

Nebraska Soybean & Feed Grains Profitability Project

Year: 2001 - 2003

Title: Non-Irrigated Corn Plant Population

Crop: Corn

NSFGPP Operator: Gary & Nancy Hanke, Saunders County

Private Industry Cooperator : Ed Penas

Objective: To determine and document the effect of plant population on the profitability of non-irrigated corn production.

Treatments: Plant one hybrid at three different densities (Low @18,000, Medium @ 19,200, and High @ 22,700 seeds per acre in 2001). (Low @19,200, Medium @ 21,900, and High @ 24,500 seed per acre in 2002 & 2003).

Nebraska Soybean & Feed Grains Profitability Project

Results:

	<u>Variable</u>	<u>Low Pop.</u>	<u>Med. Pop.</u>	<u>High Pop.</u>	<u>Prob > F</u>
2001	Yield, bu/ac at 15.5%	115*	120	122	0.029**
	Moisture, %	16.3	16.4	16.2	0.208 ns
	Pop., 1000 plants/ac	16.6	18.0	19.8	0.0001 ***
	Seed Cost/ac	\$15.33	\$16.35	\$19.33	
2002	Yield, bu/ac at 15.5%	94	94	94	0.984 ns
	Moisture, %	16.6	16.8	16.9	0.285 ns
	Pop., 1000 plants/ac	17.9	20.4	22.5	<0.0001 ***
	Seed Cost/ac	\$19.08	\$21.76	\$24.35	
	Hybrid: Fontanelle 7886BT				

Nebraska Soybean & Feed Grains Profitability Project

	<u>Variable</u>	<u>Low Pop.</u>	<u>Med. Pop.</u>	<u>High Pop.</u>	<u>Prob > F</u>
2003	Yield, bu/ac at 15.5%	138	142	138	0.380 ns
	Moisture, %	14.8	14.7	14.7	0.623 ns
	Test Wt., bu/ac	57.3	57.2	57.3	0.678 ns
	Pop., 1000 plants/ac	18.5	21.0	22.3	0.0001 ***
	Seed Cost/ac				
	(Fontonelle 7886 BT)	\$17.76	\$20.26	\$22.26	

Summary: In 2001, the medium plant density (18,000 plants/ac) resulted in maximum grain yield which was significantly higher than at the low plant density. Additional plants did not affect grain yield. Grain yields and grain moisture at harvest were not influenced by planting rate in 2002 or 2003.