

ELECTRICAL CONDUCTIVITY MAPPING

Correlates the electrical conductivity values and properties that impact yield.

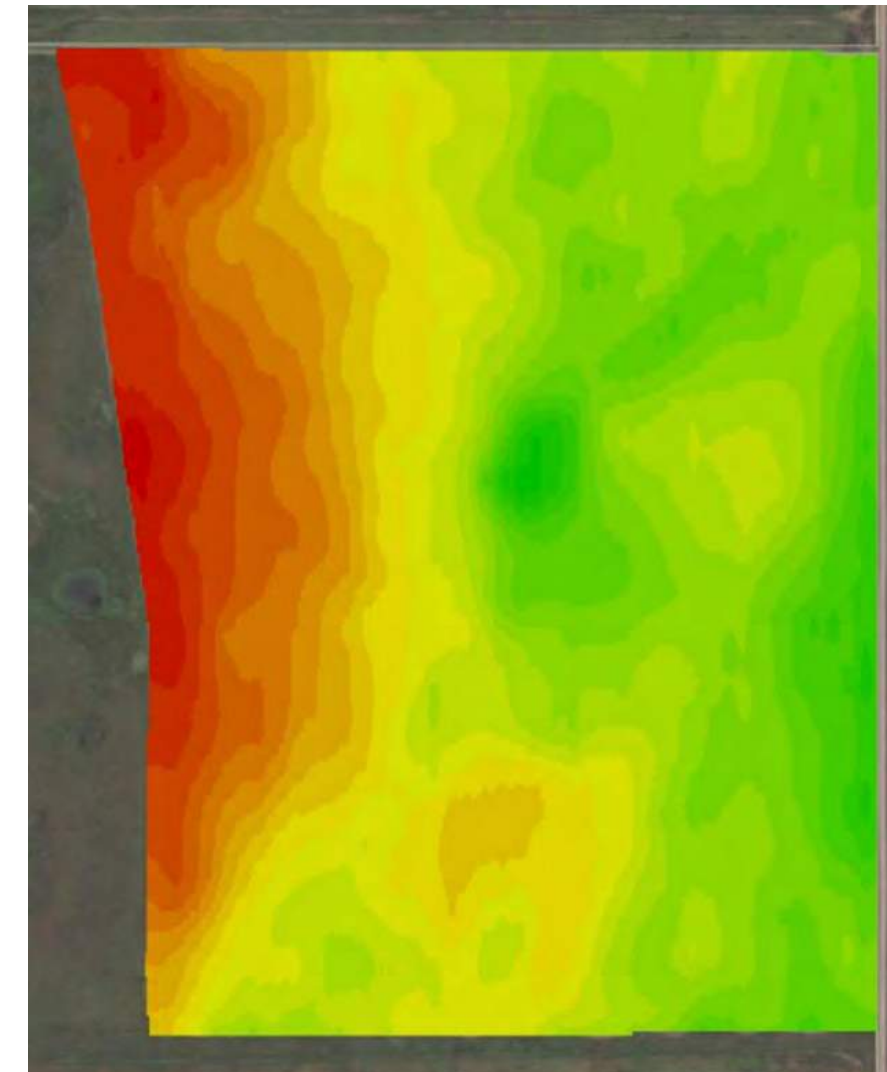
Electrical conductivity (EC) is the ability of a substance to conduct an electrical current. Combined with precision soil sampling, it provides a comprehensive field variability analysis.

Soil properties correlating to EC value:

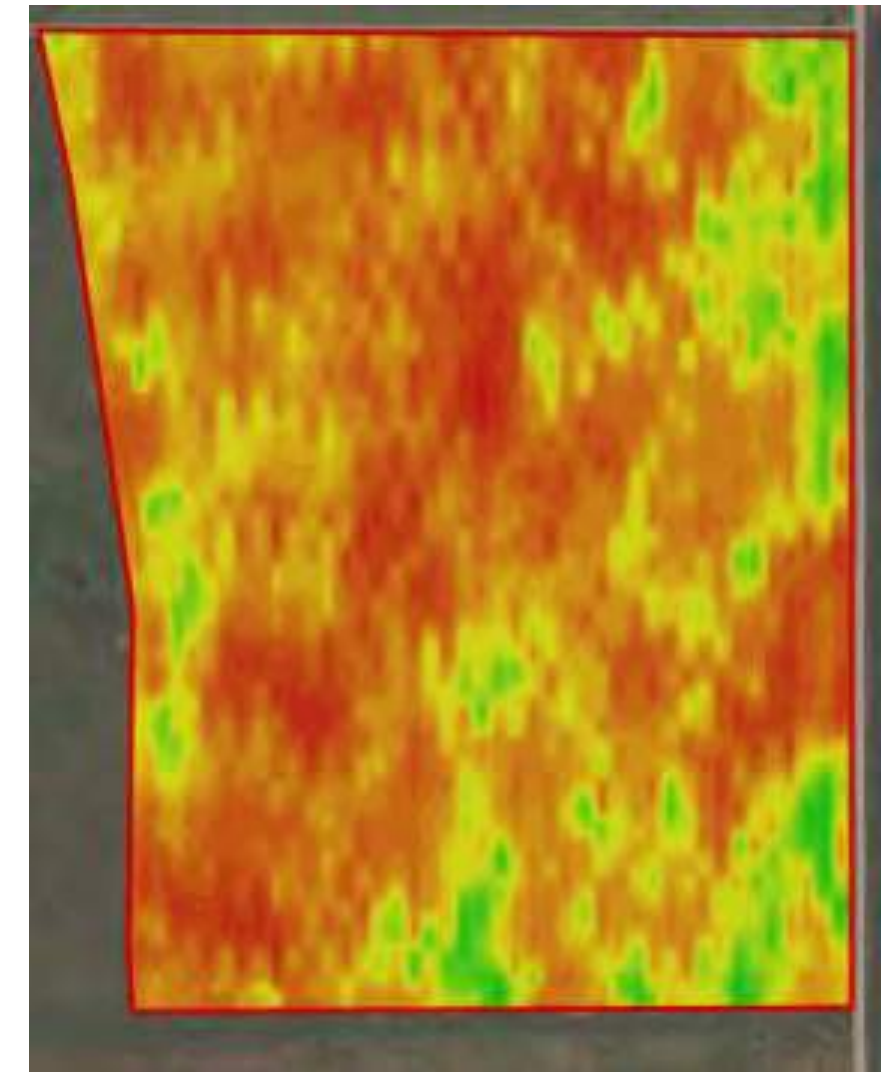
- Soil texture
- Salinity
- Cation exchange capacity (CEC)
- Soil organic matter (SOM)
- Water holding capacity
- Drainage conditions
- Topsoil depth

EC map to create management zones:

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



Elevation Map



EC Map



Geonics EM 38



Electrical Conductivity / Elevation Mapping



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Zone	Min	Max	Area	Starter Blend		N Blend at Seeding		N Blend after Seeding				
1		0.5	41.76 ac	50 lbs/ac	2088.0 lbs	\$0.00	187.0 lbs/ac	7809.1 lbs	\$0.00	150.0 lbs/ac	6264 lbs	\$0.0
2	0.5	0.6	39.91 ac	50 lbs/ac	1995.5 lbs	\$0.00	224 lbs/ac	8939.8 lbs	\$0.00	150.0 lbs/ac	5987 lbs	\$0.0
3	0.6	0.8	21.16 ac	50 lbs/ac	1058 lbs	\$0.00	255 lbs/ac	5395.8 lbs	\$0.00	150.0 lbs/ac	3174 lbs	\$0.0
4	0.6		12.31 ac	50 lbs/ac	615.5 lbs	\$0.00	135 lbs/ac	1661.9 lbs	\$0.00	150.0 lbs/ac	1847 lbs	\$0.0
			115.14 ac	5757 lbs \$0.00		23806.6 lbs \$0.00		17271 lbs \$0.0				
				Avg. 50.00 lbs/ac		Avg. 206.76 lbs/ac		Avg. 150.00 lbs/ac				

Smart Zones:

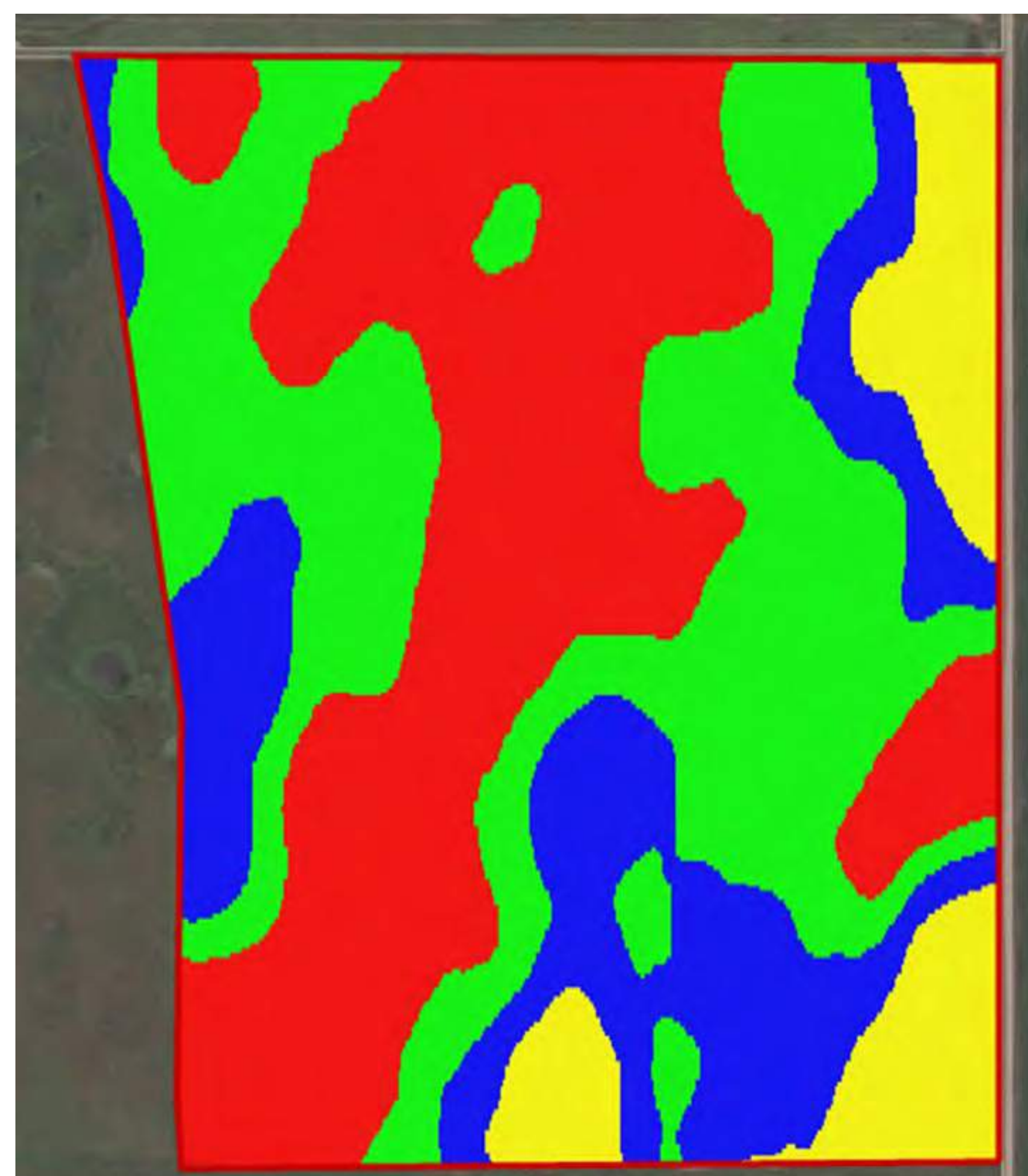
- Electrical conductivity mapping
- Precision soil testing

Smart Rx:

- Zone management nutrient development based on soil carrying characteristics

Focus:

- Cost management plan confirmation



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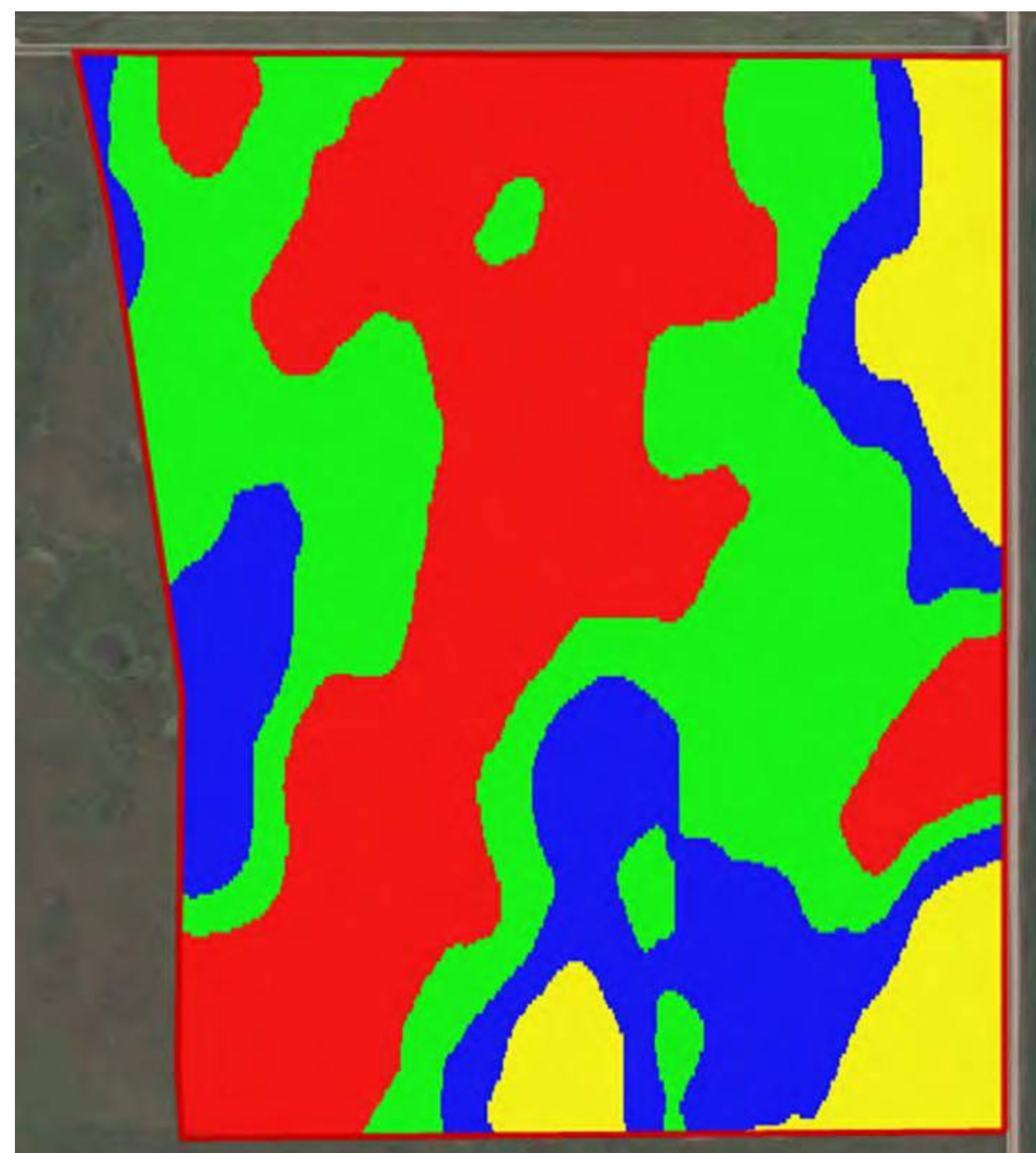


SMART ZONES

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

Nitrogen			
Zone	0 - 6 "	6 - 24"	Total
1	2 lbs	3 lbs	5 lbs
2	3 lbs	6 lbs	9 lbs
3	2 lbs	12 lbs	14 lbs
4	2 lbs	21 lbs	23 lbs

Phosphorus	
Zone	0-24"
1	5
2	4
3	5
4	9



CEC	
Zone	0-24"
1	24.1
2	28.6
3	29.9
4	34.2

Potassium	
Zone	0-24"
1	228 ppm
2	295 ppm
3	275 ppm
4	333 ppm

Zone	Soluble Salts		Soil pH		SOM
	0-6"	6-24"	0-6"	6-24"	
1	0.27	0.42	7.3	7.9	2.9 %
2	0.73	1.15	7.4	7.9	3.8 %
3	1.84	1.56	7.6	8.1	2.8 %
4	2.48	3.01	8.0	8.3	3.3 %

Source: AgVise Laboratories



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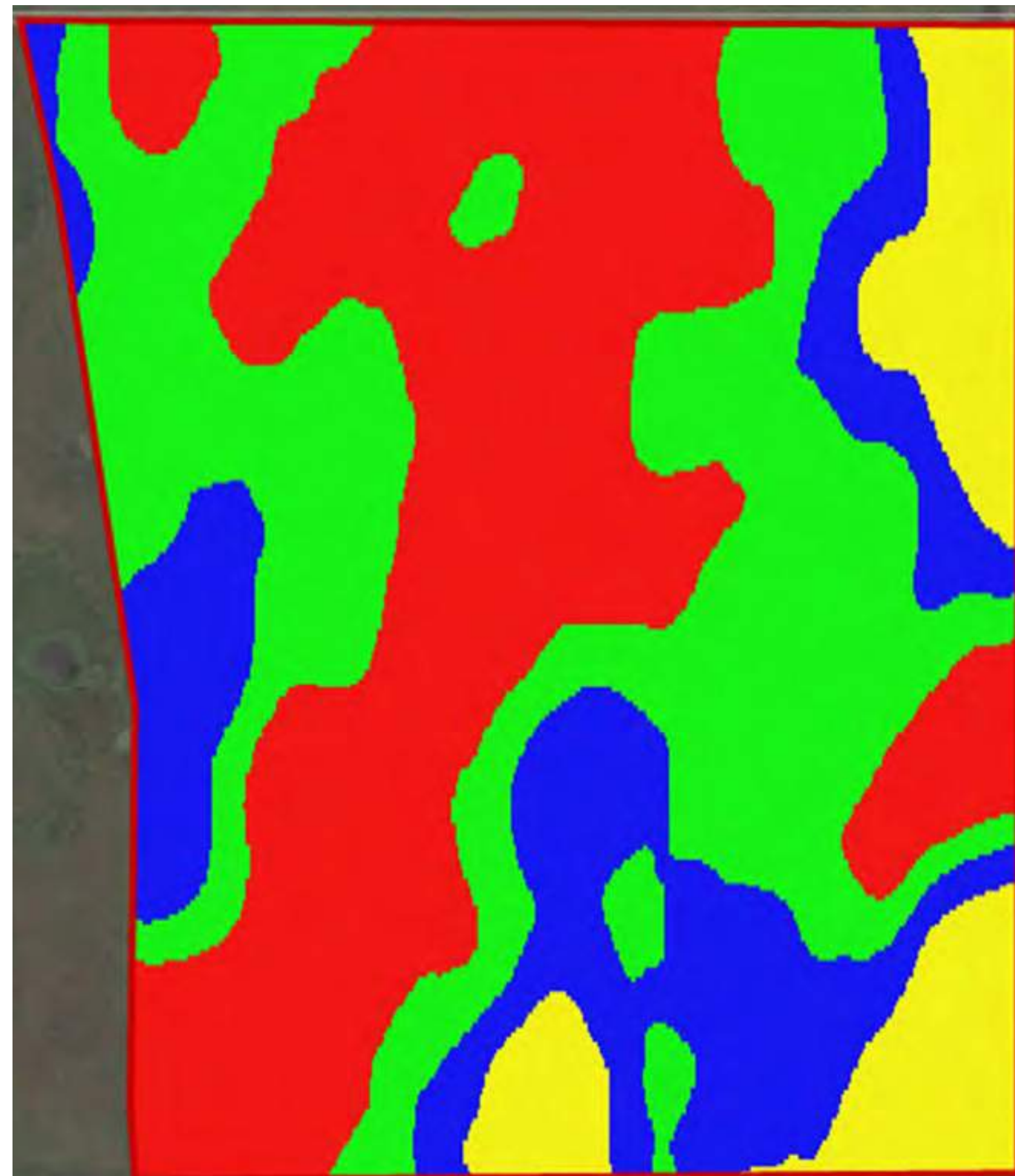


SMART ZONES

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

Zone

1	- Reduced yield potential - High nutrient leaching
2	- Medium yield potential
3	- High yield potential - Increased salinity
4	- Reduced yield potential - High salinity



Zone	Yield Goal
1	40 bu / ac
2	45 bu / ac
3	50 bu / ac
4	40 bu / ac



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Equipment, Technology & Agronomy

Seed Placement:

Canola:

-Variety: 7444

-Average rate: 5.02 lbs/ac

Fertilizer Placement:

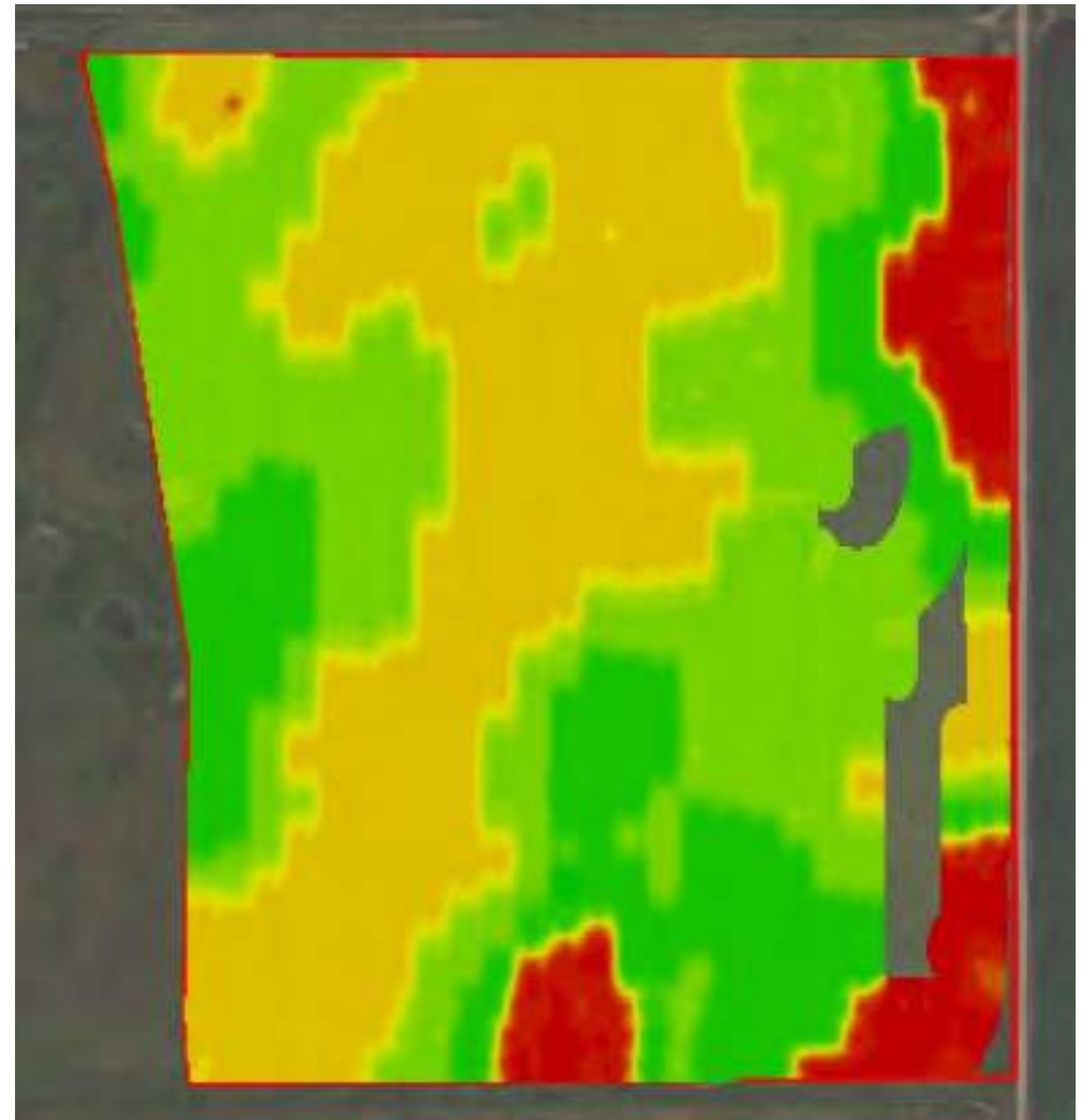
- Variable rate N blend 38-8-0-4

@ 135-255 lbs/ac

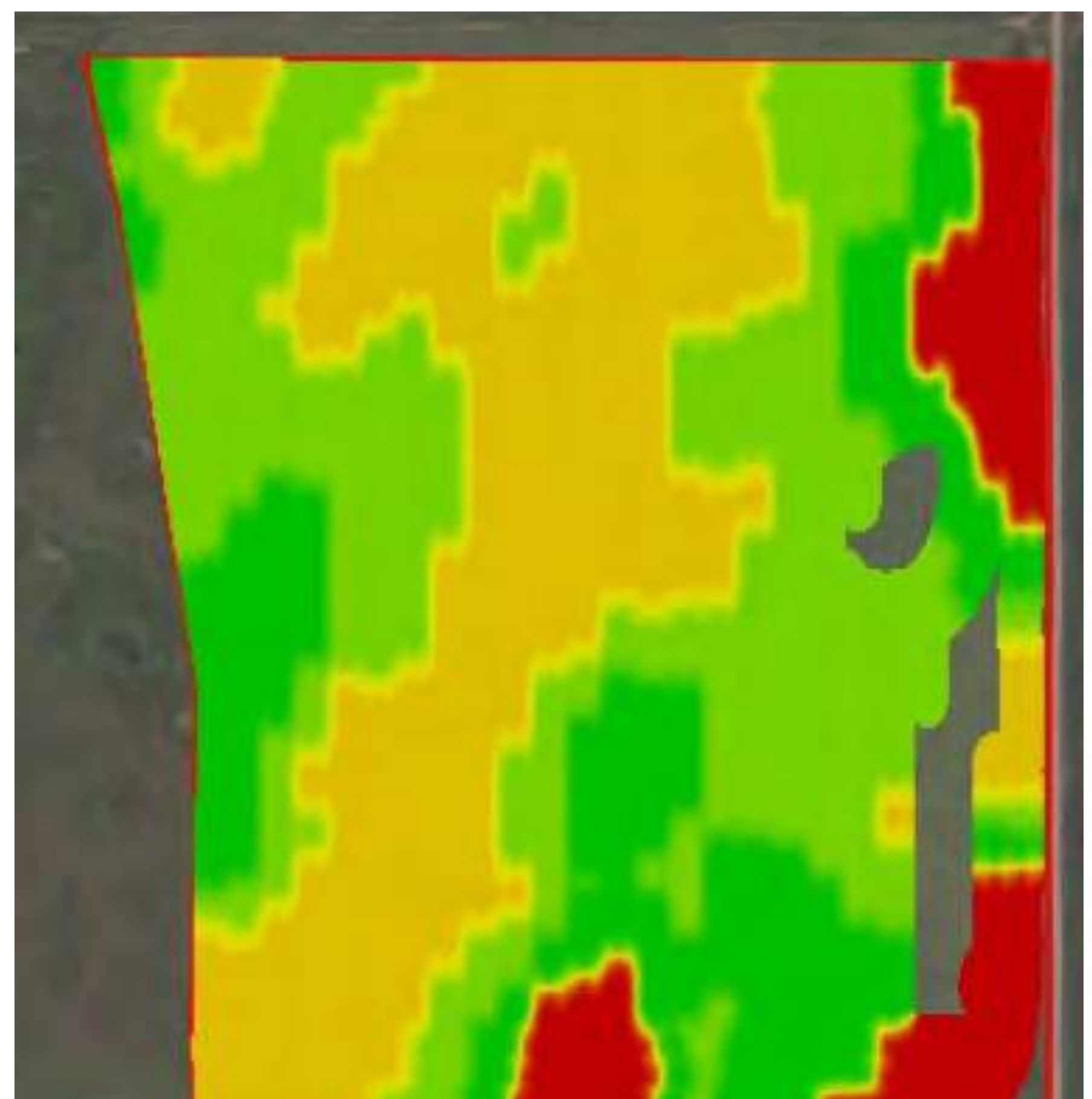
- MES15 @ 50 lbs/ac

Equipment/Technology:

- John Deere 1870 air seeder Conserva Pak
- John Deere 1910 – 550 bushel air cart
- John Deere 9570R tractor
- John Deere RTK-inter row seeding
- Field Smart variable rate fertility
- Field Smart electrical conductivity mapping



As Applied Actual Rate Map



As Applied Target Rate Map



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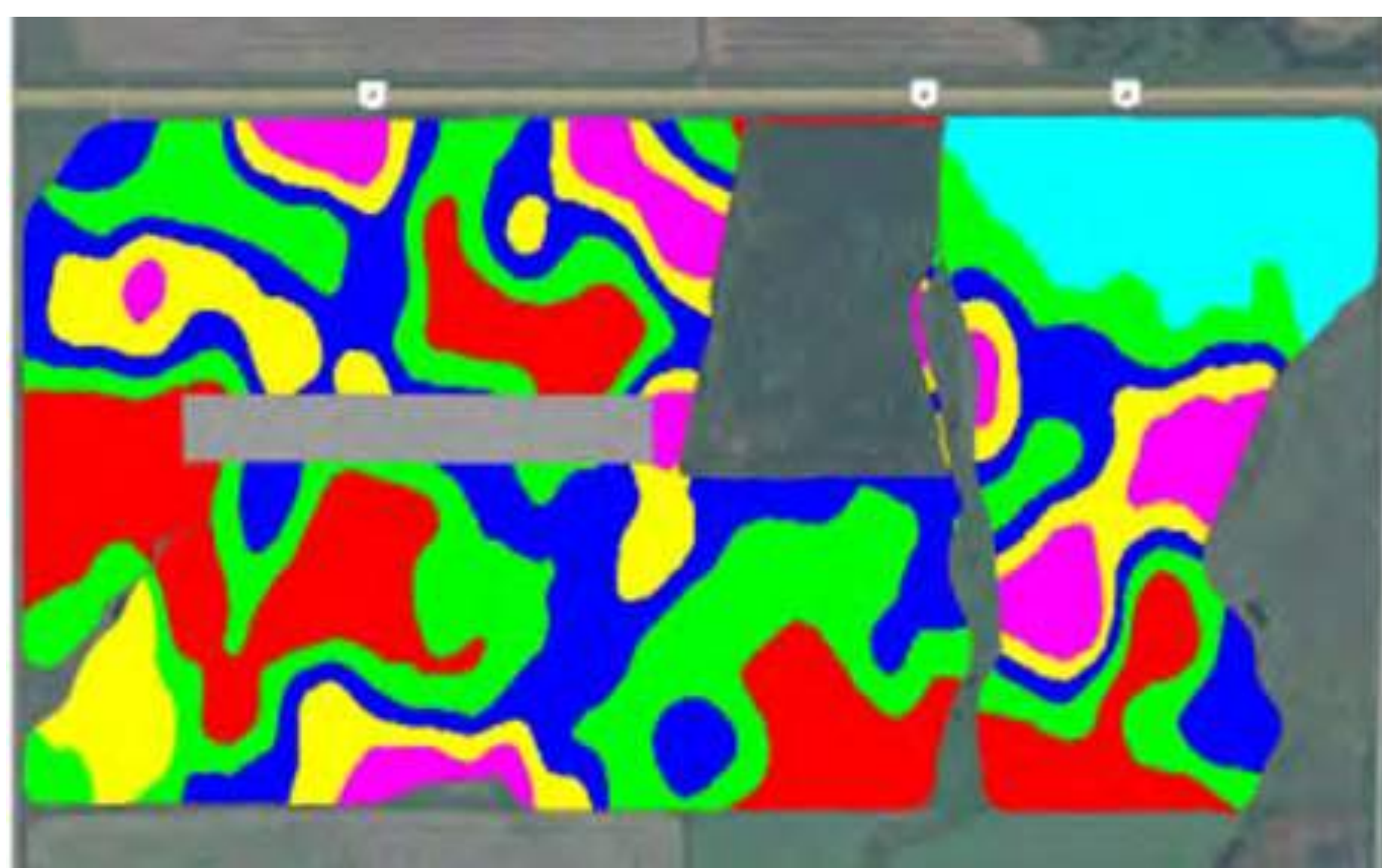
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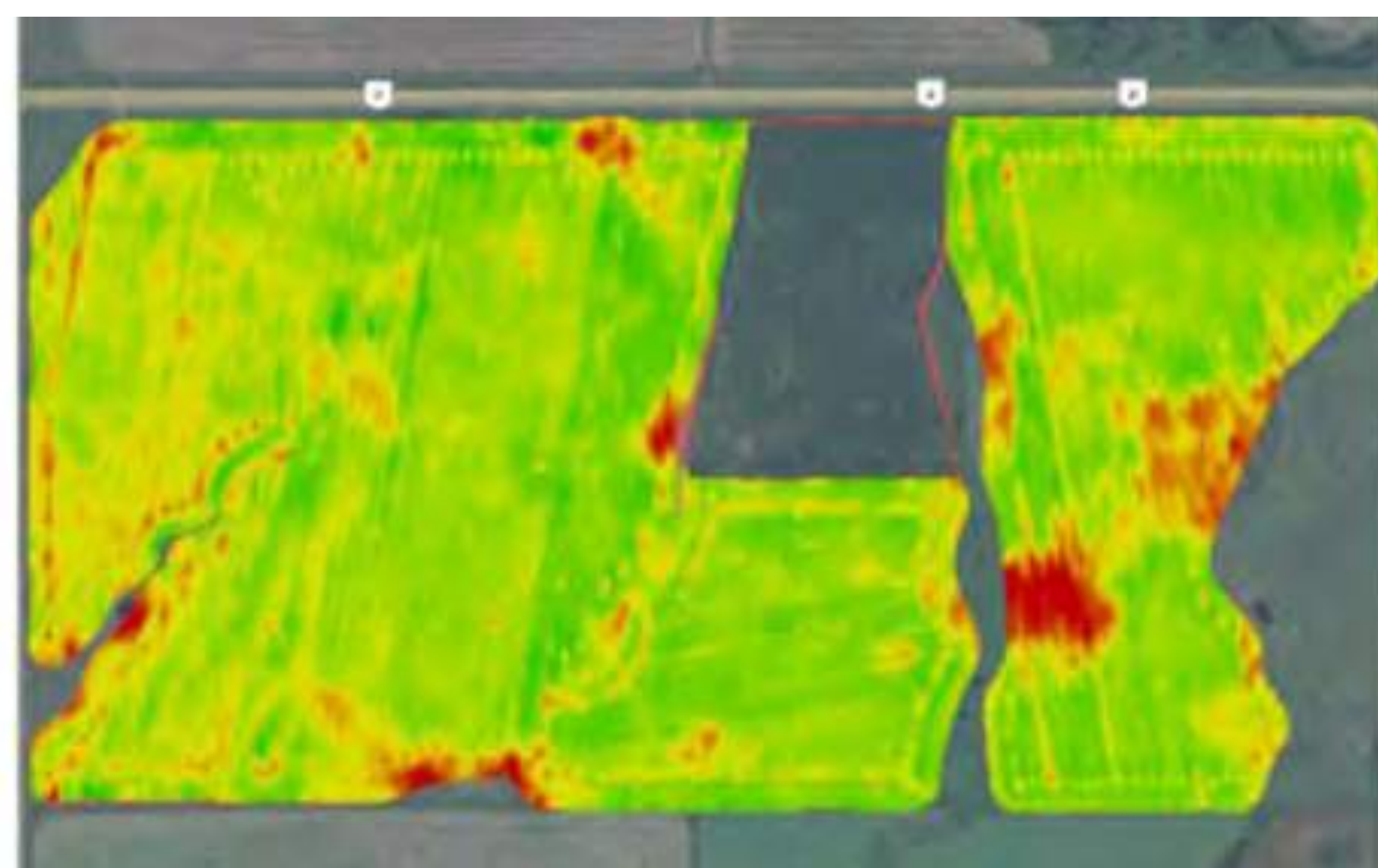
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2015 Yield by Management Zones Results



Zone Map



Yield Map

Zone	Range	Data	Avg Yield	Harvest Acres	Area
1	Min- 0.5	112,92	57.73 bu/ac	45.68 ac	46.64 ac
2	0.5-0.6	161,123	59.55 bu/ac	67.84 ac	68.64 ac
3	0.6-0.8	54,77	56.73 bu/ac	54.82 bu	55.05 ac
4	0.8-0.9	21,77	50.20 bu/ac	32.45 ac	33.30 ac
5	0.9-max	58,77	35.22 bu/ac	16.51 ac	17.65 ac
6	Min-max	189,92	60.87 bu/ac	22.68 ac	23.37 ac
7	Min-max	92,131	56.61 bu/ac	10.92 ac	10.82 ac



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