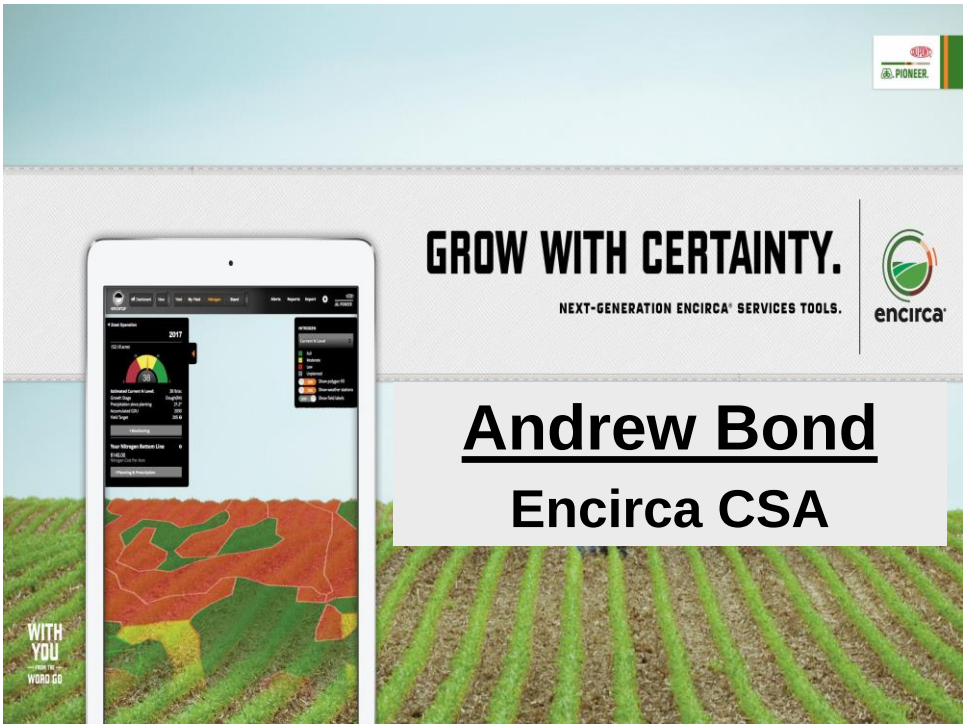


1

Encirca – Crop Scouting

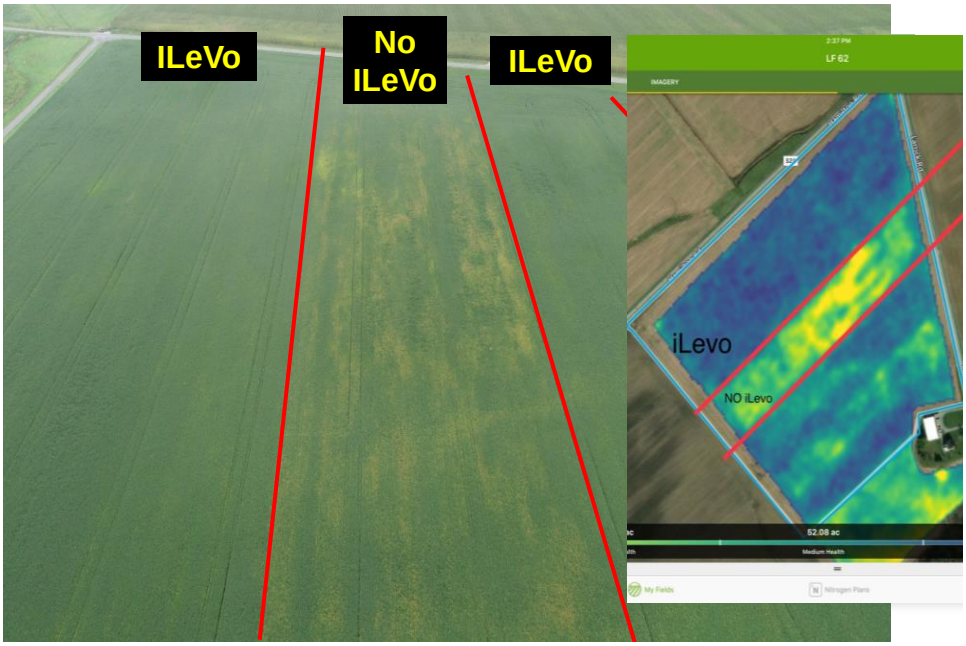
- Why do we crop scout?
  - To find problems in the field when they appear
  - To identify and diagnose those problems
  - To find a solution to the problem and fix it this season, or at least next year
  - Help understand a possible yield limiting factor
  - Numerous forms of crop scouting

2

Encirca Pro Crop Health Imagery

3

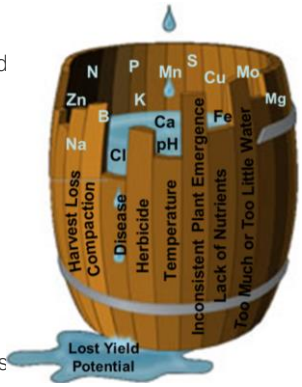
Encirca Pro Crop Health Imagery



4

Encirca – Crop Scouting

- What are the yield limiting factors?
  - 2 groups of yield limiting factors - Those you CAN control, and those you CAN'T control
  - Can't Control – Weather (rain, temperature, sunlight), Soil Structure (soil type, water holding capacity)
  - Can Control – Nutrients, pests and diseases, compaction



You can crop scout for anything, but I like to crop scout for things can change

Encirca – Crop Scouting

- The best type of crop scouting?
  - What if I told you there is a style of crop scouting that is able to predict problems before they show up?
  - What if I told you that this style of crop scouting doesn't happen during the growing season?
  - What if I told you that this style of crop scouting has the best rate of return?

Encirca – Crop Scouting

- Soil Sampling is crop scouting?
  - Scouting your fields for possible nutrient deficiencies – fix them before they happen
  - Nutrient management is a fundamental of successful farming
    - Soil sampling allows us to control of nutrient management – a factor that we can control
  - Soil Sampling – pH, Phosphorus, Potassium, Calcium, Magnesium, Boron, Zinc, Sulfur, Manganese

7

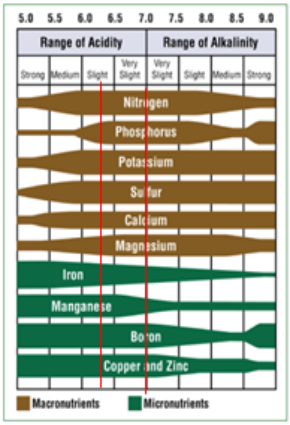
Encirca – Soil Sampling

- Ways to soil sample
  - Shovel, Hand Probe, Automated probe
    - Jeep and Wintex 1000
    - Automated - Same sample every time
    - Capable of 1000 acres a day – ave. 500-750
    - Quick turn around time on samples & prescriptions

8

Encirca – Nutrient Management

- Fundamentals in Farming – Nutrient Management
  - pH is the beginning step towards a sound nutrient management plan – big fundamental
  - N, P, and K are macronutrients that are vital for crop yields
  - pH can affect availability of the macronutrients – a major expense in crop production
  - Also affects micronutrient availability



Encirca – Fundamentals

- Fundamentals in Farming – Nutrient Management

Soil Acidity	Percent Utilized			Fertilizer Wasted	Cost of Fertilizer Wasted
	Nitrogen	Phosphate	Potash		
Extremely Acid 4.5pH	30%	23%	33%	75%	$177.60/ac
Very Strong Acid 5.0pH	53%	34%	52%	54%	$127.87/ac
Strong Acid 5.5pH	77%	48%	77%	33%	$78.14/ac
Medium Acid 6.0pH	89%	52%	100%	20%	$47.36/ac
Neutral 7.0pH	100%	100%	100%	0%	$0/ac

Based on a conservative application of 200N, 100P and 100K, $236.80 per acre - August 2015 average pricing

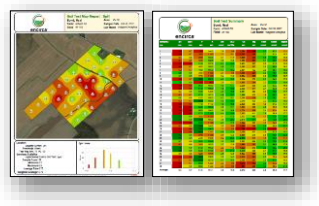
Encirca – Phosphorus and Potassium Removal

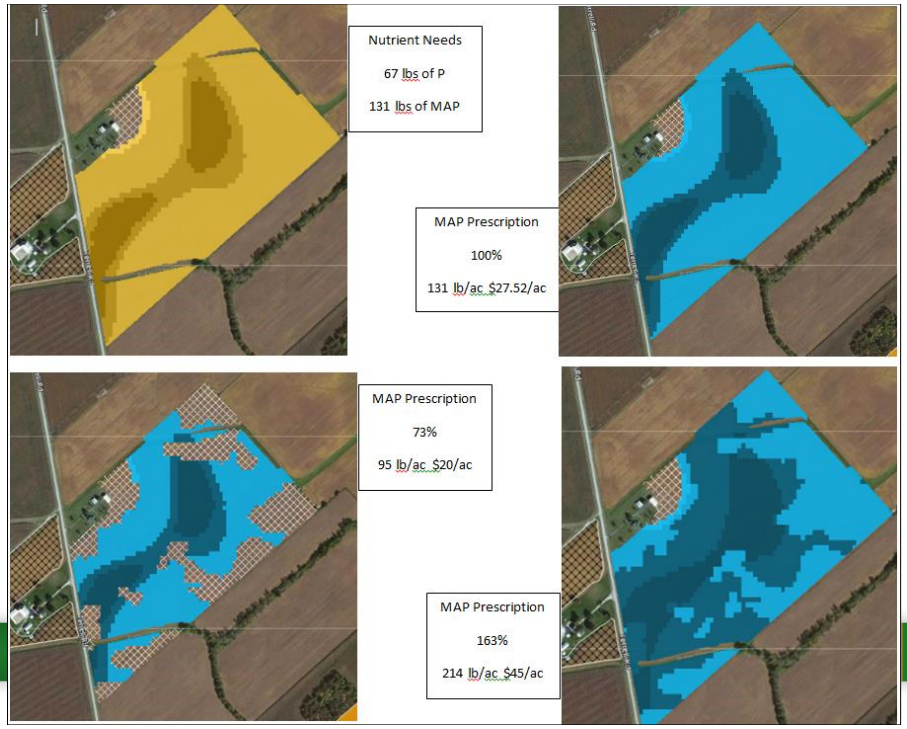
Corn	P	K	MAP	Potash
150	56	41	107	68
180	67	49	128	81
200	74	54	142	90
220	81	59	157	99
250	93	68	178	113
300	111	81	213	135

Beans	P	K	MAP	Potash
50	40	75	77	125
60	48	90	92	150
70	56	105	108	175
80	64	120	123	200
90	72	135	138	225
100	80	150	154	250

Encirca – Using your Crop Scouting

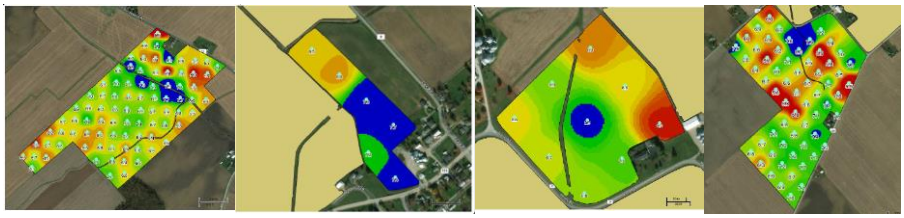
- Nutrient Management – Fertility Service
  - Managing your fields based upon Nutrient Needs
    - Build multiple scenarios for each farm or field
      - Low, Medium, or High build strategies
    - Rent vs Owned; Irrigated vs Non-Irrigated; No-Till vs Tillage
    - Budget Oriented Scenarios - $50/ac, $75/ac, $xx/ac? – “Opti-Allocate”
    - Opti-Blend – Build best blend for each farm or field
    - Increasing your Fertility Fundamentals





13

Treatment Analysis of Soil Test by Yield



yield	ph	Bp H	OM	P	K	Ca	Mg	Na	Zn	Fe	Mn	Cu	B	CEC	BS	KSat	Ca Sat	Mg Sat
60	7.0	6.8	3.8	44.3	158.3	2119.1	521.6	18.7	2.0	179.4	20.1	2.4	0.5	16.1	3.0	2.3	66.1	28.1
65	6.7	6.8	3.7	44.2	157.3	2007.6	477.8	17.6	2.2	174.3	26.9	2.3	0.5	15.6	6.1	2.6	64.5	26.4
70	6.5	6.8	3.7	44.2	156.3	1896.1	434.0	16.5	2.3	169.3	33.7	2.2	0.5	15.0	9.1	2.8	63.0	24.6
75	6.3	6.7	3.6	44.2	155.2	1784.6	390.1	15.3	2.4	164.2	40.5	2.0	0.5	14.4	12.2	3.0	61.4	22.9
80	6.1	6.7	3.6	44.1	154.2	1673.2	346.3	14.2	2.6	159.1	47.2	1.9	0.5	13.9	15.3	3.2	59.9	21.1
85	5.9	6.7	3.5	44.1	153.2	1561.7	302.4	13.1	2.7	154.0	54.0	1.7	0.5	13.3	18.3	3.4	58.3	19.4

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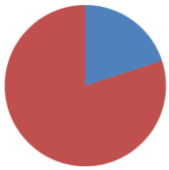
14

Treatment Analysis of Soil Test by Yield

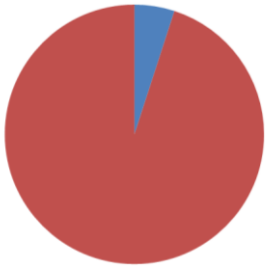
Yield	KSat
60	2.3
65	2.6
70	2.8
75	3.0
80	3.2
85	3.4

CEC - 7.6



K PPM – 152
Ksat – 5.1%

CEC - 18.8



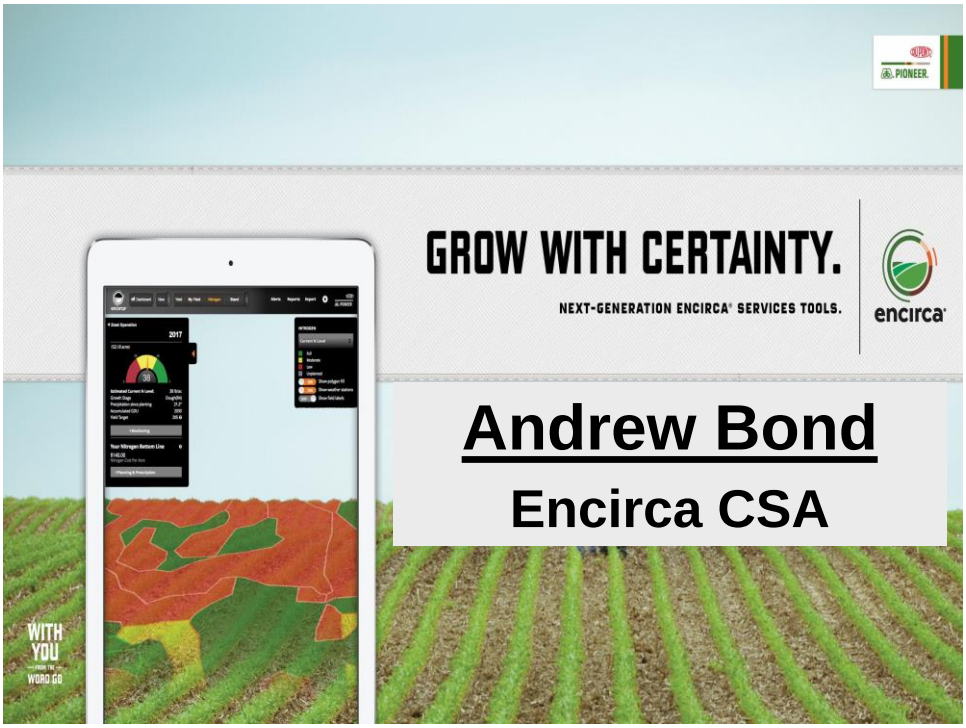
K PPM – 154
Ksat – 2.1%

15

Encirca – Crop Scouting

- Soil Sampling is crop scouting
  - Scouting your fields for possible nutrient deficiencies – fix them before they happen
  - Nutrient management is a fundamental of successful farming
    - Soil sampling allows us to control of nutrient management – a factor that we can control
  - Leave crop scouting to find other yield limiting factors, not nutrient deficiencies

16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