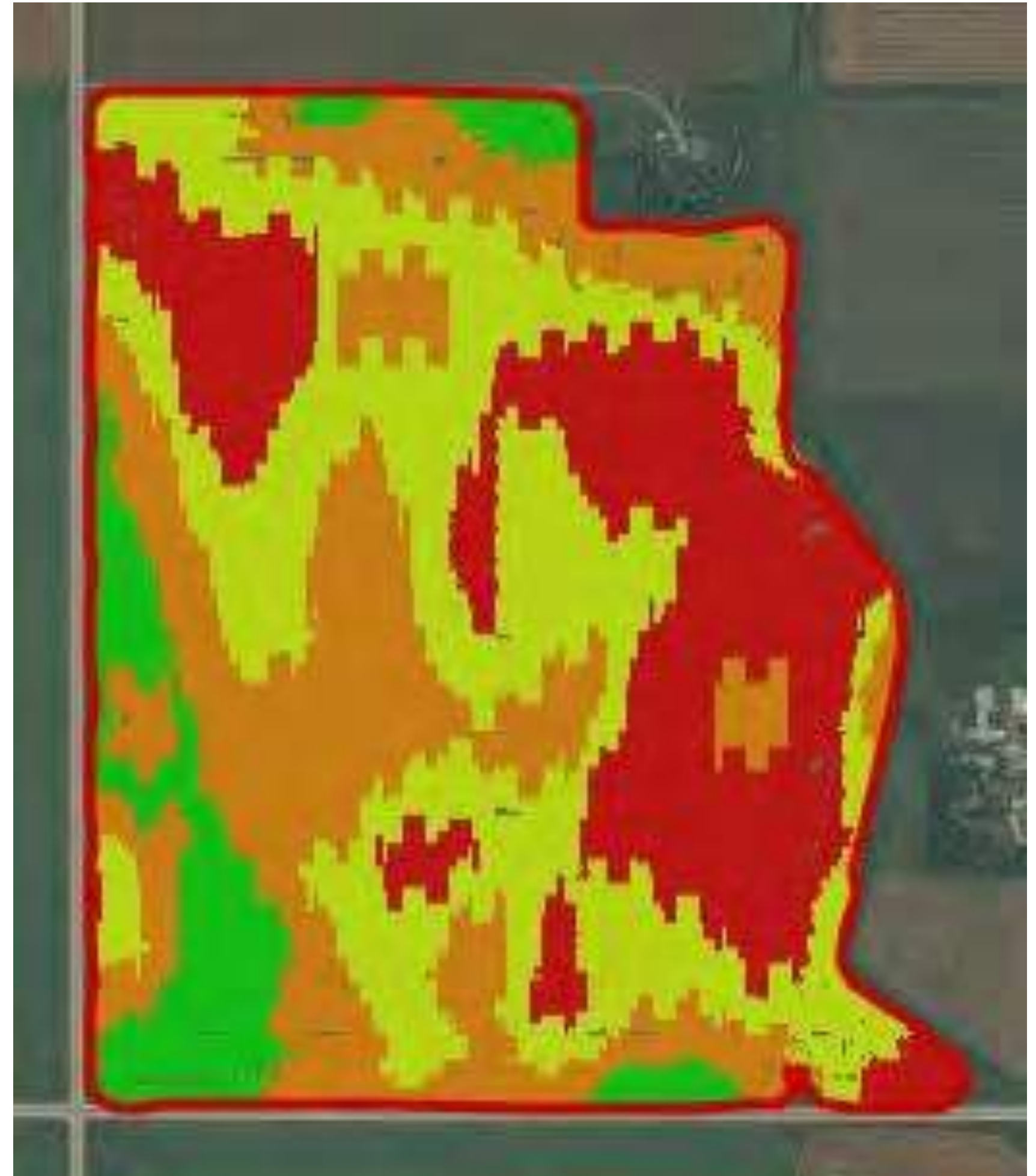
Seed Placement:

- Soybeans
- Variety: 23-61 Dekalb
- Variable Rate - 155,000-190,000 seeds/ac

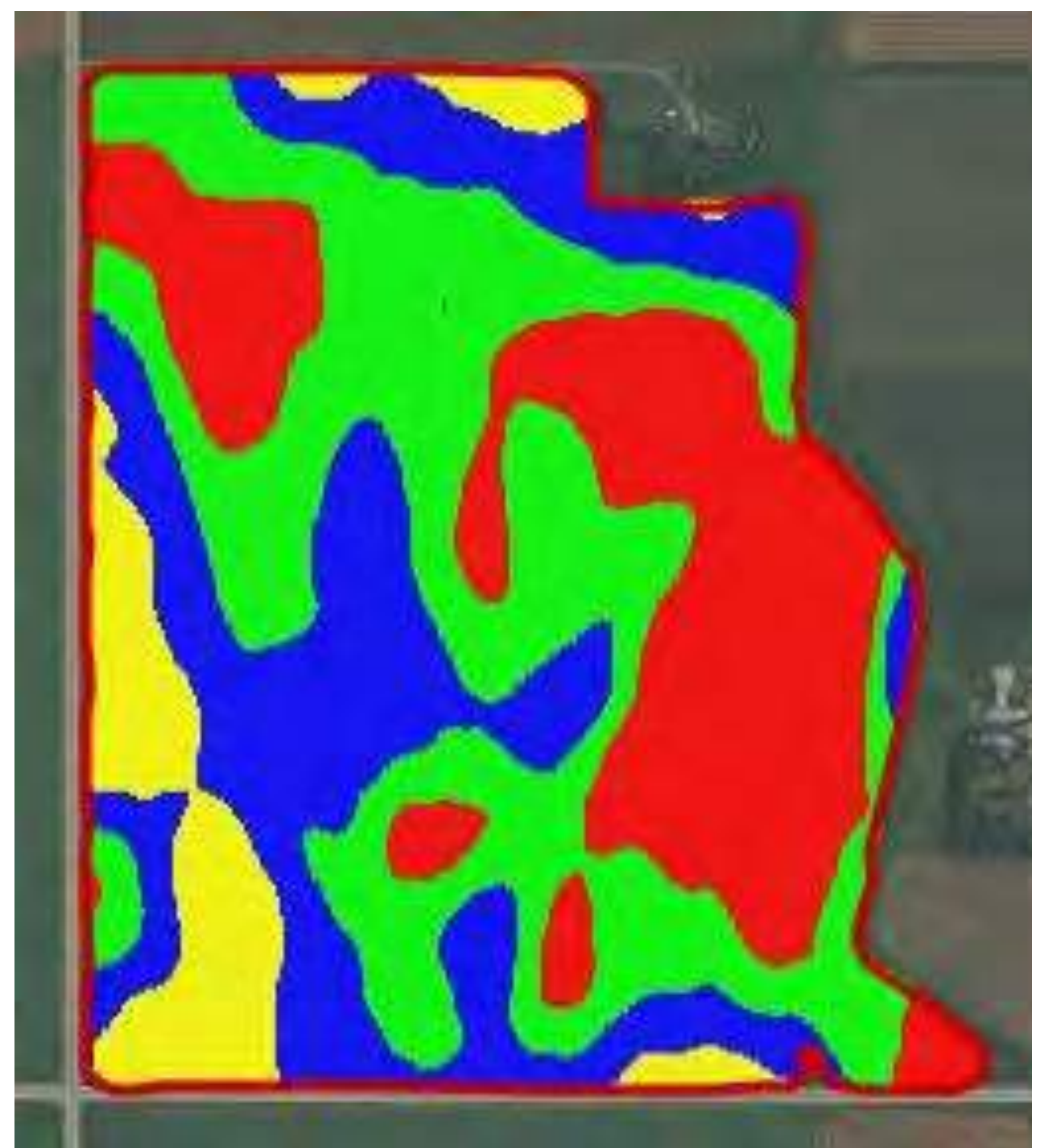
Equipment/Technology:

- John Deere 1775 ExactEmerge Planter. 60", 24 row 30" row spacing
- John Deere RTK
- John Deere Row Command
- John Deere SeedStar Mobile

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Target Rate Map



Zone Map



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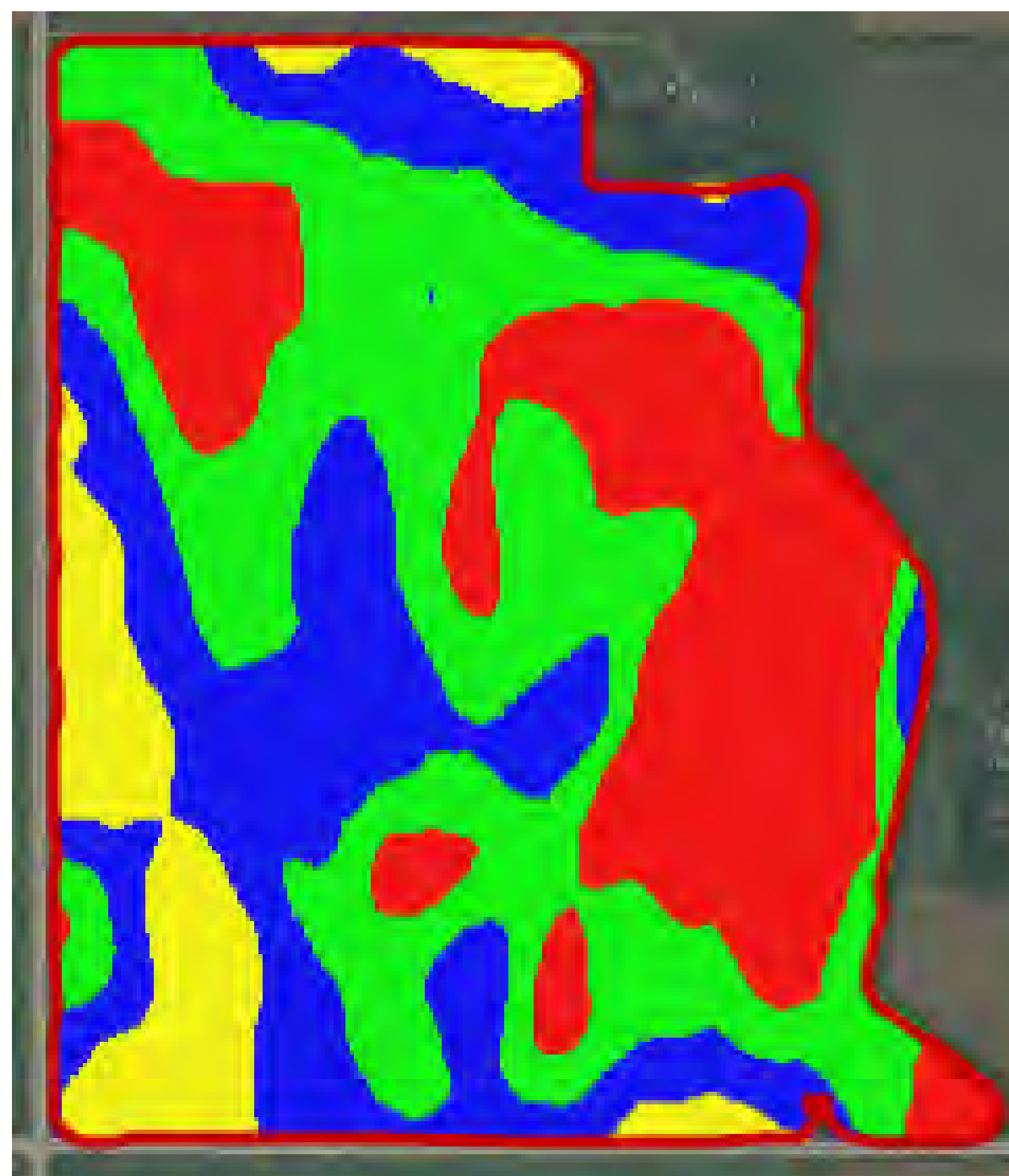


SMART ZONES

Understanding the carrying characteristics of your soil enables you to maximize your land's potential.

Nitrogen			
Zone	0 - 6 "	6 - 24"	Total
1	23 lbs	27 lbs	50 lbs
2	13 lbs	18 lbs	31 lbs
3	11 lbs	27 lbs	38 lbs
4	85 lbs	N/A	N/A

Carbonates	
Zone	CCE
1	1.8 %
2	9.0 %
3	8.6 %
4	2.4 %



Phosphorous	
Zone	0-24"
1	26 ppm
2	24 ppm
3	15 ppm
4	40 ppm

Sulfur	
Zone	
1	32 lbs
2	32 lbs
3	100 lbs
4	480 lbs

Sol. Salts		Soil pH		SOM	
Zone	0-6"	6-24"	0-6"	6-24"	
1	0.17 mmho/cm	0.18 mmho/cm	7.4	8.2	6.7%
2	0.23 mmho/cm	0.3 mmho/cm	7.1	7.6	4.4%
3	0.46 mmho/cm	0.83 mmho/cm	8.1	8.5	3.7%
4	1.50 mmho/cm	3.42 mmho/cm	7.7	8.0	7.6%

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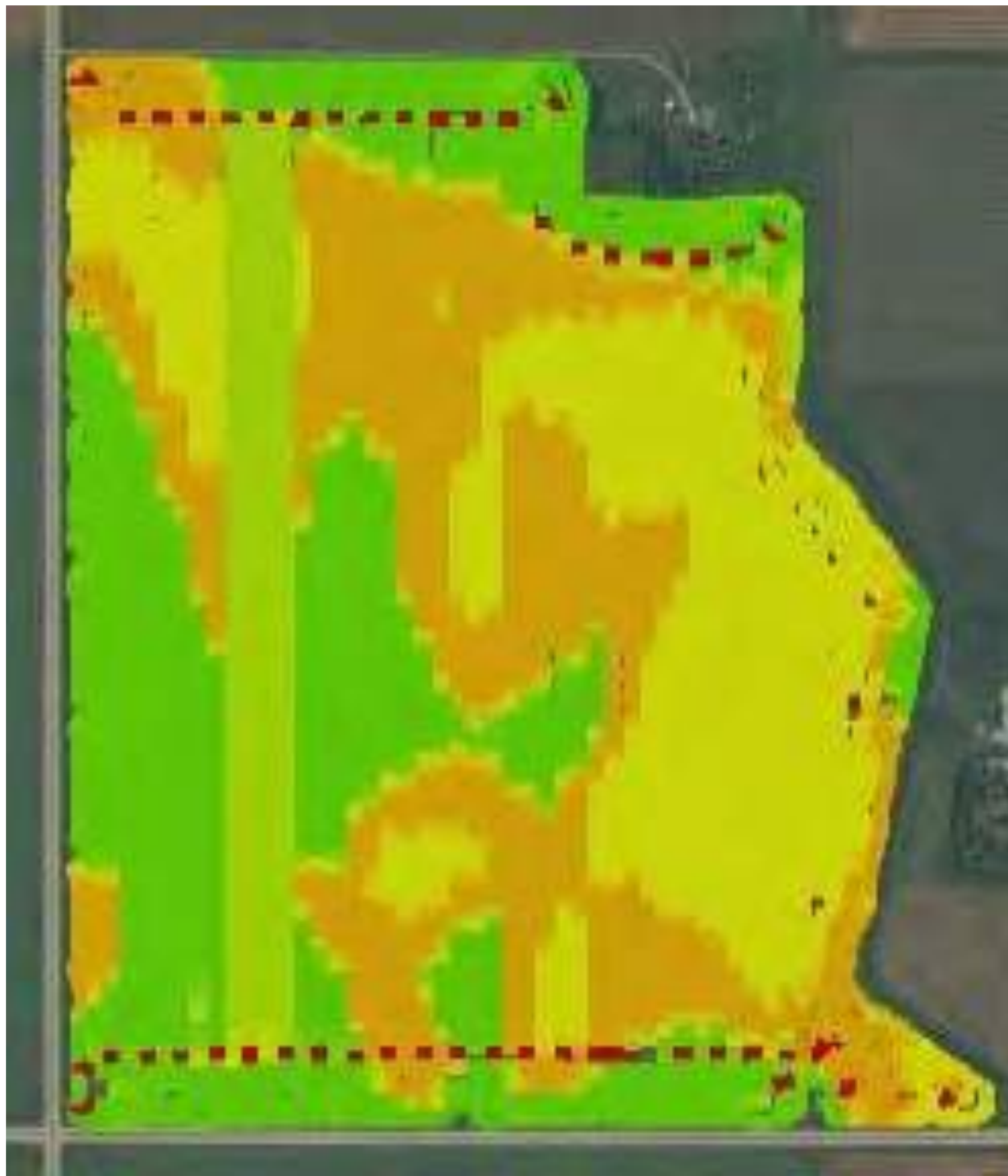


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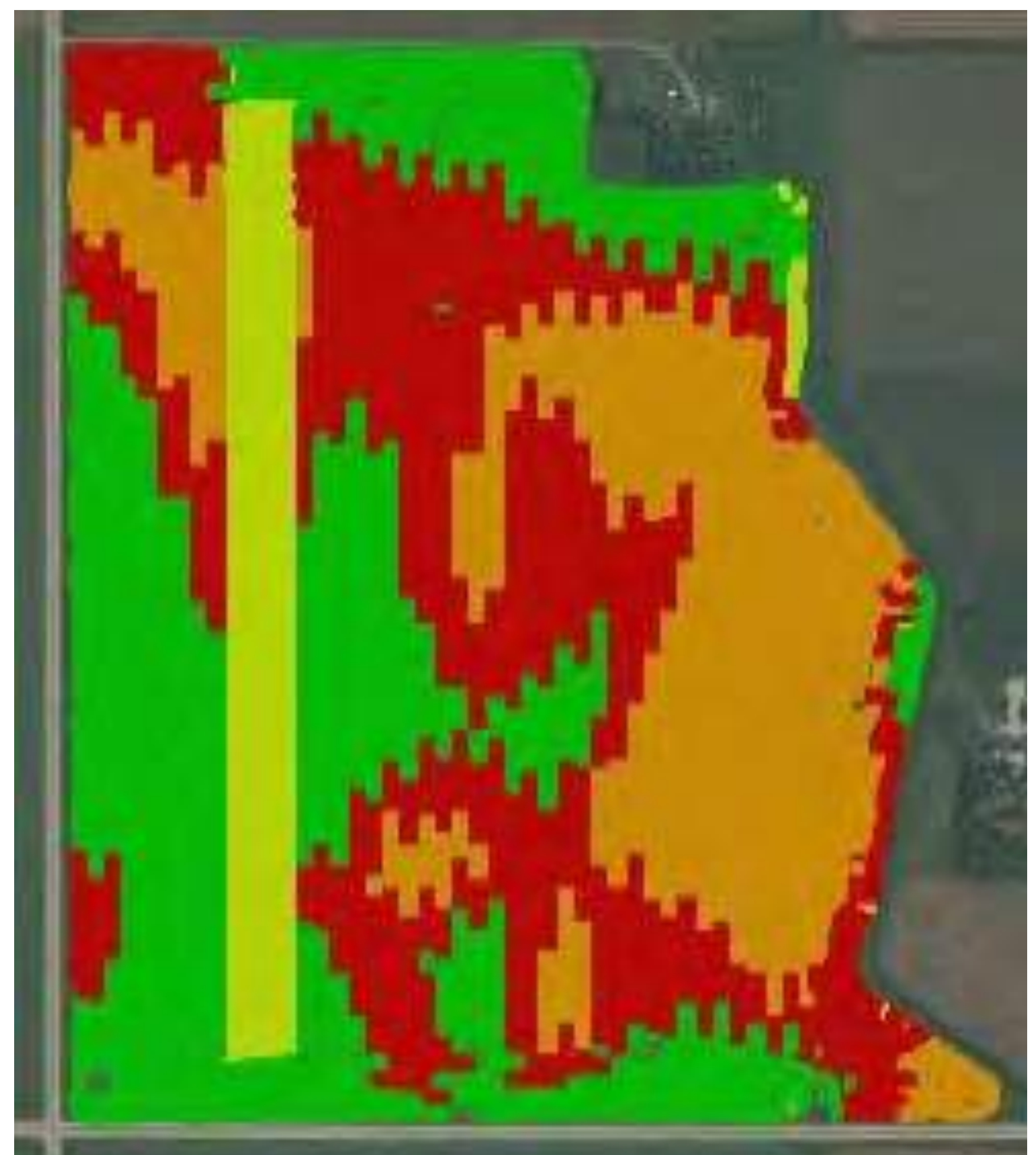


SMART ZONES

Understanding the carrying characteristics of your soil enables you to maximize your land's potential.



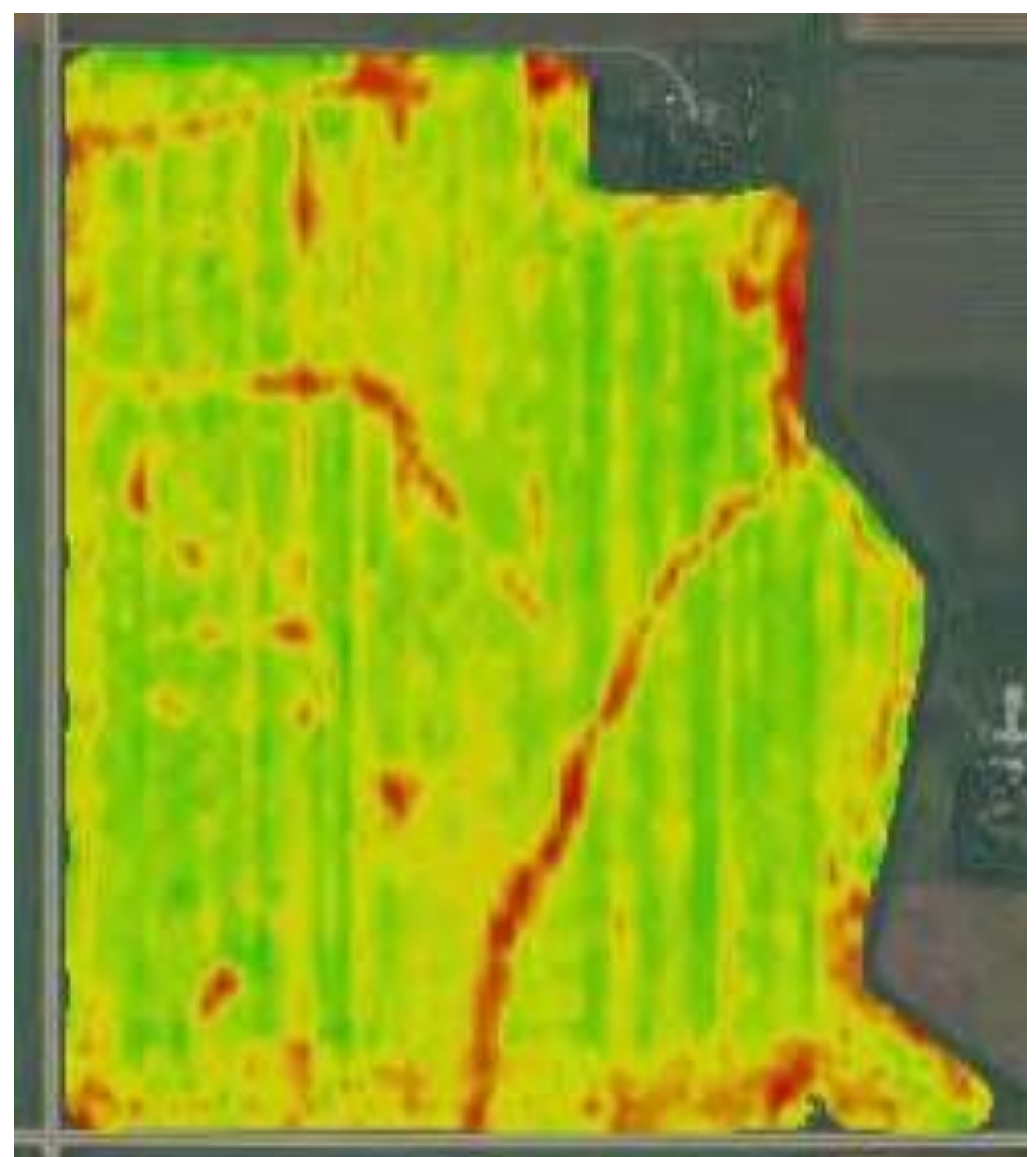
Actual Nitrogen Rate



Target Nitrogen Rate

Yield By Management Zone

Zone	Ave Yield	Harvested Acres	Area
1	56.23 bu/ac	30.61 acres	30.19 acres
2	49.65 bu/ac	38.69 acres	39.63 acres
3	50.04 bu/ac	27.30 acres	28.80 acres
4	51.25 bu/ac	10.04 acres	11.61 acres



Yield map



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ROI With Cost of Rx and FieldSmart

	Zone 1 Smart Block	Zone 1	Zone 2 Smart Block	Zone 2	Zone 3 Smart Block	Zone 3	Zone 4 Smart Block	Zone 4
Yield	55.98	56.84	55.03	53.61	59.20	60.77	60.15	58.74
Price	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Acres	1.51	29.33	1.29	36.88	1.17	24.40	0.78	6.76
Revenues	\$559.80	568.40	\$550.30	536.10	\$592.00	\$607.70	\$601.50	\$587.40
Input costs								
Seed & Treatment	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00	\$54.00
Fertilizer	\$59.40	\$41.60	\$59.40	\$31.20	\$59.40	\$62.40	\$59.40	\$62.40
Herbicide	\$16.50	\$16.50	\$16.50	\$16.50	\$16.50	\$16.50	\$16.50	\$16.50
Fungicide	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00	\$20.00
Insecticide	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00	\$6.00
Custom App Herb	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00	\$18.00
Custom App Fung	\$6.50	\$6.50	\$6.50	\$6.50	\$6.50	\$6.50	\$6.50	\$6.50
Field Smart	\$0.00	\$11.50	\$0.00	\$11.50	\$0.00	\$11.50	\$0.00	\$11.50
Total Input Costs	\$180.40	\$174.10	\$180.40	\$163.70	\$180.40	\$194.90	\$180.40	\$194.90
Revenue per acre	\$379.40	\$394.30	\$369.90	\$372.40	\$411.30	\$412.80	\$421.10	\$392.50
Revenue Per Acre vs. No VR	\$14.90		\$2.50		\$1.20			-\$28.60



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	Seeding Rate	Plt Counts	Plt Counts	Plt Counts	Plt Counts	Average	Mortality %
Zone 1	155,000	135,600	131,100	145,300		137,333	11.39785
Zone 2	175,000	149,800	145,700	143,500		146,333	16.38095
Zone 3	165,000	136,200	143,700	139,200		139,700	15.33333
Zone 4	190,000	159,400	170,500	169,500		166,467	12.38596
Checks	165,000	143,200	146,700	139,700	136,800	143,200	13.21212

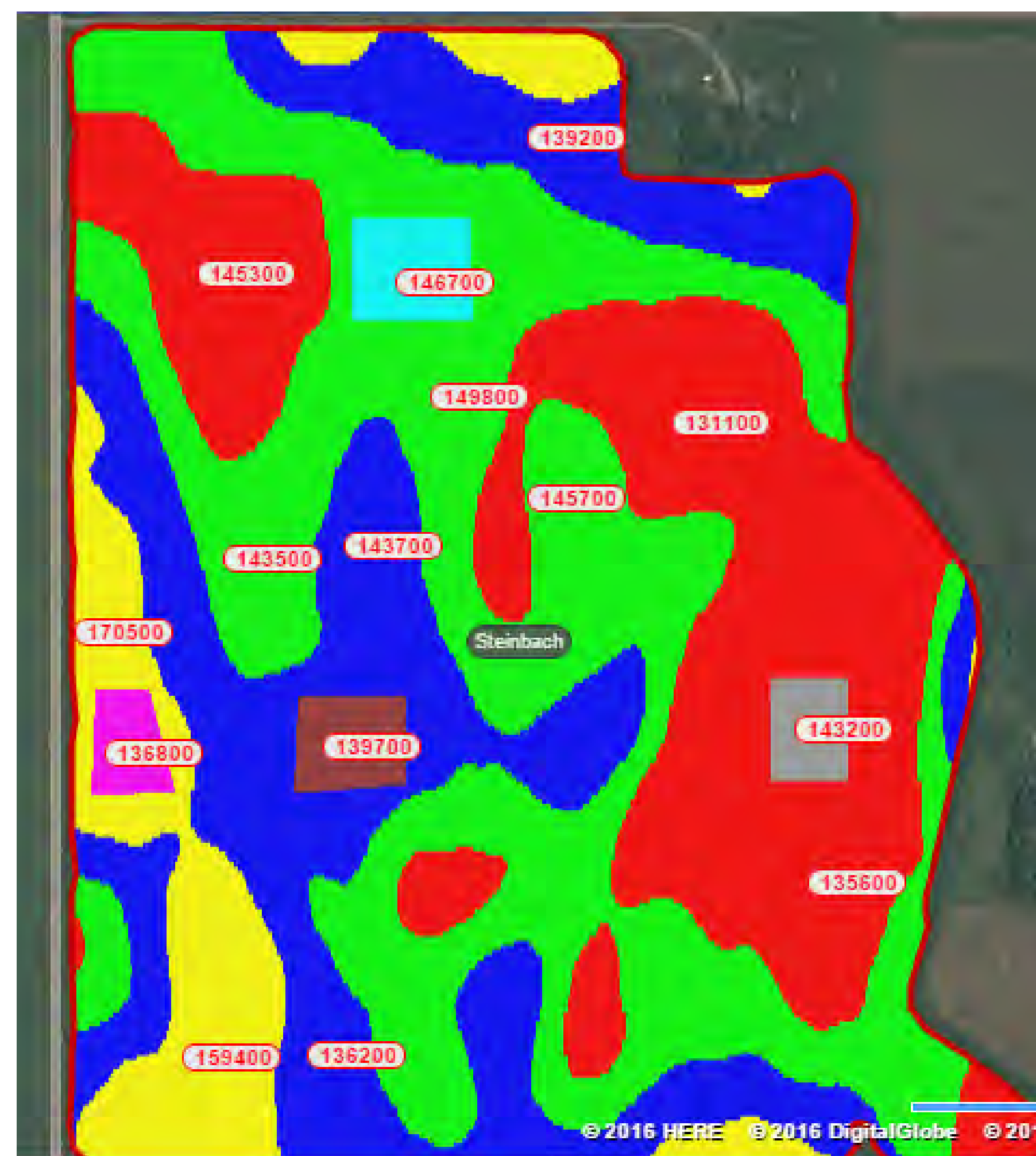
Field scale on-farm research provides you with the best solutions based on your environmental conditions.

All field observations recorded and tracked utilizing the FieldSmart Mobile App.

Continually assess the changes implemented.

Measure and monitor to lower units of production.

Develop your own best case scenarios achieving the highest revenues per acre.



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FIELDSMART MOBILE APP

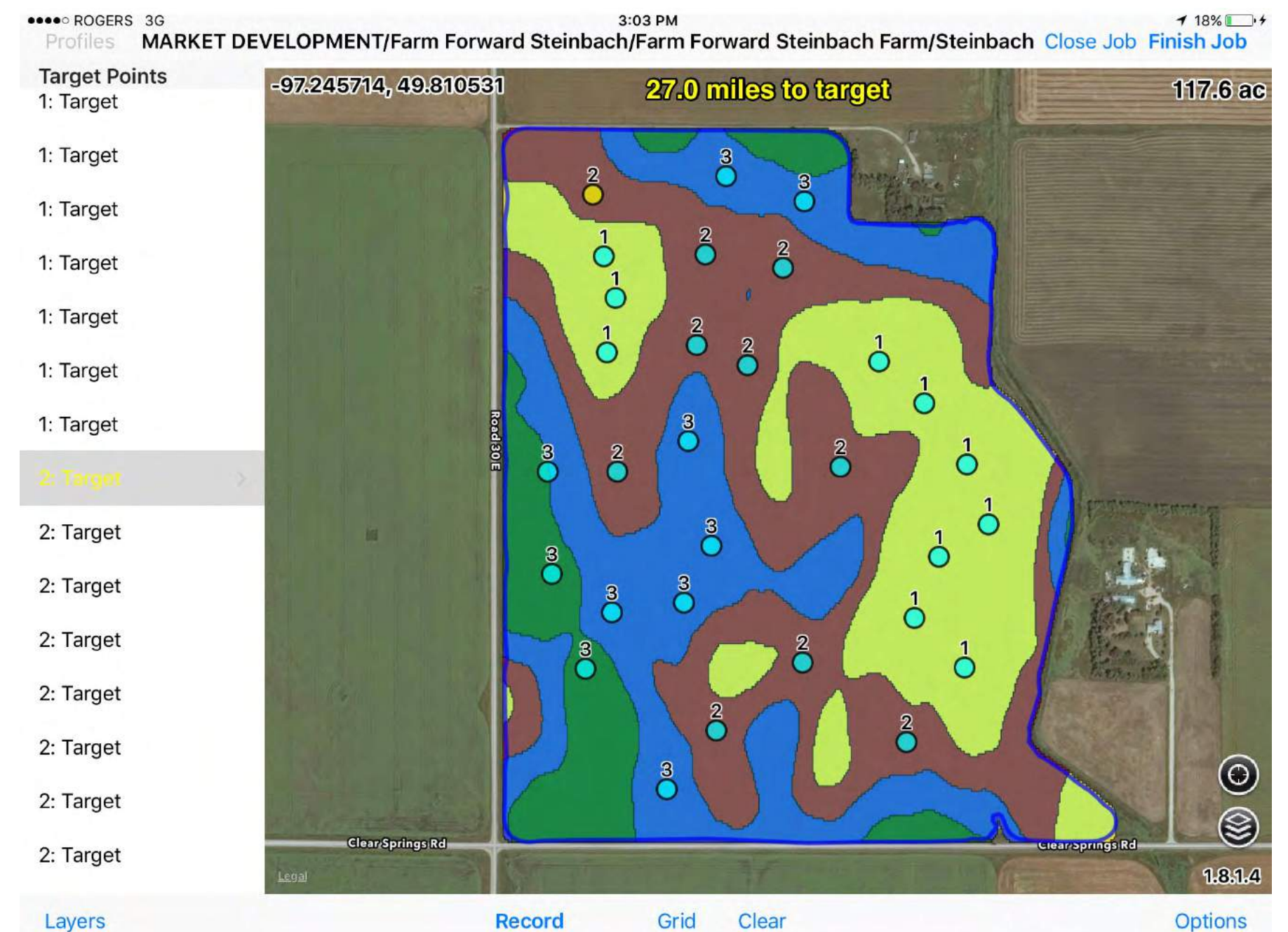
Take FieldSmart to the field to scout, apply or soil test.
Build and record recommendations from field to implement.

Features:

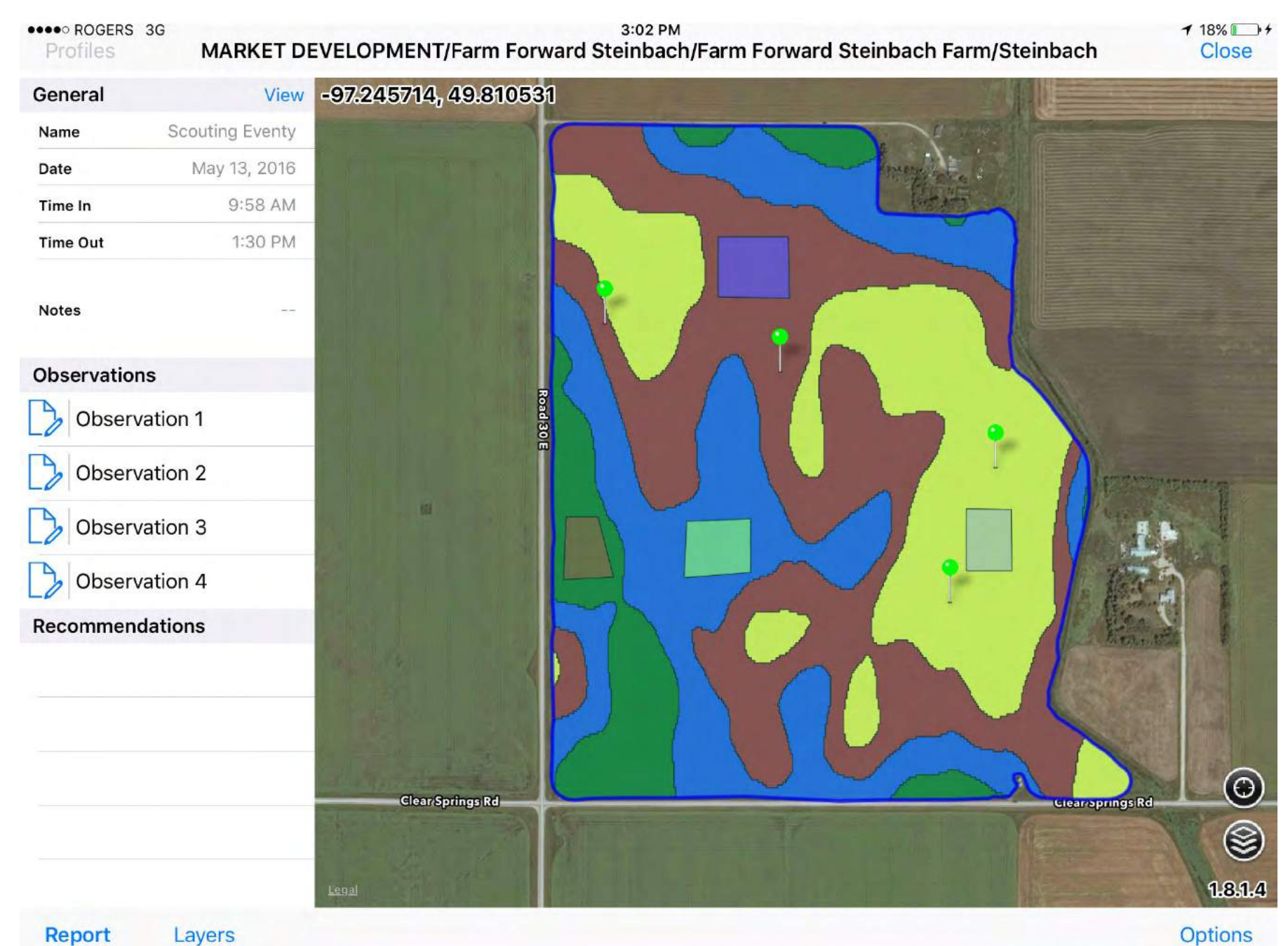
- Field Navigation
- Data Review
- Record Keeping
- Directed and Zone Soil Sampling
- Crop Scouting

Scouting Features:

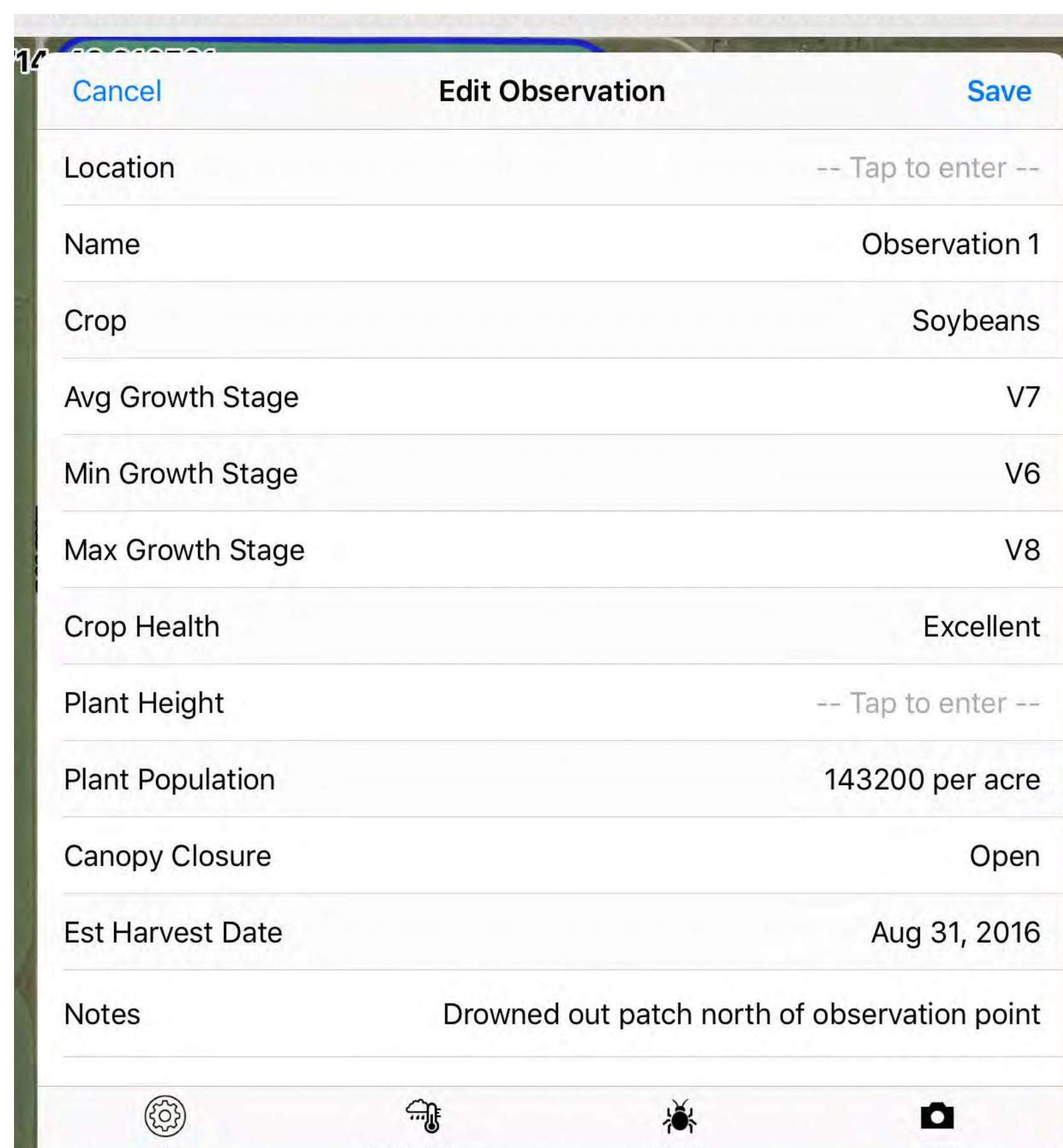
- Date and time
- GPS coordinates of observations
- Field Condition observations
- Insect, Weeds, and disease observations
- Photos
- Recommendation's tab



Directed Soil Sampling



Scouting Main Page



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