Nebraska On-Farm Research Network

2013 Growing Season

On-Farm Research Update Report

Post Conference Report – Published April 28, 2014

Mar. 10, 2014
UNL Agricultural Research and Development Center (ARDC)
Near Mead, Nebraska

Mar. 11, 2014
York County Fairgrounds
York, Nebraska

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For more information, call UNL Extension at 402-624-8030 or 402-362-5508.

On the web at cropwatch.unl.edu/web/farmresearch.

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2013 Growing Season

On-Farm Research Results

FINAL REPORT – Updated April 28, 2014

2014 Conferences

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- Comparisons are identified and designed to answer producers' production questions.
- Projects protocols are developed first and foremost to meet individual cooperator needs.
- Only projects that are randomized, replicated and harvested accordingly are reported.
- Treatment costs identified represent the economic difference among treatments applied.
- Multiple year comparisons are encouraged.

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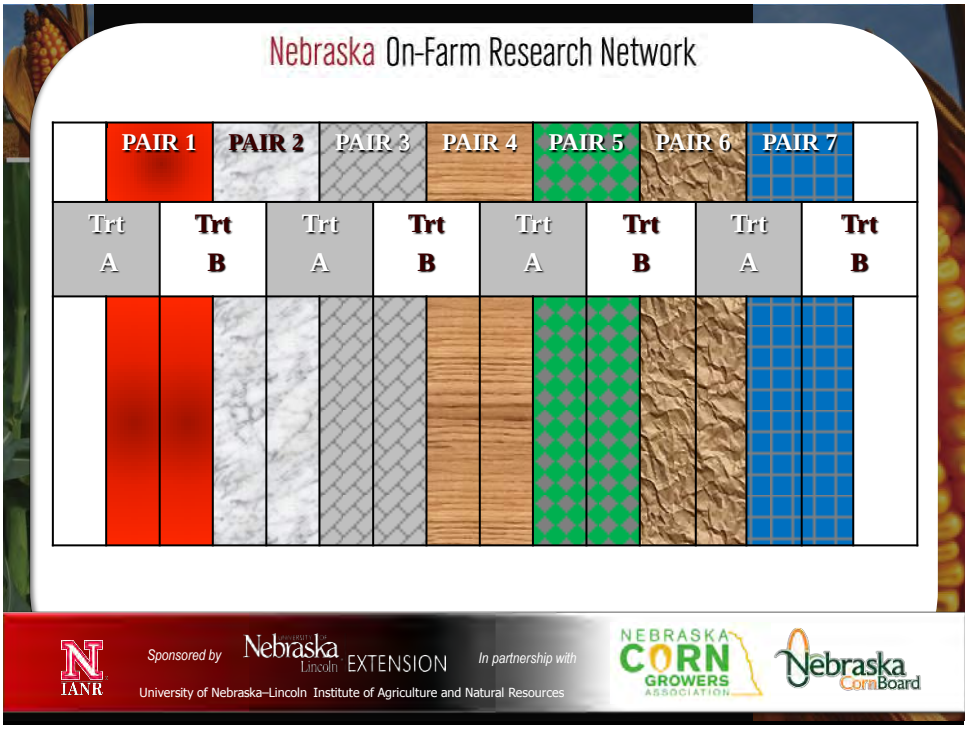
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PAIR 4
PAIR 5
PAIR 6
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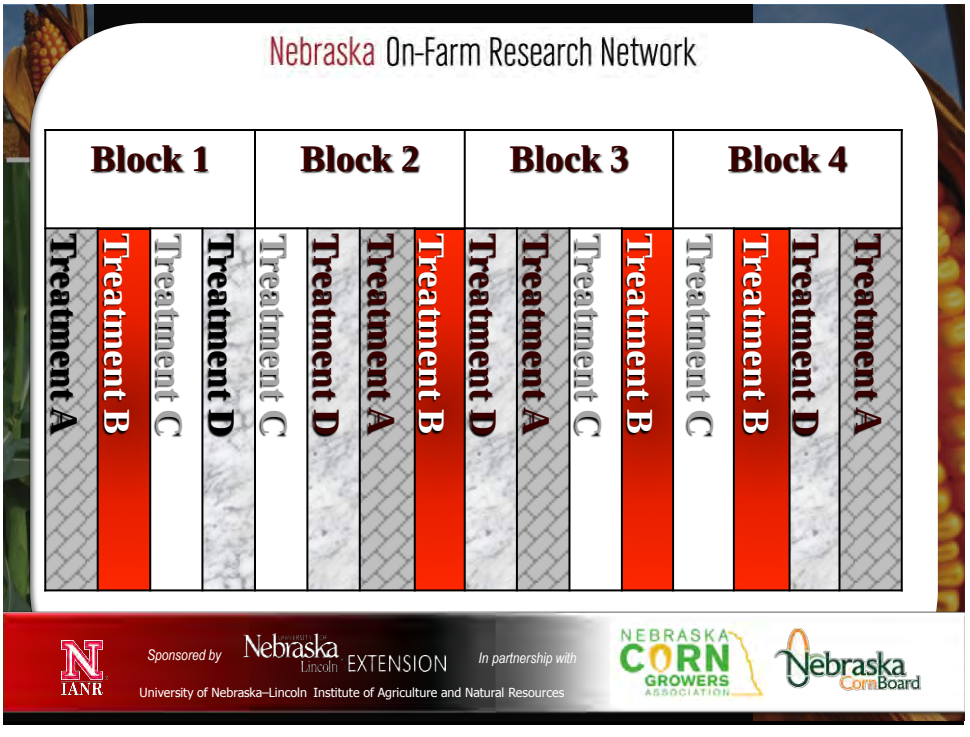
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Block 1
Block 2
Block 3
Block 4
Treatment A
Treatment B
Treatment C
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Treatment A
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STATISTICS 101

Replication: In statistics, replication is repetition of an experiment or observation in the same or similar conditions. Replication is important because it adds information about the reliability of the conclusions or estimates to be drawn from the data. The statistical methods that assess that reliability rely on replication.

Randomization: Using random sampling as a method of selecting a sample from a population in which all the items in the population have an equal chance of being chosen in the sample. Randomization reduces the introduction of bias into the analysis.

Confidence Level: Measure of the number of times out 100 that test results can be expected to be within a specified range. Example 90% CL means that results of an action will probably meet expectations 90 of the time.

The statistical criteria for determining significant differences in this report was set at the 90% level, unless noted differently. (multiple similarly conducted experiments would have these differences due to chance alone 10% of the time.) Yields figures followed by the same letter denote no significant difference.

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INDEX OF PROJECTS

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Thanks to Roger Yerdon, UNL Doctor of Plant Health Student for his efforts in making farm visits and documenting grower information.

Nebraska On-Farm Research Network

Year(s):	2013
Title:	Starter
Crop:	Corn
OFRN Operator:	Bob Bartek - BRT Farms
Objective:	Study effect of starter fertilizer on corn production and profitability.
Treatments:	Check vs Starter

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OFRN Operator: Bob Bartek - BRT Farms
Information: 2013 - Corn - Starter

County: Saunders

No Starter vs Starter Fertilizer: 5 gal 10-34-0 + 1qt Ammoniated Zinc
NoTill 5/14/13, 30" rows, 2" depth -In-Furrow Keatons
LG 2620 BT2RIB @ 27,500
Rotation: Corn/Soybeans
Soil Test: P 14 ppm

Nebraska On-Farm Research Network

OFRN Operator: Bob Bartek - BRT Farms
Results: 2013 - Corn - Starter

	Yield	Moisture	TW	HPop	Cost/A
Check	192.1 A	17.25 A	-	26.5 A	--
Starter	191.0 A	16.61 B	-	26.6 A	$22.67
Prob>/T/	ns	0.0022***		ns	

Summary: Starter was not significant from untreated Check. Significant ½ pt moisture difference. No visual difference in color or growth.

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Nebraska On-Farm Research Network

Years:	2013
Title:	Population
Crop:	Corn
County:	Jefferson
OFRN Operator:	Ross Boeckner
Objective:	To determine and document the effect of population on the profitability of corn production.
Treatments:	32k, 36k, 40k

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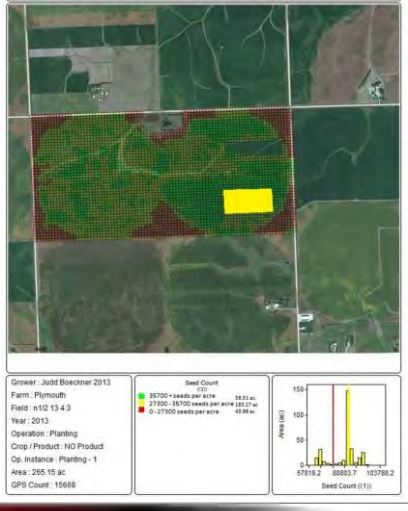
Planting 2013 - n1/2 13 4 3



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OFRN Operator: Ross Boeckner

Results: 2013 Corn-Population

	Yield	Moisture	TW	HPOP	Cost/A
32k	233.4 A	16.7 A	60.3 AB	27.2k C	$ 94.80
36k	236.1 A	16.6 A	59.7 B	30.2k B	$ 106.65
40k	241.8 A	16.6 A	61.0 A	33.6k A	$ 118.50
Prob>/T/	ns	ns	.1009	0.0007	

Notes: Planted 4/30/13 - Channel 215-52, No-Till, 160 lbs NH3 10/31/12, 5 gal 10-34-0 4/30/13 in -furrow. 30" rows, Seed depth 2.75".

SUMMARY: The increase in seeds planted per acre did not result in a significant yield increase. The increase in plant population did however increase the seed cost per acre.

Nebraska On-Farm Research Network

Years: 2013
Title: Mid Season Nitrogen (Small Plot Research)
Crop: Corn
County: Nemaha
OFRN Operator: Rob Bohling
Objective: To determine & document the effect of Mid-Season Nitrogen on the profitability of corn production.
Treatments: Check
50 lbs (46-0-0)
75 lbs (46-0-0)
100 lbs(46-0-0)

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OFRN Operator: Rob Bohling
Information: 2013 Mid Season Nitrogen

MID SEASON NITROGEN APPLICATION

Under certain environmental conditions, corn may show significant nitrogen deficiencies in the growing season during a critical period of development (R1-R6). This may be due to exceptionally wet soil conditions which cause nitrogen losses from the soil from leaching or saturated soils which leads to denitrification. Nitrogen can also be lost from runoff when applied on top of the soil surface. Sometimes corn can show nitrogen deficiency symptoms when supplemental nitrogen is unable to be applied due to wet soil conditions or the corn becoming too tall for side-dressing.

Previous on-farm research conducted in Missouri indicates mid-season nitrogen application may be economically feasible. In Northwest Missouri in 2013, local ag suppliers were flying on urea to nitrogen deficient corn fields. This experiment was conducted to test the feasibility of this management practice.

Experiments were initiated during the summer of 2013. Nitrogen was applied to 3 different fields of nitrogen deficient corn in Nemaha County.

Nebraska On-Farm Research Network

OFRN Operator: Rob Bohling
Information: 2013 Mid Season Nitrogen

MID SEASON NITROGEN APPLICATION (Continued)

On July 12, nitrogen was applied at the rates of 0, 50 , 75 and 100 lbs N/ac in Rob Bohling corn field near Johnson, NE. A soil sample taken July 11 in the plot area indicated there was only 5 lbs of nitrate-nitrogen in the top 3' of the soil profile.Nitrogen was applied in a dry form as urea (46-0-0). This method simulated nitrogen being top-dressed with a high clearance ground applicator or through aerial application. The experiment was designed as a complete randomized block design with 4 replications. Each plot was 25' x 10' (4-30" rows). At harvest time, (October 4), 15' of the 2 middle rows were hand-harvested. Corn was shelled, tested for moisture and yields were calculated on a 15.5% moisture basis.

N 32% Liquid 120 lbs N per A - 5/12/2013, Broadcast P K Lime Sulfur Liquid 11-0-0-24 Zinc Liquid Chelate 1 pt/acre 5/15/2013; Starter FEAST Liquid 6-18-6-45 5 gal/acre 5/15/2013 Planter in furrow.

NOTE: This was small plot research located in the growers field.

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OFRN Operator: Rob Bohling
Results: 2013 Mid Season Nitrogen

	Yield	Cost/A	Gross Income	Net Income
Check	71.04 B	--	$0.00	$0.00
50 lbs N	105.31 A	$30.75	$143.93	$113.18
75 lbs N	105.5 A	$38.63	$144.73	$106.10
100 lbs N	122.98 A	$46.50	$218.15	$171.65
Prob>/T/	0.0112**			

Costs with N at .315/lb & $15/ac application - Applied 7/10/13 (46-0-0)
Pioneer 1625HR HX1-LL-RR2 26,000 5/15/2013 2" - Silage 9/10/13 (Ins Appraised 133)
Wet @ planting. Dry June-August. Hot June-July (Apr 4, May 2, Jun --, Jul 2, Aug 2). $4.20 for marginal income calculations

Nebraska On-Farm Research Network

OFRN Operator: Rob Bohling
Summary: Mid Season Nitrogen

This experiment showed a significant increase in yield when nitrogen was applied mid-season to the nitrogen deficient corn. At current corn prices this practice was economically viable and shows promise. Success of mid-season surface applied nitrogen application is dependent upon sufficient rainfall after nitrogen application. Future on-farm research experiments will be conducted if nitrogen deficient corn fields are identified to evaluate the feasibility of mid-season nitrogen application.

Nebraska On-Farm Research Network

Years:	2012-2013
Title:	Population
Crop:	Corn
County:	Dodge
OFRN Operator:	Ron Bopp
Objective:	Study effect of various seed populations on corn production and profitability.
Treatments:	Population 32k, 36k and 40k (2012) Population (by Hybrid) 32k and 37k (2013)

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Nebraska On-Farm Research Network

OFRN Operator: Ron Bopp
Information: 2012
Corn
Population 32k, 36k & 40k
Hybrid Pioneer 1625 - Irrigated
Planted: 4/23/12 Harvested: 10/5/12

Fertilizer	Herbicide	Fungicide/Insecticide
NH3 @120lb	Keystone LA @ 1.75qt	Stratego @ YLD 2.5oz
32% @ 30 gal	Roundup @ 22 oz	Quilt XL @ 10.5oz
10-34-0 @ 5 gal	Impact @ 0.5 oz	Capture LFR @ 6oz
Sulfur @ 3 gal	Atrazine @ 0.5 lb	
11-52-0 Fall @ 100lb		

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Nebraska On-Farm Research Network

OFRN Operator: Ron Bopp

Results: 2012

	Corn Population		
Treatment	32k	36k	40k
Yield, bu/ac @15.5%	233.1	237.6	243.4
Cost/Acre	---	$11.36	$22.72
Prob>/T/ 0.0164**	B	AB	A
Moisture, %	15.9	16.0	16.1
Prob>/T/ 0.3626 ns	A	A	A

Summary: (2012) There was no statistical yield difference between seeding rates of 36,000 seeds/acre and 40,000 seeds/acre for this hybrid at this location but a seeding rate of 32,000 seeds/ac did statistically yield less than a seeding rate of 40,000 seeds/acre. The additional 4000 seeds which resulted in 5.8 bu/ac additional yield at 40,000 seeds/acre was economically justified in this study.

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OFRN Operator: Ron Bopp

Results: 2013 - Corn - Population

Population	Hybrid	YLD	MST	Cost/A
32K	-	247.1 A	18.2 A	$ 99.72
37K	-	246.5 A	18.2 A	$ 115.30
PROB>/T/		ns	ns	

Population	Hybrid	YLD	MST	Cost/A
37K	8066AMX	263.3 A	19.1 A	$ 115.30
32K	8066AMX	260.3 A	19.0 A	$ 99.72
32K	8345AM	233.9 B	17.3 B	$ 99.72
37K	8345AM	229.7 B	17.3 B	$ 115.30
PROB>/T/		0.0374**	ns	

Population	Hybrid	YLD	MST	Cost/A
-	8066AMX	261.8 A	19.1 A	$ 107.51
-	8345AM	231.8 A	17.3 B	$ 107.51
PROB>/T/		0.000***	0.000***	

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OFRN Operator: Ron Bopp
Summary: 2013 Corn-Population

(2013) (32 vs. 37K vs 2 hybrids)-NS on population (32K vs. 37K), but statistically significant between hybrids , and statisticaly significant for the hybrid X population interaction.
Normal Planting Rate is 34.5K
Visual observation 8345 post pollination tip back at higher populations.

Nebraska On-Farm Research Network

Years:	2013
Title:	Biostimulant
Crop:	Soybeans
County:	Hamilton
OFRN Operator:	Mike Campbell
Objective:	To determine & document the effect of biostimulant on the profitability of soybean production.
Treatments:	BG-AG LegUp 10-0-4 CALFA CP-44 Generate GS-48 Soil X-Cyto Terra One XiteBio SoyRhizo

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OFRN Operator: Mike Campbell

Information: 2013 Soybeans Fontanelle 64R20

Fontanelle 64R20 @ 180k seeded, 171-179k in season

BG-Ag LegUp 10-0-4	2 gal
CALFA	16 oz
CP-44	6 oz
Generate	32 oz
GS-48 (4 oz.)	4 oz
GS-48 (8 oz.)	8 oz
Soil X-Cyto	27.5 oz
Terra One	16 oz
XiteBio SoyRhizo	17 oz

Planted June 3, Irrigated

Nebraska On-Farm Research Network

OFRN Operator: Mike Campbell

Information: 2013 Soybeans

BG-Ag LegUp 10-0-4	(BioGreen USA). In addition to fertilizer listed above, product contains 10% humic acid and 2% North American kelp (Ascophyllum nodosum). The latter product is a source of cytokinin, and cytokinin is expected to increase root growth.
CALFA	(Plant BioTech, Inc.). CALFA (short for Carboxylic Acid Liquid Fertilizer Additive) is a 40% natural carboxylic acid solution. Some carboxylic acids have been shown to increase plant growth.
CP-44	Proprietory product from Emerald BioAg. It is a growth enhancement product.
Generate	(Agnition, Marshall, MN) labeling states that the product is a proven microbial and nutrient catalyst to optimize crop growth and yields. It consists of 0.52% cobalt, 0.14% copper,0.28% Iron, 0.11% manganese, 0.001% molybdenum, 0.11% sodium and 0.11% zinc. Cobalt helps plants to alleviate stress by reducing ethylene production, and is also needed by nodulating bacteria.
GS-48 (4 oz.)	**GreenSol 48** (FRIT Industries) contains the plant hormones kinetin and gibberellic acid in an 8-20-20 water-soluble fertilizer base (from which the number 48 is arrived). This product is designed to promote plant vigor, early maturity, higher yields and improved crop quality. Product usage is also marketed via faster transition from the vegetative to reproductive stage of plant development resulting in heavy bloom and fruit set for some crops
GS-48 (8 oz.)	
Soil X-Cyto	(Conklin Company). Active ingredient = 0.004% cytokinin (as kinetin). In addition to the cytokinin, product literature states tht it is a nematode suppressant which interferes with infection of plant roots by parasitic nematodes.
Terra One	Contains mycorrhizae and beneficial bacteria to stimulate root growth, mass and length.
XiteBio SoyRhizo	SoyRhizo is a new liquid inoculant for soybean that not only introduces optimum numbers of Bradyrhizobium japonicum into the soil, but also invigorates the natural soil microflora, including the native rhizobia, and creates synergy between them. It features Advanced Growth Promoting Technology (AGPT) with a low volume versatile liquid formulation that can be applied on seed or in-furrow. SoyRhizo encourages greater root nodulation and boosts higher nitrogen fixation, resulting in healthier plants and better yield.

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OFRN Operator: Mike Campbell
Results: 2013 Soybeans

	Yield	Protein %	Oil %	Stand Count	Cost/A
BG-Ag LegUp 10-0-4	79.8 A	34.4 A	19.6 A	123.6 B	$24.00
CALFA	80.2 A	34.6 A	19.5 A	146.6 A	*
CP-44	80.2 A	34.8 A	19.6 A	144.0 A	$7.50
Generate	80.7 A	34.7 A	19.7 A	143.3 A	$12.00
GS-48 (4 oz.)	80.4 A	34.7 A	19.3 A	144.2 A	$3.75
GS-48 (8 oz.)	79.8 A*	34.7 A	19.5 A	143.5 A	$7.50
Soil X-Cyto	78.3 A	34.6 A	19.7 A	145.9 A	$39.00
Terra One	80.6 A	34.7 A	19.6 A	145.2 A	*
XiteBio SoyRhizo	79.7 A	34.8 A	19.7 A	140.2 A	*
Check	81.1 A	34.6 A	19.5 A	144.5 A	--
Prob>/T/	ns	ns	ns		
P Value	0.78	0.69	0.21		

Means in sub-columns followed by the same letter are not statistically different at the P<0.05 level (Tukeys HSD test, JMP 10.0.0)
* One outlier for this variety removed, was several bushels different than anything else noted, and made it the top yielding treatment if included.

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OFRN Operator: Mike Campbell
Summary: Soybeans

(2013) No treatment applied in-furrow at planting resulted in positive economic return. This is in agreement with previous UNL in-furrow experimentation that also noted highest average yields from untreated soybeans. The biological reason for these results is unknown.

The application of BG-Ag LegUp 10-0-4 was observed to reduce final plant population.

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Years:	2013
Title:	Fertilizer Enhancer
Crop:	Corn
County:	Seward
OFRN Operator:	Dave and Doug Cast
Objective:	To determine & document the effect of Avail on the profitability of corn production.
Treatments:	11-52-0 Fall Applied + Avail

Nebraska On-Farm Research Network

OFRN Operator: Dave and Doug Cast

Results: 2013 Corn - Fertilizer Enhancer

A= Check Treatment: 11-52-0 Fall Applied (125 #'s P 240 #'s Product)
B= Avail 11-52-0 + Avail Fall Applied (125 #'s P 240 #'s Product)
Channel 209-76R, 5/10/2013 32,000 Fillmore soil 0% slope

SOIL ANALYSIS RESULTS

Sample Area	pH	Buffer pH	%OM	NO3-N ppm 0-3'	Legume lbs/ac	Lbs N Avail.	P ppm	P level	K ppm	K level	Zn ppm	Zn level	S ppm	S level
1	5.7	6.6	3.1	4	80	91	16	H	287	VH	1.1	H	12	M
2	5.9	6.7	3.2	5.6	50	108	12	M	280	VH	0.7	M	12	M
3	5.7	6.7	2.9	4.7	50	98	9	L	243	H	0.8	M	16	H

Fertility Levels: VL = very low; L = low; M = medium; H = high; VH = very high

FERTILIZER RECOMMENDATION (lbs/ac)

Sample Area	Yield Goal	Nitrogen Comm	Phos. Corn	Phos. Bean	Potas. K2O	Zinc	Sulfur	Lime	Seed N
1	225	197	10-25*	0	0	0	0	2000	117
2	225	180	55	30	0	1-3	0	3000	109
3	225	190	75	50	40	1-3	0	3000	110

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OFRN Operator: Dave and Doug Cast
Results: 2013 Corn - Fertilizer Enhancer

Seward County, Nebraska (NE159)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3910	Scott silt loam, frequently ponded	2.5	1.6%
3952	Fillmore silt loam, frequently ponded	153.8	98.4%
Totals for Area of Interest		156.3	100.0%

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OFRN Operator: Dave and Doug Cast
Results: 2013 Corn - Fertilizer Enhancer

	Yield	Moisture	Cost/A
Check	232.8 A	16.4 A	-
Avail	232.5 A	16.3 A	$17.64
Prob>/T/	ns	ns	

Prior Crop Soybeans , Planted 5/10/13, Channel 209-76R @ 32k
11-52-0 Fall Applied (125 #'s P_2O_5 240 #'s of Product) Broadcast in 40' strips 11/16/2012
11-52-0 + Avail Fall Applied (125 #'s P_2O_5 240 #'s of Product) + 7.68 oz Avail* Broadcast in 40' strips 11/16/2012
* 1/2 gallon/ton of Product or 7.68 oz/acre $294/gallon or $17.64/acre

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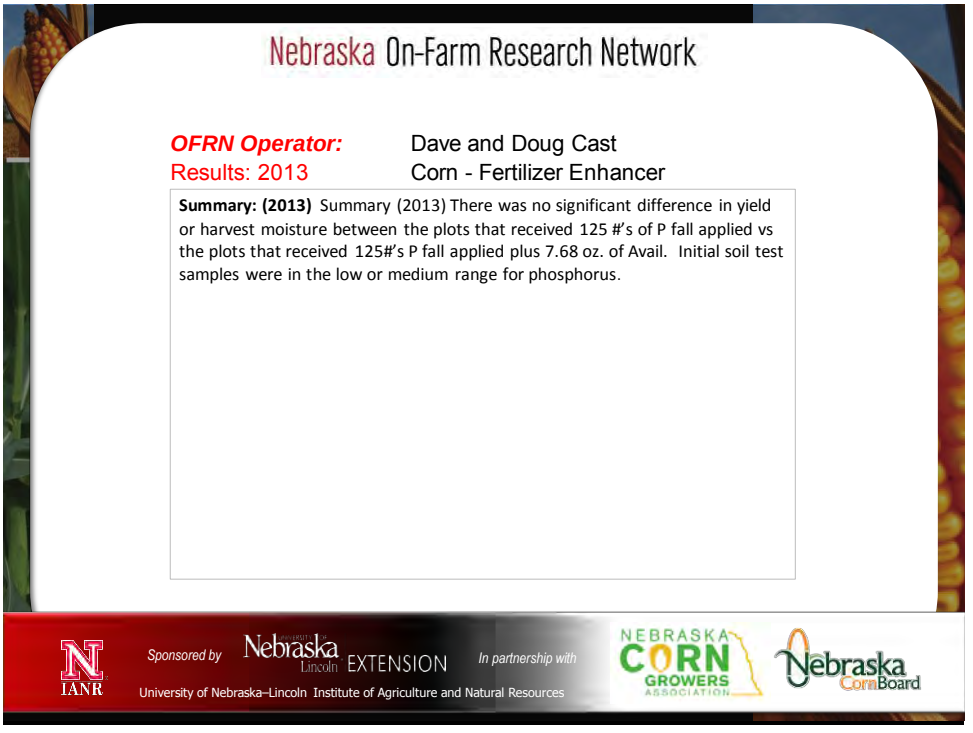
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OFRN Operator: Dave and Doug Cast
Results: 2013 Corn - Fertilizer Enhancer
Summary: (2013) Summary (2013) There was no significant difference in yield or harvest moisture between the plots that received 125 #'s of P fall applied vs the plots that received 125#'s P fall applied plus 7.68 oz. of Avail. Initial soil test samples were in the low or medium range for phosphorus.
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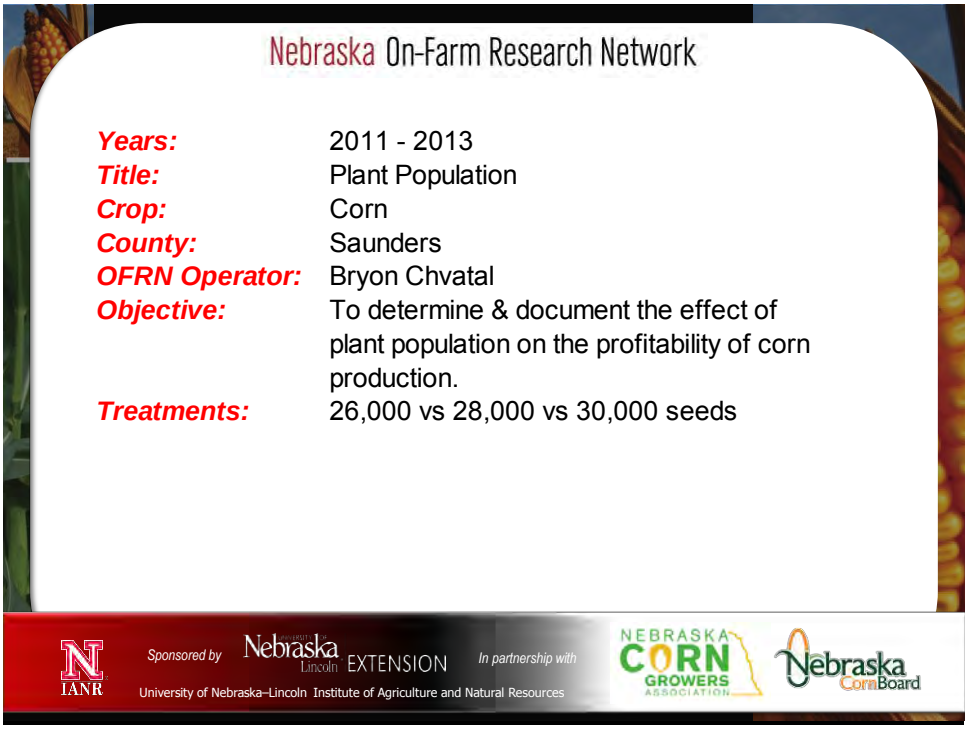
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Years: 2011 - 2013
Title: Plant Population
Crop: Corn
County: Saunders
OFRN Operator: Bryon Chvatal
Objective: To determine & document the effect of plant population on the profitability of corn production.
Treatments: 26,000 vs 28,000 vs 30,000 seeds
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OFRN Operator: Bryon Chvatal

Results: 2011 Corn (Channel 212-45STX)

Planting Rate

Variable	26,000	28,000	30,000
Yield, bu/ac @ 15.5%	171	177	179
Moisture, %	16.4	16.5	16.6
Cost/ac	$81.25	$87.50	$93.75

Yield Prob>/T/	26,000	28,000
28,000	0.0126 **	---
30,000	0.0027 ***	0.3186 ns

Moisture Prob>/T/	26,000	28,000
28,000	0.2304 ns	---
30,000	0.0477**	0.3294 ns

Planted: 5/5/11 Harvested: 10/22/11

15″ row spacing

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Nebraska On-Farm Research Network

OFRN Operator: Bryon Chvatal

Results: 2011-Corn-Rainfed (Channel 210-57STX)

Planting Rate

Variable	26,000	28,000	30,000
Yield, bu/ac @ 15.5%	174	176	178
Moisture, %	16.8	16.6	16.9
Cost/ac	$81.25	$87.50	$93.75

Yield Prob>/T/	26,000	28,000
28,000	0.2485 ns	---
30,000	0.0532 *	0.337 ns

Moisture Prob>/T/	26,000	28,000
28,000	0.3092 ns	---
30,000	0.6752 ns	0.1670 ns

Planted: 5/5/11 Harvested: 10/22/11

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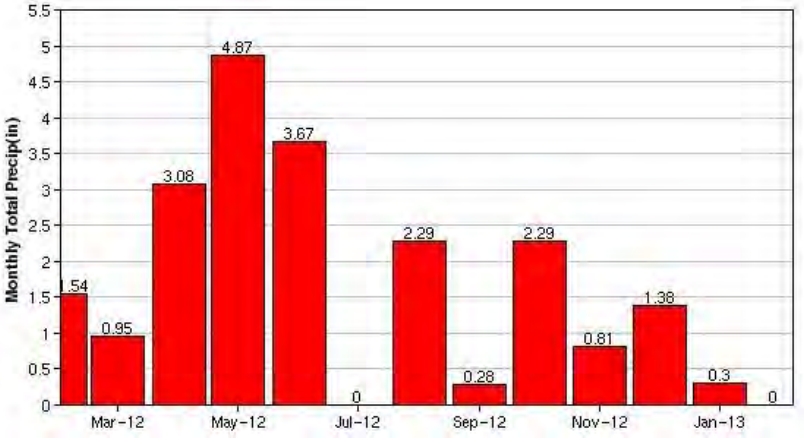
Prague, NE 2012



Nebraska On-Farm Research Network

OFRN Operator: Bryon Chvatal

Results: 2012

Rainfed

Corn-Yield Population

	26k	28k	30k
Population	106.8	107.0	101.6
Cost/Acre	---	$6.60	$13.20
Prob>/T/ 0.1860 ns	A	A	A

	208-71VT2	212-45STX
Hybrid	109.1	101.1
Cost/Acre	$84.35	$100.45
Prob>/T/ 0.0073***	A	B

Population * Hybrid	Yield	Group	Cost/Acre
28 208-71VT2	111.4	A	$84.35
26 208-71VT2	109.5	AB	$78.30
30 208-71VT2	106.5	AB	$90.40
26 212-45 STX	104.2	AB	$93.30
28 212-45 STX	102.6	AB	$100.45
30 212-45 STX	96.6	B	$107.60

Prob>/T/ 0.7634 ns

Planted: 5/11/12 Harvested: 10/8/12 15″ row spacing

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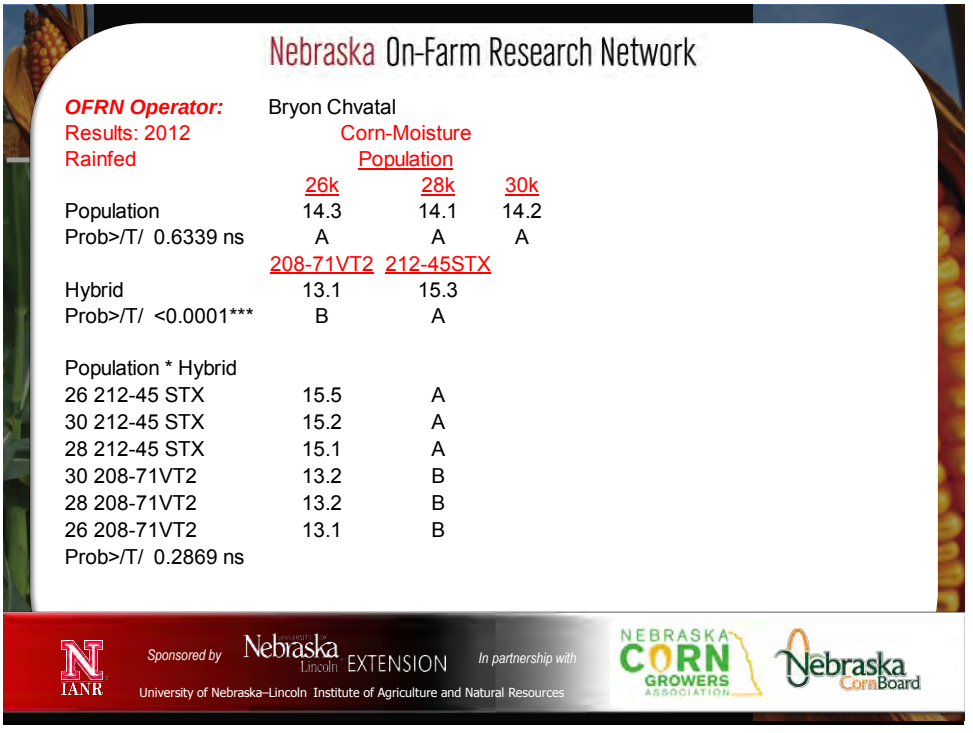
Nebraska On-Farm Research Network
OFRN Operator: Bryon Chvatal
Results: 2012 Corn-Moisture
Rainfed Population
26k 28k 30k
Population 14.3 14.1 14.2
Prob>/T/ 0.6339 ns A A A
208-71VT2 212-45STX
Hybrid 13.1 15.3
Prob>/T/ <0.0001*** B A
Population * Hybrid
26 212-45 STX 15.5 A
30 212-45 STX 15.2 A
28 212-45 STX 15.1 A
30 208-71VT2 13.2 B
28 208-71VT2 13.2 B
26 208-71VT2 13.1 B
Prob>/T/ 0.2869 ns
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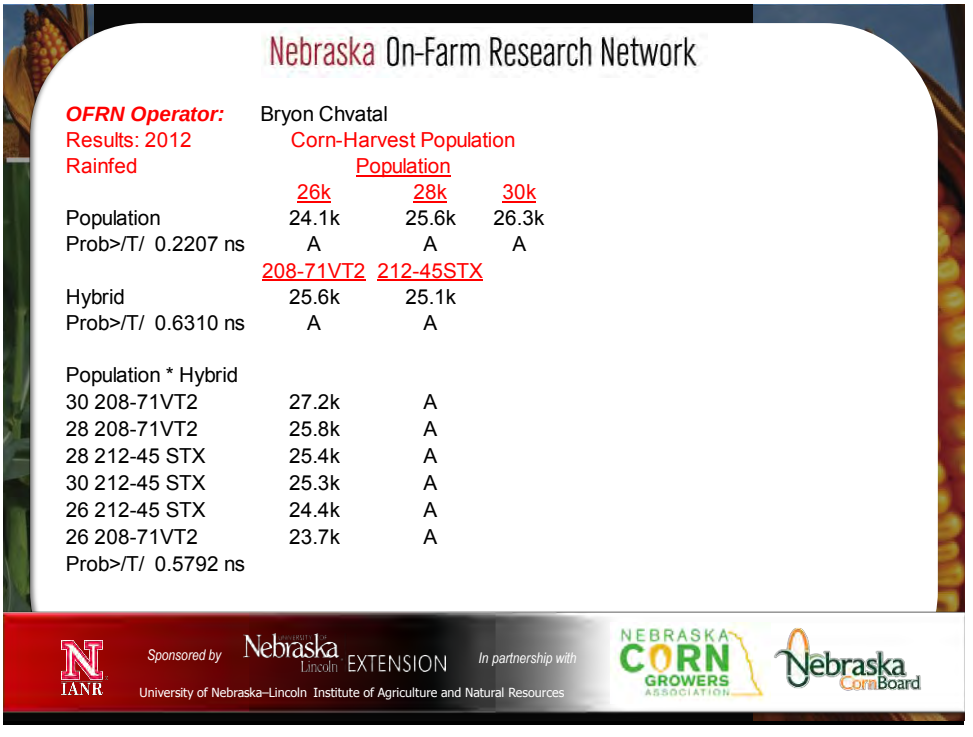
Nebraska On-Farm Research Network
OFRN Operator: Bryon Chvatal
Results: 2012 Corn-Harvest Population
Rainfed Population
26k 28k 30k
Population 24.1k 25.6k 26.3k
Prob>/T/ 0.2207 ns A A A
208-71VT2 212-45STX
Hybrid 25.6k 25.1k
Prob>/T/ 0.6310 ns A A
Population * Hybrid
30 208-71VT2 27.2k A
28 208-71VT2 25.8k A
28 212-45 STX 25.4k A
30 212-45 STX 25.3k A
26 212-45 STX 24.4k A
26 208-71VT2 23.7k A
Prob>/T/ 0.5792 ns
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OFRN Operator: Bryon Chvatal
Results: 2013 Corn - Population

Channel 212-86STX	Yield	Moisture	HPop	Cost
26k	202.2 AB	16.3 AB	25.2k C	$ 107.25
28k	201.7 B	16.4 A	27.0k B	$ 115.50
30k	207.6 A	16.3 B	28.4k A	$ 123.75
Prob>/T/	0.0624*	0.0599*	0.001***	

Channel 213-40VT3 PRIB	Yield	Moisture	HPop	Cost
26k	207.6 A	16.8 A	24.6k B	$ 95.88
28k	211.0 A	16.7 A	27.4k A	$ 103.25
30k	214.4 A	16.9 A	28.6k A	$ 110.63
Prob>/T/	ns	ns	0.0019**	

Planted 5/15/13 @ 2" seeding depth, No-Till, 15" rows, Corn/Soybean Rotation, Upland - Silty Clay Loam, Harvest 11/2/13

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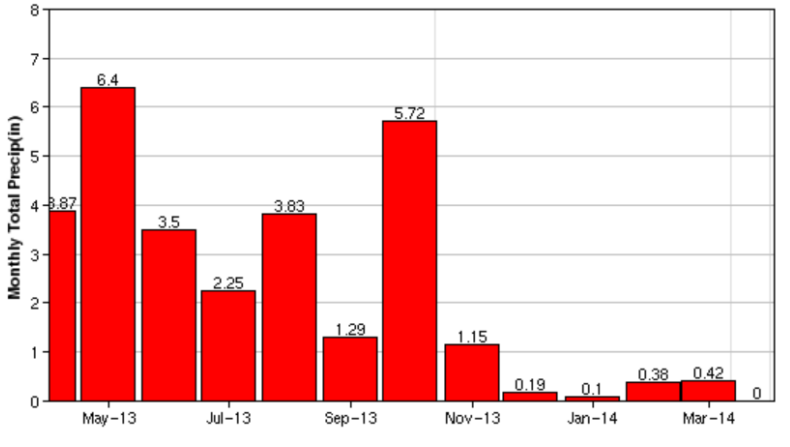
PRAGUE, NE - 2013



Normals based up 1971–2000 Normals, if available
Grey Shading indicates where data are flagged as "Missing"
Accumulated Precip (where available) may not reflect actual deviations from normal if data are missing

"Experimental" May Contain Preliminary Data
High Plains Regional Climate Center
http://hprcc.unl.edu

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OFRN Operator: Bryon Chvatal

Summary: Corn - Population

(2013) The response to planting rates was different for the two hybrids tested. For Channel 213-40VT3 there was no significant yield or moisture difference for 26K, 28K or 30K plants per acre planting rate.
For the Channel Hybrid 212-86STX, although the 30K plant population was numerically higher yielding than the 26K, they were statistically the same. Whereas the 28K planting rate was statistically the lowest yielding treatment. The 5.9 bushel increase for the 30K seeding rate at $6 per bushel, more than made up the extra seed cost.
(2012) There was no statistical yield difference amongst the populations when combining both Hybrids Channel 208-21Vt2 and Channel 212-45STX for seeding rates. This study was planted no-till into soybean residue and received around 10.5" of rainfall (according to NE Rain). The Hybrid Channel 208-71VT2 yielded statistically higher and had higher economic return than Hybrid Channel 212-45STX. The combination of Channel 208-71VT2 at a seeding rate of 28,000 seeds/acre statistically yielded the most and was the most economical (assuming $7/bu corn price).
(2011) Yield increased as population increased. Variety 212-45STX showed statistically significant yield increases at both 28k and 30k over the 26k population. No difference was noted between the 28k and 30k. The additional $6.25 seed cost at 28k returned $24.00 while at 30k the additional $12.50 seed cost returned $48.00. The variety 210-57STX yield between 30k and 26k was statistically significant while 26k vs 28k and 28k vs 30k were not significant. The additional cost for 4k higher population was $12.50/Ac. while the additional revenue at $6.00/bu. was $24.00/Ac.

Nebraska On-Farm Research Network

Years: 2013
Title: Headline Fungicide in-furrow
Crop: Corn
County: Saunders
OFRN Operator: Bryon Chvatal
Objective: To determine & document the effect of in-furrow fungicide on the profitability of corn production.
Treatments: Headline in Furrow (3.5 oz + 10 gal 10-34-0)
Check (10 gal 10-34-0)

Planted 5/24/13

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OFRN Operator: Bryon Chvatal
Results: 2013 Corn - Fungicide in-furrow

Treatment	Yield	Moisture	Cost/A
Check	141.3 A	16.6 A	--
Headline	142.4 A	16.5 A	$9.52
Prob>/T/	ns	ns	

Hybrid	Yield	Moisture	Cost/A
208-71 Pro	122.8 B	16.8 A	$239/80k
208-49 SmartStax Pro	161.0 A	15.9 B	$327/80k
Prob>/T/	0.000***	0.000***	

Trt * Hybrid	Yield	Moisture	Cost/A
Headline * 208-49	162.6 A	16.0 B	$9.52
Check * 208-49	160.3 A	15.9 B	--
Headline * 208-71	124.5 B	16.8 A	$9.52
Check * 208-71	121.1 B	16.8 A	--
Prob>/T/	ns	ns	

Nebraska On-Farm Research Network

OFRN Operator: Bryon Chvatal
Summary: 2013 Corn - Fungicide in-furrow

SUMMARY: For both hybrids which were evaluated, the fungicide in-furrow treatment resulted in no significant grain yield increase as compared to the check treatment without fungicide. Grain moisture was not affected by the fungicide treatment.

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Years:	2013
Title:	Nitrogen Fertilizer Rate
Crop:	Corn
County:	Saunders
OFRN Operator:	Gregg Fujan
Objective:	To determine and document the effect of nitrogen rate on the profitability of corn production.
Treatments:	UNL Rate + 35# UNL Rate + 70#

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The UNL Corn Nitrogen Calculator for Nebraska

Revision Date: 04/01/08

Farm:
Agronomist:
Date:

Enter N management programs to consider	Time of application	Proportion % of total N	N source for each	N content %	Price $/ton	Appl. cost $/acre
Split	Fall	72	1 AA	82	$710	$15.00
change names in boxes	Pre-plant & starter			0		
	Sidedress	28	5 UAN 32	32	$440	$12.00
	Fertigation			0		
Pre-plant	Fall			0		
	Pre-plant & starter			0		
	Sidedress			0		
Error: sum not 100%	Fertigation			0		
Fall	Fall			0		
	Pre-plant & starter			0		
	Sidedress			0		
Error: sum not 100%	Fertigation			0		

Enter short names in the column headers below (#1 to #4)

Enter field-specific information in columns E to H			1 Example	#2	#3	#4
1 Yield goal	5-yr avg. yield + 5-10%	bu/acre	160			
2 Soil texture			Med./Fine			
3 Soil organic matter (OM)	in 0-8" depth	%	2.9			
4 Soil test nitrate-N	Effective rooting depth	inches	48			
	Soil layers sampled	no.	0 None			
	Layer 1 bottom	inches				
	Layer 2 bottom	inches				
select nitrate unit in box	Layer 3 bottom	inches				
ppm	Layer 1 nitrate	ppm				
	Layer 2 nitrate	ppm				
	Layer 3 nitrate	ppm				
5 Previous crop			02 Soybean			
6 Irrigation	Water amount	inches				
	Water nitrate-N	ppm				
7 Manure	Type					
	Terms (unit for application)					
	Amount (tons or 1000 gal/acre)					
	Ammonium N	lb/unit				
	Organic N	lb/unit				
	Year applied					
	Application method					
8 Nitrogen management program			1 Split			
9 Expected corn value		$/bu	$6.00			
# N applied since harvest		lb/acre				

do not enter anything below

UNL N recommendation		Unit	1 Example	#2	#3	#4
A N algorithm components	Crop N requirement	lb/acre	227	Yield goal?	Yield goal?	Yield goal?
	SOM credit	lb/acre	65	OM?	OM?	OM?
	Soil nitrate-N credit	lb/acre	30	Depth?	Depth?	Depth?
	Legume N credit	lb/acre	45	Prev. crop?	Prev. crop?	Prev. crop?
	Irrigation N credit	lb/acre	Water?	Water?	Water?	Water?
	Manure N credit	lb/acre	Manure?	Manure?	Manure?	Manure?
B Recom. N amount (unadjusted)		lb/acre	87	#VALUE!	#VALUE!	#VALUE!
C Average nitrogen price		$/lb N	$0.50	N progr.?	N progr.?	N progr.?
D Corn price : N price ratio			11.9	Corn price?	Corn price?	Corn price?
E Recom. N amount (adjusted for time and prices)		lb/acre	187	#N/A	#N/A	#N/A
F Total N application cost		$/acre	$27.0	#N/A	#N/A	#N/A
G Total cost of N fertilizer + N application		$/acre	$80.8	#N/A	#N/A	#N/A

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OFRN Operator: Gregg Fujan
Information: 2013

No-Till Planted Pioneer 1324 @ 28k on 5/11/13

Tomek Silty Clay Loam - Todd Valley

32% N Applied @35# & 70# on 6-18-13 V5 corn. Cost $0.64/# N

Anhydrous 90# Fall 2012 $0.47/# N

11-52-0 - 100# Fall 2012

Corn appeared uneven and lacked good color prior to sidedress.

Cost of Application: $8.57/acre

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OFRN Operator: Gregg Fujan
Results: 2013 Corn - Nitrogen Rate

	Yield	Cost/A
35# N/ac. Sidedress	183.1 B	$22.40
70# N/ac. Sidedress	187.7 A	$44.80
Prob>/T/	0.0012***	

SUMMARY:
The application of 70# N/ac versus the 35# rate resulted in a highly significant yield increase. The extra cost of the nitrogen with $5.00 per bushel corn price results in a zero net gain. However, at $6.00 per bushel corn, the grower would have netted an extra $5 per acre.

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Years: 2013
Title: Foliar Applied Generate on Corn
Crop: Corn
County: Butler
OFRN Operator: Bruce Glock
Objective: To determine the effect of Generate on the profitability of corn production.
Treatments: Check
Generate (32 oz)

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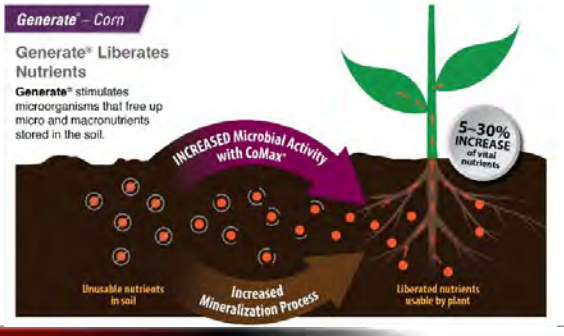
Nebraska On-Farm Research Network



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Nebraska On-Farm Research Network

OFRN Operator: Bruce Glock

Results: 2013 Generate - Corn

	Yield	Cost/A
Check	226.4 A	--
Generate (32 oz)	225.0 A	$12.00
Prob>/T/	ns	
P Value	0.75	

Means followed by the same letter are not statistically different at the P<0.05 level (T test, JMP 10.0.0)

Mycogen 2T698, Planted 5/11/13, 30" row spacing, Harvested 11/2/13, Treated 6/20/13 (V-6)

SUMMARY: Usage of Generate in irrigated corn in 2013 did not result in increased yields.

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Nebraska On-Farm Research Network

Years:	2013
Title:	Direct Harvest Variety Trial
Crop:	Dry Beans
County:	Box Butte
OFRN Operator:	Tim Hashman
Objective:	To determine and document varietal harvest loss in dry bean direct harvest.
Treatments:	Santa Cruz LaPaz Monterrey

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Nebraska On-Farm Research Network

OFRN Operator: Tim Hashman

Information: 2013 Dry Bean Direct Harvest

The purpose of this study was to compare 3 different Pinto bean varieties in a direct harvest bean production system looking at both yield and harvest loss. Traditionally dry beans are harvested in a three step process starting with cutting, then windrowing and finally combining. Direct harvest is simply one pass through the field with the combine. A good upright bean variety, proper level field conditions and a combine header suitable for direct harvest are essential to minimize harvest loss and economically justify direct harvest.

This study evaluated three Pinto bean varieties, all suitable for direct harvest. The varieties: Santa Cruz, LaPaz and Monterrey were replicated four times in plots 770 by 40 ft. The plots were planted in a randomized complete block design on June 7 with a Sunflower double disk drill with 7.5 inch row spacing. Stand counts were taken on June 28 when beans were approximately 3 inches tall. The plots were all fertilized, sprinkler irrigated and treated identically. The pre-emergent herbicide Outlook with post emergent application of Raptor and Result were applied to the entire field with average weed control. Fungicides and copper were applied to manage fungal and bacterial disease potential. Gramoxone was applied Sept. 3 as a pre harvest desiccant. Pod height measurements to determine the percent of pods above 2 inches were taken on Sept 9. Low hanging pods are a major cause of harvest loss in this process.

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Nebraska On-Farm Research Network

OFRN Operator: Tim Hashman

Information: 2013 Dry Bean Direct Harvest

(Continued)

The plots were harvested on Sept. 18 using a Gleanor R76 combine equipped with a MacDon FD70, 35ft draper header. The center 35 feet of the 40 foot plot was harvested. The harvested plot area was 0.62 acres per treatment per rep. The beans from each plot were weighed using a Parkan Weigh Wagon. Nine square foot counts along the plot area were taken the day of harvest to estimate harvest loss during combining. A sample of beans was taken from each plot and analyzed for quality by Kelley Bean Company in Alliance. All bean samples graded USDA #1, and the moistures were between 12 and 13.9%. The dry beans direct harvested in the surrounding field were Pinto variety Sinaloa with an average yield of 50 bu/ac.

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OFRN Operator: Tim Hashman
Results: 2013 Dry Bean Direct Harvest Loss

	Yield	Moisture	Plant Population	Harvest Loss	Pod Height
LaPaz	51.8 A	12.5 B	125k AB	2.83 AB	97.3 A
Monterrey	51.3 A	12.3 B	134k A	2.23 B	96.1 AB
Santacruz	48.3 B	13.1 A	118k B	3.13 A	95.5 B
Prob>/T/	0.0198**	0.0064***	0.0691*	0.0633*	0.0314**

Plant Population - Growing season plant population. (June 28)
Harvest Loss - Beans remaining on ground after harvesting. (bu/acre)
Pod Height - Percent of pods greater than 2" above the soil.

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OFRN Operator: Tim Hashman
Summary: Dry Bean Direct Harvest Loss

(2013) LaPaz, Monterrey, and Santa Cruz are all Pinto dry bean varieties with upright characteristics suitable for direct harvest. There were significant differences between treatments but not large differences. With Pinto beans at $40 per cwt at harvest the yield difference of 3.5 bu/ac amounts to $84 per acre. Harvest loss differences amounted to $22 per acre. Differences in pod height above the soil existed. This characteristic can be very important in minimizing direct harvest loss.

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Nebraska On-Farm Research Network

Years:	2013
Title:	Interactions of Generate and Stratego YLD Fungicide
Crop:	Soybeans
County:	Butler
OFRN Operator:	Jim Heins
Objective:	Document potential interactions of Generate and Stratego YLD on soybean yield
Treatments:	1) Herbicide + Generate @ 32 oz./acre 2) Herbicide + Generate followed by Stratego YLD @ 4 oz./acre 3) Herbicide followed by Stratego YLD @ 4 oz./acre 4) Herbicide only

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Nebraska On-Farm Research Network

OFRN Operator: Jim Heins

Information: 2013 Soybeans - Generate and Fungicide

6/8/13 - NK S28-K1 Planted 140,000 - Harvest 10/10/13

7/3/13 - Applied w/ 10 gpa, V2, Herbicide applied w/wo Generate as tank mix
Durango 32 oz./acre, Cadet 0.5 oz., 5 oz. Targa and 1 qt. crop oil/100 gal

8/9/13 - Stratego YLD @ 4 oz./acre, crop growth stage = R2-3 (some plants with pods)

8/12/13 - 2nd herbicide application - 1 qt/acre Durango and 0.2 oz. Cadet + AMS

GENERATE IS A MICROBIAL AND NUTRIENT CATALYST

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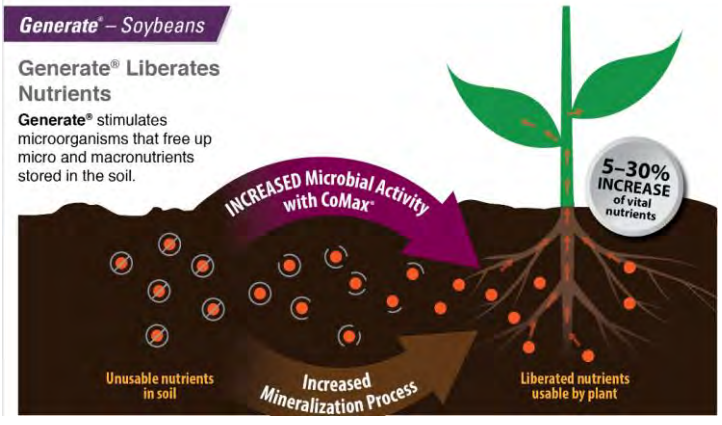
Nebraska On-Farm Research Network

OFRN Operator: Jim Heins
Information: 2013 Soybeans - Generate and Fungicide



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Nebraska On-Farm Research Network

OFRN Operator: Jim Heins
Results: 2013 Soybeans - Generate and Fungicide

	Yield	Protein	Oil	Seed Wt.	Cost/A
Herbicide	63.0 A	35.2 A	18.7 A	18.8 A	--
Herbicide+Generate	62.6 A	35.1 A	18.8 A	19.2 A	$12.00
Herbicide+Generate, Fungicide	63.8 A	35.2 A	18.7 A	18.8 A	$32.00
Herbicide, Fungicide	63.4 A	35.1 A	18.9 A	19.2 A	$20.00
Prob>/T/	ns	ns	ns	ns	

Means followed by the same letter are not statistically different at the P<0.05 level (Tukeys HSD test, JMP 10.0.0)

SUMMARY: Addition of Generate and/or Stratego YLD in 2013 to June planted irrigated

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Nebraska On-Farm Research Network

Years:	2013
Title:	Interactions of Ratchet and Stratego YLD Fungicide
Crop:	Soybeans
County:	Butler
OFRN Operator:	Jim Heins
Objective:	Document potential interactions of Ratchet and Stratego YLD on soybean yield
Treatments:	1) Herbicide + Ratchet @ 4 oz./acre 2) Herbicide + Ratchet followed by Stratego YLD @ 4 oz./acre 3) Herbicide followed by Stratego YLD @ 4 oz./acre 4) Herbicide only

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Nebraska On-Farm Research Network

OFRN Operator: Jim Heins

Results: 2013

6/8/13 - NK S28-K1 Planted 140,000 - Harvest 10/9/13
7/3/13 - Applied w/ 10 gpa, V2, Herbicide applied w/wo Ratchet as tank mix
Durango 32 oz./acre, Cadet 0.5 oz., 5 oz. Targa and 1 qt. crop oil/100 gal
8/9/13 - Stratego YLD @ 4 oz./acre, crop growth stage = R2-3 (some plants with pods, but not
8/12/13 - 2nd herbicide application consisting of 1 qt/acre Durango and 0.2 oz. Cadet + AMS

Ratchet is Novozymes' patented LCO Promoter Technology for foliar applications. This unique LCO (lipo-chitooligosaccharide) molecule enhances nutritional capabilities that improve nutritional capabilities that drive natural growth processes; maximizing plant health and crop performance. Ratchet is currently available for use in corn, soybeans and alfalfa

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Nebraska On-Farm Research Network

OFRN Operator: Jim Heins

Results: 2013

Soybeans - Ratchet and Fungicide

	Yield	Protein	Oil	Seed Wt.	Cost/A
Herbicide + Ratchet	61.0 A	35.2 A	18.7 A	18.1 A	$5.00
Herbicide + Ratchet, Fungicide	62.0 A	35.4 A	18.7 A	18.8 A	$25.00
Herbicide, Fungicide	61.6 A	35.4 A	18.7 A	18.9 A	$20.00
Herbicide	61.1 A	35.2 A	18.7 A	19.0 A	--
Prob>/T/	ns	ns	ns	ns	

Means followed by the same letter are not statistically different at the P<0.05 level (Tukeys HSD test, JMP 10.0.0)

SUMMARY: Addition of Ratchet and/or Stratego YLD in 2013 to June planted irrigated soybeans did not provide positive economic return.

Nebraska On-Farm Research Network

Years: 2013
Title: Corn Nitrogen Rates
Crop: Corn
County: Dodge
OFRN Operator: Rusty Hilgenkamp
Objective: Determine the most profitable nitrogen rate in the production of dryland corn
Treatments: UNL Recommendation
UNL +40 lbs

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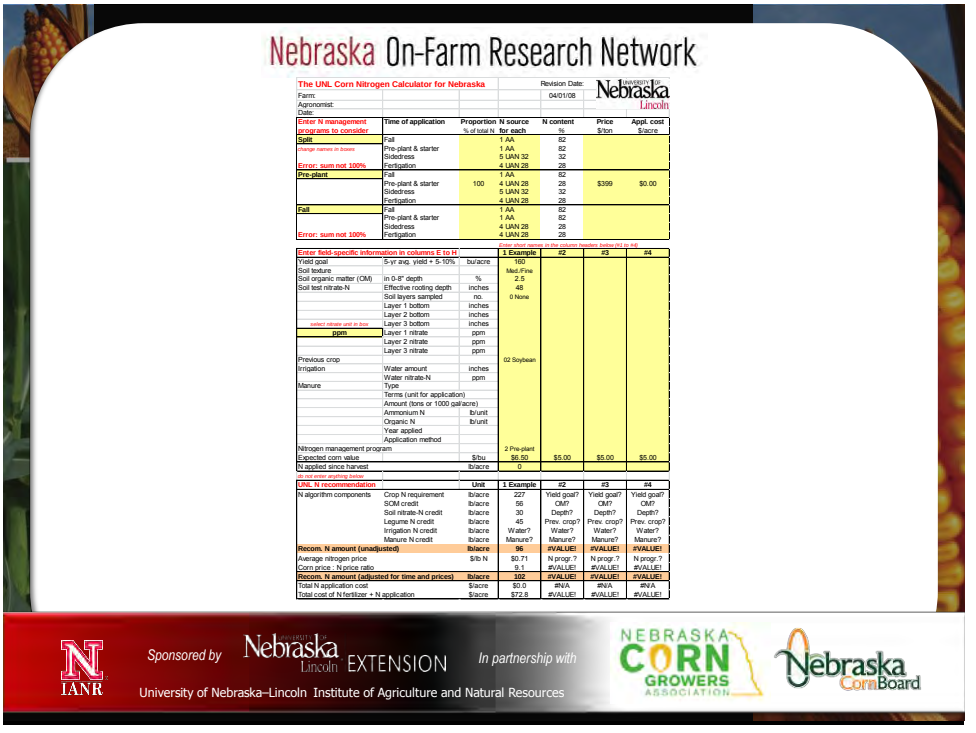
Nebraska On-Farm Research Network
The UNL Corn Nitrogen Calculator for Nebraska
Revision Date: 04/01/08
Farm:
Agronomist:
Date:
Enter N management programs to consider
Time of application
Proportion % of total N
N source for each
N content %
Price $/ton
Appl. cost $/acre
Split
change names in boxes
Error: sum not 100%
Pre-plant
Fall
Error: sum not 100%
Fall 1 AA 82
Pre-plant & starter 1 AA 82
Sidedress 5 UAN 32 32
Fertigation 4 UAN 28 28
Pre-plant 100 4 UAN 28 28 $399 $0.00
Sidedress 5 UAN 32 32
Fertigation 4 UAN 28 28
Fall 1 AA 82
Pre-plant & starter 1 AA 82
Sidedress 4 UAN 28 28
Fertigation 4 UAN 28 28
Enter field-specific information in columns E to H
Enter short names in the column headers below(A1 to A8)
1 Example #2 #3 #4
Yield goal 5-yr avg. yield + 5-10% bu/acre 160
Soil texture Med./Fine
Soil organic matter (OM) in 0-8" depth % 2.5
Soil test nitrate-N Effective rooting depth inches 48
Soil layers sampled no. 0 None
Layer 1 bottom inches
Layer 2 bottom inches
select nitrate unit in box
ppm
Layer 3 bottom inches
Layer 1 nitrate ppm
Layer 2 nitrate ppm
Layer 3 nitrate ppm
Previous crop 02 Soybean
Irrigation
Water amount inches
Water nitrate-N ppm
Manure
Type
Terms (unit for application)
Amount (tons or 1000 gal/acre)
Ammonium N lb/unit
Organic N lb/unit
Year applied
Application method
Nitrogen management program 2 Pre-plant
Expected corn value $/bu $6.50 $5.00 $5.00 $5.00
N applied since harvest lb/acre 0
do not enter anything below
UNL N recommendation Unit 1 Example #2 #3 #4
N algorithm components
Crop N requirement lb/acre 227 Yield goal? Yield goal? Yield goal? Yield goal?
SOM credit lb/acre 56 OM? OM? OM? OM?
Soil nitrate-N credit lb/acre 30 Depth? Depth? Depth? Depth?
Legume N credit lb/acre 45 Prev. crop? Prev. crop? Prev. crop? Prev. crop?
Irrigation N credit lb/acre Water? Water? Water? Water?
Manure N credit lb/acre Manure? Manure? Manure? Manure?
Recom. N amount (unadjusted) lb/acre 96 #VALUE! #VALUE! #VALUE!
Average nitrogen price $/lb N $0.71 N progr. ? N progr. ? N progr. ?
Corn price : N price ratio 9.1 #VALUE! #VALUE! #VALUE!
Recom. N amount (adjusted for time and prices) lb/acre 102 #VALUE! #VALUE! #VALUE!
Total N application cost $/acre $0.0 #N/A #N/A #N/A
Total cost of N fertilizer + N application $/acre $72.8 #VALUE! #VALUE! #VALUE!
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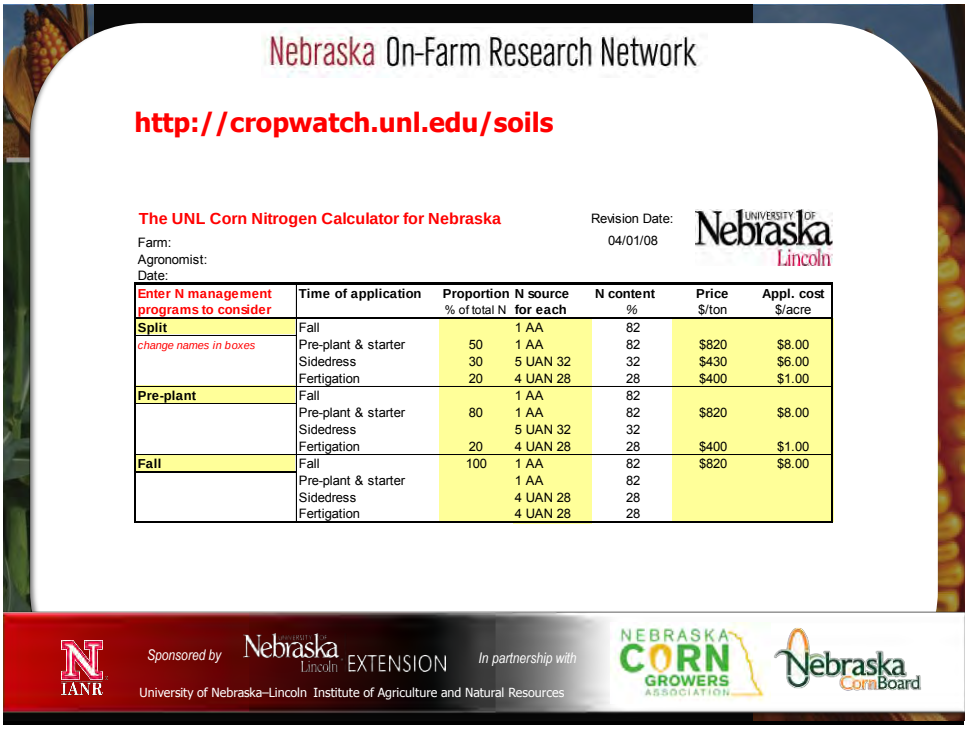
Nebraska On-Farm Research Network
http://cropwatch.unl.edu/soils
The UNL Corn Nitrogen Calculator for Nebraska
Revision Date: 04/01/08
Farm:
Agronomist:
Date:
Enter N management programs to consider
Time of application
Proportion % of total N
N source for each
N content %
Price $/ton
Appl. cost $/acre
Split
change names in boxes
Pre-plant
Fall
Fall 1 AA 82
Pre-plant & starter 50 1 AA 82 $820 $8.00
Sidedress 30 5 UAN 32 32 $430 $6.00
Fertigation 20 4 UAN 28 28 $400 $1.00
Pre-plant 1 AA 82
Pre-plant & starter 80 1 AA 82 $820 $8.00
Sidedress 5 UAN 32 32
Fertigation 20 4 UAN 28 28 $400 $1.00
Fall 100 1 AA 82 $820 $8.00
Pre-plant & starter 1 AA 82
Sidedress 4 UAN 28 28
Fertigation 4 UAN 28 28
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Nebraska On-Farm Research Network

OFRN Operator: Rusty Hilgenkamp
Information: 2013 Corn Nitrogen Rates

Planted DKC 63-87 @ 26.5k 5/13/13
Harvest - 11/11/13

Sprayed May 17, 2013 - 100 # - 32%, + sulfur, 2-4D, atrazine and Corvus (pre-emerge). 1" rainfall shortly after application.

Sidedress -June 21st, 40 lbs. of N (28%) at V5 - V6 stage. Field received 0.75" precip soon after application.

Nebraska On-Farm Research Network

OFRN Operator: Rusty Hilgenkamp
Results: 2013 Corn Nitrogen Rates

	Yield	Cost/A
UNL Rate	206.1 B	71.25
UNL + 40lbs	212.2 A	99.75
Prob>/T/	0.0316 **	

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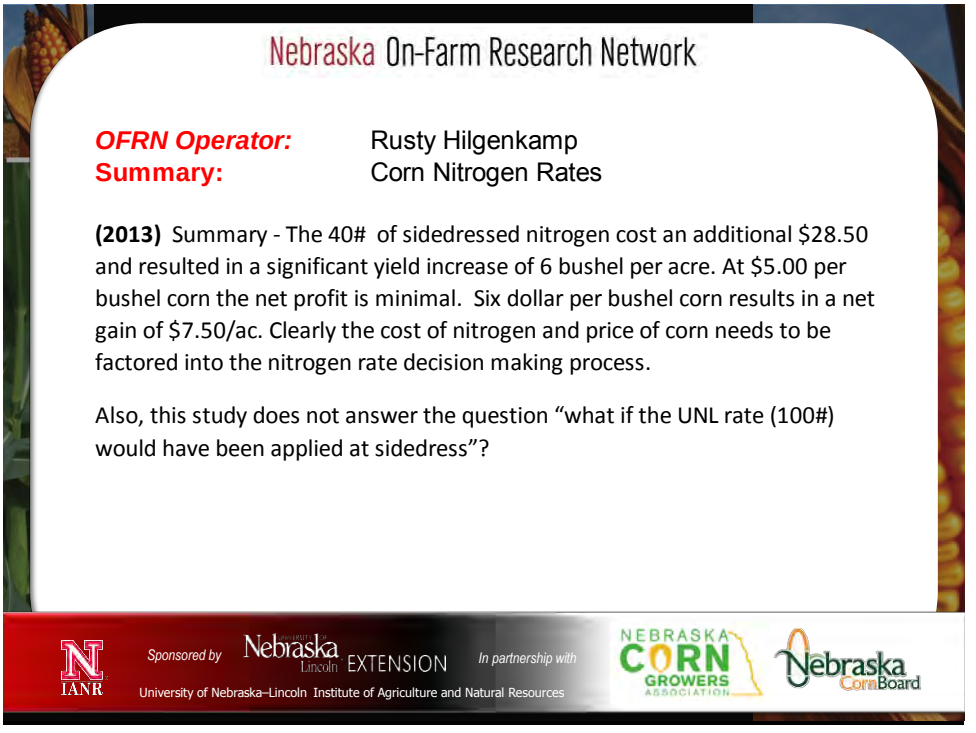
Nebraska On-Farm Research Network
OFRN Operator: Rusty Hilgenkamp
Summary: Corn Nitrogen Rates
(2013) Summary - The 40# of sidedressed nitrogen cost an additional $28.50 and resulted in a significant yield increase of 6 bushel per acre. At $5.00 per bushel corn the net profit is minimal. Six dollar per bushel corn results in a net gain of $7.50/ac. Clearly the cost of nitrogen and price of corn needs to be factored into the nitrogen rate decision making process.
Also, this study does not answer the question "what if the UNL rate (100#) would have been applied at sidedress"?
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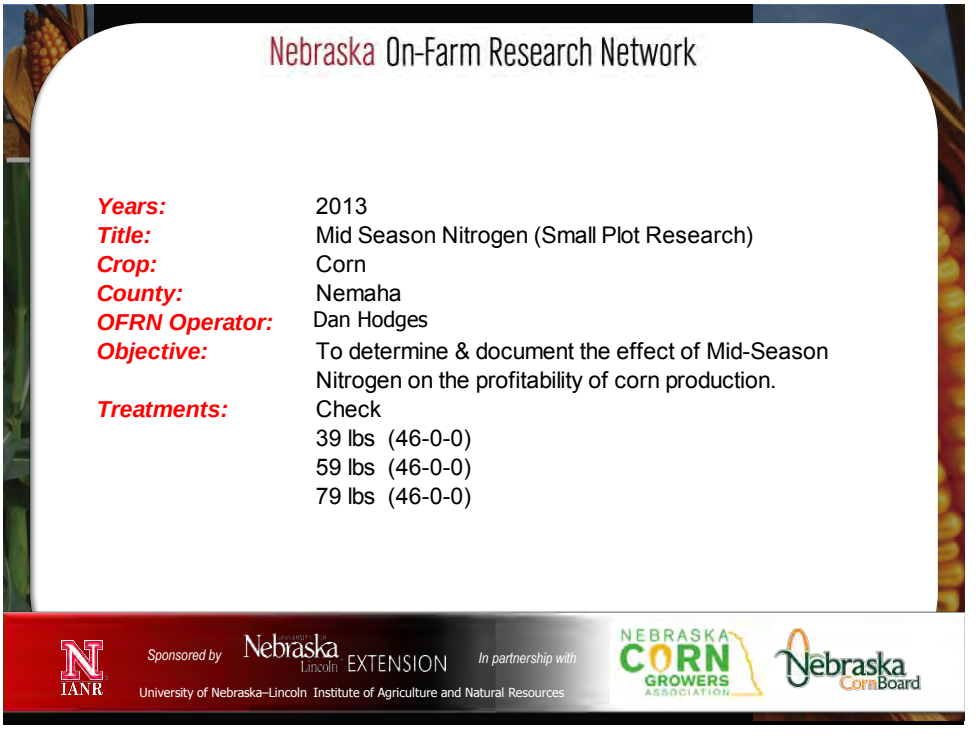
Nebraska On-Farm Research Network
Years: 2013
Title: Mid Season Nitrogen (Small Plot Research)
Crop: Corn
County: Nemaha
OFRN Operator: Dan Hodges
Objective: To determine & document the effect of Mid-Season Nitrogen on the profitability of corn production.
Treatments: Check
39 lbs (46-0-0)
59 lbs (46-0-0)
79 lbs (46-0-0)
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OFRN Operator: Dan Hodges
Information: 2013 Mid Season Nitrogen

MID SEASON NITROGEN APPLICATION

Under certain environmental conditions, corn may show significant nitrogen deficiencies in the growing season during a critical period of development (R1-R6). This may be due to exceptionally wet soil conditions which cause nitrogen losses from the soil from leaching or saturated soils which leads to denitrification. Nitrogen can also be lost from runoff when applied on top of the soil surface. Sometimes corn can show nitrogen deficiency symptoms when supplemental nitrogen is unable to be applied due to wet soil conditions or the corn becoming too tall for side-dressing.

Previous on-farm research conducted in Missouri indicates mid-season nitrogen application may be economically feasible. In Northwest Missouri in 2013, local ag suppliers were flying on urea to nitrogen deficient corn fields. This experiment was conducted to test the feasibility of this management practice.

Experiments were initiated during the summer of 2013. Two experiments were conducted in the two fields on the Dan Hodges farm north east of Auburn in Nemaha County.

Nebraska On-Farm Research Network

OFRN Operator: Dan Hodges
Information: 2013 Mid Season Nitrogen

MID SEASON NITROGEN APPLICATION (Continued)

This experiment was repeated in two fields on the Dan Hodges farm northeast of Auburn in Nemaha County. Nitrogen was applied at the rates of 0, 39, 59 and 79 lbs N/ac. These rates were used because it was initially thought Dan farmed in 30" rows and the fertilizer quantities had already been weighed out for each plot, but when it was discovered he farms in 38" rows and each plot was 25' x 12.67' (4-38"), rates were recalculated and applied to the plots.

At harvest time, (October 8 -15), 15' of the 2 middle rows were hand-harvested. Corn was shelled, tested for moisture and yields were calculated on a 15.5% moisture basis.

NOTE: 35 lbs nitrogen applied at planting. Due to equipment failure and weather interuption the window for side dressing 75 lbs addtional nitrogen did not occur on the entire field. Aerial application of nitrogen was unavailable due to fungicide applications.
Where the crop did get a side dress application the corn averaged 150-160 bu/acre.

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OFRN Operator: Dan Hodges
Results: 2013 Mid Season Nitrogen

	Yield-East	Cost/A	Gross Income	Net Income
Check	113.1 B	--	--	--
39 lbs N	146.6 A	$27.29	$140.70	$113.41
59 lbs N	155.7 A	$33.59	$178.92	$145.33
79 lbs N	147.4 A	$39.89	$144.06	$104.17
Prob>/T/	0.0110**			

Costs with N at $0.315/lb & $15/ac application - Applied 7/26/13 (46-0-0) - R1 stage of growth

Pioneer 32T84 29,800 5/11/2013 @ 2", P 10-34-0 30 lbs P w Planter

Prior Crop: Soybeans - 2012, N 28-0-0 35 lbs N 2x2 Side dress. Marginal income values based upon $4.20 price/ bushel.

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Nebraska On-Farm Research Network

OFRN Operator: Dan Hodges
Results: 2013 Mid Season Nitrogen

	Yield-West	Cost/A	Gross Income	Net Income
Check	125.9 C	--	--	--
39 lbs N	149.8 AB	$27.29	$100.38	$73.09
59 lbs N	146.6 B	$33.59	$86.94	$53.35
79 lbs N	162.1 A	$39.89	$152.04	$112.15
Prob>/T/	0.0010***			

Costs with N at $0.315/lb & $15/ac application - Applied 7/10/13 (46-0-0)
Wyffels 7477 29,800 5/16/2013 @ 2", P 10-34-0 30 lbs P w Planter
Prior Crop: Soybeans - 2012, N 28-0-0 35 lbs N 2x2 Side dress. Marginal income values based upon $4.20 price/ bushel.

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OFRN Operator: Dan Hodges

Summary: Mid Season Nitrogen

Both experiments showed a significant increase in yield when nitrogen was applied mid-season to nitrogen deficient corn. It appears there may be some differences in how different hybrids respond to mid-season nitrogen application, but both hybrids responded to even low levels of mid-season nitrogen application. At current corn prices this practice was economically viable and shows promise. Success of mid-season surface applied nitrogen application is dependent upon sufficient rainfall after nitrogen application. Future on-farm research experiments will be conducted if nitrogen deficient corn fields are identified to evaluate the feasibility of mid-season nitrogen application.

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Nebraska On-Farm Research Network

Years: 2012-2013

Title: Inoculant

Crop: Soybeans

County: Hamilton

OFRN Operator: Brandon Hunnicut

Objective: Study effect of inoculant on soybean production and profitability.

Treatments: Check vs XiteBio SoyRhizo Inoculant. 8.7 fl/oz./ac. In-furrow

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Nebraska On-Farm Research Network

OFRN Operator: Brandon Hunnicut
Information: 2012-2013 Soybean - Growth Innoculant

XiteBio SoyRhizo Liquid Soybean Inoculant Active Ingredient:
2×109 *Bradyrhizobium japonicum*
SoyRhizo is a low volume, versatile premium liquid inoculant that can be applied on-seed or in-furrow and is available as a ready to use package. SoyRhizo is based on an AGPT (Advanced Growth Promoting Technology) platform, a revolutionary concept in soybean inoculant formulation.
This allows SoyRhizo to: encourage greater root nodulation boost higher nitrogen fixation result in healthier plants and better yields enhance overall plant performance
.

Features of SoyRhizo:

- **Active Ingredient:**
  2×10⁹ *Bradyrhizobium japonicum*
- **Formulation:**
  Ready-to-Use Liquid
- **For use on:**
  Soybean
- **Application:**
  On-seed or In-furrow
- **Package size:**
  2.5 L (4x50 Unit Case)
  10 L (1x200 Unit Case)
- **Application Rate:**
  On-seed:
  2.0 fl oz/60 lbs (60 ml/27 kg)
  In-furrow:
  0.5 fl oz/100 ft row (15 ml/304 m row)
- **Seed Treatment Compatibility:**
  Compatible with most popular soybean seed treatments
- **Yield Increase:**
  As high as 26 bu/ac
  9 bu/ac on average in 2011 trials

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Nebraska On-Farm Research Network

OFRN Operator: Brandon Hunnicut
Information: 2012
Soybean - Innoculant
Varieties:
AgVenture 31K3 & 33

Soil:
Hastings Silt Loam

Establish
Verdict @ 5 oz
Roundup @ 24 oz
Sugar @ 1 qt
Targa @ 5 oz

Headline 3 oz

Targa is a post-emergence selective herbicide that provides control of annual and perennial grass in a broad range of row and specialty crops.

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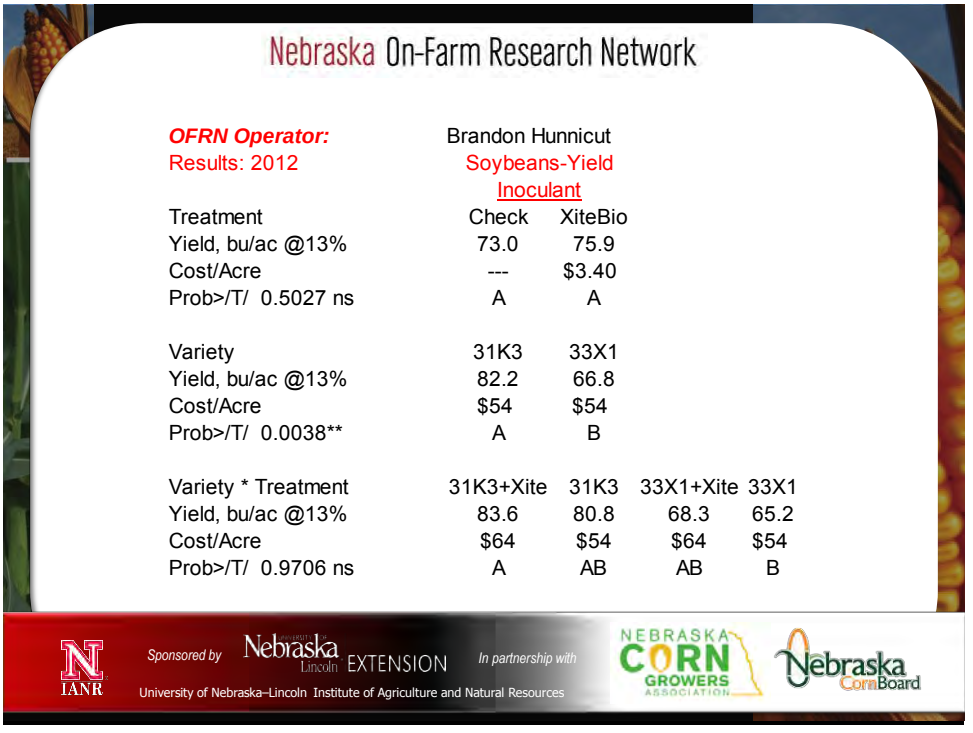
Nebraska On-Farm Research Network
OFRN Operator: Brandon Hunnicut
Results: 2012 Soybeans-Yield
Inoculant
Treatment Check XiteBio
Yield, bu/ac @13% 73.0 75.9
Cost/Acre --- $3.40
Prob>/T/ 0.5027 ns A A
Variety 31K3 33X1
Yield, bu/ac @13% 82.2 66.8
Cost/Acre $54 $54
Prob>/T/ 0.0038** A B
Variety * Treatment 31K3+Xite 31K3 33X1+Xite 33X1
Yield, bu/ac @13% 83.6 80.8 68.3 65.2
Cost/Acre $64 $54 $64 $54
Prob>/T/ 0.9706 ns A AB AB B
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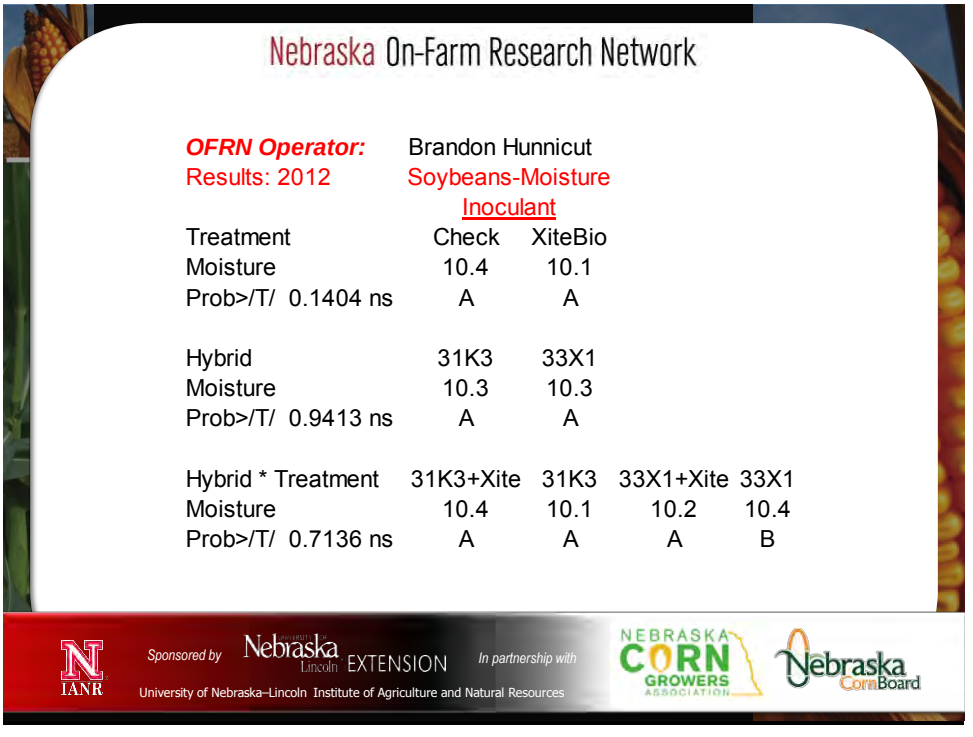
Nebraska On-Farm Research Network
OFRN Operator: Brandon Hunnicut
Results: 2012 Soybeans-Moisture
Inoculant
Treatment Check XiteBio
Moisture 10.4 10.1
Prob>/T/ 0.1404 ns A A
Hybrid 31K3 33X1
Moisture 10.3 10.3
Prob>/T/ 0.9413 ns A A
Hybrid * Treatment 31K3+Xite 31K3 33X1+Xite 33X1
Moisture 10.4 10.1 10.2 10.4
Prob>/T/ 0.7136 ns A A A B
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OFRN Operator: Brandon Hunnicut

Results: 2013 Soybean - Innoculant

	Yield	Moisture	Cost/A
Check	83.2 A	10.7 A	--
XiteBio SoyRhizo	81.9 A	10.9 A	$3.40
Prob>/T/	ns	ns	

SUMMARY: (2013) The treatment resulted in a lower yield than the check but the statistical anlaysis did not find the differnce was significant. **(2012)** There was a significant difference in yield between the two soybean varieties in this study, but no significant difference between the Check and the XiteBio treatment.

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Years: 2013
Title: Growth regulators on soybeans
Crop: Soybean
County: Hamilton
OFRN Operator: Brandon Hunnicut
Objective: To determine and document the effect of growth regulators on the profitability of soybean production.
Treatments: Check vs Conklin Soil X-CYTO 10 fl oz per acre in-furrow

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OFRN Operator: Brandon Hunnicut
Information: 2013 Soybean - Growth Regulators

Conklin Soil X-CYTO® Plant Growth Regulator
EPA-registered plant growth regulator and plant parasitic nematode suppressant
For general applications use 10 to 30 ounces per acre with starter fertilizer in-furrow or 4 to 8 ounces per acre of seed as a seed treatment See "supplemental labeling for nematode suppression" for specific rate and use recommendations.

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Nebraska On-Farm Research Network

OFRN Operator: Brandon Hunnicut
Results: 2013 Soybean - Growth Regulators

	Yield	Moisture	Cost/A
Check	80.7 B	10.8 A	--
Conklin Soil X-Cyto	83.2 A	10.8 A	$8.71
	0.0203**	ns	

SUMMARY: The treatment resulted in a yield advantage of 2.5 bushels per acre that was validated by the statistical analysis. Addtionally the revenue generated from the addtional yield exceeded the cost of the product.

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Years:	2013
Title:	Soybean Inoculant
Crop:	Soybean
County:	Hamilton
OFRN Operator:	Brandon Hunnicut
Objective:	To determine and document the effect of Magnify inoculant on the profitability of soybean production.
Treatments:	Check no inoculant Conklin Magnify LST Inoculant 8.4 fl oz per acre in-furrow

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Nebraska On-Farm Research Network

OFRN Operator: Brandon Hunnicut
Information: 2013 Soybean - Inoculant

Conklin Magnify - Live Microbial Soybean Seed Inoculant

Inoculation is the most cost-effective method of providing nitrogen to legume crops. In order to maximize your crop's yield, many leading university research studies recommend inoculation with a high-quality, high-potency product like Magnify LST. Conklin's live microbial liquid soybean inoculant uses superior technology that effectively grows your soybean yields at a low cost per acre. Magnify LST, when used at designated rates, will provide 10 - 20 times the level of live, nitrogen-fixing bacteria to each seed in a soybean planting system than traditional technology. Magnify LST is a liquid seed inoculant containing three billion viable bacteria cells per gram. These bacteria, Bradyrhizobium japonicum, provide nitrogen for plant growth by a process called nitrogen fixation. The symbiotic relationship between the bacteria and plant allows the bacteria to perform efficient, effective nodulation on the soybean root allowing more nitrogen fixation to occur. And the bacteria derive nutrition from the plant. Higher soybean yields and protein content, healthier plants and increased profits are proven results on both new and repeat soybean acreage.

- High Potency
- Safe and easy-to-use
- Scientifically-proven to increase yields
- Convenient, non-frozen, non-refrigerated formula
- Flexible seed treatment and in-furrow application methods

Application Rates

For seed application: Apply as is at a rate of 2.1 oz. per 50 lbs. of soybean seed.
For in-furrow application: Apply 8.4 oz. per acre in water volume sufficient to provide uniform coverage.
In-furrow application must deliver inoculant on seed to be effective.

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Nebraska On-Farm Research Network

OFRN Operator: Brandon Hunnicut
Results: 2013 Soybean - Inoculant

	Yield	Moisture	Cost
Check	84.2 A	10.6 A	--
Innoculant	82.3 A	10.7 A	$1.63
Prob>/T/	ns	ns	

SUMMARY: The untreated yield was higher than the treated yield, but the differnce was not supported by the statistical analysis.

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Nebraska On-Farm Research Network

Years:	2013
Title:	Starter and Insecticide
Crop:	Soybean
County:	Hamilton
OFRN Operator:	Brandon Hunnicut
Objective:	To determine and document the effect of starter and insecticide on the profitability of soybean production.
Treatments:	Check no starter Nachurs 2 gal/ac + Capture LFR 3.84 fl oz/ac in-furrow

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Nebraska On-Farm Research Network

OFRN Operator: Brandon Hunnicut

Results: 2013 Soybean - Starter and Insecticide

	Yield	Moisture	Cost
Check	79.76 A	9.5 A	--
Starter & Insecticide	77.2 A	9.4 A	
Prob>/T/	ns	ns	

SUMMARY: The untreated yield was higher than the treated yield, but the differnce was not supported by the statistical analysis.

Cost information was not available at time of publication.

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Nebraska On-Farm Research Network

Years: 2013
Title: Headline Fungicide - In-Furrow and Foliar
Crop: Corn
County: Cuming
OFRN Operator: KornhuskerKids 4-H (Chris Schiller)
Objective: To determine and document the effect of fungicide on the profitability of corn production.
Treatments: In-Furrow Fungicide vs. Foliar Fungicide

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Nebraska On-Farm Research Network
OFRN Operator: KornhuskerKids 4-H
Information: 2013 Corn - Fungicide
For our challenge we decided to determine the effect of a fungicide application at different plant growth stages. Our control would be no fungicide application with two treatments, one at planting in furrow with starter fertilizer and the second applied at approximately V7. We also decided that we would use the randomized and replicated plot with five replications.
This was an excellent learning experience for us. We learned a lot about corn production,how to scout corn and what to look for during the growing season. We were able to learn how to determine the growth stage of the corn plant at any time during the growing season as well. By having three treatments we were able to compare the plants in all three environments to determine if there were any differences.
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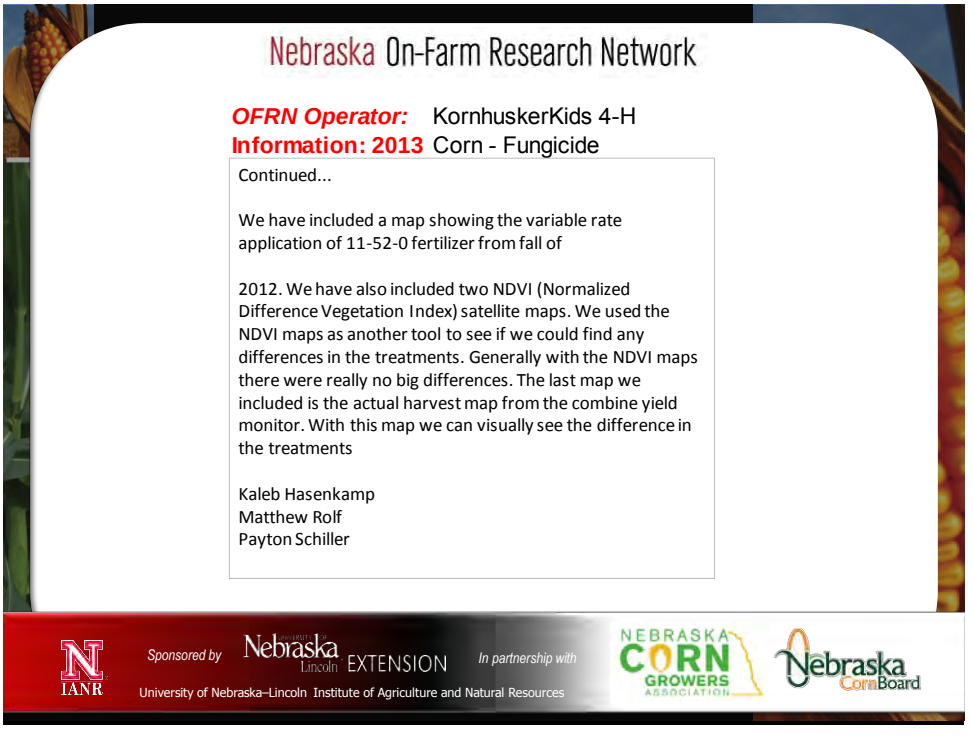
Nebraska On-Farm Research Network
OFRN Operator: KornhuskerKids 4-H
Information: 2013 Corn - Fungicide
Continued...
We have included a map showing the variable rate application of 11-52-0 fertilizer from fall of
2012. We have also included two NDVI (Normalized Difference Vegetation Index) satellite maps. We used the NDVI maps as another tool to see if we could find any differences in the treatments. Generally with the NDVI maps there were really no big differences. The last map we included is the actual harvest map from the combine yield monitor. With this map we can visually see the difference in the treatments
Kaleb Hasenkamp
Matthew Rolf
Payton Schiller
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Nebraska On-Farm Research Network

OFRN Operator: KornhuskerKids 4-H (Chris Schiller)
Results: 2013 Corn - Fungicide

	Yield	Moisture	TW	Cost/A
Check	221.1 A	19.2 A	56.7 A	--
Headline in Furrow	219.6 A	18.8 A	57.5 A	$ 9.60
Headline Foliar	220.7 A	19.0 A	57.4 A	$ 19.20
Prob>/T/	ns	ns	ns	

Headline in Furrow (3 oz), Headline Foliar (6 oz) @ v7
Planting Corn NoTill 5/16/2013 CoverCrop Rye NoTill-Fall
Kruger K4R 9306 Poncho/Votivo 500 29000 5/16/2013 (SmartStax),
Harvested 10/12/13
Starter 6-24-6 4 gal in Furrow
N 32-0-0 120 Sidedress P 11-52-0 74.5 VariRate

Nebraska On-Farm Research Network

OFRN Operator: KornhuskerKids 4-H (Chris Schiller)
Summary: Corn - Fungicide

(2013) There was no statistical yield, moisture, or test weight difference as a result of the application of fungicide in-furrow at planting or foliar at V7. No ratings for stalk quality or disease pressure were taken. The control treatment had the best return on investment.

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Years:	2012-2013
Title:	Fungicide vs Sugar on Corn
Crop:	Corn
County:	York
OFRN Operator:	Ron and Ray Makovicka
Objective:	Study effect of fungicide or sugar on corn production and profitability
Treatments:	Check vs Stratego vs Sugar

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SURE CROP

Plen-T Sweet

Weight Per Gallon : 9.9 pounds

Net Contents	Net Weight
2.5 Gal.	24.75 Lbs.

SURE CROP

Division of Ag Connection Sales, Inc.
877 W. Hwy 36, Seneca, Kansas 66538-9740
Ph. 1-800-635-4743 or 785-336-2121

WARNING: Keep out of reach of children.
Dispose of container in accordance with local, state, & federal regulations.

General Recommendations

Sure Crop Plen-T Sweet is a natural organic nutrition that helps free up minerals in the soil while increasing microbial activity. It speeds up the release of the elements that are in the soil naturally, to make them more available.

Sure Crop Plen-T Sweet helps furnish energy, carbohydrates, and nitrogen to the biological organisms in the soil.

Sure Crop Plen-T Sweet helps prevent the precipitation of calcium phosphate when phosphate fertilizers are added to the soil.

Storage - Best to store below 100 degrees Fahrenheit. Keep out of direct sunlight.

Safety - Sure Crop Plen-T Sweet is compatible with most insecticides, herbicides, fungicides, liquid fertilizers, and other foliar nutrients, however a compatibility test should always be done.

Application Rates:

Pre-Planting - Apply 1 - 2 quarts p/ac. of Sure Plent-T Sweet incorporated into the soil.

In Furrow - Apply 1 - 2 quarts of Sure Plen-T Sweet in the furrow blended with starter fertilizer.

Foliar - Apply 1 - 2 pints of Sure Plen-T Sweet when adding to a foliar spray.

LIMITED WARRANTY:
Manufacturer or seller makes no warranty, whether expressed or implied concerning the use of this product, other than for the purposes indicated on the label. Neither manufacturer or seller shall be liable for any injury or damage caused by this product due to misuse, mishandling or any application not specifically described on the label.

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WHAT IS SURE CROP PLEN-T SWEET?

SURE Plen-T Sweet is a natural organic liquid that helps free up minerals in the soil and improves microbial activity.

SURE Plen-T Sweet speeds the release of the elements that are in the soil naturally, to make them more available.

WHY IS SURE CROP PLEN-T SWEET NEEDED?

SURE Plen-T Sweet furnishes energy, carbohydrates, and nitrogen to the biological organisms in the soil. These microbes break down the nitrogen, phosphorus, potassium and other nutrients which are in stover and biomass.

SURE Plen-T Sweet will help prevent the precipitation of calcium phosphate when phosphate fertilizers are added to the soil. It also provides more assurance that trace elements will be available to growing crops.

SURE Plen-T Sweet helps warm early spring seed furrows.

APPLICATION RATES

SURE Plen-T Sweet is compatible with most agricultural products. It may be added to soil applied fertilizers, foliar fertilizers, and mixed with herbicides, insecticides, and fungicides.

Apply 1 to 2 quarts per acre with starter fertilizers; 1 to 2 pints when adding to foliar sprays.

SURE CROP Liquid Fertilizers, Seneca, KS 66538
1-800-635-4743 or 785-336-2121 Fax 785-336-2122

Nebraska On-Farm Research Network

York County, Nebraska (NE185)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2836	Uly-Hobbs silt loams, 11 to 30 percent slopes	21.8	15.0%
3820	Butler silt loam, 0 to 1 percent slopes	3.0	2.1%
3864	Hastings silt loam, 0 to 1 percent slopes	96.1	66.2%
3868	Hastings silt loam, 3 to 7 percent slopes	0.6	0.4%
3870	Hastings silty clay loam, 3 to 7 percent slopes, eroded	6.5	4.4%
3962	Hastings silty clay loam, 7 to 11 percent slopes, eroded	17.2	11.8%
Totals for Area of Interest		145.1	100.0%

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Nebraska On-Farm Research Network

OFRN Operator: Ron and Ray Makovicka
Information: 2012

	Corn
Hybrid: Pioneer P1324HR	Brawl II ATZ @ qt 2.1
Sugar 3 lb @ $1.80 ac	Durango @ oz 22
Stratego YLD 2 oz @ $7.12 ac	2 4 D @ oz 6
Note: Sprayed v5-v6	Impact @ oz 0.5
Hail @ v3 w/ slight stand reduction	Durango @ oz 22
	Stratego YLD
	Quilt Xcel @ oz 10.5
	Hero @ oz 2
	Capture @ oz 6.8
	Hero @ oz 5
	Lorsban @ pt 1

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Nebraska On-Farm Research Network

OFRN Operator: Ron and Ray Makovicka
Results: 2012

	Corn		
Treatment	Check	Stratego	Sugar
Yield, bu/ac @15.5%	237.6	238.1	239.9
Cost/Acre	---	7.12	$1.80
Prob>/T/ 0.0666*	B	AB	A
Moisture, %	13.5	13.5	13.5
Prob>/T/ 0.8091 ns	A	A	A
Harvest Population	31k	31.1k	31.2k
Prob>/T/ 0.2775 ns	A	A	A

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Nebraska On-Farm Research Network

OFRN Operator: Ron and Ray Makovicka
Results: 2013 Fungicide vs Sugar

	Yield	Moisture	HPop	Lodging	Cost/A
Check	228.0 B	19.6 A	31.0k A	3.13%	--
Sugar	231.4 AB	19.4 A	31.5k A	2.50%	$6.00
Stratego YLD	232.3 A	19.4 A	32.3k A	3.75%	$5.63
Prob>/T/	0.0630*	ns	ns		

Pioneer 33D42 Planted 5/10/13 @33k
NH3 @180 lbs fall 2012
Stratego 2 oz @7 leaf, Sugar (PlenTSweet) 3qts
10 gal / acre
Note: Application costs not noted

Nebraska On-Farm Research Network

OFRN Operator: Ron and Ray Makovicka
Summary: Fungicide vs sugar

(2012) The Sugar and Stratego treatments applied at V5 yielded significantly higher than the check treatment. There was no statistical difference in harvest moisture or plant population. Stalk rot ratings were not taken for stand ability.

(2013) The Stratego treatments applied at V7 yielded significantly higher than the check treatment. There was no statistical difference in moisture, plant population or percent lodging.

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Nebraska On-Farm Research Network

Years:	2013
Title:	Poncho 250 vs Poncho 1250 w/ Votivo
Crop:	Corn
County:	York
OFRN Operator:	Ron and Ray Makovicka
Objective:	To determine and document the effect of seed insecticide on the profitability of corn production.
Treatments:	Poncho 250 vs Poncho 1250 w/ Votivo

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Nebraska On-Farm Research Network

York County, Nebraska (NE185)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2836	Uly-Hobbs silt loams, 11 to 30 percent slopes	21.8	15.0%
3820	Butler silt loam, 0 to 1 percent slopes	3.0	2.1%
3864	Hastings silt loam, 0 to 1 percent slopes	96.1	66.2%
3868	Hastings silt loam, 3 to 7 percent slopes	0.6	0.4%
3870	Hastings silty clay loam, 3 to 7 percent slopes, eroded	6.5	4.4%
3962	Hastings silty clay loam, 7 to 11 percent slopes, eroded	17.2	11.8%
Totals for Area of Interest		145.1	100.0%

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OFRN Operator: Ron and Ray Makovicka
Results: 2013 Corn - Poncho 250 vs Poncho 1250 Votivo

	Yield	Moisture	TW	Cost/A
Poncho 250	237.4 A	18.4 A	61.0 A	$86.32
Poncho 1250 Votivo	237.1 A	18.3 A	60.9 A	$94.31
Prob>/T/	ns	ns	ns	

Pioneer 1498 HR Poncho 250 33000 5/1/2013
Pioneer 1498 HR Poncho 1250 with Votivo 33000, Ridgetill, Harvest 10/19/13
NH# 180 lb Fall of 2012
Pre BicepII Magnum 2.1 qt Post Roundup Pmax 32 oz Armezon 0.5 oz Capture LFR 8 oz
Irrigation Pivot 9.0"
Hastings Silty loam and Hastings Silty Clay Loam 0-1% to 6-11%

Nebraska On-Farm Research Network

OFRN Operator: Ron and Ray Makovicka
Summary: Corn - Poncho 250 vs Poncho 1250 Votivo

(2013) Summary - There was no significant difference in yield, moisture or test weight for the Poncho 250 vs the Poncho 1250 Votivo. No nematode samples were taken.

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Years:	2013
Title:	Soybean Population Study
Crop:	Soybeans
County:	York
OFRN Operator:	Ron and Ray Makovicka
Objective:	To determine & document the effect of population on the profitability of soybean production.
Treatments:	140k vs 175k

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Nebraska On-Farm Research Network

York County, Nebraska (NE185)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2836	Uly-Hobbs silt loams, 11 to 30 percent slopes	21.8	15.0%
3820	Butler silt loam, 0 to 1 percent slopes	3.0	2.1%
3864	Hastings silt loam, 0 to 1 percent slopes	96.1	66.2%
3868	Hastings silt loam, 3 to 7 percent slopes	0.6	0.4%
3870	Hastings silty clay loam, 3 to 7 percent slopes, eroded	6.5	4.4%
3962	Hastings silty clay loam, 7 to 11 percent slopes, eroded	17.2	11.8%
Totals for Area of Interest		**145.1**	**100.0%**

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OFRN Operator: Ron and Ray Makovicka
Results: 2013 Soybean - Population

	Yield	Moisture	TW	Hpop	Cost/A
140k	79.0 A	10.8 B	55.6 A	121.1k B	$46.60
175k	77.8 B	11.0 A	56.1 A	141.0k A	$56.26
Prob>/T/	0.0141**	0.0741*	ns	0.000***	

30" spacing 93Y15, Planting Soybeans Ridgetill 5/14/13 , Harvest 10/2/13
Hastings Silty loam and Hastings Silty Clay Loam 0-1% to 6-11%
Insecticide: R3 Leverage 360 2.8 oz 8/5/2013
Fungicide: R3 Stratego 4.0 oz 8/5/2013
Herbicide: Pre Authority Assist 4SC Post Roundup 32 oz Volunteer 5 oz

Nebraska On-Farm Research Network

OFRN Operator: Ron and Ray Makovicka
Summary: Soybean - Population

(2013) There was a significant yield increase (1.2 bu./acre) for the 140,000 soybean population compared to the 175,000 soybean population. No difference in test weight, however the 140,000 population was slightly drier and statistically significant.
These results are similar to many past soybean population studies that confirm planting at 120,000 seeds/acre can achieve maximum economic yields and returns.

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Years:	2013
Title:	Foliar Sugar
Crop:	Soybeans
County:	York
OFRN Operator:	Ron and Ray Makovicka
Objective:	To determine & document the effect of foliar sugar on the profitability of soybean production.
Treatments:	Check vs. Foliar Sugar (3qts Plen-T-Sweet)

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York County, Nebraska (NE185)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3824	Crete silt loam, 0 to 1 percent slopes	17.3	10.9%
3864	Hastings silt loam, 0 to 1 percent slopes	57.6	36.2%
3866	Hastings silt loam, 1 to 3 percent slopes	36.4	22.9%
3870	Hastings silty clay loam, 3 to 7 percent slopes, eroded	45.3	28.5%
3962	Hastings silty clay loam, 7 to 11 percent slopes, eroded	2.4	1.5%
Totals for Area of Interest		**158.9**	**100.0%**

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OFRN Operator: Ron and Ray Makovicka
Results: 2013 Soybeans - Foliar Sugar

	Yield	Moisture	HPop	Cost/A
Check	74.9 B	11.9 A	111.7 A	--
Foliar Sugar	75.9 A	11.9 A	113.3 A	$6.00
Prob>/T/	.062	ns	ns	

Pioneer 93M11, 5/15/2013, 145,000. Harvest 9/30/13, Ridge Till , Pivot Irrigated 7.5"
Rain event 2 hours after application
3 qts (Plen-T-Sweet) Sugar applied 7/22/13 @ R3 stage
Herbicide: Authority Assis. 5 oz/acre, 1st RoundUp Power Max 32 oz/acre, 2nd RoundUp Power Max 32 oz/acre + 6 oz/acre Volunteer
Seed Treatment: Trilex and Allegiance

SUMMARY: There was a significant increase in yield for the foliar sugar treatment. However, there was no significant difference in harvest moisture and final harvest populations.

Nebraska On-Farm Research Network

Years: 2010-2013
Title: Plant Population
Crop: Corn
OFRN Operator: John McNamara - Wiles Bros Inc
Objective: To determine and document the effect of plant population on the profitability of corn production.
Treatments: 24k vs 30k (10-11)
24k, 28k, 32k, 36k (12)
28k, 32k, 36k, 40k (13)

Row Spacing 30"

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Nebraska On-Farm Research Network

OFRN Operator: John McNamara - Wiles Bros Inc
Results: 2010-Corn (Dekalb DKC65-63)
Planting Rate

Variable	24,000	30,000	Prob >/T/
Yield, bu/ac @ 15.5%	152	166	0.0001 ***
Moisture, %	18.5	18.5	1.000 ns
Plants, 1000/ac	22.1	28.3	<0.0001 ***
Cost/ac	$75.00	$93.75	

Planted: 4/6/10 Harvested: 9/15/10

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OFRN Operator: John McNamara - Wiles Bros Inc
Results: 2011 Corn (Dekalb DKC65-63)
Planting Rate

Variable	24,000	30,000	Prob >/T/
Yield, bu/ac @ 15.5%	125	150	0.0001 ***
Moisture, %	15.2	15.0	0.2322 ns
Cost/ac	$75.27	$94.12	

Planted: 5/7/11 Harvested: 10/10/11

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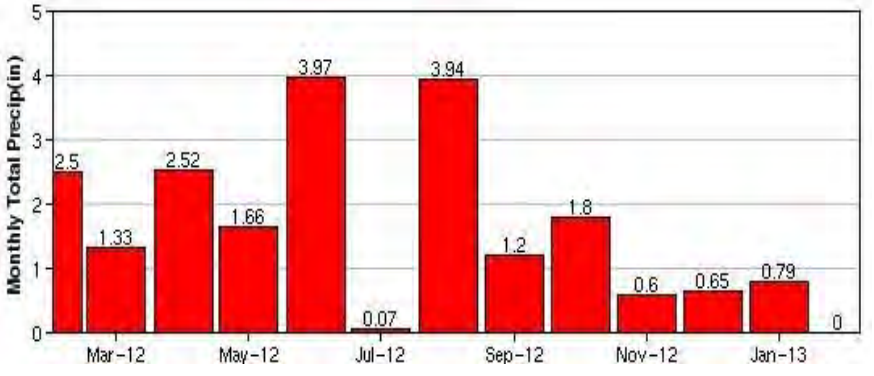
Nebraska On-Farm Research Network

AUBURN 5 ESE, NE

2012



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OFRN Operator: John McNamara - Wiles Bros Inc

Results: 2012 — DKC 6757

Corn-Rainfed — Population

Treatment	24,000	28,000	32,000	36,000
Yield, bu/ac @15.5%	167.2	176.4	179.3	182
Cost/Acre	---	$13.75	$27.50	$41.25
Prob>/T/ 0.0129**	B	AB	A	A
Moisture, %	13.5	14.3	14.2	14.4
Prob>/T/ 0.2042 ns	A	A	A	A
Harvest Population	22.8k	27k	31.1k	35.0k
Prob>/T/ 0.1077 ns	D	C	B	A

Planted: 4/21/12 Harvested: 9/7/12

Blenco Silty Clay (Missouri River Bottom)

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OFRN Operator: John McNamara - Wiles Bros Inc
Results: 2013 Corn (Dekalb DKC64-69)

	Yield	Moisture	HPop	Cost
28k	260.6 A	21.5 A	27.0k D	$108.85
32k	263.3 A	21.5 A	31.2k C	$124.40
36k	269.7 A	21.5 A	34.9k B	$139.95
40k	283.6 B	21.5 A	38.3k A	$155.50
Prob>/T/	0.0003***	ns	ns	

Planted 04/06/2013 at 12-1:30 p.m.—2" Deep—JD 1790 Planter with 5 gal of 10-34-0 in the furrow, 3.4 oz of Capture LFR—Soil Temp was 40 Degrees at 4" Harvested 9/23/2013 -- JD S670 Combine. Otoe County - Missouri River Bottom - Sub-Irrigated.

Nebraska On-Farm Research Network

OFRN Operator: John McNamara - Wiles Bros Inc

SUMMARY:
(2013) The 40K seeds/acre rate had the highest yield as compared to the 28K, 32K and 36K seeds per acre. The increased grain yield covered the increase in seed cost. This site represents a high yielding sub-irrigated growing environment.
(2012) Hybrid DeKalb 6757 planted no-till into soybean stubble received about 15.9" of rain (according to NE Rain) and this is also a sub-irrigated site. The 24,000 seed/acre rate yielded statistically less than 32,000 and 36,000 seeds/acre. The seeding rate of 36,000 seeds/acre had the highest yield and did pay for additional seed cost compared to an assumed 24,000 seed/acre standard rate in 2012 (assuming a $7/bu corn price). From 2010-2012, the highest plant population for each study for this cooperator resulted in the highest yield and economic return.

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Nebraska On-Farm Research Network

Years:	2013
Title:	Rolled vs Unrolled seedbed
Crop:	Corn
OFRN Operator:	John McNamara - Wiles Bros Inc
Objective:	To determine and document the effect of a rolled seedbed on the profitability of corn production.
Treatments:	Rolled vs Unrolled seedbed

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Nebraska On-Farm Research Network

OFRN Operator: John McNamara - Wiles Bros Inc
Results: 2013 Corn - Rolled Seedbed

	YLD	MST	HPOP
Check	233.3	21.5	28.9k
Rolled	219.7	22.2	28.8k
Prob>/T/	-	-	-

NOTE: Study layout was not randomized, therefore statistical analysis is null.

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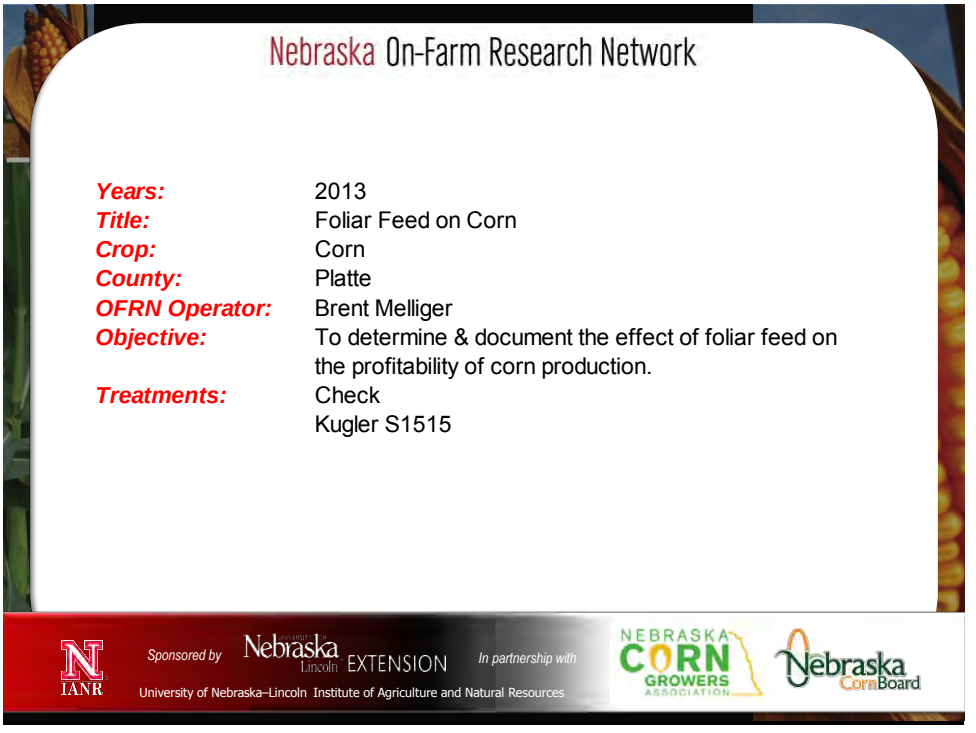
Nebraska On-Farm Research Network
Years: 2013
Title: Foliar Feed on Corn
Crop: Corn
County: Platte
OFRN Operator: Brent Melliger
Objective: To determine & document the effect of foliar feed on the profitability of corn production.
Treatments: Check
Kugler S1515
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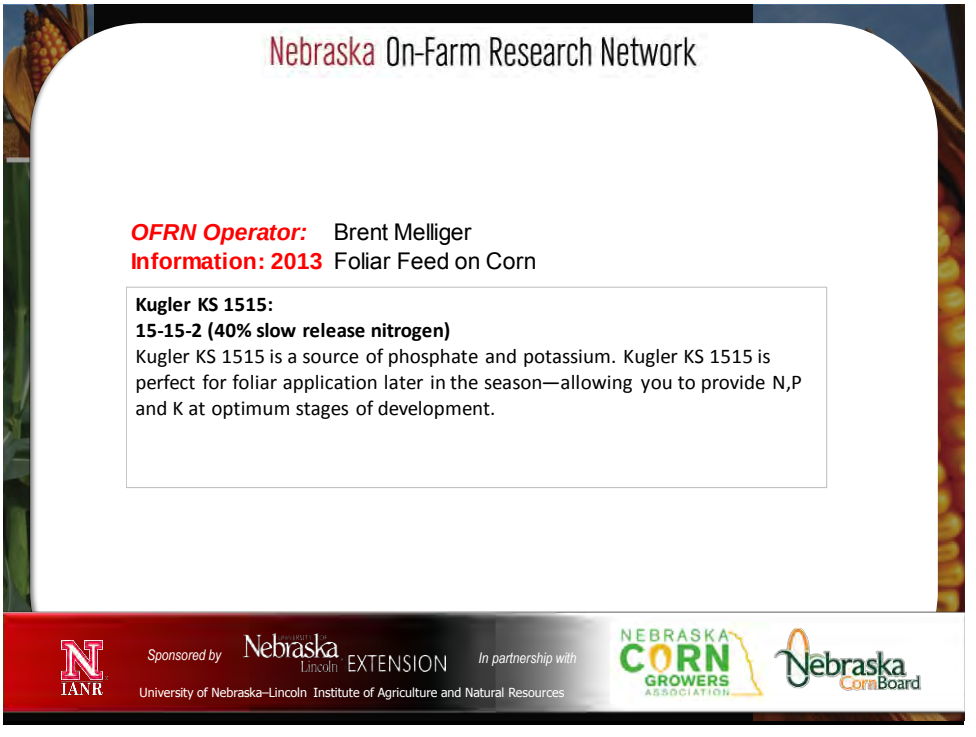
Nebraska On-Farm Research Network
OFRN Operator: Brent Melliger
Information: 2013 Foliar Feed on Corn
Kugler KS 1515:
15-15-2 (40% slow release nitrogen)
Kugler KS 1515 is a source of phosphate and potassium. Kugler KS 1515 is perfect for foliar application later in the season—allowing you to provide N,P and K at optimum stages of development.
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Nebraska On-Farm Research Network

OFRN Operator: Brent Melliger

Results: 2013 Foliar Feed on Corn

	6 Pairs Excluded			Includes all Pairs	
	Yield	Moisture	Cost/A	Yield	Moisture
Check	248.8 A	17.1 B	--	235.5 A	17.0 B
K1515	247.8 A	17.3 A	$5.90	242.1 A	17.3 A
Prob>/T/	ns(0.6075)	0.0256**		ns(0.1405)	0.0025***

Dekalb 6297 Double Pro Xcelleron 34000 Planting date - 5/11/2013. Harvest date - 10/26/13. 10" Flood Irrigation Kugler KS 1515 1 gal 6/24/2013 Foliar $5.90/ A Micro Max sprayed foliar 6/24/2013 Foliar $2.81 /A Crop Stage V7-V 8 Sprayed Roundup mixed with Kuglar 1515 + MicroMax 24 rows every other 24 rows across field Check had Roundup mixed with an AMS product and MicroMax. Soil Test Fall 2012 :OM 1.7%, P-11, P+46, K343, Mg181, Calcium 1893, Na 50, pH 7.1, CEC 12.1, N 58 0-8", Sulfur 27, Zn 1.6, Mn 5, Fe 23, Cu 1.3, Boron 0.3

SUMMARY: There was no statistical yield difference as a result of the foliar application of KS 1515 at V7-V8 when all paired comparisons are analyzed. However, There was a large amount of variability in 6 strips that contained low spots with some dryland. When these 6 low strips are excluded from the data, there was no statistical yield difference as a result of the application of KS 1515, but the yield trend did change. With both analyses, there was a statistical moisture difference, with KS 1515 having slightly higher grain moisture at harvest.

Nebraska On-Farm Research Network

Years: 2013

Title: Ascend Growth Regulator

Crop: Corn

County: Platte

OFRN Operator: Brent Melliger

Objective: Determine the profitability of including Ascend growth regulator in starter fertilizer

Treatments:
Ascend in furrow (5oz)
Starter Fertilizer Only
Starter Fertilizer + Ascend in furrow (Corn on Corn)

Nebraska On-Farm Research Network

OFRN Operator: Brent Melliger
Information: 2013 Ascend Growth Regulator

Accelerate leaf, stem and root growth and health with Ascend® plant growth regulator. Ascend® plant growth regulator contains an optimum combination of three plant growth regulators and can be used as a seed treatment, in furrow or as a foliar application. Ascend® plant growth regulator can also be applied by ground, air or chemigation.

Cytokinin is a natural plant growth regulator that promotes cell division and leaf expansion while slowing leaf aging. Gibberellic acids are naturally occurring plant growth regulators that stimulate cell division and elongation in leaves and stems. Indolebutyric acid is a plant growth regulator that stimulates vigorous root formation and development, and increases cell elongation.

Application Rate and Timing
A typical foliar use rate is 3.2 ounces per acre for Ascend® plant growth regulator in most crops. Use 4.5 to 6 ounces per acre for corn in furrow. Ascend® plant growth regulator may be applied multiple times in most crops. Use 1 to 4 ounces per one hundred pounds of seed as a seed treatment. See label for specific rates and timing for each crop.

Ingredients
Cytokinin, as kinetin* 0.090%, Gibberellic acid* 0.030%, Indolebutyric acid* 0.045%, Other ingredients 99.835%
Total 100%
* Contains 0.03 ounce cytokinin, 0.015 ounce indolebutyric acid and 0.01 ounce gibberellic acid per quart.
Ascend® plant growth regulator weighs 9.3 pounds per gallon.

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OFRN Operator: Brent Melliger
Results: 2013 Ascend Growth Regulator

	Yield	Moisture	Cost/A
Starter Only (Check)	253.8 A	17.7 A	--
Starter + Ascend	253.9 A	17.9 A	$5.09
Prob>/T/	ns	ns	

Dekalb 6342 VT3 Xcelleron Planting date 5/13/2013 - Harvest date 10/25/13, 10" Flood, Corn on Corn
Planted 12 rows with Ascend(5oz./ac) and Kugler 1515(5gal/ac) in furrow
Then 12 rows without Ascend but with Kugler 5 gal./ac 1515 in furrow
Soil Test OM 2%, P+ 39, P-116, K424, Mg229, Cal2343, Na55, pH7.8, Boron 0.7, Maganese 5, Iron 12, CEC 14.9, Copper 0.6, Nitrate Fall 12 - 62 lbs N 0-8", Sulfur 26, Zn 5
N 75#, K-Mag 50#, Mez 12-40-0-10-1 75#

SUMMARY: There was no statistical yield or moisture differences as a result of the use of Ascend in-furrow at planting. The control treatment had the best return on investment.

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Years:	2011-2013
Title:	Plant Population
Crop:	Corn
OFRN Operator:	Jerry Mulliken
Objective:	To determine & document the effect on plant population on the profitability of corn production.
Treatments:	24.5k, 27k - (2011) 28k, 32k - (2012) 24k, 28, 32k, 36k - (2013) Row Spacing 36"

Nebraska On-Farm Research Network

OFRN Operator: Jerry Mulliken

Results: 2011-Corn (Golden Harvest 9416)

Planting Rate

Variable	24,500	27,000	Prob>/T/
Yield, bu/ac @ 15.5%	119	123	0.177 ns
Moisture, %	16.3	16.3	0.6494 ns
Cost/ac	$71.63	$78.30	
Harvest Population	23,668	24,684	

Planted: 4/28/2011 Harvested: 10/14/2011

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OFRN Operator: Jerry Mulliken

Information: 2012 Corn Population

Planted: 4/22/12 Harvested: 9/4/12

Hybrid - DKC 6383 - Rainfed

Gal/A 32% UAN	28
Gal/A 10-34-0	5.7

Preplant Herbicides		Post Herbicides	
Balance Flexx	4.7oz/A	Laudis	3 oz/A
Aatrex 4L	.3 gal/A	Cornerstone	.25 gallon/A
2,4-D LVE (6)	.67 pt/A	Ammonium sulfate	2.6 lb/A

Aug. 17 image of the lodging in population plot. The lightest areas were flat on the ground. The bluish areas were standing, but had essentially zero leaf area. The red areas still had some leaf area. (see next slide)

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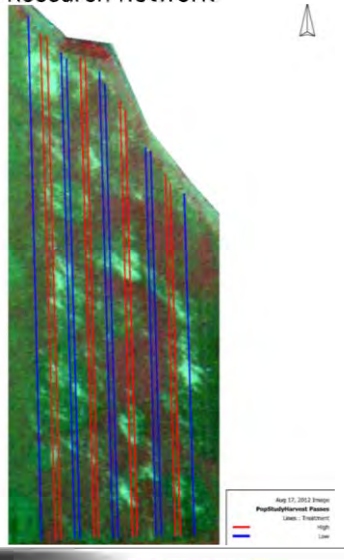
OFRN Operator: Jerry Mulliken



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NICKERSON 3NE, NE **2012**

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Nebraska On-Farm Research Network

OFRN Operator: Jerry Mulliken

Results: 2012

	Corn Population	
Treatment	28k	32k
Yield, bu/ac @15.5%	109.3	99.9
Cost/Acre	---	$13.70
Prob>/T/ 0.0325**	A	B
Moisture, %	11.7	11.5
Prob>/T/ 0.5852 ns	A	A
Harvest Population	26.8k	29.6k
Prob>/T/ 0.0031***	B	A

Note: Final stand counts were negatively impacted by the Aug. 17th windstorm. Actual seeds dropped at planting was on target with the treatment targets.

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OFRN Operator: Jerry Mulliken
Results: 2013 Corn - Population

	Yield	Moisture	HPop	Cost
24k	134.2 A	16.9 A	21.0k D	$80.70
28k	132.1 A	16.7 A	24.9k C	$94.15
32k	130.8 A	16.8 A	28.6 k B	$107.60
36k	130.5 A	16.9 A	32.6k A	$121.05
Prob>/T/	ns	ns	0.000***	

Moody Silty Clay Loam - Upland

Pioneer 1498 - Planting No-till April 28,2013 @ 2.5"

32% 22 gal/ac or 81#N/ac 28-Apr spike wheel on planter , 10-34-0 5 gal/ac 28-Apr in-furrow

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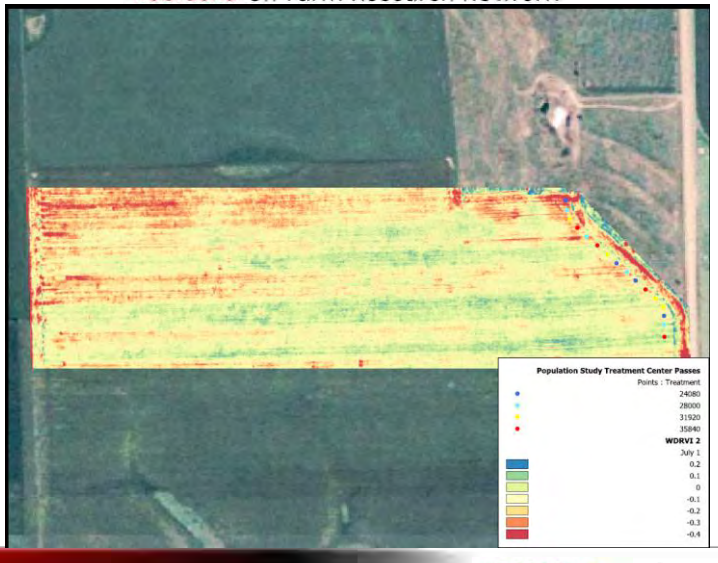

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OFRN Operator: Jerry Mulliken
Summary: Corn - Population

(2013) Changes in seeding rates with the low at 24k seeds/acre up to 36K seeds/acre did not result in a significant grain yield difference, but did increase the cost of purchased seed per acre.
(2012) In this study Hybrid DKC 63-83 was planted no-till into soybean stubble and received about 14.4" of rain (according to NE Rain) in 2012. The seeding rate of 28,000 seeds/acre yielded statistically more than the 32,000 seeds/acre rate and resulted in the highest economic return in 2012. The 28,000 seeds/acre rate maximized economic return in both 2011 and 2012 (assuming $7/bu corn price).
(2011) The yield at 27k population was not statistically significant at the 95% probability level. Note that the spread in harvest population was only 1,000 plants compared to the 2,500 difference in seeding rate. However, the cost of $6.67 for additional seed was completely offset by $24.00 per acre more revenue ($6.00 bu).

Nebraska On-Farm Research Network

Years: 2001-2002, 2004-2013
Title: Profitability of Incorporating Lime
Crop: Soybean/Corn Rotation, 36" row spacing
County: Dodge
OFRN Operator: Jerry Mulliken
Objective: To determine & document the effect on incorporating lime on the profitability of crop production. Soil pH 5.5.
Treatments: No tillage, no lime vs. tillage, no lime, vs. no tillage, with lime, vs. tillage w/lime. Lime incorporated April 2001.
Soil Type: Moody Silty Clay Loam Soil, No-Till
Costs: Lime - 2.4 T/ac x 14.30/T = $34.32
Prorate for 8 yrs = $4.29/ac/yr
Tillage - 2 x Disc @ $7/ac = $14.00
Fall 2011 - Lime 2 T/Ac + Fall vertical till and 2x Spring Disc

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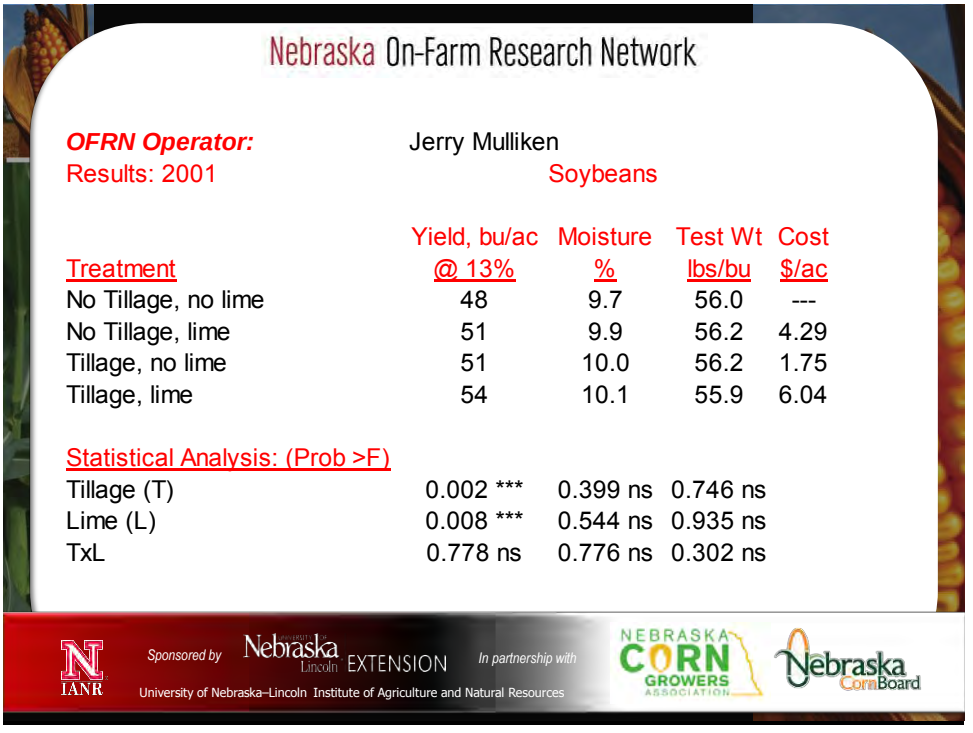
Nebraska On-Farm Research Network
OFRN Operator: Jerry Mulliken
Results: 2001 Soybeans
Treatment | Yield, bu/ac @ 13% | Moisture % | Test Wt lbs/bu | Cost $/ac
No Tillage, no lime | 48 | 9.7 | 56.0 | ---
No Tillage, lime | 51 | 9.9 | 56.2 | 4.29
Tillage, no lime | 51 | 10.0 | 56.2 | 1.75
Tillage, lime | 54 | 10.1 | 55.9 | 6.04
Statistical Analysis: (Prob >F)
Tillage (T) | 0.002 *** | 0.399 ns | 0.746 ns
Lime (L) | 0.008 *** | 0.544 ns | 0.935 ns
TxL | 0.778 ns | 0.776 ns | 0.302 ns
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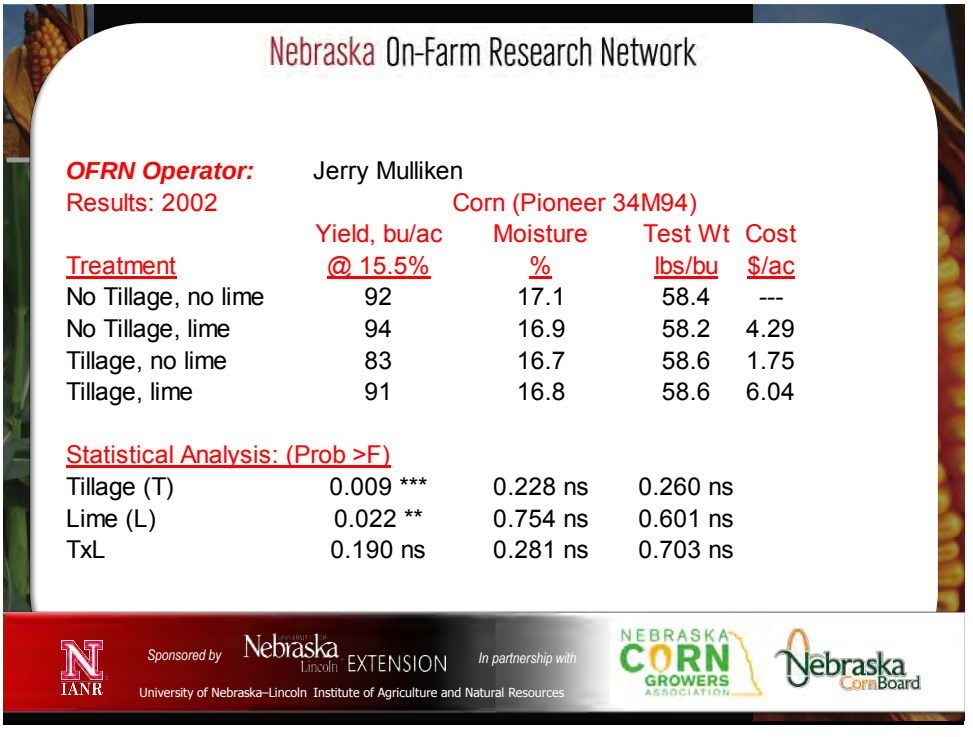
Nebraska On-Farm Research Network
OFRN Operator: Jerry Mulliken
Results: 2002 Corn (Pioneer 34M94)
Treatment | Yield, bu/ac @ 15.5% | Moisture % | Test Wt lbs/bu | Cost $/ac
No Tillage, no lime | 92 | 17.1 | 58.4 | ---
No Tillage, lime | 94 | 16.9 | 58.2 | 4.29
Tillage, no lime | 83 | 16.7 | 58.6 | 1.75
Tillage, lime | 91 | 16.8 | 58.6 | 6.04
Statistical Analysis: (Prob >F)
Tillage (T) | 0.009 *** | 0.228 ns | 0.260 ns
Lime (L) | 0.022 ** | 0.754 ns | 0.601 ns
TxL | 0.190 ns | 0.281 ns | 0.703 ns
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OFRN Operator: Jerry Mulliken

Results: 2004 — Corn (GH 8906)

Treatment	Yield, bu/ac @ 15%	Moisture %	Cost $/ac
No Tillage, no lime	159	15.5	---
No Tillage, lime	167	15.9	4.29
Tillage, no lime	160	15.5	1.75
Tillage, lime	174	15.6	6.04

Statistical Analysis: (Prob >F)		
Tillage (T)	0.382 ns	0.334 ns
Lime (L)	0.018 **	0.037 **
TxL	0.424 ns	0.204 ns

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OFRN Operator: Jerry Mulliken

Results: 2005 — Soybeans (Latham 967)

Treatment	Yield, bu/ac @ 13%	Moisture %	Cost $/ac
No Tillage, no lime	45	11.0	---
No Tillage, lime	47	11.4	4.29
Tillage, no lime	46	11.6	1.75
Tillage, lime	48	11.2	6.04

Statistical Analysis: (Prob >F)		
Tillage (T)	0.465 ns	0.341 ns
Lime (L)	0.006 ***	0.907 ns
TxL	0.680 ns	0.148 ns

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OFRN Operator: Jerry Mulliken

Results: 2006 — Corn (Dekalb 6716)

Treatment	Yield, bu/ac @ 15.5%	Moisture %	Cost $/ac
No Tillage, no lime	123	16.2	---
No Tillage, lime	125	16.2	4.29
Tillage, no lime	123	16.3	1.75
Tillage, lime	124	16.3	6.04

Statistical Analysis: (Prob >F)		
Tillage (T)	0.951 ns	0.313 ns
Lime (L)	0.444 ns	0.696 ns
TxL	0.914 ns	0.859 ns

Planted: 4/28/06 Harvested: 10/18/06

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OFRN Operator: Jerry Mulliken

Soil Tests: 3/15/06

Water pH — Depth, inches

Treatment	0-2	2-4	4-6	6-8
No Tillage, no lime	5.9	5.3	5.6	5.4
No Tillage, lime	6.6	5.5	5.5	5.7
Tillage, no lime	5.8	5.3	5.5	5.6
Tillage, lime	6.6	5.8	5.5	5.7
Buffer pH				
No Tillage, no lime	6.7	6.5	6.6	6.5
No Tillage, lime	7.0	6.6	6.5	6.7
Tillage, no lime	6.4	6.5	6.6	6.6
Tillage, lime	7.0	6.6	6.5	6.6

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OFRN Operator: Jerry Mulliken

Results: 2007 — Soybeans (Latham 967)

Treatment	Yield, bu/ac @ 13%	Moisture %	NDVI	Cost $/ac
No Tillage, no lime	56	9.3	0.08	---
No Tillage, lime	60	9.2	0.28	4.29
Tillage, no lime	57	9.3	0.17	1.75
Tillage, lime	60	9.3	0.27	6.04

Statistical Analysis: (Prob >F)

Tillage (T)	0.524 ns	0.762 ns	0.057 *
Lime (L)	0.0007 ***	0.497 ns	<0.0001 ***
TxL	0.224 ns	0.786 ns	0.028 **

Planted: 4/30/07 Harvested: 9/22/07

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OFRN Operator: Jerry Mulliken

Results: 2008 — Corn (Hybrid)

Treatment	Yield, bu/ac @ 15.5%	Moisture %	Cost $/ac
No Tillage, no lime	129	15.1	--
No Tillage, lime	133	14.8	4.29
Tillage, no lime	131	15.1	1.75
Tillage, lime	129	14.7	6.04

Statistical Analysis: (Prob >F)

Tillage (T)	0.524 ns	0.973 ns
Lime (L)	0.535 ns	0.313 ns
TxL	0.021 **	0.973 ns

Planted: 5/5/08 Harvested: 10/30/08

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OFRN Operator: Jerry Mulliken
Results: 2009 Soybeans (Pioneer 93M43)

Treatment	Yield, bu/ac @ 13%	Moisture %	Cost $/ac
No Tillage, no lime	63	9.9	---
No Tillage, lime	65	10.2	---
Tillage, no lime	65	10.1	---
Tillage, lime	65	10.8	---

Statistical Analysis: (Prob >F)

Tillage (T)	0.231 ns	0.327 ns
Lime (L)	0.606 ns	0.300 ns
TxL	0.285 ns	0.626 ns

Planted: 4/24/09 Harvested: 10/11/09

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OFRN Operator: Jerry Mulliken
Results: 2010 Corn (DK 62-29)

Treatment	Yield, bu/ac @ 15.5%	Moisture %
No Tillage, no lime	159	15.7
No Tillage, lime	160	15.7
Tillage, no lime	158	15.8
Tillage, lime	160	15.6

Statistical Analysis: (Prob >F)

Tillage (T)	0.641 ns	0.915 ns
Lime (L)	0.558 ns	0.347 ns
TxL	0.765 ns	0.311 ns

Planted: 4/18/10 Harvested: 9/27/10

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OFRN Operator: Jerry Mulliken
Results: 2011 Soybeans (Pioneer 93M11)

Treatment	Yield, bu/ac @ 13%	Moisture %	Cost $/ac
No Tillage, no lime	56	8.8	---
No Tillage, lime	56	8.8	---
Tillage, no lime	56	8.9	---
Tillage, lime	58	8.9	---

Planted: 5/3/2011 Harvested: 10/1/2011

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OFRN Operator: Jerry Mulliken
Results: 2011 Soybeans (Pioneer 93M11)

Statistical Analysis: (Prob >/T/)

Yield	Tillage	Tillage-Lime	No Tillage-No Lime
Tillage-Lime	0.8141 ns	---	---
No Tillage-No Lime	0.9777 ns	0.826 ns	---
No Tillage-Lime	0.1604 ns	0.2091 ns	0.1453 ns

Moisture	Tillage	Tillage-Lime	No Tillage-No Lime
Tillage-Lime	0.9306 ns	---	---
No Tillage-No Lime	0.5412 ns	0.4608 ns	
No Tillage-Lime	0.6794 ns	0.5965 ns	0.8319 ns

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OFRN Operator: Jerry Mulliken
Soil Tests: May 2011 Depth 0-8 inches
pH samples are 0-8" depth, and only taken in the notill strips

Treatment	Strip ID	Lab pH	Buff pH	P205	K	OM	S
Lime	6529	5.6	6.5	6	270	2.79	11
	6530	5.5	6.5	10	305	3.09	12
	6531	5.9	6.5	13	283	3.09	10
No Lime	6532	5.5	6.5	8	309	3	11
	6533	5.7	6.5	4	217	3	12
	6534	5.6	6.5	8	208	-	-

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OFRN Operator: Jerry Mulliken
Information: 2012 Lime &Tillage

Planted: 4/22/12 Harvested: 9/4/12
Hybrid - GoldenHarvest 8969 @ 28k
Gal/A 32% UAN 28
Gal/A 10-34-0 5.7

Preplant Herbicides
Balance Flexx 4.7oz/A
Aatrex 4L .3 gal/A
2,4-D LVE (6) .67 pt/A

Post Herbicides
Laudis 3 oz/A
Cornerstone .25 gallon/A
Ammonium sulfate 2.6 lb/A

Lime Cost (Lime plot only, applied fall 2011)
Lime delivered at $19.6/ton
Lime application at $6.32/ton
Application rate was 2 tons/A, single rate

Lime was incorporated in tilled strips with Turbo till fall 2011, and double disking Spring 2012.

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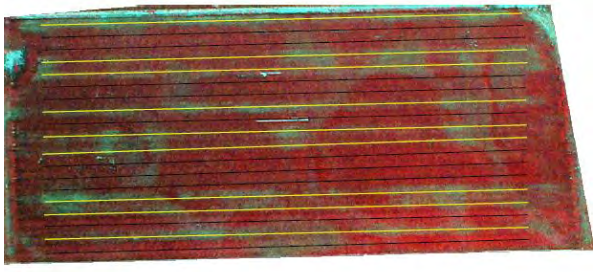

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OFRN Operator: Jerry Mulliken
Results: 2012 Corn-Yield

	Lime &Tillage Tilled	Check	
YIELD	48.1	81.2	
Cost/Acre	$20	---	
Prob>/T/ <0.0001***	B	A	
	Lime	**Check**	
YIELD	66.6	62.7	
Cost/Acre	$25.92	---	
Prob>/T/ 0.3148 ns	A	A	
TILLAGE * LIME	Yield	Group	Cost/Acre
T0 * L0	81.5	A	---
T0 * L1	80.8	A	$25.92
T1 * L1	52.3	B	$45.92
T1 * L0	43.9	B	$20

Prob>/T/ 0.2429 ns
Note: Lime applied Fall 2011, pH Lime-5.5-5.9 / Check 5.5-5.7

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OFRN Operator: Jerry Mulliken

Results: 2012 Corn-Moisture

	Lime &Tillage		
	Tilled	Check	
MOISTURE	10.6	12.9	
Cost/Acre	$20	---	
Prob>/T/ 0.0002***	B	A	
	Lime	Check	
MOISTURE	11.7	11.8	
Cost/Acre	$25.92	---	
Prob>/T/ 0.7279 ns	A	A	
TILLAGE * LIME	Moisture	Group	Cost/Acre
T0 * L0	13.5	A	---
T0 * L1	12.4	AB	$25.92
T1 * L1	11.0	BC	$45.92
T1 * L0	10.2	C	$20

Prob>/T/ 0.0451**

Note: Lime applied fall 2011, pH Lime-5.5-5.9 / Check 5.5-5.7

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Nebraska On-Farm Research Network

OFRN Operator: Jerry Mulliken

Results: 2013 Soybeans - Lime & Tillage Matrix

	Yield	Moisture
Tilled- Yes	52.8 A	9.63 B
Tilled - No	52.7 A	10.05 A
Prob>/T/	ns	0.0777*
Limed - Yes	54.3 A	9.7 A
Limed - No	51.1 B	10.0 A
Prob>/T/	0.0229**	ns
Tilled & Limed	55.0 A	9.6 A
Limed Only	53.6 A	9.8 A
Check	51.7 A	10.3 A
Tilled Only	50.6 A	9.7 A
Prob>/T/	ns	ns

Moody Silty Clay Loam Upland, 18" row spacing,
Pioneer 93M11 No-till @ 140K 5/9/2013 Harvest 10/1/13
* Tillage performed fall 2011/spring 2013 therefore no tillage cost associated with 2013.

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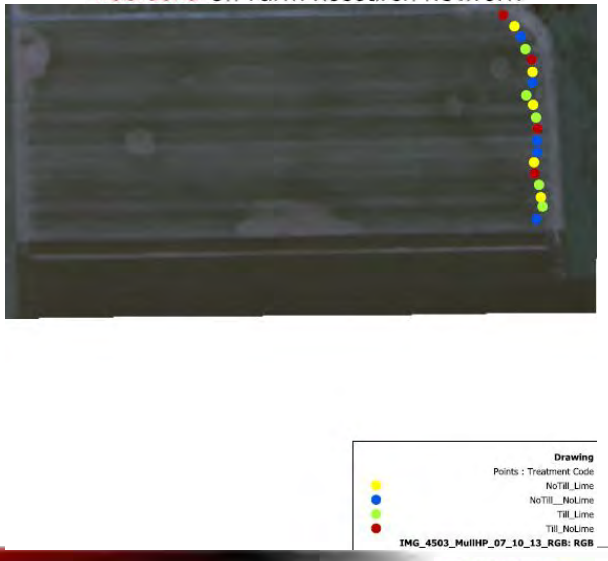
Nebraska On-Farm Research Network



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OFRN Operator: Jerry Mulliken

Summary: Lime and Tillage Matrix

(2013) The application of lime in fall 2011 provided a positive response in soybean yield in 2013. Tillage by itself resulted in significanlty drier soybeans at harvest.

(2012) Lime was again applied in fall 2011 on the previously limed strips at the rate of 2 tons/ac. Corn grain yield did not respond to the lime application in 2012; however, tillage in both the lime and no lime treatment had a highly significant negative impact on grain yield.

(2001-2011) In 2001, Tillage and Lime increased soybean yields independently and the effects were additive. In 2002, grain yield was lower due to tillage done in 2001 where no lime was applied. Yield data were not obtained in 2003. In 2004, grain yield and grain moisture at harvest were increased by lime applied in 2001. Soybean seed yield was increased by lime in 2005 where lime was applied in 2001. In 2006, corn growth was not affected by lime applied in 2001. In 2007, seed yield was increased significantly but seed moisture at harvest was not affected. The NDVI (an estimate of crop canopy density) was increased slightly by tillage where no lime was applied in 2001, however, lime increased NDVI significantly regardless of tillage. In 2008, corn yields were not increased by lime applied. Soybean yields were not increased in 2009 or 2011 and corn yields were not affected by treaments in 2010.

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Years:	2013
Title:	Variable Rate Corn Population
Crop:	Corn
County:	Lancaster
OFRN Operator:	Dave Nielsen and Chris Lovitt
Objective:	To determine and document the effect of variable rate population on the profitability of corn production.
Treatments:	Standard - 28k Variable - 28k (Low 24k, Med 28k, High 32k)

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OFRN Operator: Dave Nielsen and Chris Lovitt
Results: 2013 Corn - Population

	Yield	Moisture	Cost/A
Single Rate	158.5 B	15.6 A	$80.50
Variable Rate	160.0 A	15.5 A	$80.50
Prob>/T/	.0775*	ns	

Upland eroded - Ak-Sar-Ben Silty Clay Loam and Yutan Silty Clay Loam
No-till 20+ yrs 5/11/2013, 30" row spacing, Harvest 10/12/13, Anhydrous 150# N/ac Fall
As result of soil type and topography, yields vary throughout the field. 48 strips with 24 paired comparisions. Prescription map mainly follows soil types.
Rainfall below average for the year. The precision map for variable rate put equal amounts of 24,28 & 32K/ac which average out to the Std rate - 28K
Planting rate prescription map was determined by using historical yield maps, which mimic soil maps in this case very closely.

SUMMARY: The variable planting rate resulted in a significant increase in grain yield without an increase in seed cost per acre.

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Years:	2013
Title:	Harvest Losses with Crary Wind System
Crop:	Dry Beans
County:	Box Butte
OFRN Operator:	Jack Nielsen
Objective:	To determine & document the effect of an Crary Wind System on the harvest losses in dry bean production.
Treatments:	Check (7.5 & 15 spacing) Air Reel (7.5 & 15 spacing)

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Diamond Hill Farms, Direct Harvest with and without Crary Wind System, 2013
Grower: Jack Nielsen
Box Butte County, NE

The purpose of this On Farm Study is to compare direct harvest of dry edible beans using an appropriate combine head, with and without the wind generated with the Crary Wind System. The Study was conducted with a 2012 John Deere 635 Hydraflex Combine Head which is a 35 foot wide flex draper head. This head was mounted on a 2010 John Deere 9770 Combine. The head was equipped with a 2012 Crary Wind System. This wind system directs powerful air flow just in front of the sickle bar back toward the draper system through multiple drop pipes along the front edge of the head. This air flow is intended to help move the harvested crop back away from the sickle onto the draper feed. The treatments were applied to beans planted in 15 inch rows and drilled in 7.5 inch rows in a split field study.

The study was conducted on a center pivot irrigated field of Aries variety great northern beans divided in half. Half the field was planted with a John Deere Maximerge planter set up for 30 inch row spacing. The beans were planted into 15 inch rows using two passes with the planter. The other half of the field was planted with a Sunflower grain drill in 7.5 inch rows. The 15 inch planting was planted at a population of 120,000 seeds per acre, and the 7.5 inch drilled beans were at 140,000 seeds per acre. The 15 inch beans were planted June 1, and the 7.5 inch beans on June 2. Pre-harvest pod heights were taken on Sept. 5 to determine the percentage of pods that were in their entirety more than two inches above the soil surface. Low hanging pods increase harvest loss when using direct harvest. Percentage of pods more than two inches off the soil surface were 77.2% for beans planted in 15 inch rows, and 78.4% for beans planted in 7.5 inch rows.

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Diamond Hill Farms, Direct Harvest with and without Crary Wind System, 2013
Grower: Jack Nielsen
(cont.)

Fertilization, Herbicides, Fungicides and watering were the same over all treatments. Gramoxone was used as a harvest aid desiccant and flown onto the field halves Sept. 1 and Sept 8 for the 15 inch rows and 7.5 inch rows respectively.
The study was laid out as a randomized complete block design with two treatments replicated four times. The treatments were direct harvest with and without the wind generated by the Crary Wind System. This design was applied in both the 15 inch and 7.5 inch row width field halves. Rep two was omitted in the 15 inch plot area because of a sampling error. Direct harvest of the 15 inch beans was on Sept. 6, with ft^2 harvest loss counts on Sept 7. The 7.5 inch drilled beans were harvested on Sept. 11, with loss counts on Sept 12. The plot area was 300 feet by 70 feet. The yield monitor on the combine was calibrated before harvest. The yield in each plot area was determined by getting 20 separate readings from the yield monitor in the 300 foot plot length as the combine traveled through the plot. Each plot consisted of a round harvesting in both directions to eliminate potential directional differences in yield or harvest loss. Harvest loss was estimated by counting 12, $1ft^2$ sample counts from the harvested plot area, and taking these counts equally from the center and both ends of the combine pass.

Nebraska On-Farm Research Network

OFRN Operator: Jack Nielsen
Information: 2013 Dry Beans - Crary Wind Systems

Aries, northern 7.5 inch 140,000 2-Jun-13, 1.5 inch depth
Aries, northern 15 inch 120,000 1-Jun-13, 1.5 inch depth
Drilled dry beans much higher ylds but not directly comparing 7.5" vs. 15".
7.5" NS air off vs. air on (4 reps). 15" NS air off vs. on (3 reps).
Compaction a concern when drove over 30" spacings to create 15" rows?
Crop Rotation: Corn, beans, wheat

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OFRN Operator: Jack Nielsen
Results: 2013 Dry Beans - Crary Wind System

	Yield 7.5"	Yield 15"	Loss 7.5"	Loss 15"
Check	63.1 A	36 A	6.8 A	13.2 A
Crary Wind System	62.3 A	39.1 A	5.3 A	10.2 A
Prob>/T/	ns	ns	ns	ns

Harvest: **15 inch** 6-Sep-13
Harvest: **7.5 inch** 11-Sep-13

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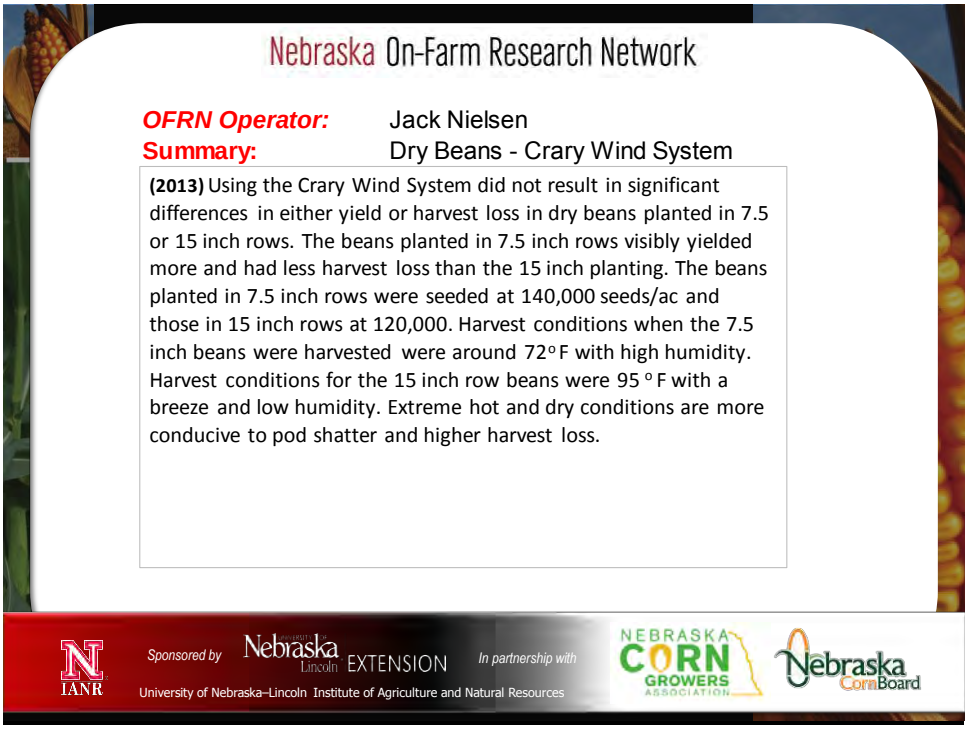
Nebraska On-Farm Research Network
OFRN Operator: Jack Nielsen
Summary: Dry Beans - Crary Wind System
(2013) Using the Crary Wind System did not result in significant differences in either yield or harvest loss in dry beans planted in 7.5 or 15 inch rows. The beans planted in 7.5 inch rows visibly yielded more and had less harvest loss than the 15 inch planting. The beans planted in 7.5 inch rows were seeded at 140,000 seeds/ac and those in 15 inch rows at 120,000. Harvest conditions when the 7.5 inch beans were harvested were around 72°F with high humidity. Harvest conditions for the 15 inch row beans were 95 °F with a breeze and low humidity. Extreme hot and dry conditions are more conducive to pod shatter and higher harvest loss.
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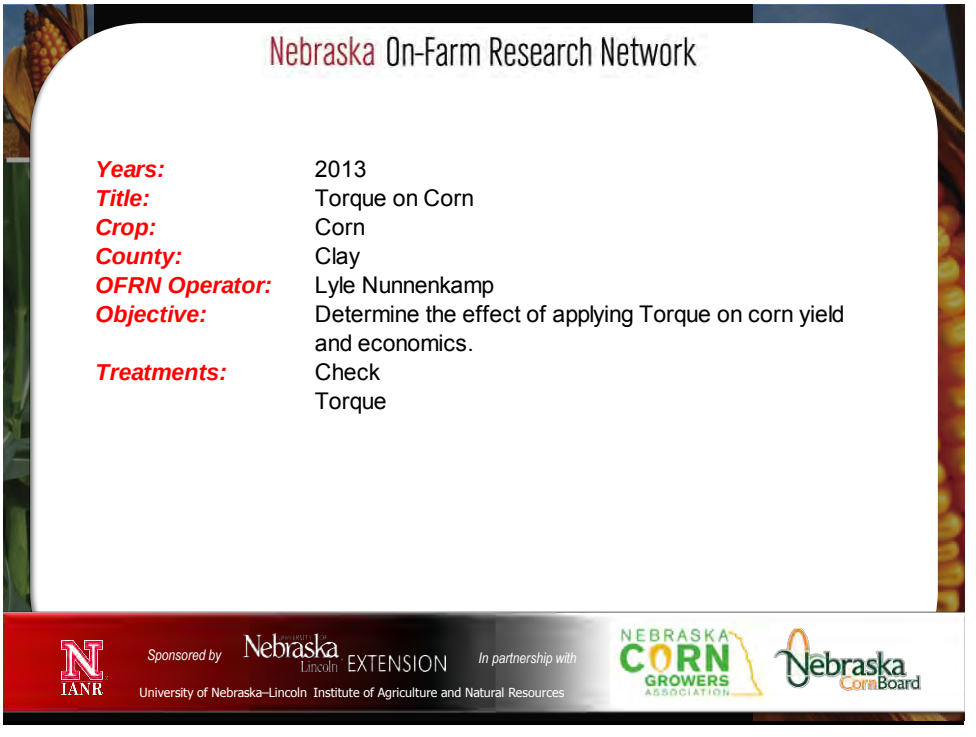
Nebraska On-Farm Research Network
Years: 2013
Title: Torque on Corn
Crop: Corn
County: Clay
OFRN Operator: Lyle Nunnenkamp
Objective: Determine the effect of applying Torque on corn yield and economics.
Treatments: Check
Torque
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Nebraska On-Farm Research Network

OFRN Operator: Lyle Nunnenkamp
Information: 2013 Corn - Torque

Field Location: 20-7-8 Clay
Previous Crop: Corn
Hybrid, Planting Date and Planting Pop: Mycogen 2Y767, 5/10/13, 34,000
Fertilizer: 240 # N VR phosphate
Insecticide: Capture LFR
Herbicide: Verdict + Roundup
Harvest Date, Stand Count and % Stalk Rot: 10/22/2013
Tillage type/equip/row: 24 row plant 12 row harvest / conventional tillage
Irrigated/Rainfed?
Amount of Water? 8 inches

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Nebraska On-Farm Research Network

OFRN Operator: Lyle Nunnenkamp
Results: 2013 Corn - Torque

	Yield	Moisture	Cost/A
Check	254.8 A	18.4 A	--
Torque	255.3 A	18.4 A	$4.75
Prob>/T/	ns	ns	

A= Check Treatment 3 gal 10-34-0 + 1 qt/acre micromax (2% Magnesium, 0.25% B, 2% Zn, 1.6% Fe, 0.5%Cu) **B= Torque** 1/2 pt/ac Torque + (3 gal 10-34-0 + 1 qt/ac micromax)

SUMMARY: The application of Torque in this field did not significantly improve yield or economics of corn production in 2013.

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Nebraska On-Farm Research Network

Years:	2013
Title:	Check vs. Fungicide + Torque in Furrow
Crop:	Corn
County:	Clay
OFRN Operator:	Lyle Nunnenkamp
Objective:	Determine the effect of applying fungicide in furrow on yield and economics.
Treatments:	Check Fungicide + Torque infurrow

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Nebraska On-Farm Research Network

OFRN Operator: Lyle Nunnenkamp
Information: 2013 Corn - Fungicide + Torque in-furrow

Field Location: 34-8-6 Clay
Previous Crop: corn
Hybrid, Planting Date and Planting Pop: DK 62-97 5/7/2013 34,000
Fertilizer: fall- 230# N phosphate
Insecticide: Herbicide: Lexar + Roundup
Harvest Date, Stand Count and % Stalk Rot: 10/11/2013
Tillage type/equip/row: conventional 24 row plant 12 row harvest
Irrigated
Amount of Water: 11 inches

Treatment	Population	% Stalk Rot (taken 10/4/13)
Check	33,000	20%
Fungicide	32,000	25%
Fungicide	33,000	40%
Check	34,000	25%
Check	33,000	20%
Fungicide	33,000	20%
Fungicide	33,000	15%
Check	32,000	25%
Check	33,000	10%
Fungicide	33,000	5%
Fungicide	33,000	10%
Check	34,000	10%
Check	32,000	10%

Average
Check 33,000 17% Headline +Torque 33,000 19%

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Nebraska On-Farm Research Network

OFRN Operator: Lyle Nunnenkamp
Results: 2013 Corn - Fungicide + Torque in-furrow

	Yield	Moisture	Cost/A
Check	235.2 A	17.7 A	--
Fungicide + Torque	235.6 A	17.6 A	$13.40
Prob>/T/	ns	ns	

A= Check Treatment: 3 gal 10-34-0 + 1 qt/acre micromax (2% Magnesium, 0.25% B, 2% Zn, 1.6% Fe, 0.5%Cu) **B= Fungicide + Torque in furrow** 3 oz Headline SC + 1/2 pt/ac Torque + (3 gal 10-34-0 + 1 qt/ac micromax)

SUMMARY: The application of Headline + Torque in this field did not significantly improve yield or economics of corn production in 2013

Nebraska On-Farm Research Network

Years: 2013
Title: Starter - BioAg
Crop: Corn
County: Saunders
OFRN Operator: Kenny Pestal
Objective: Determine the profitability of using starter fertilizer in the production of irrigated corn.
Treatments: Check
Starter - BioAg

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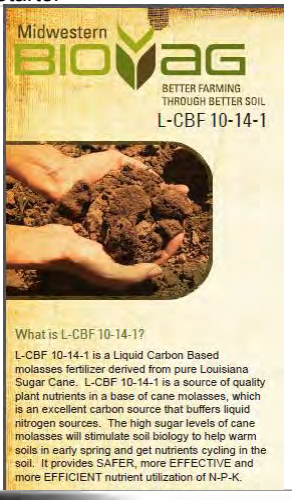
Nebraska On-Farm Research Network

OFRN Operator: Kenny Pestal
Information: 2013 Corn - Starter

N 32% 160# N/ac Pre-emerg Surface P 11-52-0 VR Ave. 133#/ac Pre-emerg K 1-3-5-9sul bio blend 150#/ac Lime Sulfur 21-0-0-24S 200# /ac Pre-emerg Zinc
Starter Midwester-BioAg 10/14/2001 5 gal InFurrow Root Surge 2 qt InFurrow Chelated Zinc 1 pt InFurrow
Delta Gold 2 oz InFurrow



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Nebraska On-Farm Research Network

OFRN Operator: Kenny Pestal
Results: 2013 Corn - Starter

	Yield	Cost/A	Moisture
Check	229.3 A	--	16.2 A
BioAg	232.9 A	$26.00	15.9 A
Prob>/T/	ns		

Pioneer 33D53 planted 5/16/13 @32k , 2" depth - No-tilled, Pivot Irrigated,
Harvest 12/3/13
Soils: Yutan eroded - Upland, Soil Test 10-12 ppm P3 = 8.5 to 10 ppm Bray1

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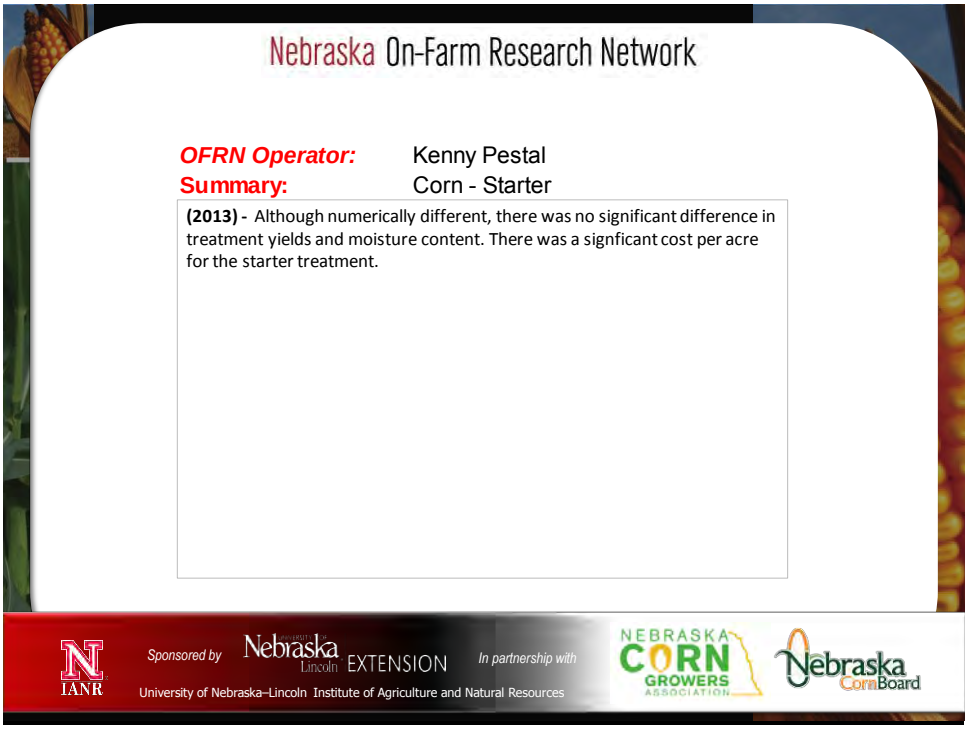
Nebraska On-Farm Research Network
OFRN Operator: Kenny Pestal
Summary: Corn - Starter
(2013) - Although numerically different, there was no significant difference in treatment yields and moisture content. There was a signficant cost per acre for the starter treatment.
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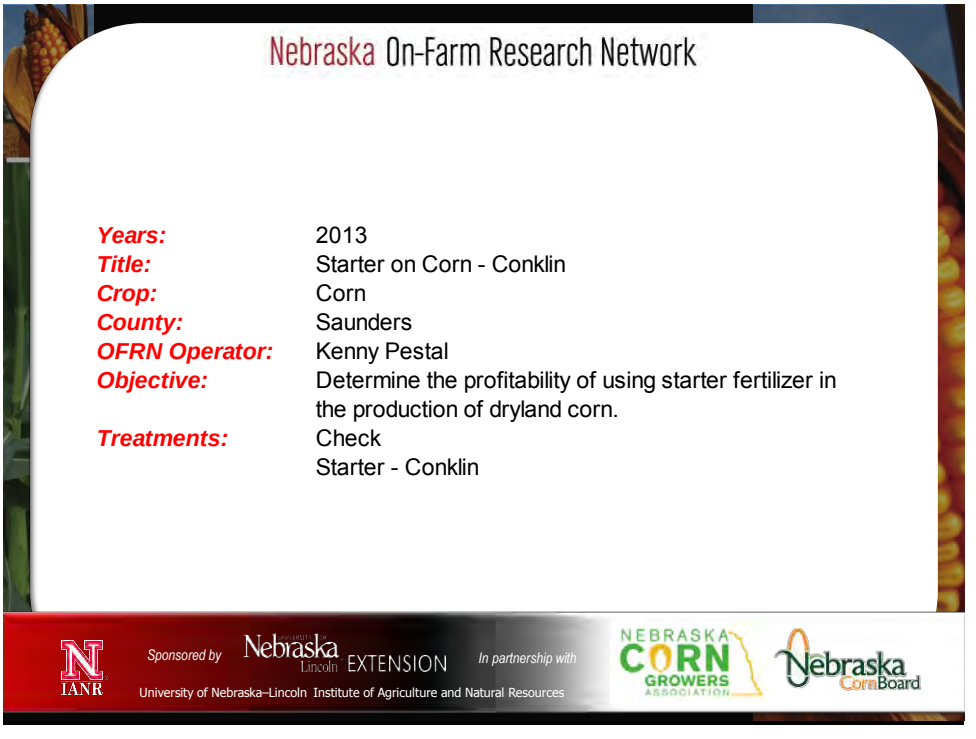
Nebraska On-Farm Research Network
Years: 2013
Title: Starter on Corn - Conklin
Crop: Corn
County: Saunders
OFRN Operator: Kenny Pestal
Objective: Determine the profitability of using starter fertilizer in the production of dryland corn.
Treatments: Check
Starter - Conklin
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Nebraska On-Farm Research Network

OFRN Operator: Kenny Pestal
Information: 2013 Corn - Starter

N 32% 140N/ac Pre-Spring Broadcast
Starter Conklin 9-18-9 5 gal InFurrow
X-Cyto 10 oz InFurrow
Chelated Zinc 1 pt InFurrow
Delta Gold 2 oz InFurrow (Insecticide)

Feast® Yield Master 9-18-9 Starter and Foliar Fertilizer
Conklin's Feast fertilizers start with the highest quality raw materials to produce a superior finished product. Unlike most fertilizers in the industry, Feast is an absolutely clear liquid true solution with certain product specifications: a very low salt index, high solubility, low-biuret, high purity and is non-corrosive to your equipment.

Nebraska On-Farm Research Network

OFRN Operator: Kenny Pestal
Results: 2013 Corn - Starter

	Yield	Cost/A
Check	154.4 B	--
Starter-Conklin	158.2 A	$ 30.00
Prob>/T/	0.0642*	

Planted 5/23/13, NoTill, Pioneer PO876HR @ 26k, Harvested 11/26/13
Nodaway Silt Loam - Bottom Ground. Soil Test: 30 ppm P3 = 25.5 Bray1
Grain moisture analysis could not be completed due to insufficient data

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Nebraska On-Farm Research Network
OFRN Operator: Kenny Pestal
Summary: Corn - Starter
(2013) - The starter treatment resulted in a significant yield increase. With corn selling at $6.00 per bushel, the yield increase did not cover the cost associated with the starter fertilizer application.
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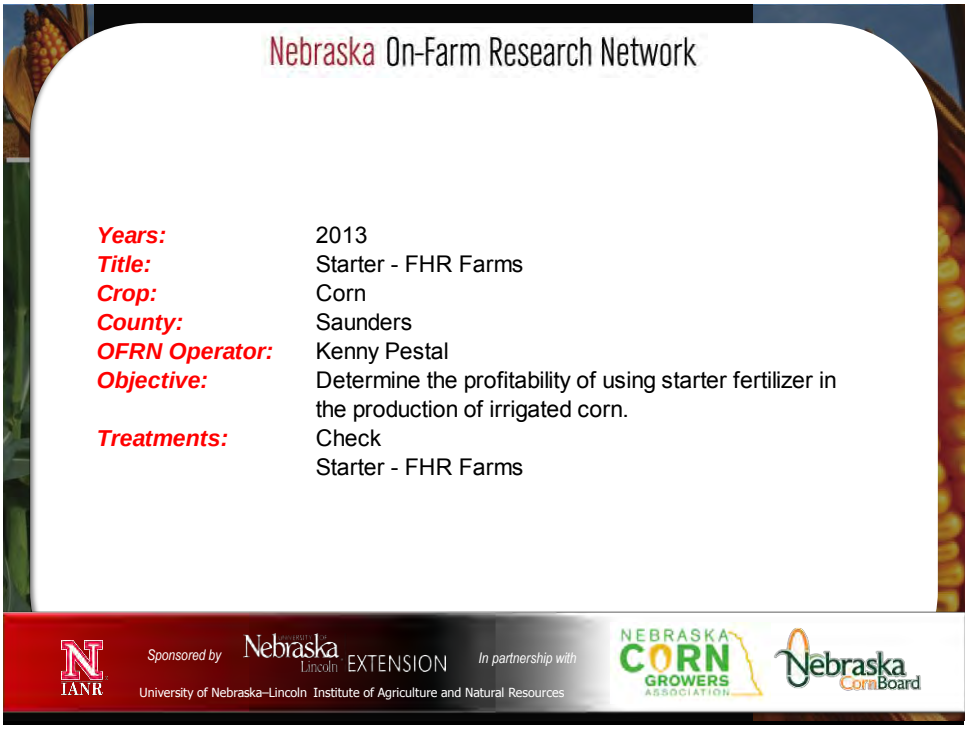
Nebraska On-Farm Research Network
Years: 2013
Title: Starter - FHR Farms
Crop: Corn
County: Saunders
OFRN Operator: Kenny Pestal
Objective: Determine the profitability of using starter fertilizer in the production of irrigated corn.
Treatments: Check
Starter - FHR Farms
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OFRN Operator: Kenny Pestal
Information: 2013 Corn - Starter

N 32% 160N/ac
P 11-52-0 130#
K 1-3-5-9S bioblend
Sulfur 21-0-0-24S 200#
FHR Farms 8-19-3 5 gal InFurrow
Micro-Pak 48 oz InFurrow
Chelated Zinc 1 pt InFurrow
Delta Gold 2 oz InFurrow

aMAIZIEing starter is produced by combining nitrogen, phosphate and potassium. This product is unique from all the others because when producing the U-trough starter, we have used a dual core water processing system which will increase our products availability. aMAIZEing Starter can be used on most field crops, vegetables, fruit and nut trees and more. Since it contains 100% orthophosphate, which is immediately available to the seeding or plant, aMAIZEing Starter may be used, in small amounts, as a starter fertilizer.

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OFRN Operator: Kenny Pestal
Results: 2013 Corn - Starter

	Yield	Cost/A
Check	249.9 A	--
Starter - FHR Farms	250.5 A	$ 25.00
Prob>/T/	ns	

Planted 5/10/13 no-till, P1498HR @ 32k, Harvest 12/5/13

SUMMARY: (2013) The FHR starter fertilizer treatment did not significantly increase irrigated corn yields. The treatment resulted in an increase of production cost per acre. Grain moisture analysis could not be completed due to insufficient data

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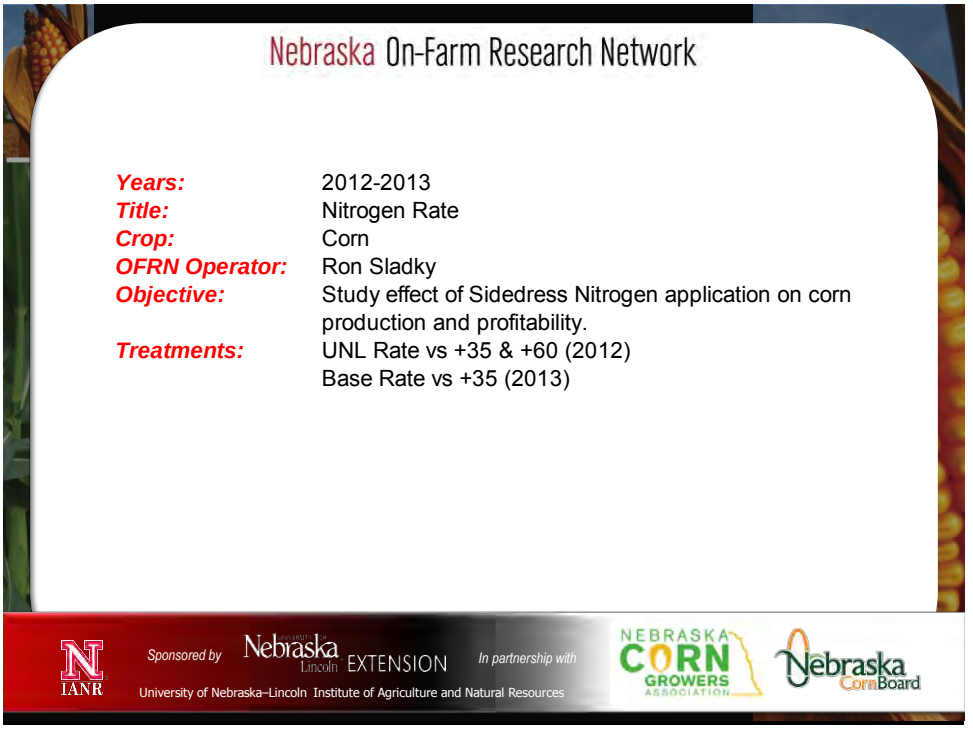
Nebraska On-Farm Research Network
Years: 2012-2013
Title: Nitrogen Rate
Crop: Corn
OFRN Operator: Ron Sladky
Objective: Study effect of Sidedress Nitrogen application on corn production and profitability.
Treatments: UNL Rate vs +35 & +60 (2012)
Base Rate vs +35 (2013)
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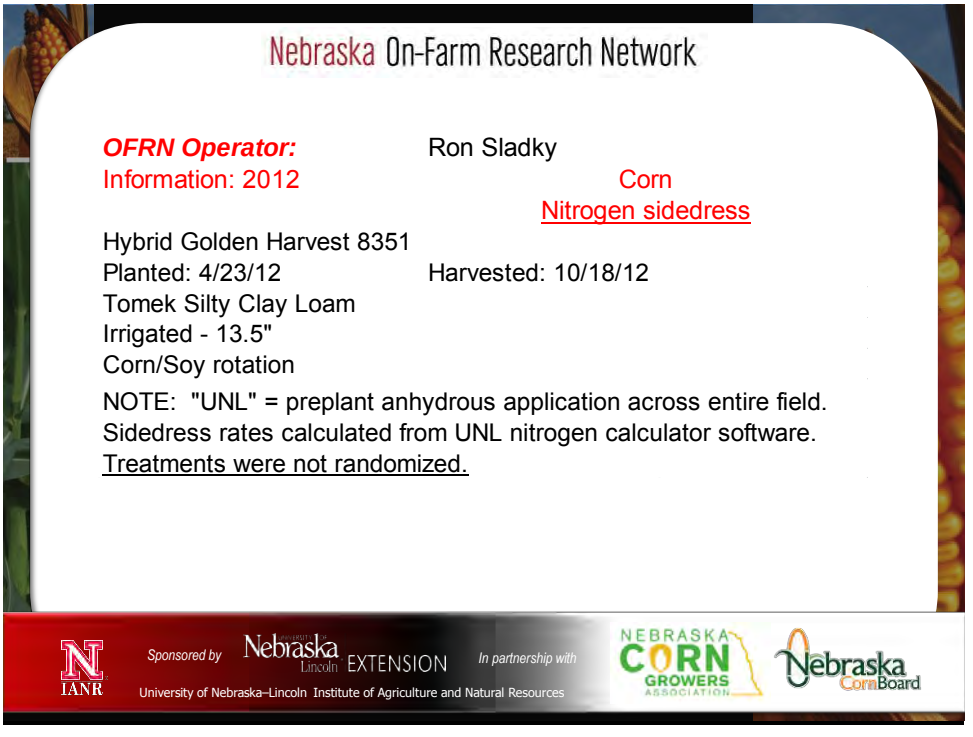
Nebraska On-Farm Research Network
OFRN Operator: Ron Sladky
Information: 2012
Corn
Nitrogen sidedress
Hybrid Golden Harvest 8351
Planted: 4/23/12
Harvested: 10/18/12
Tomek Silty Clay Loam
Irrigated - 13.5"
Corn/Soy rotation
NOTE: "UNL" = preplant anhydrous application across entire field.
Sidedress rates calculated from UNL nitrogen calculator software.
Treatments were not randomized.
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OFRN Operator: Ron Sladky
Results: 2012

Corn-Irrigated
Nitrogen sidedress

Treatment	UNL	+35#	+60#
Yield, bu/ac @15.5%	198.7	200.1	200.1
Cost/Acre	---	$17.50	$30.00
Moisture, %	15.2	15.2	15.2
Test Weight	58.0	58.1	58.1

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OFRN Operator: Ron Sladky
Results: 2013
Nitrogen Rate

	Yield	Moisture	Cost/A
Base Rate	198.1 B	18.3 B	$55.44
Base + 35#	210.3 A	18.8 B	$72.94
Prob>/T/	0.009***	0.0183**	

Soybean Yields 2012 - 69 IRG / 30 NI
Planted 5/13/13 Harvest 11/11/13. 8" irrigation. Yutan SCL;Filbert SL;Tomek SL
Todd Valley
GH 9138 32K - Final 30,500 IRG GH 9138 21.5K - Final 20,000 NI
NH3 154N/ac Fall 2012 - IRG, NH3 111 lb Fall 2012 - NI, 32% 35 lb V7 stage
Sidedress. Noticed a few more tipped ears in the non-sidedressed strips.

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The UNL Corn Nitrogen Calculator for Nebraska

Revision Date: 04/01/08

Farm:
Agronomist:
Date:

	Enter N management programs to consider	Time of application	Proportion % of total N	N source for each	N content %	Price $/ton	Appl. cost $/acre
	Split	Fall			0		
	change names in boxes	Pre-plant & starter			0		
		Sidedress			0		
	Error: sum not 100%	Fertigation			0		
	Pre-plant	Fall			0		
		Pre-plant & starter			0		
	Error: sum not 100%	Sidedress			0		
	Fall	Fertigation			0		
		Fall	80	1 AA	82	$620	$8.00
		Pre-plant & starter			0		
		Sidedress	20	5 UAN 32	32	$320	$4.00
		Fertigation			0		

Enter short names in the column headers below(40 to 44)

	Enter field-specific information in columns E to H			1 Example	#2	#3	#4
1	Yield goal	5-yr avg. yield + 5-10%	bu/acre	240			
2	Soil texture			Med./Fine			
3	Soil organic matter (OM)	in 0-8" depth	%	2.9			
4	Soil test nitrate-N	Effective rooting depth	inches	48			
		Soil layers sampled	no.	0 None			
		Layer 1 bottom	inches				
		Layer 2 bottom	inches				
	select nitrate unit in box	Layer 3 bottom	inches				
	ppm	Layer 1 nitrate	ppm				
		Layer 2 nitrate	ppm				
		Layer 3 nitrate	ppm				
5	Previous crop			02 Soybean			
6	Irrigation	Water amount	inches				
		Water nitrate-N	ppm				
7	Manure	Type					
		Terms (unit for application)					
		Amount (tons or 1000 gal/acre)					
		Ammonium N	lb/unit				
		Organic N	lb/unit				
		Year applied		Current			
		Application method					
8	Nitrogen management program			3 Fall			
9	Expected corn value		$/bu	$5.30	$5.00	$5.00	$5.00
#	N applied since harvest		lb/acre				

do not enter anything below

	UNL N recommendation		Unit	1 Example	#2	#3	#4
A	N algorithm components	Crop N requirement	lb/acre	323	Yield goal?	Yield goal?	Yield goal?
		SOM credit	lb/acre	97	OM?	OM?	OM?
		Soil nitrate-N credit	lb/acre	30	Depth?	Depth?	Depth?
		Legume N credit	lb/acre	45	Prev. crop?	Prev. crop?	Prev. crop?
		Irrigation N credit	lb/acre	Water?	Water?	Water?	Water?
		Manure N credit	lb/acre	Manure?	Manure?	Manure?	Manure?
B	**Recom. N amount (unadjusted)**		**lb/acre**	**151**	**#VALUE!**	**#VALUE!**	**#VALUE!**
C	Average nitrogen price		$/lb N	$0.40	N progr.?	N progr.?	N progr.?
D	Corn price : N price ratio			13.2	#VALUE!	#VALUE!	#VALUE!
E	**Recom. N amount (adjusted for time and prices)**		**lb/acre**	**184**	**#VALUE!**	**#VALUE!**	**#VALUE!**
F	Total N application cost		$/acre	$12.0	#N/A	#N/A	#N/A
G	Total cost of N fertilizer + N application		$/acre	$86.1	#VALUE!	#VALUE!	#VALUE!

Nebraska On-Farm Research Network

OFRN Operator: Ron Sladky

Summary:

(2013) The addition of 35# N as a sidedress application provided an economic increase in yield.
(2012) The addition of 35# and 60# of nitrogen per acre sidedressed, did not increase irrigated corn grain yield, moisture or test weight.
Also, this study does not answer the question “what if the base rate (154#) would have been applied at sidedress”?

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Years:	2013
Title:	Interactions of CP44 and Headline Fungicide
Crop:	Soybeans
County:	Butler
OFRN Operator:	Kevin Slama
Objective:	Document potential interactions of CP44 and Headline on soybean yield
Treatments:	Herbicide only (CHECK) Herbicide + CP-44 @ 6 oz./acre, followed by CP-44 @ 6 oz. Herbicide + CP-44 @ 6 oz./acre, followed by CP-44 @ 6 oz., followed by Headline @ 6.25 oz. Herbicide followed by Headline @ 6.25 oz./acre

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OFRN Operator: Kevin Slama
Results: 2013 Soybeans - CP44 and Headline

	Yield	Cost/A
Herbicide only (CHECK)	54.5 A	--
Herbicide + CP-44 @ 6 oz./acre, followed by CP-44 @ 6 oz.	55.9 A	$21.00
Herbicide + CP-44 @ 6 oz./acre, followed by CP-44 @ 6 oz., followed by Headline @ 6.25 oz.	54.4 A	$49.00
Herbicide followed by Headline @ 6.25 oz./acre	54.7 A	$28.00
Prob>/T/	ns	
P value	.092	

Row Spacing 36" Variety: Stine 35RA02 Planted: ~June 15, 2013 Harvested: Oct. 25, 2013 July 23, 2013: Application rate = 10 gpa Crop growth stage = V-2 Herbicide applied with/without CP-44 as tank mix Cornerstone Plus @ 1 qt/acre + AMS (1.275 lbs./acre) Aug. 7, 2013 CP-44 approximately R2 Aug. 13, 2013: Headline SC @ 6.25 oz./acre approximately R2 . **Cost includes application cost.**

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Nebraska On-Farm Research Network

Years:	2012-2013
Title:	Population
Crop:	Corn
OFRN Operator:	Carl and Dave Sousek
Objective:	Identify the most profitable corn plant population for a specific management system.
Treatments:	Population 24k, 28k, 32k, & 36k (2012) Population 24k, 28k & 32k (2013) 30" row spacing

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Nebraska On-Farm Research Network

OFRN Operator: Carl & Dave Sousek
Information: 2012 Corn
Population 24k, 28k, 32k & 36k

Hybrid Hoegmeyer 8691- Rainfed
Planted: 4/27/12 Harvested: 9/14/12
Pohocco Silty Clay Loam

Note: Harvest populations did not match up well as intended with targeted treament populations. This is partially explained by the interaction of the seed size/uniformity, planter unit accuracy and planting speed.

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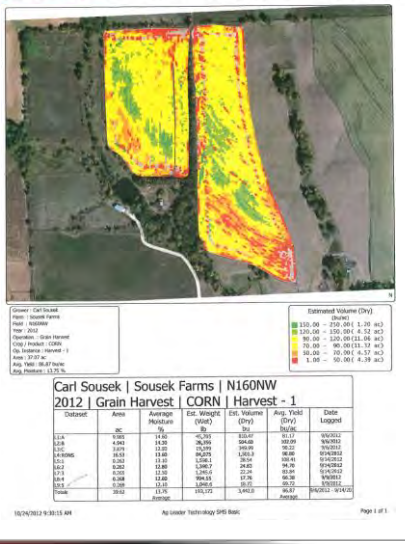
Field Summary Report

Grower : Carl Sousek
Farm : Sousek Farms

Field: N160NW
Year: 2012
Operation: Grain Harvest
Product: Corn - CORN
Operational Instance: Harvest - 1

Dataset	Area ac	Average Moisture %	Estimated Weight (Wet) lb	Estimated Volume (Dry) bu	Average Yield (Dry) bu/ac	Actual Weight (Wet) lb	Error %	Date Logged
L1:A	9.985	14.60	45,705	810.47	81.17	N/A	N/A	9/6/2012
L2:B	4.943	14.30	28,356	504.60	102.09	N/A	N/A	9/6/2012
L3:C	3.879	12.50	19,599	349.99	90.22	N/A	N/A	9/6/2012
L4:RONS	16.53	13.60	84,075	1,501.3	90.80	N/A	N/A	9/14/2012
L5:1	0.263	13.10	1,598.1	28.54	108.41	N/A	N/A	9/14/2012
L6:2	0.262	12.80	1,290.7	24.83	94.70	N/A	N/A	9/14/2012
L7:3	0.265	12.50	1,245.6	22.24	83.84	N/A	N/A	9/14/2012
L8:4	0.268	12.60	994.55	17.76	66.28	N/A	N/A	9/9/2012
L9:5	0.269	12.10	1,048.6	18.72	69.72	N/A	N/A	9/9/2012
L10:6	0.271	13.00	762.26	13.61	50.29	N/A	N/A	9/9/2012
L11:7	0.271	12.90	712.85	12.73	46.94	N/A	N/A	9/9/2012
L12:8	0.271	12.70	1,015.7	18.14	66.81	N/A	N/A	9/14/2012
L13:9	0.271	12.40	949.46	16.95	62.49	N/A	N/A	9/14/2012
L14:10	0.271	12.70	914.28	16.33	60.31	N/A	N/A	9/14/2012
L15:11	0.267	13.10	518.65	9.262	34.73	N/A	N/A	9/9/2012
L16:12	0.267	13.30	650.11	11.61	43.55	N/A	N/A	9/9/2012
L17:13	0.267	13.20	792.14	14.15	53.04	N/A	N/A	9/9/2012
L18:14	0.267	12.70	1,014.8	18.12	67.77	N/A	N/A	9/14/2012
L19:15	0.263	12.50	956.16	17.07	64.86	N/A	N/A	9/14/2012
L20:16	0.269	13.70	872.03	15.57	57.80	N/A	N/A	9/14/2012
Totals	**39.62**	**13.75** Average	**193,172**	**3,442.0**	**86.87** Average			**9/6/2012 - 9/14/2012**

Nebraska On-Farm Research Network



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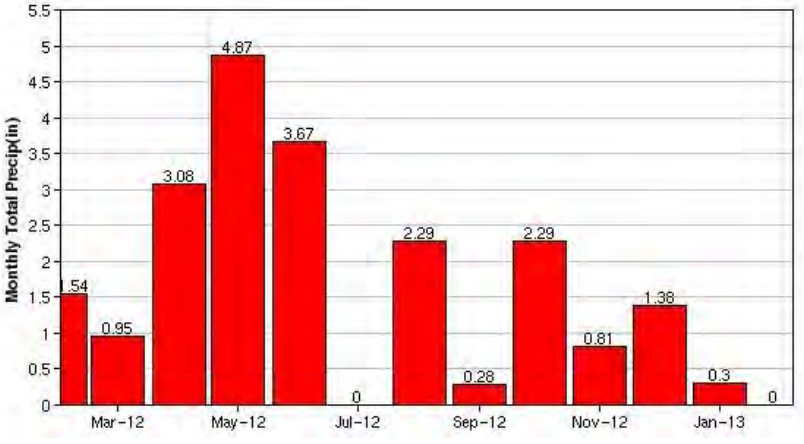
PRAGUE, NE **2012**



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Nebraska On-Farm Research Network

OFRN Operator: Carl & Dave Sousek

Results: 2012

		Corn Population		
Treatment	24k	28k	32k	36k
Yield, bu/ac @15.5%	76.3	73.4	57.2	52.6
Cost/Acre	---	$10.25	$20.50	$30.75
Prob>/T/ 0.0014***	A	A	B	B
Moisture, %	12.8	12.5	13	13.1
Prob>/T/ 0.1149 ns	A	A	A	A
Harvest Population	26.8k	28.5k	31.2k	36.6k
Prob>/T/ 0.0002***	C	BC	B	A

Summary: (2012) This study with Hybrid Hoegemeyer 8691 was planted no-till into soybean residue with rainfall received of 10.5" (according to NE Rain) in 2012. Seeding rates of 32,000 and 36,000 seeds/acre were statistically different than seeding rates of 24,000 and 28,000 seeds/acre. A seeding rate of 24,000 seeds/acre maximized yield and economic returns (assuming $7/bu corn price).

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OFRN Operator: Carl and Dave Sousek
Results: 2013 Corn - Population

	Yield	Moisture	Hpop	Cost/A
24k	159.8 A	15.4 A	23.4k C	$86.88
28k	158.0 A	15.4 A	26.9k B	$101.36
32k	157.5 A	15.4 A	31.2k A	$115.84
Prob>/T/	ns	ns	0.000***	

Hoegemeyer 8359;113 d;LL,RR, RW, CB , Planted 5/16/13 @ 2" - No-Till, Corn/Corn
Upland - Pohocco Silty Clay Loam and Yutan, eroded AK-Sar- Ben complex
Anhydrous 140# Fall applied 11-52-0 +S+Zn , Starter 9.18.9 4 gal/ac Corvus 2,4-D Roundup

Nebraska On-Farm Research Network

OFRN Operator: Carl and Dave Sousek
Summary: Corn - Population

(2013) Rainfed corn grain yields were not significantly improved with an increase of seeding rates at 24, 28 and 32K seeds per acre. However, the costs per acre did increase.
(2012) This study with Hybrid Hoegemeyer 8691 was planted no-till into soybean residue with rainfall received of 10.5" (according to NE Rain) in 2012. Seeding rates of 32,000 and 36,000 seeds/acre were statistically different than seeding rates of 24,000 and 28,000 seeds/acre. A seeding rate of 24,000 seeds/acre maximized yield and economic returns (assuming $7/bu corn price).

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Years:	2013
Title:	Headline fungicide in-furrow on corn
Crop:	Corn
County:	York
OFRN Operator:	Jerry Stahr
Objective:	Determine effect of Headline infurrow on corn yields
Treatments:	Check
	Headline fungicide in-furrow (4 oz)

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OFRN Operator: Jerry Stahr

Information: 2013 Corn - Fungicide in-furrow

York County, Nebraska (NE185)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3820	Butler silt loam, 0 to 1 percent slopes	1.8	2.0%
3864	Hastings silt loam, 0 to 1 percent slopes	67.9	78.0%
3866	Hastings silt loam, 1 to 3 percent slopes	13.2	15.2%
3870	Hastings silty clay loam, 3 to 7 percent slopes, eroded	4.2	4.8%
Totals for Area of Interest		87.0	100.0%

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OFRN Operator: Jerry Stahr
Results: 2013 Corn - Fungicide in-furrow

	Yield	Moisture	Cost/A
Check	245.8 A	16.1 A	--
Headline (4oz)	240.2 B	16.2 A	$13.33
Prob>/T/	0.0513*	ns	

Ridgetill 30" row spacing, planted 4/27/13 - 114 day maturity, @ 32k, Hastings Silt Loam 0-1% slope *The supplemental Label for corn and soybeans indicates upto 10.4 oz/acre maximum rate for 30" rows! EPA Reg. NO. 7969-186

SUMMARY: (2013) There was a significant decrease in yield for the Headline fungicide in-furrow treatment.

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Nebraska On-Farm Research Network

Years: 2011-2013
Title: Cover Crop Profitability
Crop: Corn/Soybeans
County: Lancaster
OFRN Operator: Jim and Mike Stewart
Objective: Determine the effectiveness of cover crops in improving yield and profitability in a corn and soybean rotation.

Treatments: Check vs. Rye vs CoverCrop Mix

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OFRN Operator: Jim and Mike Stewart

Results: 2011

(Fontanelle 9789)

Variable	No Cover	Rye	Smart Mix
Yield, bu/ac	62	59	61
Moisture, %	9.7	10.2	9.6
Cost/ac	---	$19.30	$27.81

Yield Prob >/T/	No Cover	Rye
Rye	0.1545 ns	---
Smart Mix	0.5591 ns	0.3637 ns

Moisture Prob >/T/	No Cover	Rye
Rye	0.1585 ns	---
Smart Mix	0.7208 ns	0.0903*

Cover Planted: 10/16/10 Planted: 5/3/2011 Harvested: 10/16/11

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OFRN Operator: Jim and Mike Stewart

Information: 2012

Winter Mix Formulation	**54.5 lbs**
Winter Wheat	30 lbs
Frostmaster Peas	10 lbs
Hairy Vetch	5 lbs
Common Vetch	3.75 lbs
Morton Lentil	3.75 lbs
D.E. Rape	1 lbs
Winifred Pea	1 lbs

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OFRN Operator: Jim and Mike Stewart

Results: 2012

	Corn		
		Cover Crop	
Variable	No Cover	Rye	WinterMix
Yield, bu/ac	92.7	86.0	90.8
Prob>/T/ 0.4356 ns	A	A	A
Moisture, % (ns)	11.7	11.7	11.6
TW (ns)	58.3	58.6	58.2
Harvest Population	29.3k	26.5k	29.6k
Prob>/T/ 0.0967*	A	A	A
Cost/ac	---	$22	$46

Hybrid Fontanelle H907/GT Wymore Silty Clay Loam

Cover Planted: 10/25/11 Planted: 4/24/12 Harvested: 9/10/12

NOTE: March 22 12,000 gal hog manure injected, April 20 field cultivated and applied nitrogen. Cost per acre does not include drilling costs of approximately $17/ac.

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OFRN Operator: Jim and Mike Stewart

Information: 2013

Wymore Silty Clay Loam - Upland
Corn Soybean Rotation - Prior Crop Corn
Wymore Silty Clay Loam Upland
Winter MWinter Pea = 10 #/ac#
Hairy Vetch= 5#/ac
Common Vetch = 4#/ac
Lentis = 4#
Winter wheat= 30#/ac
Rape seed = 1# /ac
Winfred hybrid= 1/ac
Rye = 1bu/ac
Planting soybeans no-till 5/1/2013
cover crops no-till 9-19-12 $70/ac
rye no-till " $14.5/AC

Preplant/burndown 2,4-D - 6# A.I. 5.4oz 4/13/2013 Roundup Power Max*** 36 oz 4/13/2013 Authority XL 2.8 oz 4/13/2013 Authority Elite 9.6 oz 13-Apr Adjuvants 4/13/2013 Post-soybean Roundup Power Max 40oz 7/3/2013 Cadet 0.9 oz 3-Jul Adjuvants *** The check treatment used less RU at 24 oz per acre vs. the 36oz rate. Cost per acre does not include drilling costs of approximately $17/ac.

Nebraska On-Farm Research Network

OFRN Operator: Mike and Jim Stewart
Results: 2013 Cover Crop

Soybean Yield

	bu/ac	Moisture	TW	HPop
Check	56.3 A	11.9 A	57.6 A	103.8k A
Rye	54.0 A	11.9 A	58.0 A	95.6k A
WinterMax	56.3 A	11.7 A	58.0 A	101.4k A
Prob>/T/	ns	ns	ns	ns

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OFRN Operator: Mike and Jim Stewart
Summary: Cover Crop

After three years of research in the same field, cover crops did not provide an economic advantage to no cover crop in the production of corn and soybeans.
(2013) The two cover crop treatments did not result in an increase in grain yield as compared to no cover crop.
(2012) The two cover crop treatments did not result in an increase in grain yield as compared to no cover crop.
(2011) Yield difference was not statistically significant among the three treatments. No portion of cost of the cover crop was recouped by either cover crop treatment, relative to the check treatment. Note: Cover crop was killed off later than preferred.

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Nebraska On-Farm Research Network

Years:	2013
Title:	Three Rates of Optimize Under Low Fertility
Crop:	Soybeans
County:	Butler
OFRN Operator:	Russ Tooker
Objective:	Determine the effect, if any, of increasing rates of Optimize on soybean yield under low fertility
Treatments:	Check Optimize 1x Optimize 2x Optimize 3x Planting date - June 13, Harvest date - Oct. 24, 25

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OFRN Operator: Russ Tooker
Results: 2013 Soybean - Optimize

	Yield	Protein	Oil	Seed Size	Cost/A
Check	55.4 A	33.54 A	20.3 A	18.0 A	--
Optimize 1x	55.4 A	33.25 AB	20.5 A	18.1 A	$4.00
Optimize 2x	55.2 A	33.21 AB	20.5 A	18.3 A	$8.00
Optimize 3x	55.2 A	33.05 B	20.6 A	18.1 A	$12.00
Prob>/T/	ns	0.04*	ns	ns	
P Value	0.97	0.04	0.16	0.81	

Means followed by the same letter are not statistically different at the P<0.05 level (Tukeys HSD test, JMP 10.0.0)

SUMMARY: Usage of Optimize did not result in increased yields in rain-fed soybeans following soybeans as previous crop. Increasing Optimize rate did result in less protein, but was offset by increased oil levels. Seed sizes, although not statistically different, were noted to be slightly increased by usage of Optimize.

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Nebraska On-Farm Research Network

Years:	2013
Title:	Foliar Sugar on Corn
Crop:	Corn
County:	Clay
OFRN Operator:	Rod and Dennis Valentine
Objective:	Determine effect of foliar sugar on corn yield and economics.
Treatments:	Check Foliar sugar applied at V7

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OFRN Operator: Dennis Valentine

Information: 2013 Corn - Foliar Sugar

Nebraska On-Farm Research Sugar Study-Valentine Farms 2013

Rep	Treatment	Total C	%N	Phospholipid Fatty Acid (PLFA) Test	Diversity Index
Rep1	Check	41.71	2.51	1544.15	1.13
	Sugar	41.31	2.51	2295.44	0.96
Rep 2	Sugar	42.45	2.58	1439.51	1.17
	Check	41.98	2.30	2057.19	1.60
Rep 3	Check	42.34	2.70	1954.87	1.18
	Sugar	42.54	2.40	1786.42	1.19
Rep 4	Sugar	41.17	2.51	1435.45	1.17
	Check	41.92	2.50	1191.18	1.45
Rep 5	Check	42.35	2.70	950.20	1.24
	Sugar	41.89	2.50	1629.33	1.42
Rep 6	Sugar	41.81	2.42	1612.62	1.20
	Check	41.78	2.60	996.34	1.05
	Check AVG	**42.0133**	**2.5517**	**1448.9883**	**1.2738**
	Sugar AVG	**41.8617**	**2.4867**	**1699.7950**	**1.1845**

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OFRN Operator: Dennis Valentine
Results: 2013 Corn - Foliar Sugar

	Yield	TW	Moisture	StalkRot	Cost/A
Check	222.7 A	60.6 A	16.1 A	19.2 A	--
Starter w/ Sugar	214.2 B	60.5 A	16.0 A	15.8 A	$6.00
Prob>/T/	0.0099***	ns	ns	ns	

SUMMARY 2013:
The addition of sugar resulted in a significant yield reduction and an increase in the input cost.

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Nebraska On-Farm Research Network

Years: 2013
Title: Moisture at harvest and yield
Crop: Corn
County: Lincoln
OFRN Operator: Rex Walz
Objective: To determine and document the effect of early harvest on grain yield.
Treatments: "Wet moisture" harvest
"Normal moisture" harvest
Harvested: 10-19-13

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Nebraska On-Farm Research Network

OFRN Operator: Rex Walz

Results: 2013 Corn - Harvest Moisture and Yield

	Yield	Moisture	Cost/A
Wet	176.42 A	36.1 A	$30.00
Dry	181.82 A	21.0 B	$30.00
Prob>/T/	ns(0.1162)	0.0000***	

Used a weigh wagon to record weight and took grain samples to a commercial grain moisture tester. No physical shrink was used to calculate yield just moisture loss.

SUMMARY: Grain yield results were not significantly different. Harvest loss was not determined. Need one or more years of data.

Nebraska On-Farm Research Network

Years: 2013
Title: Evaluate planting wheel compaction
Crop: Corn
County: Saunders
OFRN Operator: Brad Williams
Objective: Determine if the pinch rows from planter and tractor impact corn yield
Treatments: Outside (Non-compacted)
Inside (Compacted)

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OFRN Operator: Brad Williams
Information: 2013 Compaction

Center wheels of planter - Center 12 rows of a 24 row planter that has the tractor tires and the main planter frame weight in them.
Outside of planter - Outside 12 rows that only have the planter wing wheels in them.
30" row spacing, Central fill planter, 1200 gallon saddle tanks on tractor.

Nebraska On-Farm Research Network

OFRN Operator: Brad Williams
Results: 2013 Compaction

	Rainfed		Irrigated	
	Yield	Moisture	Yield	Moisture
Outside	218.0 A	16.29 A	263.6 A	18.9 A
Center	216.7 A	15.95 B	262.3 A	18.6 A
Prob>/T/	ns	0.0385**	ns	ns

NoTill - Planted 5/12/13, DKC 63-33 RIB , Planting rate 40k Irigated / 30k Dryland, Harvest 10/27/13

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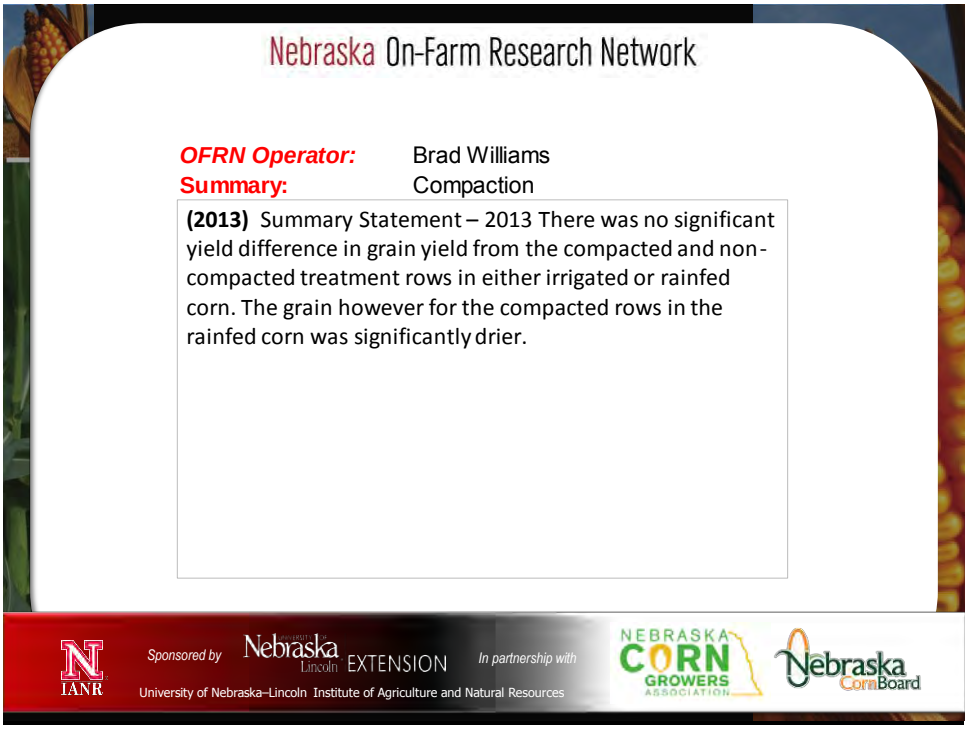
Nebraska On-Farm Research Network
OFRN Operator: Brad Williams
Summary: Compaction
(2013) Summary Statement – 2013 There was no significant yield difference in grain yield from the compacted and non-compacted treatment rows in either irrigated or rainfed corn. The grain however for the compacted rows in the rainfed corn was significantly drier.
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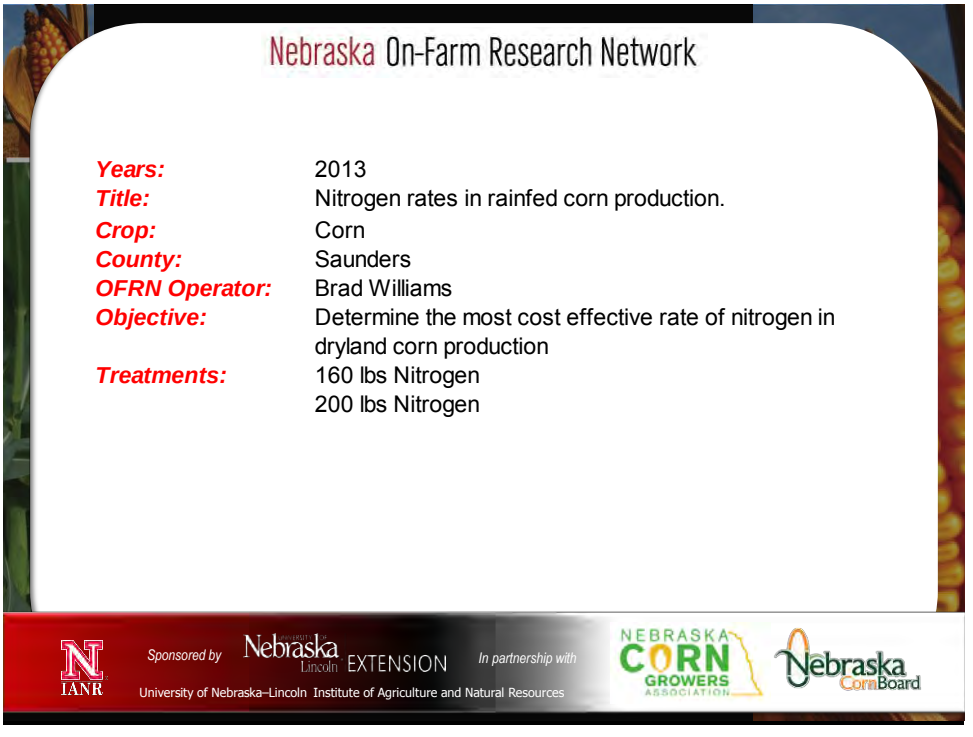
Nebraska On-Farm Research Network
Years: 2013
Title: Nitrogen rates in rainfed corn production.
Crop: Corn
County: Saunders
OFRN Operator: Brad Williams
Objective: Determine the most cost effective rate of nitrogen in dryland corn production
Treatments: 160 lbs Nitrogen
200 lbs Nitrogen
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OFRN Operator: Brad Williams
Results: 2013 Corn - Nitrogen

	Johnys		Stearns		
	Yield	Moisture	Yield	Moisture	Cost/A
160 lbs N	198.1 A	16.14 B	212.4 B	15.0 A	$ 56.00
200 lbs N	196.9 A	16.44 A	215.0 A	15.2 A	$ 70.00
Prob>/T/	ns	0.0056***	0.0504*	ns	

N NH3 160 vs 200lb 11/6-11/7/12
Stearns Pioneer 1498HR 30,000K 4/28/2013
Johnys GH 9071 30,000K 5/12/2013

Nebraska On-Farm Research Network

OFRN Operator: Brad Williams
Summary: Corn - Nitrogen

(2013) Summary Statement – 2013 On Johny's field there was no significant yield advantage to adding an extra 40# of nitrogen, however, the grain was significantly drier for the 160# rate. On the Stearn's field, the extra 40# of nitrogen resulted in a significant increase in grain yield. The economic advantage of the 40# additional nitrogen is dependent on market price for grain.

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Nebraska On-Farm Research Network

Years:	2013
Title:	Row Spacing
Crop:	Corn
County:	Saunders
OFRN Operator:	Brad Williams
Objective:	To determine and document the effect of row spacing on the profitability of corn production.
Treatments:	30" rows 15" rows

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Nebraska On-Farm Research Network

OFRN Operator: Brad Williams

Results: 2013 Corn - row spacing

	Yield	Moisture	Cost/A
30" rows	275.1 A	18.87 A	
15" rows	274.4 A	18.86 A	
Prob>/T/	ns	ns	

Planted notill 5/12/13 , DKC 63-33 RIB , 40k, Harvest 10/27/13, Irrigated
Harvest population:
30" - 36,166
15" - 34,500* (wheel traffic and faster planter speed for 15" rows)
Soil Type: Tomek/Yutan Todd Valley
Approximately 5% green snap from early August storm

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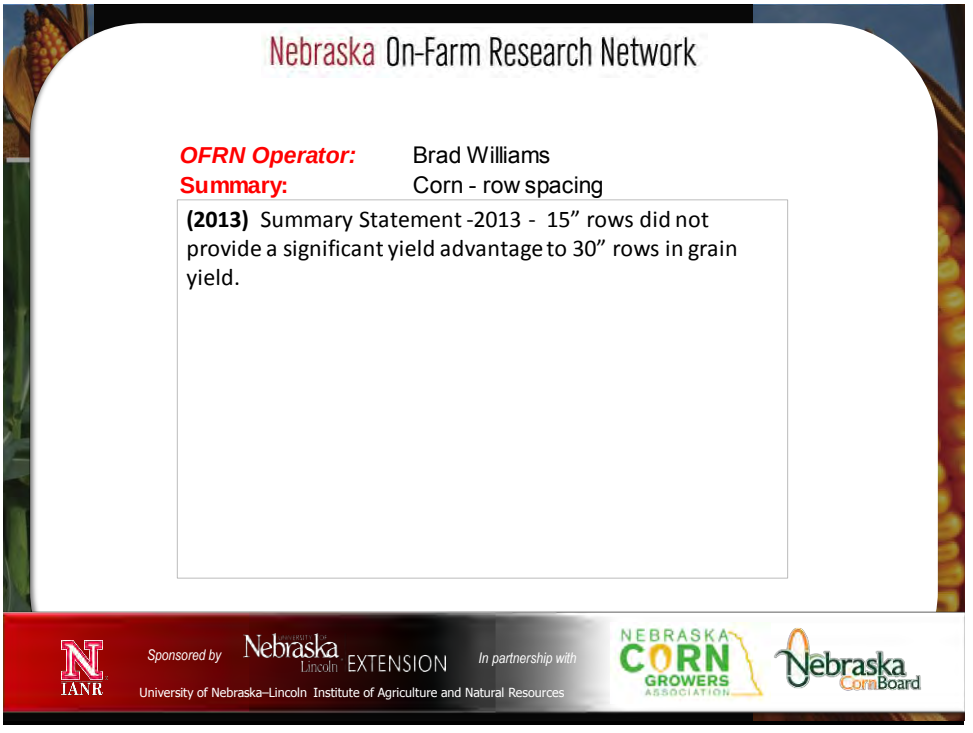
Nebraska On-Farm Research Network
OFRN Operator: Brad Williams
Summary: Corn - row spacing
(2013) Summary Statement -2013 - 15" rows did not provide a significant yield advantage to 30" rows in grain yield.
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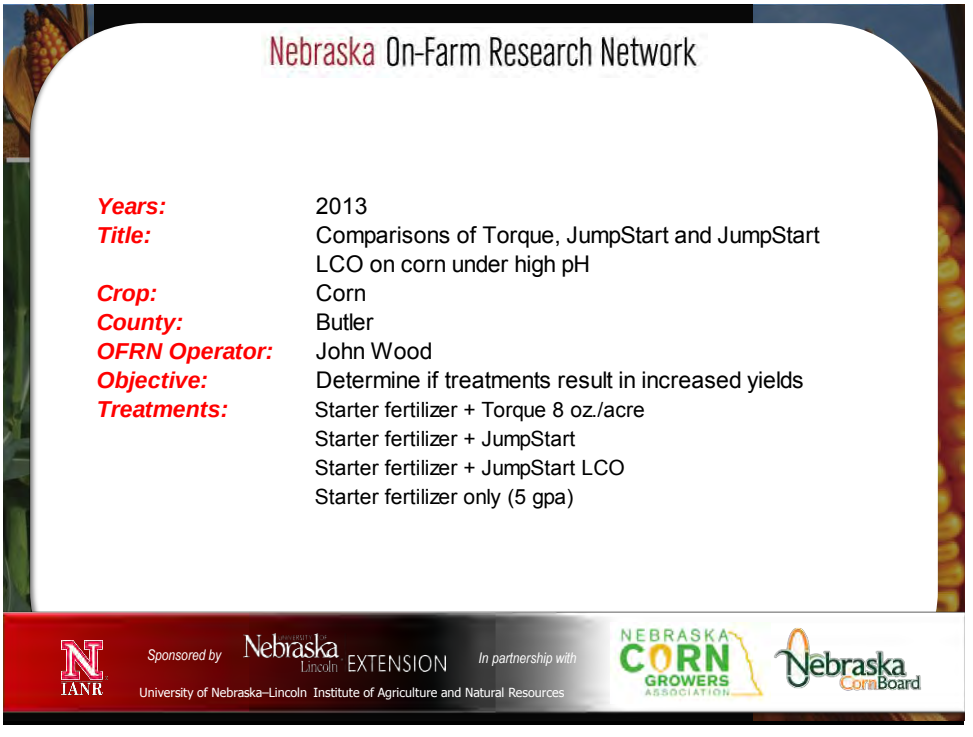
Nebraska On-Farm Research Network
Years: 2013
Title: Comparisons of Torque, JumpStart and JumpStart LCO on corn under high pH
Crop: Corn
County: Butler
OFRN Operator: John Wood
Objective: Determine if treatments result in increased yields
Treatments: Starter fertilizer + Torque 8 oz./acre
Starter fertilizer + JumpStart
Starter fertilizer + JumpStart LCO
Starter fertilizer only (5 gpa)
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OFRN Operator: John Wood
Results: 2013 Corn - At Plant Treatments

	Yield after Corn	Yield after Soybeans	Cost/A
Starter fertilizer + Torque 8 oz./acre	209.2 A	223.8 A	$5.50
Starter fertilizer + JumpStart	203.4 A	232.7 A	$16.40
Starter fertilizer + JumpStart LCO	206.2 A	228.8 A	$17.95
Starter fertilizer only (5 gpa)	201.2 A	236.1 A	--
Prob>/T/	ns	ns	
P value	0.95	0.15	

Variety: Mycogen 2A782 (Cruiser Maxx) , Planted: May 14, 2013 Harvested: October, 2013

SUMMARY: Although numerically different, the yields of the four treatments were not statistically significant suggesting no consistent response within replication per treatment

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Years: 2013
Title: Corn Hybrids
Crop: Corn
County: Red Willow
OFRN Operator: Roger and Tracy Zink
Objective: Compare "DroughtGuard" vs "AquaMax" corn hybrids
Treatments: DKC 63-55RIB YT2R - "DroughtGard"
P-1498AM AM/LL/RR2/AQ - "AquaMax"

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OFRN Operator: Roger and Tracy Zink
Information: 2013 Corn - Drought Tolerant Hybrids

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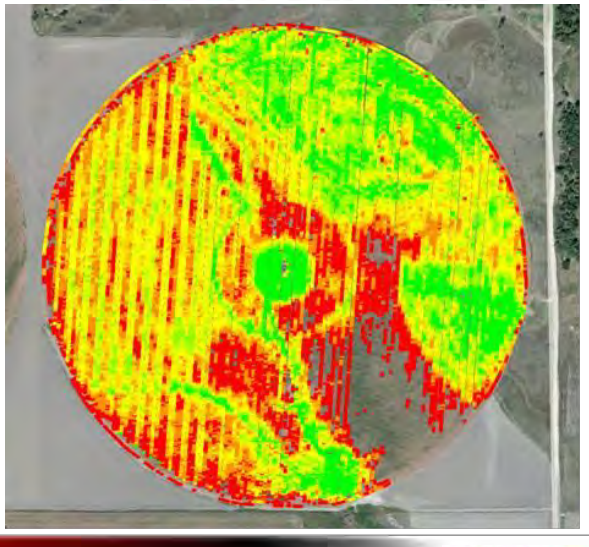

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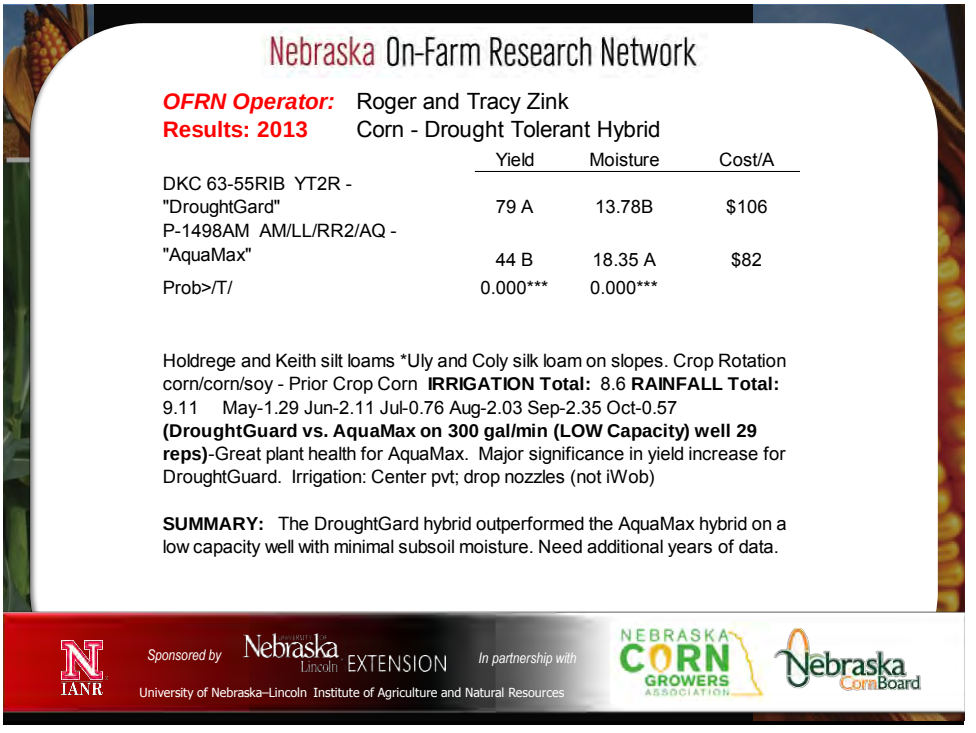
Nebraska On-Farm Research Network
OFRN Operator: Roger and Tracy Zink
Results: 2013 Corn - Drought Tolerant Hybrid
Yield Moisture Cost/A
DKC 63-55RIB YT2R - "DroughtGard" 79 A 13.78B $106
P-1498AM AM/LL/RR2/AQ - "AquaMax" 44 B 18.35 A $82
Prob>/T/ 0.000*** 0.000***
Holdrege and Keith silt loams *Uly and Coly silk loam on slopes. Crop Rotation corn/corn/soy - Prior Crop Corn IRRIGATION Total: 8.6 RAINFALL Total: 9.11 May-1.29 Jun-2.11 Jul-0.76 Aug-2.03 Sep-2.35 Oct-0.57 (DroughtGuard vs. AquaMax on 300 gal/min (LOW Capacity) well 29 reps)-Great plant health for AquaMax. Major significance in yield increase for DroughtGuard. Irrigation: Center pvt; drop nozzles (not iWob)
SUMMARY: The DroughtGard hybrid outperformed the AquaMax hybrid on a low capacity well with minimal subsoil moisture. Need additional years of data.
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