

Managing Agronomic Input Costs



Nathan Mueller

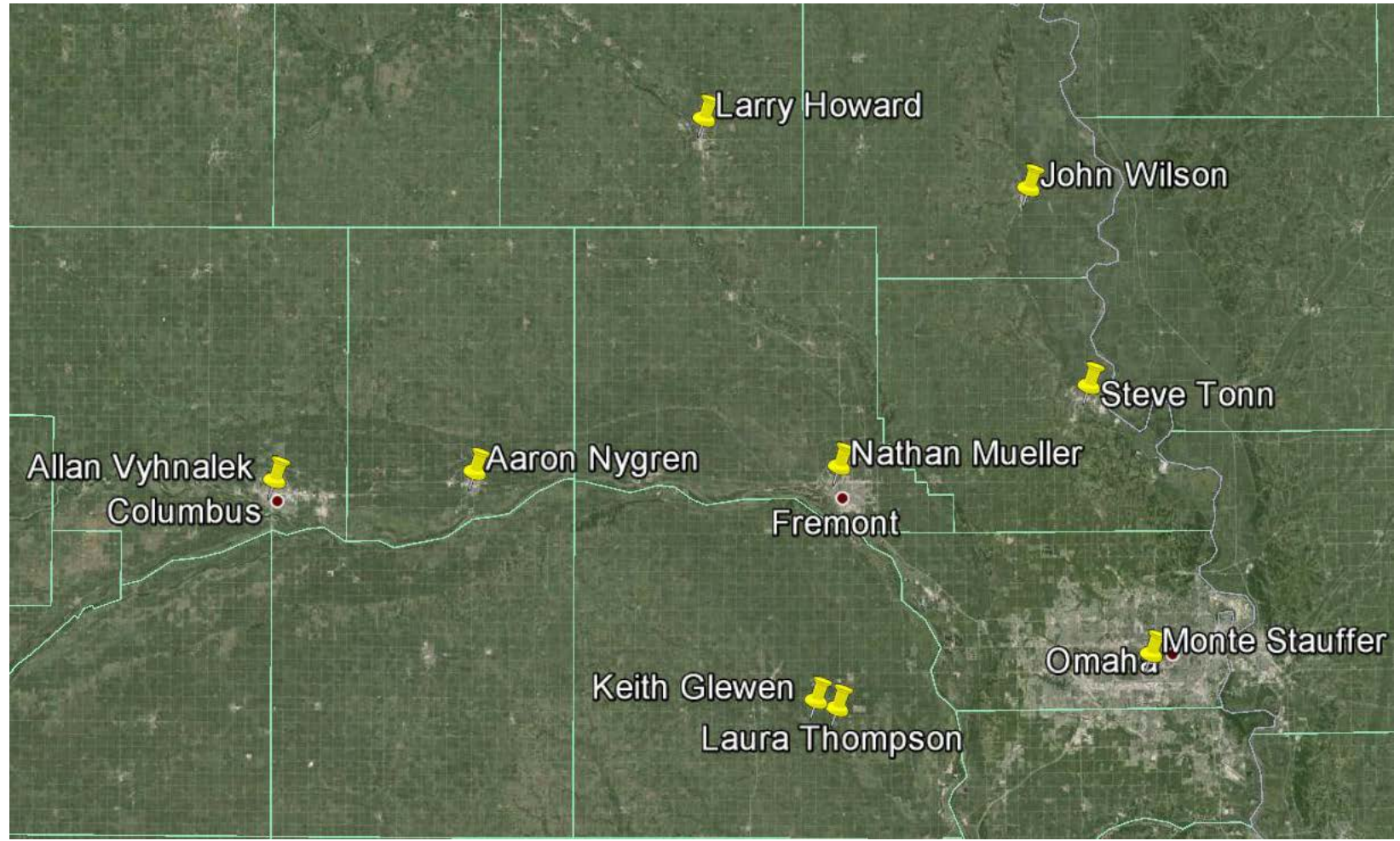
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Feeding you local crop production and technology information for your farm in East Central Nebraska

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- This type of tool may be used to document the sustainability of a field or farm allowing access to markets which require such documentation.



Thursday, December 11, 2014

9:00 AM – 1:00 PM

UNL Extension in Dodge County

1206 West 23rd, Fremont, NE

Pre-Registration is Required by December 5, 2014

Contact Nathan Mueller, UNL Extension Educator
Phone (402) 727-2775; E-Mail nathan.mueller@unl.edu

PARTICIPANTS WILL FILL OUT A DATA SHEET IN ADVANCE

Workshops on Dec. 11, 2014: Field Assessments to Improve Efficiency and Sustainability

The Nebraska Extension in Dodge County in Fremont and Colfax County in Schuyler will be hosting a site for a new initiative that seeks to enhance the knowledge of Nebraska corn, soybean and wheat producers on their sustainability and operational efficiency measures. Participating farmers will use a new web based tool called the Fieldprint® Calculator. [...]

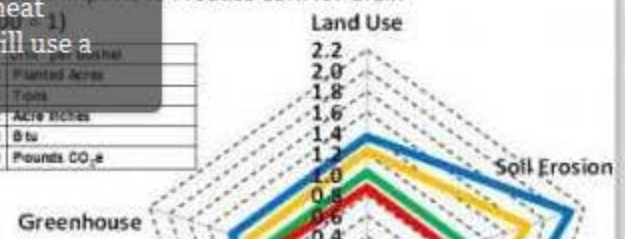
- Quantify the sustainability of a field.
- Visualize the production process in a new way

Index of Per Bushel Resource Impacts to Produce Corn for Grain

(Unit: bushels year 2000 = 1)

Land Use	0.008	Planted Acres	
Soil Erosion	0.028	Tons	
Irrigation Water Applied	0.242	Acres Inches	
Energy	47.775	Btu	
Greenhouse Gases	13.0	Pounds CO ₂ e	

* Five-year average 1986 - 2000



Dodge County Crop Condition Report – July 21

Filed under [CROPPING SYSTEMS](#), [DISEASES](#), [INSECTS](#), [WEATHER](#)

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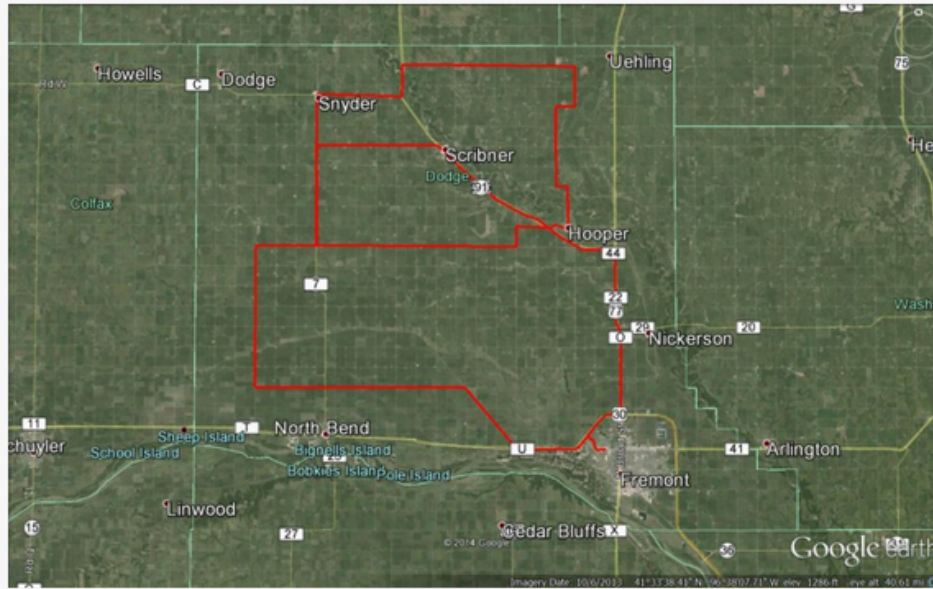


Figure 1: July 21st driving route for this crop report.

Highlighted items you may want to read more about in this week's report:

1. Soybean aphids reported, where at?
2. Corn rootworm damage... have you checked your roots?
3. What is a Grape Colaspis beetle?
4. Corn and soybean weekly water use.

Platte River Valley (Fremont, Ames, North Bend)

Overall, corn is in poor to good condition and soybeans in fair to good condition, mostly steady from last week. Crop conditions deteriorated on some of the sandy ground along

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Upcoming Events

TUE
02
DEC
2014

Farm Landowners-Tenants Meeting

1:30 PM - 3:30 PM Blair, City
Council Chambers Mtg Rm, 218 S
16th Street

MON
15
DEC
2014

Farm Bill Meeting

9:00 am to Noon Scribner, Mohr
Auditorium

Please contact Nathan Mueller to pre-register
at 402-727-277 or nathan.mueller@unl.edu

THU
18
DEC

Nebraska Soybean Day and Machinery Expo

8:30 am to 2:30 pm Saunders

Managing Agronomic Input Cost

- 1. Seed** (Variety/hybrid, traits, rates)
- 2. Fertilizer** (Nutrients, lime, N credit, foliars)
- 3. Chemical** (waterhemp, disease ratings, thresholds)

Table 1: Effect of various management factors on soybean yield.

<i>Rank</i>	<i>Management Factor</i>	<i>Yield (bu/ac) Difference</i>
1	Variety selection*	15
2	Planting date	8
3	Weed control**	8
4	Phosphorus fertility	5
6	Crop rotation	5
5	Row spacing***	3
6	Seeding rate	3

*Three-year average performance difference among varieties from 2011-2013 in South Dakota State University trials.

** One week delay in weed control on 30-inch rows

***Multi-state study from 2009-2011 funded by the United Soybean Board, led by Seth Naeve, University of Minnesota. <http://cropwatch.unl.edu>

2014 Soybean Top 30 Harvest Report

Nebraska Northeast [NENE] HERMAN
Larry Hansen, Washington County, NE 68029



Test by: Dozier Ag Research Services, LLC, Dunbar, NE

PREV. CROP/HERB: Corn / Harness Xtra, Roundup
SOIL DESCRIPTION: Monona silt loam, well drained, non-irrigated
SOIL CONDITIONS: Moderate P, mod. high K, 6.7 pH, 2.8 % OM
TILLAGE/CULTIVATION: No-till
PEST MANAGEMENT: Valor, FirstRate, Roundup, Flexstar
SEEDED - RATE - ROW: May 16 162,000 /A 30" Spacing
HARVESTED - STAND: Oct 21 99,100 /A

All-Season Test

2.6 - 3.4 Day RM

S2014NENE04

Top 30 of 60

For Gross Income (Sorted by Yield)

Average of (3) Replications

Company/Brand	Product/Brand†	Technol.†	Mat.	SCN Resist.	Seed Trmt.†	Yield Bu/A	Moisture %	Lodging %	Stand (x 1000)	Gross Income
Dyna-Gro	S32RY95	RR2Y	3.20	R	CMBV	76.6	11.8	1	101.2	\$689
Channel	3306R2 §	RR2Y	3.30	MR	ACi	76.1	11.4	1	104.5	\$685
NK Brand	S30-C1 §	RR2Y	3.00	R	CCB	75.5	11.8	1	106.2	\$680
Hefty	H28R5	RR2Y	2.80	MR	DST	75.4	11.7	1	101.2	\$679
Prairie Brand	PB-2997R2	RR2Y	2.90	R	CMBV	75.4	12.1	1	107.9	\$679
Renk	RS295NR2	RR2Y	2.90	R	None	74.8	12.2	1	94.6	\$673
Hefty	H28R4	RR2Y	2.80	MR	DST	74.2	10.9	1	97.9	\$668

firstseedtests.com

LG Seeds	C3111R2	RR2Y	3.10	R	AC,PV	71.3	11.2	1	91.3	\$642
Legend	LS-24R21 §	RR2Y	2.40	S	CMB	71.3	11.9	1	92.9	\$642
Pioneer	93Y15 §	RR	3.10	R	EE,G	71.2	11.6	1	91.3	\$641
Mycogen	5N312R2	RR2Y	3.10	R	CCB	71.1	10.9	1	107.8	\$640
Pioneer	P31T11R §	RR	3.10	R	EE,G	71.1	11.5	1	97.9	\$640
Hefty	H31R4 §	RR2Y	3.10	MR	DST	71.0	11.1	1	104.5	\$639

Test Average = 70.7 11.7 1 99.1 \$637

LSD (0.10) = 4.1 0.9 2

LSD (0.25) = 2.8 0.6 1

C.V. = 4.3 5.8

Tim Dozier

tim.dozier@firstseedtests.com, (402) 616-6170



Soybean seeding rates

- 150k vs. 180k
 - At \$53/unit, that is \$11.45/acre less cost
- Variable rate seeding – higher rates in lower yielding areas?
- Seed treatment
 - Increases plant population (10%), \$5/acre value if you reduced the seeding rate.



Bt proteins	Trait names	Confirmed Resistance
Cry3Bb1	YieldGard RW (Monsanto 2003)	Yes, Multi-State
Cry34/35Ab1	Herculex RW (Dow/Pioneer 2005)	No
mCry3A	Agrisure RW (Syngenta 2006)	Yes, IA
eCry3.1Ab	Duracade Syngenta (2011)	No

Trait selection savings

- Dryland corn after soybean and alfalfa
 - Non- versus Cry3Bb1 - \$13/unit
 - \$4.55/acre at 28K
 - Non- versus Cry3Bb1/Cry34/35Ab1 - \$64/unit
 - \$22.40/acre at 28K

Managing Agronomic Input Cost

- 1. Seed** (Variety/hybrid, traits, rates)
- 2. Fertilizer** (Nutrients, foliars, N credit)
- 3. Chemical** (waterhemp, disease ratings, thresholds)

Likelihood of a corn yield response

- High: N and P
- Moderate: K, S, & Zn



- Low: Cl and Fe
- Rare: B, Cu, & Mn

Likelihood of a soybean yield response

- High: P
- Moderate: Fe and K



- Low: N, S, and Zn
- Rare: B, Cl, Cu, and Mn

Table V. Estimated nitrogen credit from legumes and other crops.

<i>Legume Crop</i>	<i>N Fertilizer Reduction (lb/acre)</i>	
	<i>Medium and Fine Textured Soils</i>	<i>Sandy Soils</i>
Soybean	45	35
Dry bean	25	25
Alfalfa (70-100% stand, >4 plants/ft ²)	150	100
Alfalfa (30-69% stand, 1.5-4 plants/ft ²)	120	70
Alfalfa (0-29% stand, <1.5 plants/ft ²)	90	40

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Waterhemp Woes

Post + Post



Pre + Post



VS.

PRE Herbicides in Soybeans for Waterhemp

Microtubule inhibitors (Site of Action 3)

- Prowl H2O (7- control rating)

PSII inhibitors (SOA 5)

- Sencor (7)

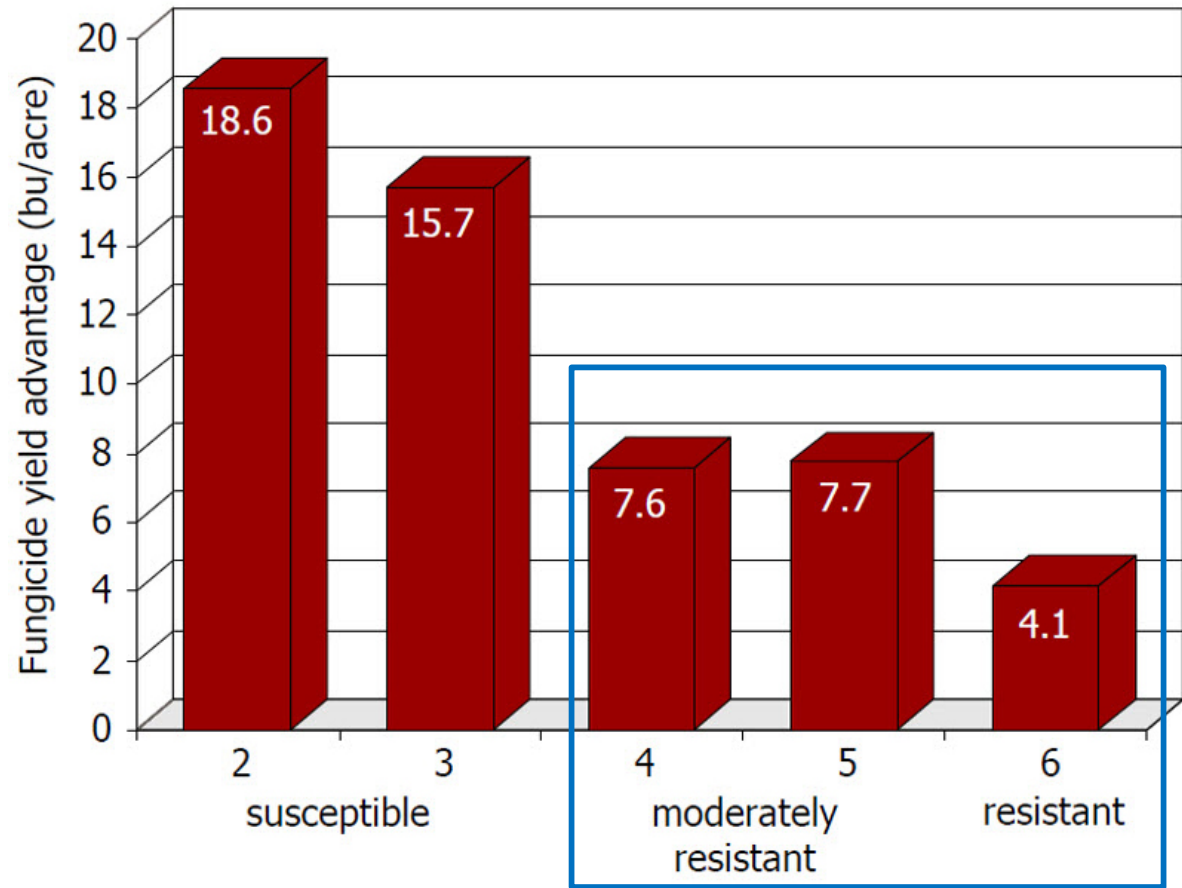
PPO inhibitors (SOA 14)

- Valor (9)
- Spartan/Authority (9)
- Sharpen (8)

Long-chain Fatty Acid Inhibitors (SOA 15)

- Warrant (9)
- Intrro, Dual II Magnum, Outlook (8)
- Zidua (8)

300 trials from 1998-2008



Pioneer rating for GLS resistance (1-9)

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Northern Corn Leaf Blight

Filed under [CROPPING SYSTEMS](#), [DISEASES](#)

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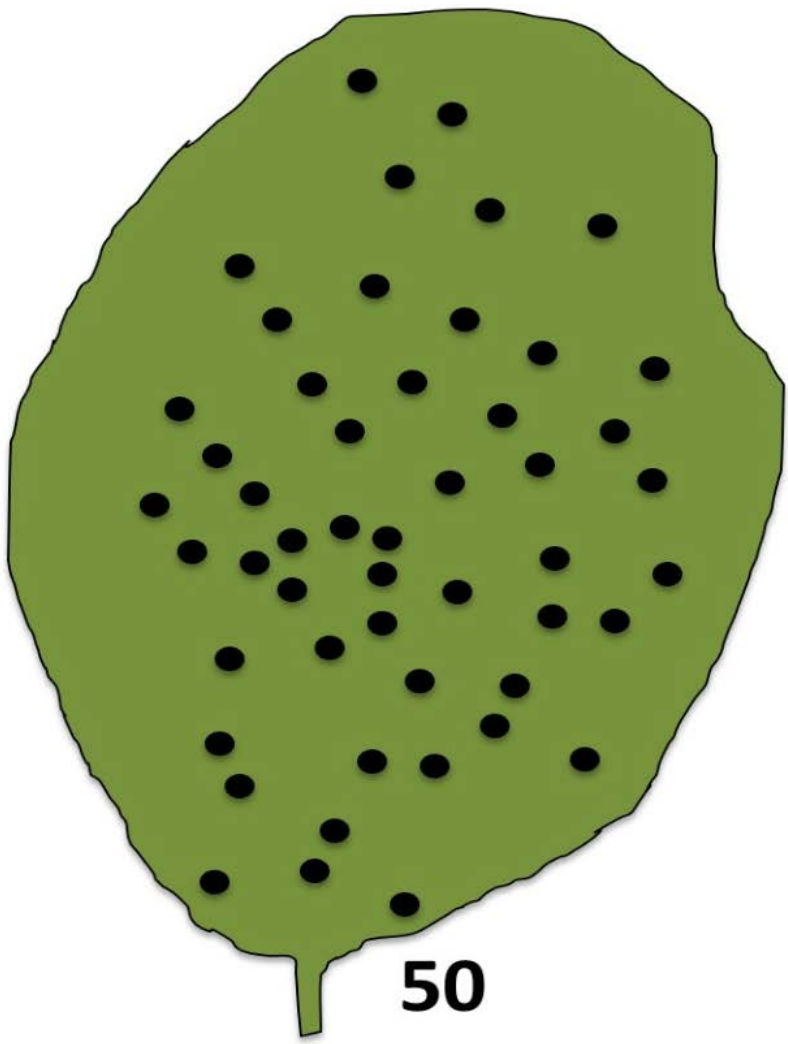
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Upcoming Events

TUE [Farm Landowners-Tenants](#)

Aphid Speed Scout App



Summary

1. Seed

- A.** Improve variety/hybrid selection – spend time and use data
- B.** Assess traits needed
- C.** Consider soybean seeding rates for conditions

2. Fertilizer

- A.** Focus on nutrients with high probability of return
- B.** Forget foliar fertilizers
- C.** Give full N credit after alfalfa

3. Chemical

- A.** Reduce waterhemp woes - residuals
- B.** Eliminate fungicides on hybrids resistant to GLS and NCLB
- C.** Use economic thresholds for soybean aphids

Questions



727-2775