

Micronutrient Evaluation

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Questions on Micronutrients

- ⌘ Are they needed?
- ⌘ On what soil types?
- ⌘ At what rates?
- ⌘ Soil applied or Foliar applied?
- ⌘ In furrow or broadcast?
- ⌘ Response?
- ⌘ Profitability to grower and dealer?

Yield Map (2000)
HOME - COOPERSTOWN
#5

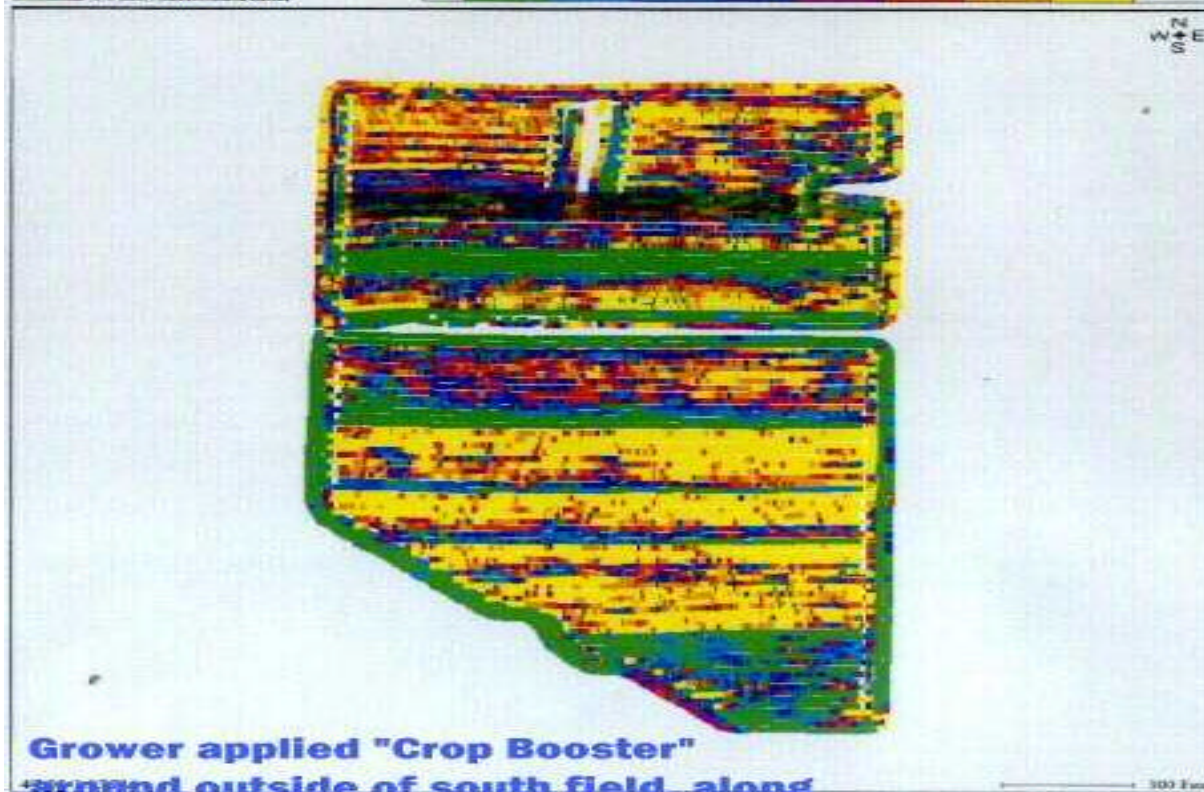
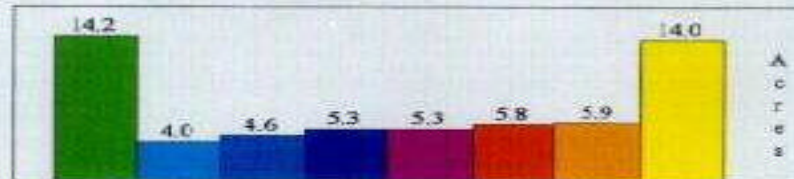
Harvested Acres: 59.13
 Dates: 10/18/00 - 10/20/00
 Yield: 48.47 bpa
 Moisture: 12.41 %

Soybeans (Standard)

58 and greater
 53 to 57
 48 to 52

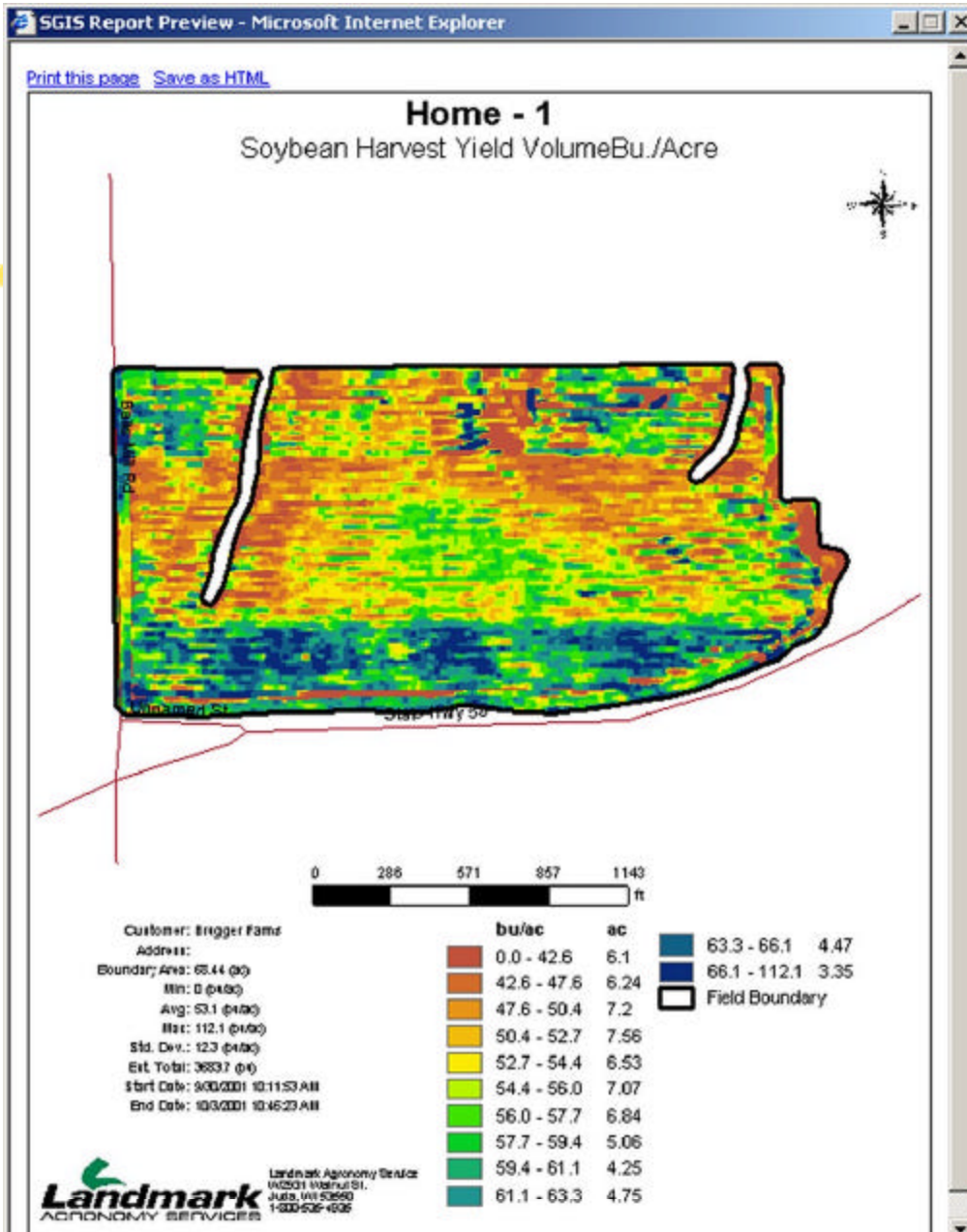
43 to 47
 38 to 42
 33 to 37

28 to 32
 less than 28



Grower applied "Crop Booster"

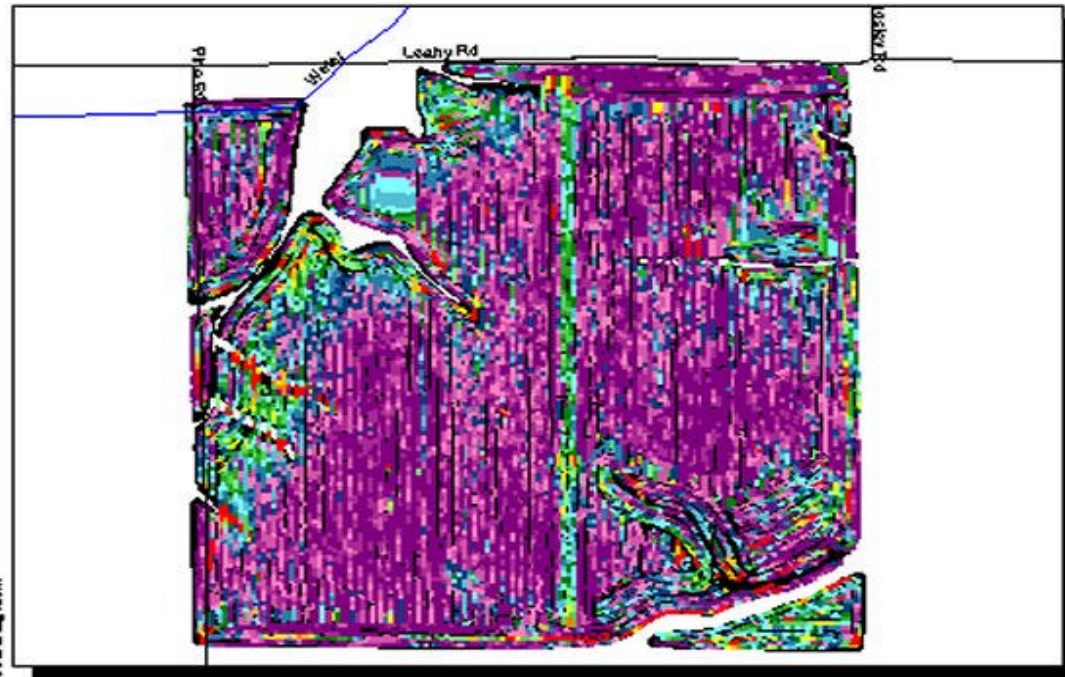
**around outside of south field, along
 center field drive, and passes north
 and south of field drive. (See Green on Green Star Map)**



FIELD REPORT: SOYBEANS - 2001 YEAR

Grower/Farm: Meadow Brook Farms - Francis
Field Name: Francis
Today's Date: 01/11/2002
Topic: Yield/Vol

Courtesy of
 Agrilance Agronomy



LEGEND

Yield/Vol (bu/ac)

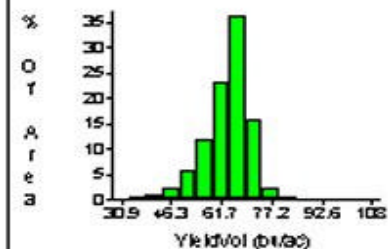


YIELD STATISTICS (DRY)

Total Yield: 2,828.12 (bu)
 Avg. Moisture: 12.68 %
 Harvest Area: 141.77 (acres)
 Average: 81.27 (bu/ac)
 Std. Dev: 12.28 (bu/ac)
 Cell Count: 14404

AREA GRAPH

Yield/Vol Distribution



This field was treated with
 Crop Booster on 7/10/02.
 Only the turning areas,
 waterway edges, and the
 small strip down the
 center were left untreated.
 The field averaged 64
 bushels, the untreated
 areas yielded about 50
 bushels.



COUNTRYSIDE COOPERATIVE

Countryside Cooperative Agronomy Research Plot Data



Countryside Rate Plots

- ⌘ Burkhardt sandy loam-Pepin County
- ⌘ 10' X 40' Plots replicated 3 times
- ⌘ Cropplan RT 1999 soybeans
- ⌘ Planted @ 225,000 in 30" rows
- ⌘ Planted 5-17-00
- ⌘ 6.8 PH, 1.9% OM, P-55 ppm, K-135 ppm
- ⌘ Base starter of 175# 9-23-30
- ⌘ Furrow application simulated beside and below the seed
- ⌘ Foliar Manganese was applied on 6-21-00 to appropriate treatments
- ⌘ Dr. John Albers, AgResource, Arkansaw, WI

Countryside Rate Plot

- ⌘ Burkhardt sandy loam-Pepin County
- ⌘ 10' X 40' Plots replicated 3 times
- ⌘ Novartis N4640Bt
- ⌘ Planted @ 32,000 population with 30" rows
- ⌘ Planted 5-4-00
- ⌘ 6.8 PH, 1.9% OM, P-55, K-135
- ⌘ Base starter of 175# 9-23-30

2001 Countryside Results

Corn results

⌘ No Starter	⌘ 173.1 Bu.
⌘ 15.25-40.25-52.5	⌘ 180.5 Bu.
⌘ 15.25-40.25-0 & 52.5 K @ preplant	⌘ 192.4 Bu.
⌘ 15.25-40.25-4.98 & 47.4 K @ preplant	⌘ 191.5 Bu.
⌘ 15.25-40.25-52.5-10S	⌘ 192.1 Bu.
⌘ 15.25-40.25-0-10S & 52.5K-10S preplant	⌘ 194.7 Bu.
⌘ 15.25-40.25-52.5-2 Zinc	⌘ 185.5 Bu.
⌘ 15.25-40.25-52.5-0.25 Boron	⌘ 180.1 Bu.
⌘ 15.25-40.25-52.5-10S-2 Zinc	⌘ 195.7 Bu.
⌘ 15.25-40.25-52.5-10S-0.25 Boron	⌘ 193.7 Bu.
⌘ 15.25-40.25-52.5-2Zinc-0.25 Boron	⌘ 183.7 Bu.
⌘ 15.25-40.25-52.5-10S-2Zinc-0.25 Boron	⌘ 196.6 Bu.
	⌘ LSD 4.26 Bushels

2001 Countryside Soybean Response

⌘ No starter	⌘ 49.8 Bu.
⌘ 12-30-70 in row	⌘ 59 Bu.
⌘ 12-30-70 broadcast	⌘ 59 Bu.
⌘ 0-0-70 in row	⌘ 56 Bu.
⌘ 18-21-34.5-7.5 S broadcast	⌘ 59.8 Bu.
⌘ 0-0-70 broadcast	⌘ 55.1 Bu.
⌘ 12-30-70-10S broadcast	⌘ 59.8 Bu.
⌘ 12-30-70-10S brdcast + CB 1 Qt.	⌘ 62.2 Bu.
⌘ Cropbooster for beans 1 Qt.	⌘ 55.1 Bu.
⌘ 0-0-70 brdcast + 1 Qt. Crop Bst.	⌘ 58.2 Bu.
⌘ 12-30-70-10S-0.5B broadcast	⌘ 58.5 Bu.
⌘ 12-30-70-10S-0.5B brdcst +1Qt Crop Booster	⌘ 61.4 Bu.
	⌘ LSD 2.14 Bushels

2001 Soybean Continued

⌘ 12-30-70-10S-2Zn bcst	⌘ 60.6 Bu.
⌘ 12-30-70-10S-2Zn bcst + CB 1 Qt	⌘ 60.9 Bu.
⌘ 12-30-70-2Zn bcst	⌘ 62.2 Bu.
⌘ 12-30-70-0.5B bcst	⌘ 56.5 Bu.
⌘ 12-30-70-2Zn-0.5B bcst	⌘ 57.4 Bu.
⌘ 12-30-70-2Zn-0.5B bcst +CB 1Qt	⌘ 59.5 Bu.
⌘ 12-30-70-10S-2Zn-.5B bcst	⌘ 61.5 Bu.
⌘ 12-30-70-10S-2Zn-.5B bcst +CB	⌘ 62.7 Bu.
⌘ 12-30-70-10S-2Zn-.5B bcst+CBMN	⌘ 62.5 Bu.
⌘ 17-30-70-20S-4Zn-.5B bcst	⌘ 61.3 Bu.
⌘ 17-30-70-20S-4Zn	⌘ 59.7 Bu.
	⌘ LSD 2.14 Bushels

2001 Soybean Continued

⌘ 12-30-70-4Zn-.5B bcst	⌘ 57.4 Bu.
⌘ 17-30-70-20S-.5B bcst	⌘ 62.4 Bu.
⌘ 17-30-70-20S bcst	⌘ 62.3 Bu.
⌘ 12-30-70-4Zn bcst	⌘ 58.1 Bu.
⌘ 12-30-70-1B bcst	⌘ 58.3 Bu.
⌘ 12-30-70-10S-2Zn-.5B bcst +CBFe	⌘ 61.8 Bu.
⌘ 12-30-70-10S-2Zn-.5B + foliar experimental Mn	⌘ 61.8 Bu.
⌘ 12-30-70-10S-2Zn-.5B + foliar experimental Zn	⌘ 61.4 Bu.
	⌘ LSD 2.14 Bushels

Summary on Soybeans

- ⌘ Use of starter either in row or broadcast increased yields
- ⌘ Additions of any micronutrient did increase yields, however zinc and sulfur were at a higher response than boron
- ⌘ Combination of zinc, sulfur and zinc were at the highest yields
- ⌘ Highest yield 62.7 using 12-30-70-10S-2Zn-.5B + CB
- ⌘ Yields were increased using Crop Booster for Beans

Summary

- ⌘ Still some Questions.
- ⌘ Soil, environmental, management, tillage, all other factors can change response to micronutrients.
- ⌘ We can demonstrate a response to both soil applied and foliar micronutrient application.
- ⌘ We can increase both grower and dealer profitability in some conditions with micronutrients.
- ⌘ Continue to demonstrate those responses in your conditions.