



Nebraska On-Farm Research Network

Years:	2004-2006 & 2008-2010
Title:	Fertilizer Recommendation Comparison
Crop:	Soybeans (04, 06, 08, 10) Corn (05, 09)
County:	Washington
Study ID:	018177200401M6
Objective:	To determine & document the effect of fertilizer treatments based on different soil tests on the profitability of corn/soybean production.
Treatments:	No soil test vs. commercial lab test vs. UNL test.

Summary: In 2004, soybean growth was not influenced by fertilizer treatment. Corn growth was not affected by fertilizer treatment in 2005. In 2006, soybeans fertilized according to commercial lab yielded slightly more than the other treatments. Soybeans from plots that receive only nitrogen for corn were slightly drier at harvest. In 2008, soybeans fertilized according to a commercial lab had wetter seed at harvest than UNL or no test. Fertilizer phosphorus had no effect on corn in 2009. In 2010, soybeans yielded slightly less for the "No Test" strips.

Nebraska Soybean & Feed Grains Profitability Project



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Individual Year Results:

Results: 2004

Soybeans (DK 25-51)

Soil Test

<u>Variable</u>	<u>None</u>	<u>Comm</u>	<u>UNL</u>	<u>Prob >F</u>
Yield, bu/ac at 13%	51	51	51	0.926 ns
Moisture, %	11.5	11.5	11.5	0.770 ns
Test Wt, lbs/bu	56	56	56	0.562 ns
Cost/ac	\$0.00	\$11.25*	\$0.00	

* 75 lbs of 11-52-0

Soil Test Results: UNL Lab - N 100 lbs/ac, P 11 ppm, K 369 ppm, Zn .29 ppm, pH 5.9, OM 2.3%

Soil Test Results: Comm Lab - N 109 lbs/ac, P 11 ppm, K 329 ppm, Zn n/a, pH 5.7, OM 2.8%

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Results: 2005

Corn (Pio 33B51)

Soil Test

<u>Variable</u>	<u>None</u>	<u>Comm</u>	<u>UNL</u>	<u>Prob >F</u>
Yield, bu/ac at 15.5%	140	146	141	0.258 ns
Moisture, %	14.7	14.7	14.8	0.308 ns
Test Wt, lbs/bu	61.7	61.7	61.5	0.264 ns
Plants/ac, 1000	21.0	22.0	21.5	0.430 ns
Cost/ac (11-52-0)	---	\$18.50	\$18.50	
Cost/ac (NH ₃)	\$32.00	\$32.00	\$32.00	

Fertilizer applied: 60 lbs of 11-52-0 & 100 lbs of NH₃

Note: Nitrogen application rate for UNL treatment was higher than recommendation. No treatment received nitrogen in corn production years & no other fertilizer.

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Results: 2006

Soybeans (Pioneer 93M11)

Soil Test

<u>Variable</u>	<u>None</u>	<u>Comm</u>	<u>UNL</u>	<u>Prob >F</u>
Yield, bu/ac at 13%	62	64 *	62	0.0745 *
Moisture, %	13.1 **	13.2	13.2	0.0227 **
Test Wt, lbs/bu	57.3	57.4	57.1	0.6844 ns
Plants, 1000/ac	138.8	141.5	143.8	0.9006 ns
Cost/ac (11-52-0)		\$9.17		---

Planting Date: 5-12-06

Harvesting Date: 10-24-06

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Results: 2008

Soybeans (Asgrow 3005)

Soil Test

<u>Variable</u>	<u>None</u>	<u>Comm</u>	<u>UNL</u>	<u>Prob >F</u>
Yield, bu/ac at 13%	43	44	43	0.643 ns
Moisture, %	10.1	10.3 **	10.2 *	0.0326 **
Test Wt, lbs/bu	58.4	58.6	58.4	0.325 ns
Plants, 1000/ac	172.2	167.3	164.4	0.623 ns
Cost/ac (11-52-0)	---	\$25.65 *	---	
Cost/ac (application)	---		---	

Phosphorus cost pro-rated (50% each year)

Planting Date: 5/20/08

Harvesting Date: 10/10/08

Lime at 2.5 Ton/ac applied to all plots in Fall 2008.

Soil Test Results:

None - pH 5.6, OM 2.5, N 12, P 12, K 302

UNL - pH 5.4, OM 2.6, N 0, P 24, K 367

Comm - pH 5.7, OM 2.3, N 10, P 34, K 292

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Results: 2009

Corn (Dekalb 63-42)

Soil Test

<u>Variable</u>	<u>None</u>	<u>Comm</u>	<u>UNL</u>	<u>Prob >F</u>
Yield, bu/ac at 15.5%	202	211	207	0.314 ns
Moisture, %	17.4	17.5	17.4	0.453 ns
Test Wt, lbs/bu	57.8	58.3	58.0	0.310 ns
Plants, 1000/ac	22.8	24.6	23.4	0.180 ns
Cost/ac (11-52-0)	---	\$25.65 *	---	
Cost/ac (application)	---	---	---	

Planting Date: 5/02/09

Harvesting Date: 11/11/09

Lime at 2.5 Ton/ac applied to all plots in Fall 2008.

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Results: 2010

Soybeans (Pioneer 93Y12)

Soil Test

Variable

None

Comm

UNL

Prob >F

Yield, bu/ac at 13%

60

61

61

0.114 ns

Moisture, %

8.5

8.5

8.5

Cost/ac (fertilizer)

Cost/ac (application)

Planting Date: 5/24/10

Harvesting Date: 10/8/10

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