



## Intensive Soil Sampling

**40 acres of 4,000 acres this is a great program to get the P and K that you need!!!**

River Valley MFA has been involved with Precision Agriculture for the past eleven years, and currently has over 30,000 acres enrolled in the program, with this number increasing every year.

- GPS collected field boundaries and soil test points on 2.5acre grids.
- Soil tests are sent to Midwest Labs for OM, CEC, pH, P1, P2, K, S, and Zn test results.
- Nutrient surfaces display the variability and availability of each nutrient with red (deficient) to green (optimum) to blue (high/excessive) colors.
- Soil type maps are included with crop specific NRCS yield goals.
- Cropping Nutrient Management Plan is created for each field based on soil test levels, soil type and productivity, and cropping practice.
- Plant food recommendations are for VR application or finely tuned whole field for easy application.

**This is a great practice for a producer of any size!!!** We soil sample your field based on 2.5 acre grids; this tells a producer the nutrient levels in all areas of the field. With this information we will make variable rate recommendations for your fields and **apply up to 4 products with one machine!!!** With a practice such as this there will be no loss of yield because of under application of fertilizer in an area. There also will be **no wasted fertilizer** because of over application.

In conjunction with this program MFA can also use your yield monitor data to apply variable rate recommendations based on site specific crop removal.

With this program you will receive a nutrient management book that will show the high and low areas of each of your fields!

**Listed below is a small part of the information you will receive after grid soil sampling.**



**Bringing PROFIT to producers through  
production and stewardship.**

**SOIL FERTILITY, AND  
CROP PROTECTION**

**PREPARED ESPECIALLY  
FOR PROGRESSIVE PRODUCER**

**Mission Statement:**

*“ We offer our farmer-customers and MFA retail affiliates accurate and timely, fee-based agronomic services to increase farm production and profitability while documenting their environmental stewardship. This is accomplished by providing access to state-of-the-art agricultural technology and trained agronomy professionals to collect, manage, and interpret site-specific agricultural data.”*







## Soil Fertility Cropping System

- Purpose:**
- It is a hard copy record of beginnings.
  - It exemplifies the much more detailed information that is stored, layered, and processed in the Precision Advantage computerized program.
  - It signifies your determination to improve your profit opportunity by collecting, processing, and utilizing credible, and “incredible” information to manage

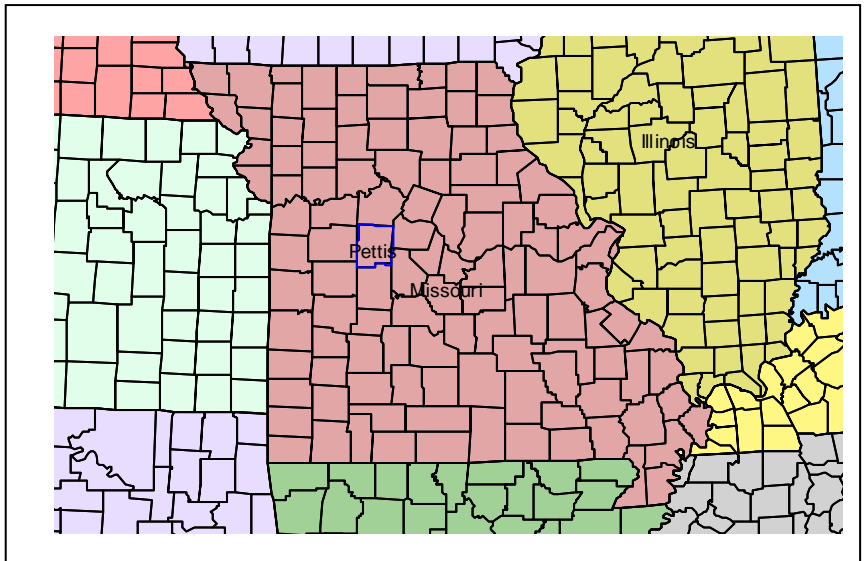
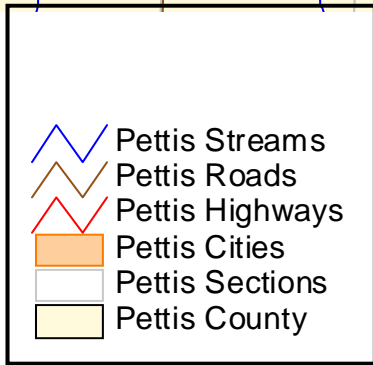
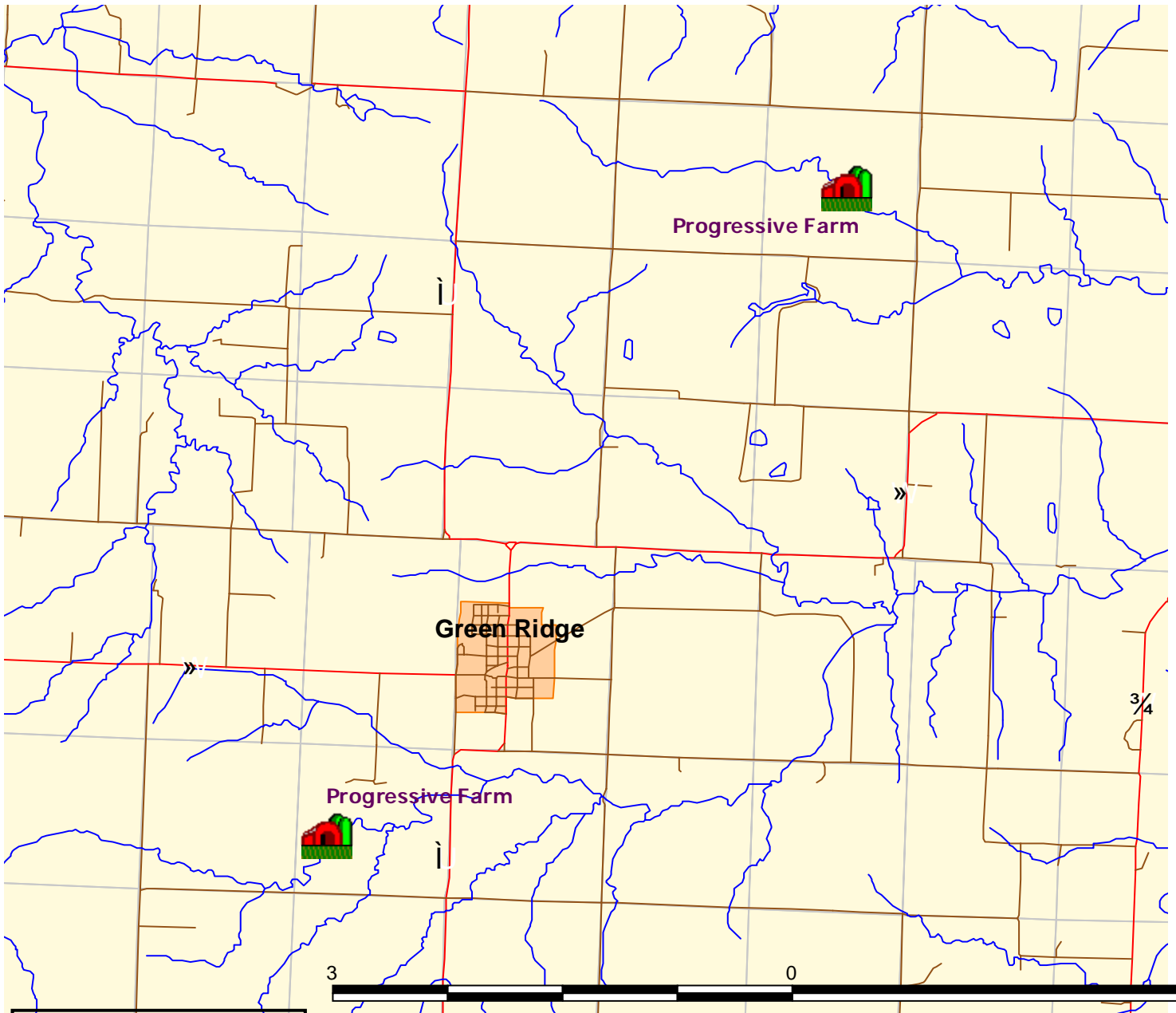
### In your Precision Advantage binder you will find the following:

1. The ***Client and farm locator*** with aerial photos of your farm and the surrounding area lists field names and acres. These photos and the outline of the farm provide a fail-safe method of identifying and locating your operation for purposes of delivery, input application, communication to value-added processors, landlords, etc.
2. Intensive ***soil sampling locations*** with identification numbers on each field is used to identify where and how many samples were pulled on your field. Our intensive soil-sampling program is based on 2.5 acres. Unlike grid testing, we find the best representative area within the 2.5 acres to pull our sample. All samples are sent to Midwest Labs and are tested for OM, CEC, pH, P, P2, K, S, and Zn.
3. ***Nutrient inventory surfaces*** are created from soil sample locations using the Kriging Interpolation method. Each map vividly shows the variability and availability of each nutrient. Each book comes with nutrient-specific legends for easy interpretation. Legends are as follows, from red (deficient) to green (optimum) to blue (high/excessive) colors. Soil test data are classed and interpreted consistently for every field and according to Missouri’s agronomic standards.
4. ***Soil type maps*** are included with crop specific NRCS yield goals\* for each soil type in the county. “VERIS”, compaction, or other soil physical measurements may be included. (*Ask your Precision Representative on what’s available.*)
5. A complete ***Cropping Nutrient Management Plan*** is created for you specific field based on your soil test levels, soil type and productivity, and cropping practice. Plant food recommendations are given either for variable rate application or a more finely tuned whole field for easy application.
6. ***Best Management Practices (BMP)*** was developed to give you an idea of different management practices that work well on your soil types with your specific cropping system.

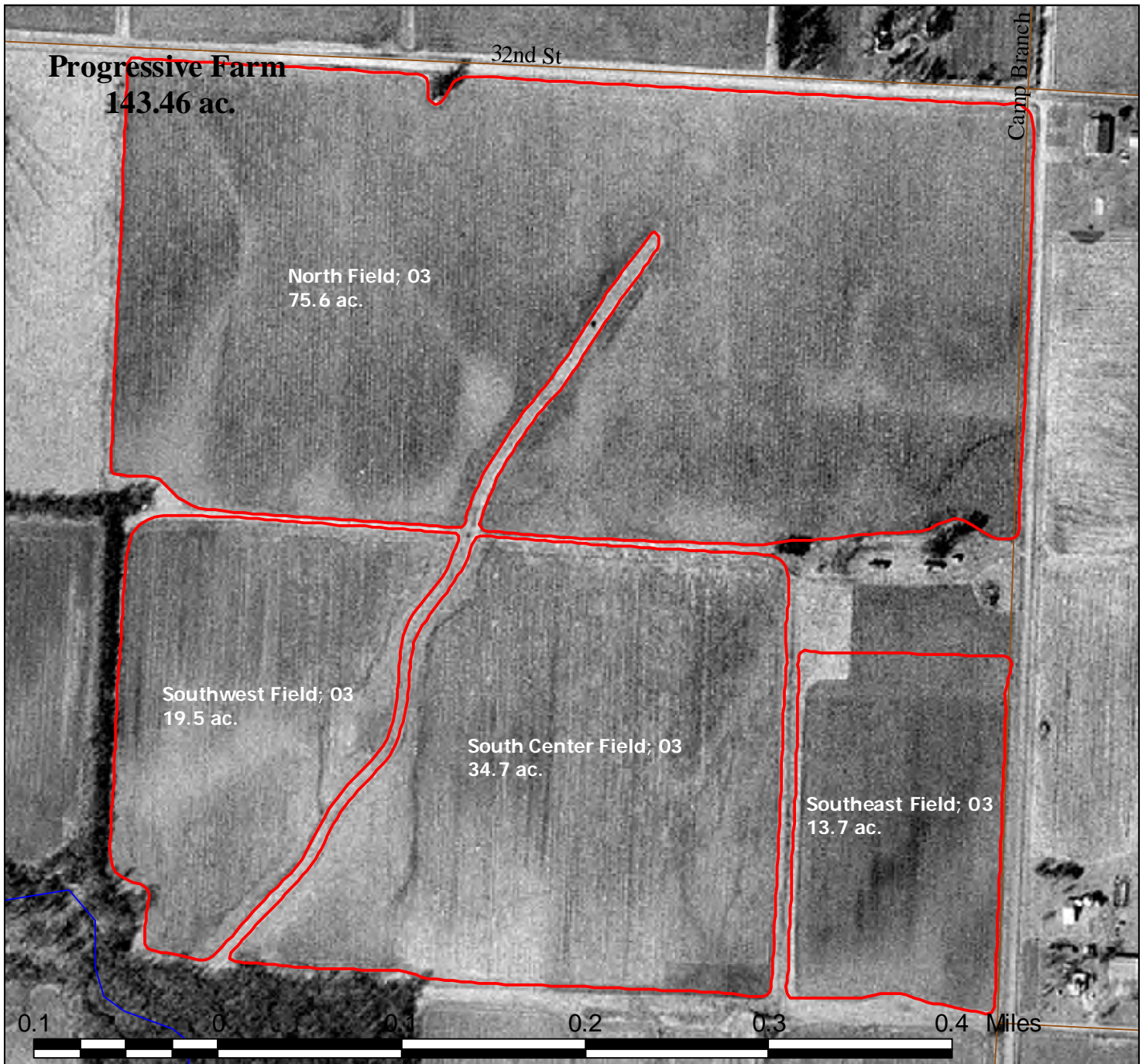
Those of us who work at MFA’s Precision Advantage program are passionate that the knowledge gained by collecting and evaluating field data as exemplified in this book will empower you to make better management decisions and increase your operation’s profitability.

\* The NRCS yield goals have been raised 25% to reflect the increase of today’s productivity levels.

# Progressive Producer - Pettis County

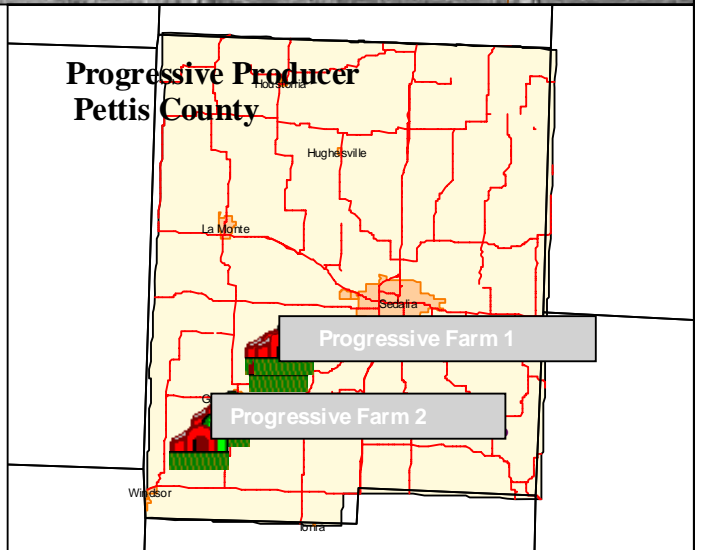




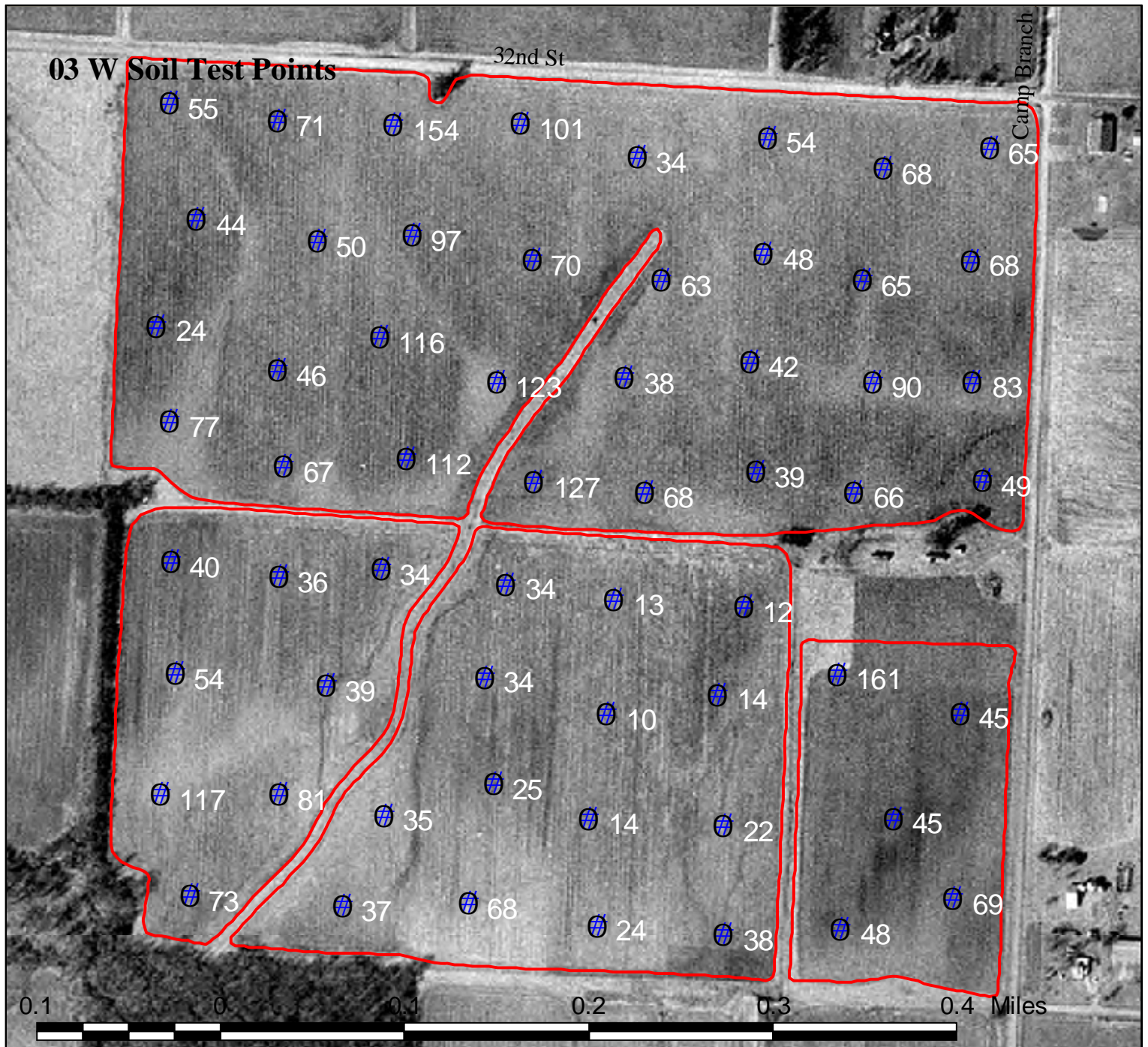



- Pettis Streams
- Pettis Roads
- Pettis Highways
- Pettis Cities
- Pettis County

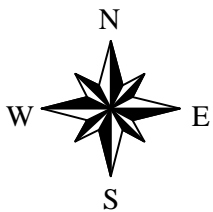
**Date:** Jul 16, 2004  
**Farm Name:** Progressive Farm  
**Location:** Pettis County,  
 Missouri, United States  
**Client Name:** Progressive Producer  
**Number of Fields:** 4  
**Total Acres:** 143.46



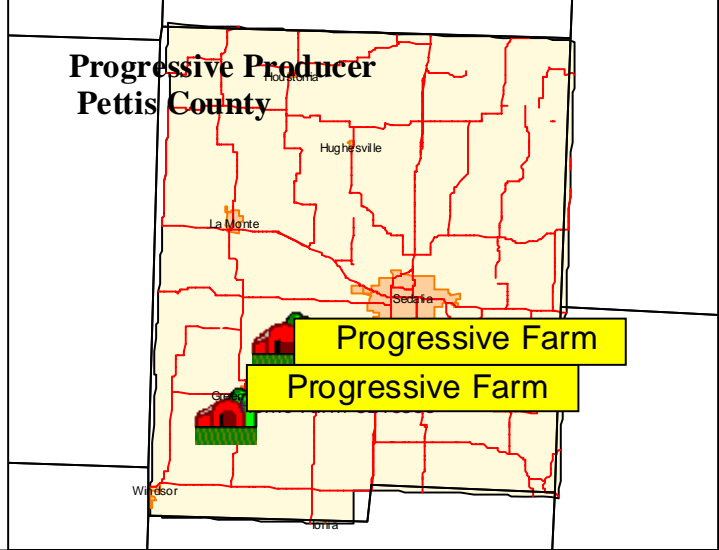




 03 W Soil Test Points



Date: Jun 24, 2003  
 Farm Name: Progressive Farm  
 Location: Pettis County,  
 Missouri, United States  
 Client Name: Progressive Producer  
 Number of Fields: 4  
 Total Acres: 143.5





# Legend Scale

## Organic Matter (OM)

Symbol	Value	Label
	0 - 1	0.0 - 1.0 (%)
	1 - 2	1.0 - 2.0
	2 - 3	2.0 - 3.0
	3 - 4	3.0 - 4.0
	4 - 5	4.0 - 5.0
	5 - 7	> 5.0

## Cation Exchange Capacity

Symbol	Value	Label
	0 - 5	very light
	5 - 10	light
	10 - 15	optimum 1
	15 - 20	optimum 2
	20 - 25	heavy
	25 - 40	very heavy

## Water pH

Symbol	Value	Label
	0 - 5	Excessive acid
	5.1 - 5.5	Acidic
	5.5 - 6.1	Slightly acidic
	6.1 - 6.6	Grain optimum
	6.6 - 7.5	Alfalfa optimum
	7.5 - 12	Alkaline

## Neutralizable Acidity (Hmeq)

Symbol	Value	Label
	0 - 1	0.0 - 1.0
	1 - 2	1.1 - 2.0
	2 - 3	2.1 - 3.0
	3 - 4	3.1 - 4.0
	4 - 5	4.1 - 5.0
	5 - 10	> 5.0

## Phosphorous (P1) ppm

Symbol	Value	Label
	0 - 5	Very Low
	5 - 12	Low
	12 - 22	Medium
	22 - 27	Optimum
	27 - 35	High
	35 - 200	Excess

## Reserve Phosphorous (P2) ppm

Symbol	Value	Label
	0 - 10	Very Low
	10 - 24	Low
	24 - 44	Medium
	44 - 54	Optimum
	54 - 70	High
	70 - 400	Excess

## Potassium (K) ppm

Symbol	Value	Label
	0 - 40	Very Low
	40 - 80	Low
	80 - 150	Medium
	150 - 200	Optimum
	200 - 250	High
	250 - 1000	Excess

## Sulfur (S) ppm

Symbol	Value	Label
	0 - 5	Very Low
	5 - 10	Low
	10 - 15	Medium
	15 - 20	Optimum
	20 - 25	High
	25 - 90	Very High

## Zinc (Zn) ppm

Symbol	Value	Label
	0 - 0.5	Very Low
	0.5 - 1	Low
	1 - 2.5	Medium
	2.5 - 4	Optimum
	4 - 6.2	High
	6.2 - 15	Very High

## Calcium (Ca) ppm

Symbol	Value	Label
	0 - 500	Very Low
	500 - 1000	Low
	1000 - 1500	Medium
	1500 - 2000	Optimum
	2000 - 2500	High
	2500 - 8000	Very High

## Magnesium (Mg) ppm

Symbol	Value	Label
	0 - 37	Very Low
	37 - 75	Low
	75 - 120	Medium
	120 - 250	Optimum
	250 - 375	High
	375 - 1000	Excess

## Bi Carbon ppm

Symbol	Value	Label
	0 - 5	Very Low
	5 - 12	Low
	12 - 22	Medium
	22 - 27	Optimum
	27 - 35	High
	35 - 200	Excess

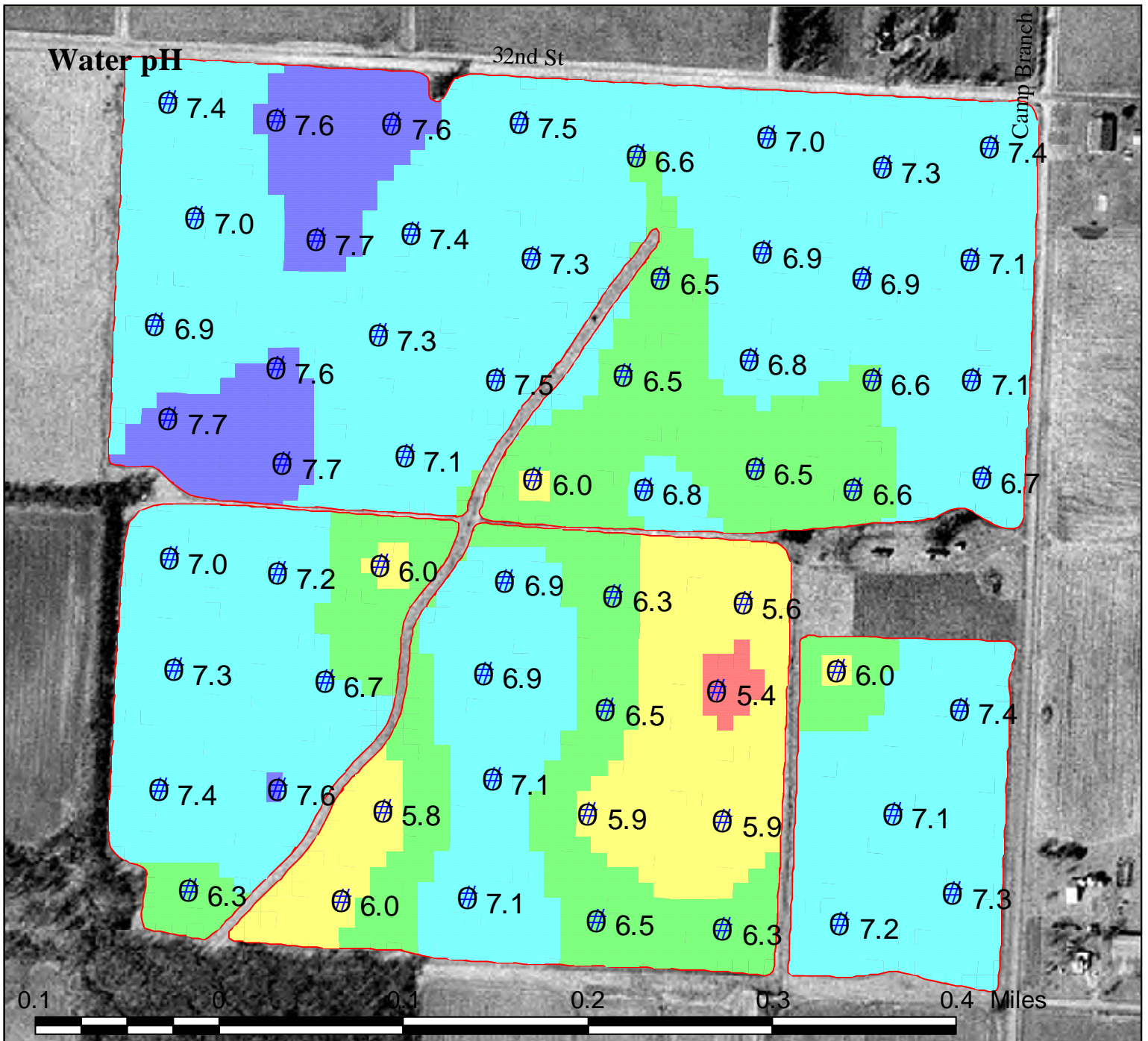
## Compaction (lbs/sq in.)








Symbol	Value	Label
	100 - 150	100 - 150
	150 - 200	150 - 200
	200 - 250	200 - 250
	250 - 300	250 - 300
	300 - 350	300 - 350
	350 - 1000	> 350

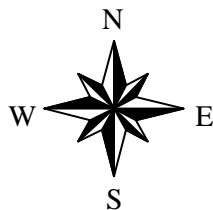
## 590 P Standards (ppm)

Symbol	Value	Label
	0 - 23	Crop Removal + Build
	23 - 35	1.5X Crop Removal
	35 - 68	Crop Removal
	68 - 150	High, No P
	150 - 500	Excessive, No P

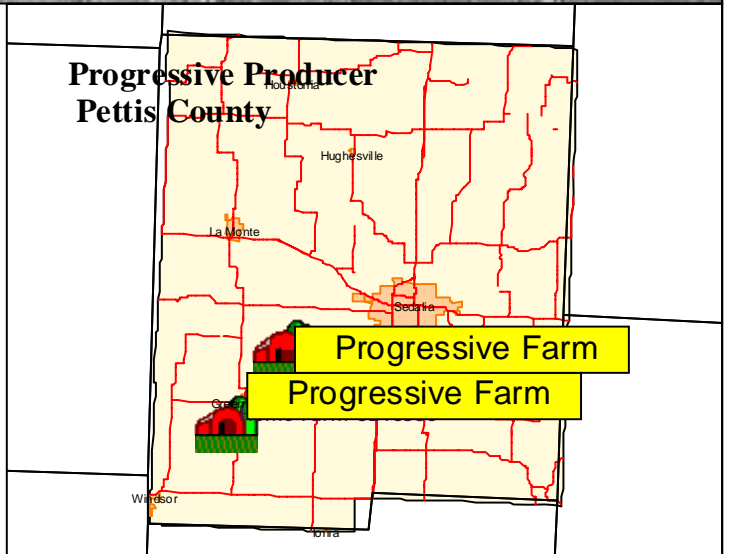




-  03 W Soil Test Points
- Nutrient Megasurface
  -  Excessive acid
  -  Acidic
  -  Slightly acidic
  -  Grain optimum
  -  Alfalfa optimum
  -  Alkaline



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 Client Name: Progressive Producer  
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 Total Acres: 143.5

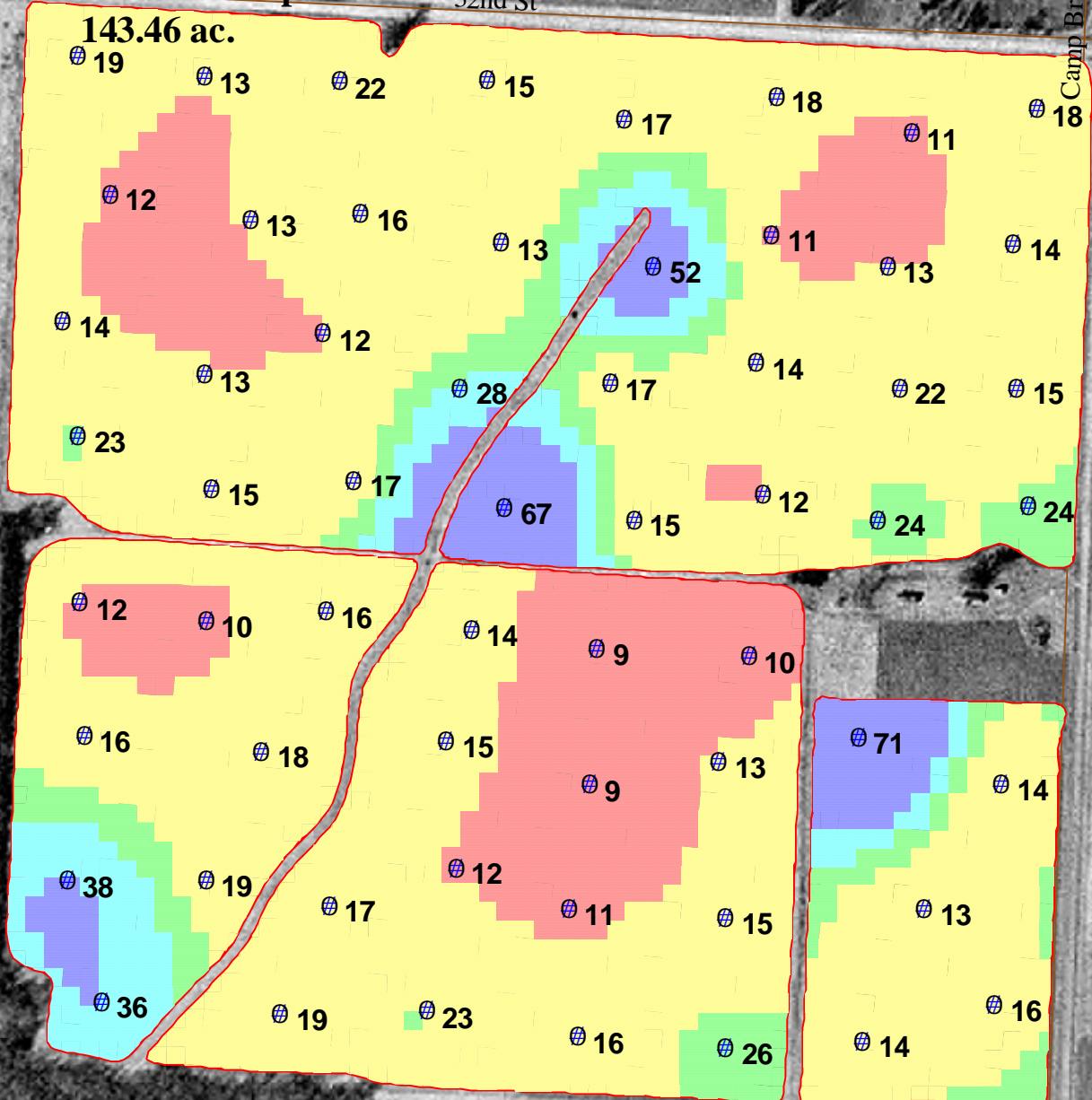


# Progressive Farm - Phosphorous

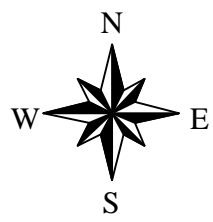
32nd St

Camp Branch

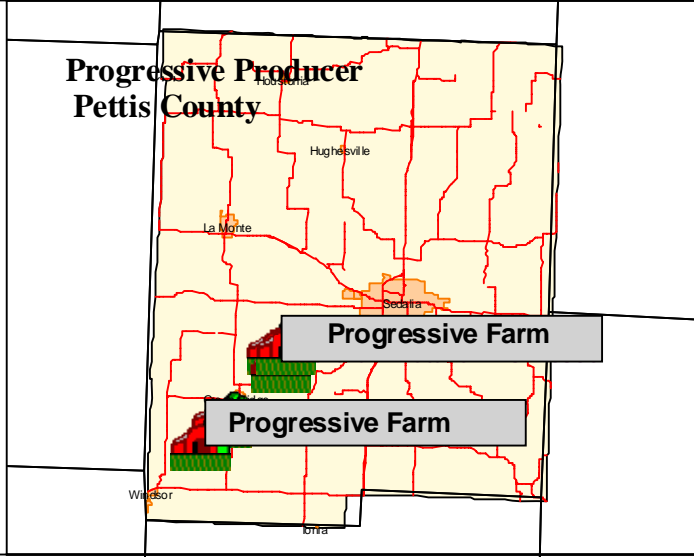
143.46 ac.

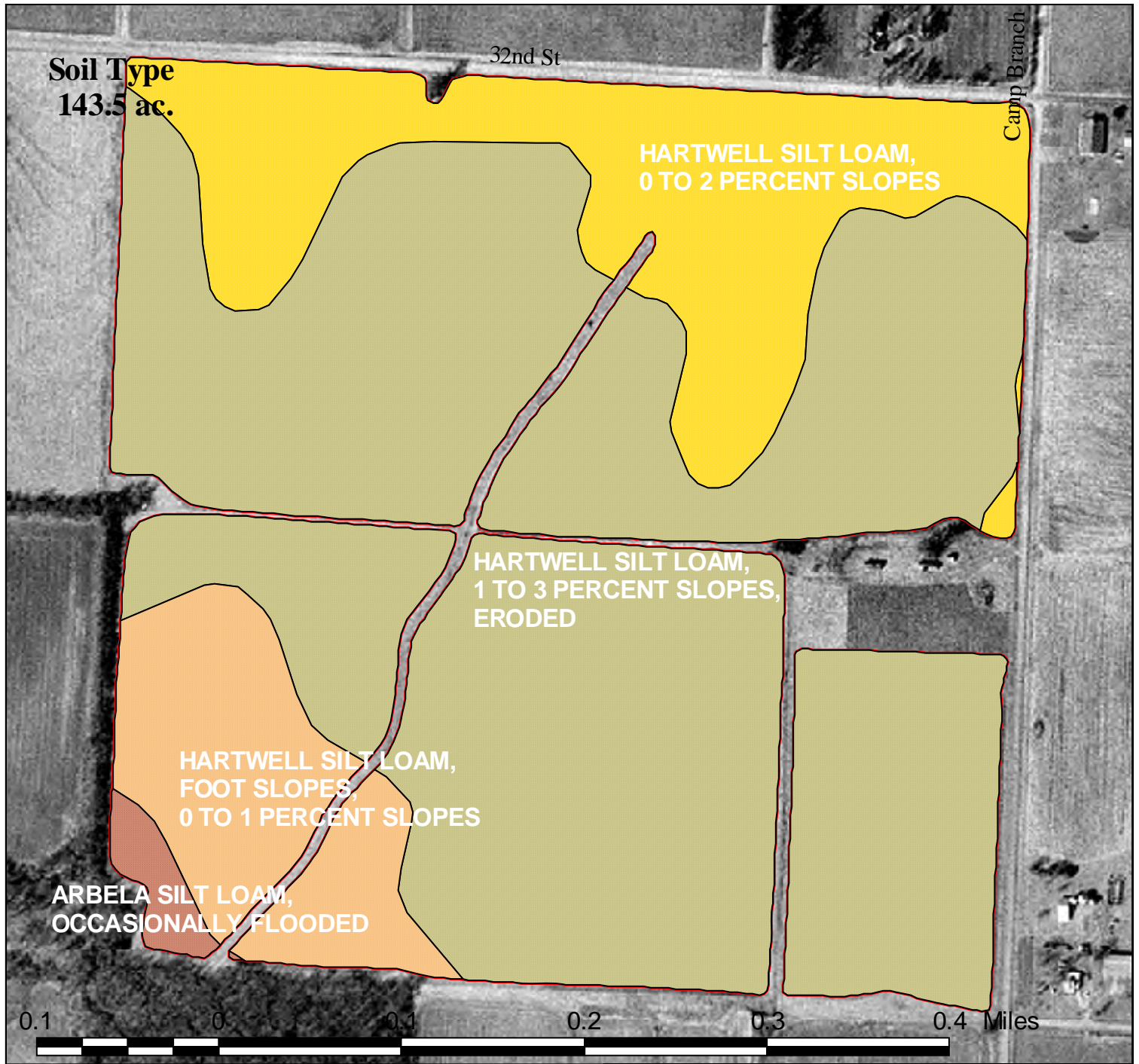


04 Soil Test Points  
 Nutrient Surface - P  
 Very Low  
 Low  
 Medium  
 Optimum  
 High  
 Excess

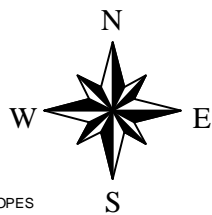


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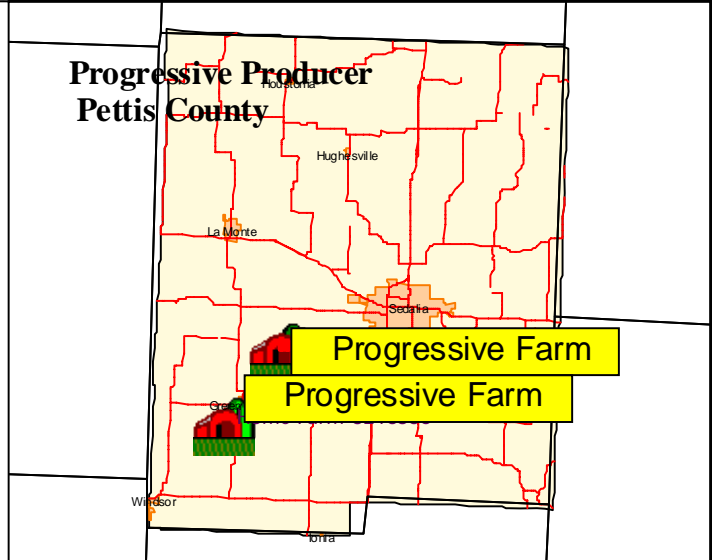




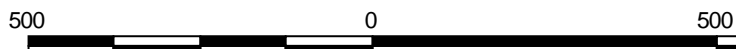
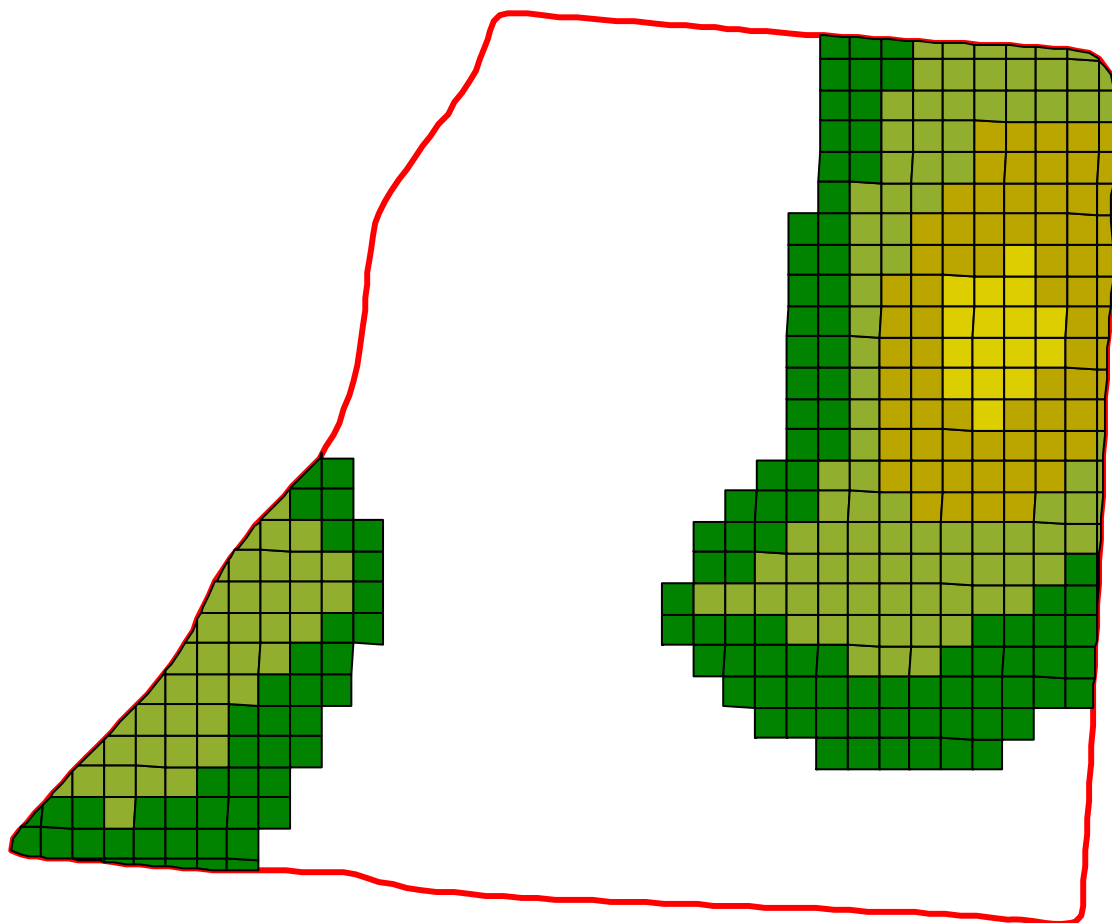
- Soil Types
- ARBELA SILT LOAM, OCCASIONALLY FLOODED
  - HARTWELL SILT LOAM, 0 TO 2 PERCENT SLOPES
  - HARTWELL SILT LOAM, 1 TO 3 PERCENT SLOPES, ERODED
  - HARTWELL SILT LOAM, FOOT SLOPES, 0 TO 1 PERCENT SLOPES




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# South Center Field; 03 (34.70 ac.) - AgLime Recommendation



### AgLime Recommendation - Lbs/ac.

0 - 0.5 T	(19.4 ac.)
0.5 - 1.0 T	(5.9 ac.)
1.0 - 1.5 T	(5.6 ac.)
1.5 - 2.0 T	(3.0 ac.)
2.0 - 2.5 T	(0.7 ac.)
2.5 - 3.0 T	(0.0 ac.)
3.0 - 3.5 T	(0.0 ac.)
> 3.5 T	(0.0 ac.)
	Field Boundary

Equation Used: 3.1.Data.Agronomizer.G170LimeRec

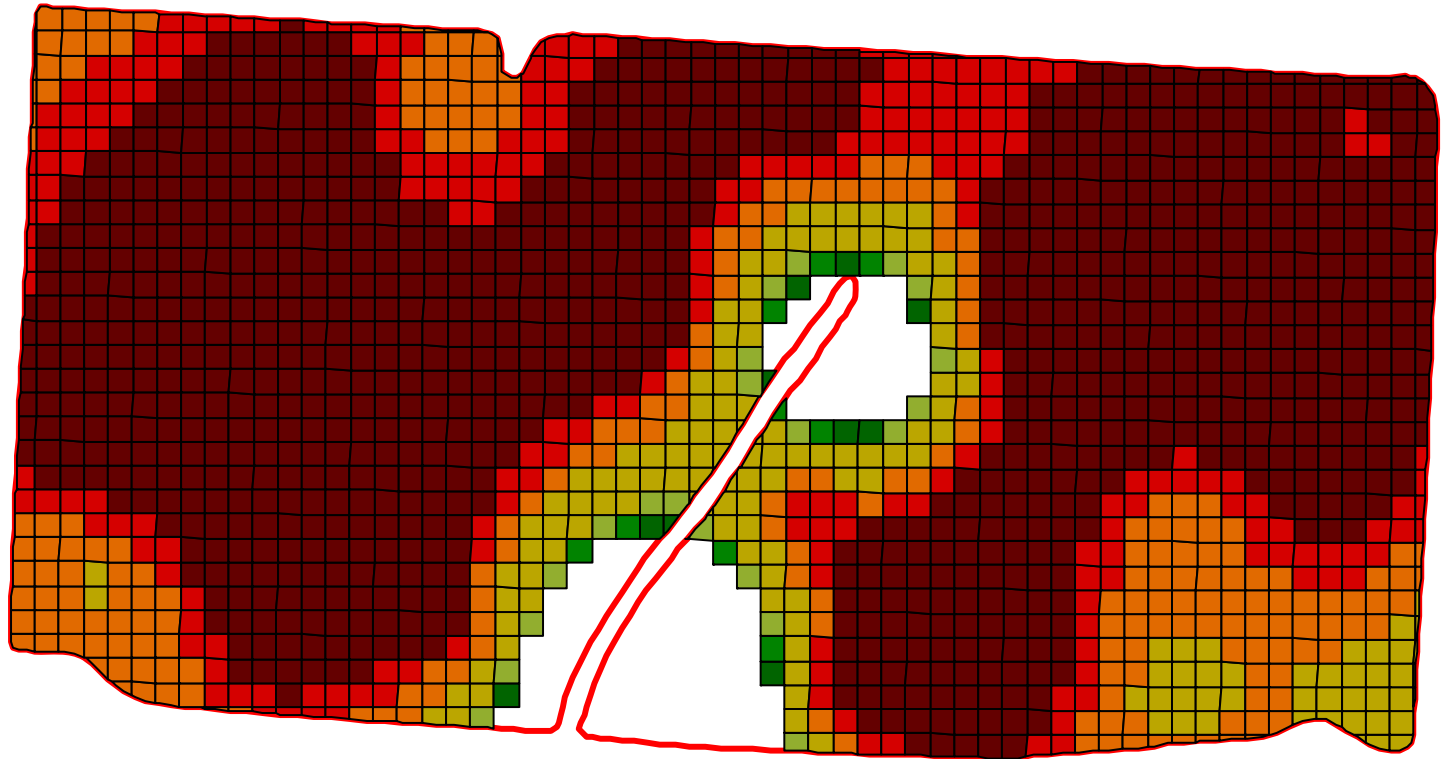
Date: July 16, 2004  
 Field Name: Field 1  
 Farm Name: Progressive Farm  
 Client Name: Progressive Farmer  
 Location: Pettis Co. MO, US  
 Total Acres: 34.70  
 Field Boundary Start Location:  
 Latitude: 38.66944166  
 Longitude: -93.36178333


Application Estimates:  
 Product: AgLime  
 Min. Rate: 500.0 Lbs/ac.  
 Max. Rate: 4691.0 Lbs/ac.  
 Avg. Rate: 1889.3 Lbs/ac.  
 Total AgLime: 20.13 Tons  
 Number of Acres to be Applied: 21.30 Acres





# North Field; 03 (75.60 ac.) - P2O5 Recommendation



P2O5 Recommendation - Lbs/ac.	
0	(4.6 ac.)
40	(0.4 ac.)
60	(0.4 ac.)
80	(0.9 ac.)
100	(6.2 ac.)
120	(9.6 ac.)
140	(9.9 ac.)
> 150	(43.6 ac.)
	Field Boundary

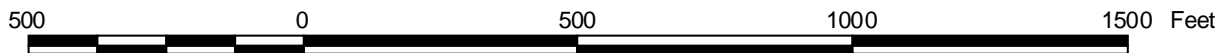
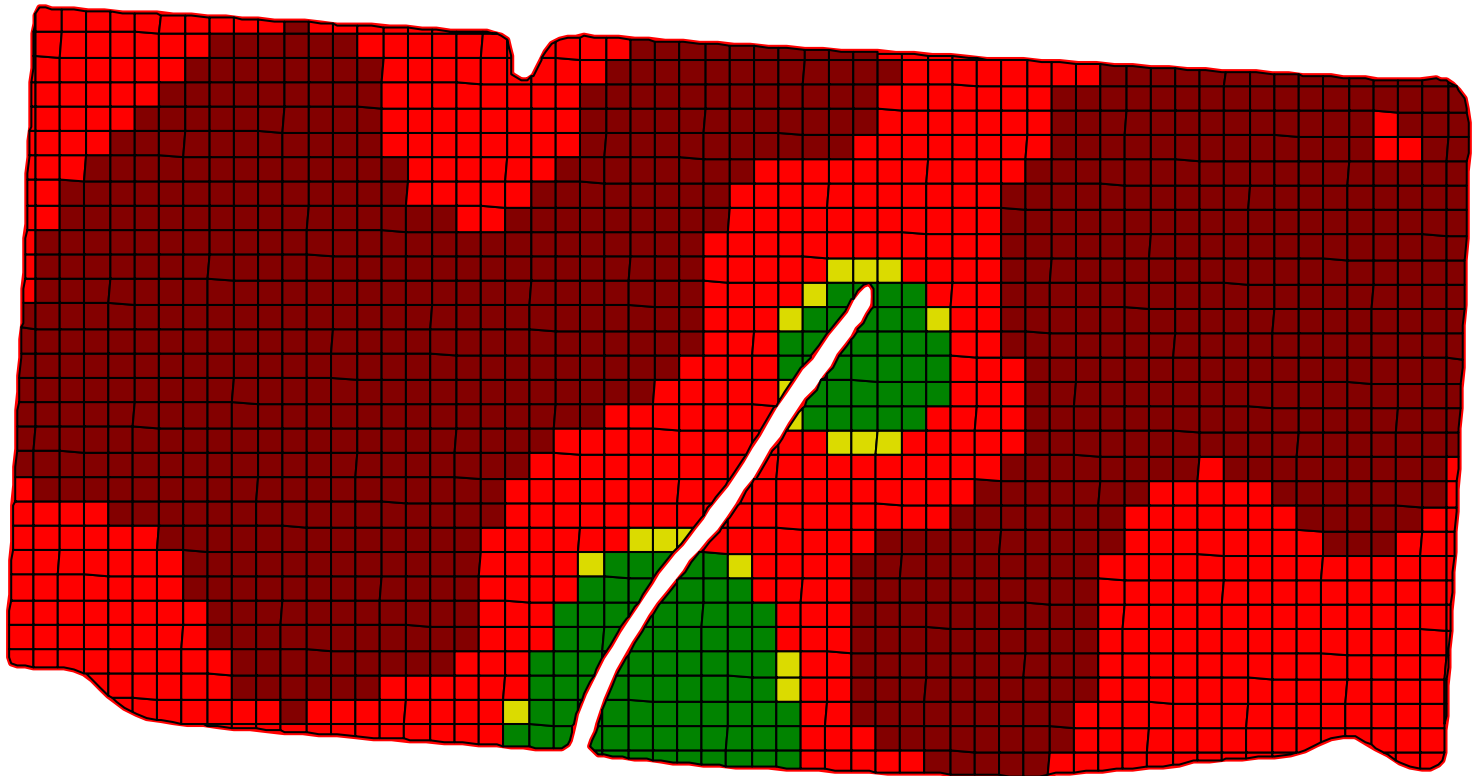
Equation Used: 3.1.Data.Agronomizer.G170PRec

Date: July 16, 2004  
 Field Name: Field 1  
 Farm Name: Progressive Farm  
 Client Name: Progressive Farmer  
 Location: Pettis Co. MO, US  
 Total Acres: 34.70  
 Field Boundary Start Location:  
 Latitude: 38.66944166  
 Longitude: -93.36178333

Application Estimates:  
 Product: P2O5  
 Min. Rate: 20.0 Lbs/ac.  
 Max. Rate: 210.0 Lbs/ac.  
 Avg. Rate: 152.1 Lbs/ac.  
 Total P2O5: 5.51 Tons  
 Number of Acres to be Applied: 71.90 Acres



# North Field; 03 (75.60 ac.) - 590 P Standards Manure Recommendation



- P2O5 Recommendation - Lbs/ac.**
- Excessive, No P Application
  - High, No P Application
  - Apply Crop Removal
  - Apply 1.5 X Crop Removal
  - Apply Crop Removal + Build
  - Field Boundary

Equation Used: 3.1.Data.Agronomizer.G170PRec

Date: July 16, 2004  
 Field Name: Field 1  
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 Total Acres: 34.70  
 Field Boundary Start Location:  
 Latitude: 38.66944166  
 Longitude: -93.36178333

Application Estimates:  
 Product: P2O5  
 Min. Rate: 20.0 Lbs/ac.  
 Max. Rate: 210.0 Lbs/ac.  
 Avg. Rate: 152.1 Lbs/ac.  
 Total P2O5: 5.51 Tons  
 Total P2O5 (100%): 5.51 Tons  
 Number of Acres to be Applied: 71.90 Acres

