On-Farm Comparison Results

- MCKENZIE

Nebraska Soybean & Feed Grains Profitability Project

Years: **2001 - 2004**

Title: **Using Potassium Fertilizer**

Crop: **Corn (2001), Soybeans (2002), Corn (2003), Soybeans (2004)**

NSFGPP Operator: **Duane McKenzie, Dodge County**

Private Industry Cooperator: **Mark McKenzie**

Objective: **To determine and document the effect of using potassium fertilizer on the profitability of producing corn/soybeans.**

Soil Test: **pH 5.9, OM 1.7%, P 7 ppm, K 106ppm (2001)**
pH 6.0, OM 1.9%, P 15 ppm, K 158ppm (2003)

Treatments: **No potassium fertilizer vs. 0-0-60 broadcast at 80 lbs. K_20 per acre. Residual treatments in 2002; no additional potassium applied. 80 lbs. K_2O/ac in 2003 on a different field. Residual in 2004.**

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Results:

	Variable	No Potassium	Potassium	Prob >/T/
Corn 2001	Yield, bu/ac at 15.5%	150	148	0.290 ns
	Moisture, %	15.7	16.4	0.254 ns
	Test Wt, lbs/bu	59.4	59.1	0.450 ns
	Pop., 1000 plants/ac	25.2	25.1	0.092*
	Cost/ac at 50%	---	$4.50	
Soybeans 2002	Yield, bu/ac at 13%	51	52	0.593 ns
	Moisture, %	12.0	12.0	0.815 ns
	Test Wt, lbs/bu	56.2	56.3	0.617 ns
	Pop., 1000 plants/ac	96.9	96.5	0.160 ns
	Cost/ac @ 50%	---	$4.50	

Variety: Fontanelle 9011 RR

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	Variable	No Potassium	Potassium	Prob >/T/
Corn 2003	Yield, bu/ac at 15.5%	198	196	0.791 ns
	Moisture, %	15.8	15.8	0.942 ns
	Test Wt, lbs/bu	58.4	58.7	0.087 *
	Pop., 1000 plants/ac	27.3	27.2	0.301 ns
	Cost/ac at 50%	---	$4.87	
	Hybrid DK 63-50			
Soybeans 2004 (Asgrow 2703)	Yield, bu/ac at 13%	62	61	0.751 ns
	Moisture, %	11.0	11.0	0.140 ns
	Cost/ac	---	$4.87	---

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Summary: In 2001, potassium had no effect on corn growth and yield. Plant density was reduced very slightly. Soybean growth and seed yield were not affected by residual potassium in 2002. The application of potassium increased grain test weight slightly in 2003. In 2004, residual potassium had no effect on the growth and yield of soybeans.