Nebraska On-Farm Research Network

Years: 2001 – 2007

Title: Crop Production without Tillage

Crop: Soybeans (2001), Corn (2002), Soybeans (2003), Corn (2004), Soybeans (2005), Corn (2006), Soybeans (2007)

Study ID: 079155200101M7

County: Saunders County

Objective: To determine and document the effect of no-till planting on the profitability of soybean/corn production.

Treatments: Pre-plant tillage vs. no-till planting

Nebraska Soybean & Feed Grains Profitability Project

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Results:

	Variable	Tilled	No-Till	Prob >/T/
Soybeans 2001	Yield, bu/ac at 13.0%	40	39	0.420 ns
	Moisture, %	9.6	9.6	0.695 ns
	Test Wt., lbs./bu	55.7	55.7	0.474 ns
	Cost/ac	$13.00	---	
Corn 2002	Yield, bu/ac at 15.5%	85	89	0.263 ns
	Moisture, %	14.8	15.1	0.0038 ***
	Test Wt., lbs./bu	57.8	57.2	0.0015 ***
	Pop., 1000 plants/ac	17.6	17.1	0.440 ns
	Cost/ac	$13.00	---	

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	Variable	Tilled	No-Till	Prob >/T/
Soybeans 2003 Stine 3300-1	Yield, bu/ac at 13.0%	37	38	0.203 ns
	Moisture, %	8.2	8.2	0.604 ns
	Test Wt., lbs./bu	57.4	57.8	0.027 **
	Plants, 1000 plants/ac	154.2	157.0	0.479 ns
	Cost/ac (burndown & herb + appl)	$12.00	-----	
	Cost/ac	$13.00	-----	
Corn 2004 (Renze 9363)	Yield, bu/ac at 15.5%	164	157	0.0820 *
	Moisture, %	14.6	14.6	0.6563 ns
	Plants, 1000 plants/ac	18.7	17.4	0.0210 **
	Cost/ac	$12.00	------	

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Results:	2005	Soybeans - Renze 2914	
Variable	Tilled	No-Till	Prob >/T/
Yield, bu/ac @ 13%	56	50	<0.0001 ***
Moisture, %	9.5	9.5	0.887 ns
Cost/ac (burndown & berb + appl)	$12.00	---	
Cost/ac	$16.00	---	

Results:	2006	Corn - Renze 9363	
Variable	Tilled	No-Till	Prob >/T/
Yield, bu/ac @ 15.5%	132	103	<0.0001 ***
Moisture, %	14.4	14.3	0.596 ns
Test Wt, lbs/bu	58.7	58.6	0.456 ns
Cost/ac (burndown & berb + appl)	$12.00	---	---
Cost/ac (disc & fld cult)	$16.00	---	

Planting Date: 5/8/06 Harvest Date: 11/2/06

July 15 - rain, hail and wind caused greensnap in no-till treatment. Hail credited with 6% loss. Original stand was 20,419. Following windstorm tilled population was 18,500 and no-till populations was 15,500

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Results: 2007	Soybeans		
Variable	Tilled	No-Till	Prob >/T/
Yield, bu/ac @ 13%	54	54	0.920 ns
Moisture, %	12.2	12.2	0.771 ns
Cost/ac (burndown & herb + appl)	$12.00		
Cost/ac	$16.00	---	

Summary: Growth & seed yield of soybeans was not affected by tillage in 2001. In 2002, tillage resulted in lower grain moisture at harvest & slightly higher test weight for corn. In 2003, tillage resulted in slightly lower soybean seed test weight. Plant stands for corn were higher with tillage in 2004 & grain yield was significantly higher. In 2005, seed yield of soybeans was significantly higher with tillage. Corn yield was significantly higher with tillage in 2006. Tillage had no effect on soybeans in 2007. Excellent erosion control has been observed in the no-till treatments.

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