2017 Corn Row Configuration and Planting Rate Trial at Minot

Hybrid	Row Configuration	Planting Rate	Harvest Stand	Days to Silk	Ear Height	Harvest Moisture	Test Weight	Grain Yield
RM		Seeds/A	plants/A	DAP*	inches	%	lbs/bu	bu/A
76 day	30" Single	22k	18,188	70	31	17.3	57.4	87.5
		30k	23,232	72	34	19.5	59.0	92.1
		35k	20,328	70	34	16.4	57.0	95.7
	30" Twin	22k	20,099	72	33	17.4	56.6	90.7
		30k	23,843	70	36	16.7	57.3	123.4
		35k	27,817	70	34	17.9	58.2	106.1
85 day	30" Single	22k	15,896	75	33	17.9	55.7	97.0
		30k	20,022	74	34	17.1	53.8	111.2
		35k	18,035	75	34	15.5	53.0	108.7
	30" Twin	22k	19,105	76	32	16.9	55.0	100.8
		30k	20,939	76	34	17.5	54.7	115.9
		35k	23,156	74	34	19.6	56.8	110.6
C.V.%			7.6	2.3	4.3	6.7	2.2	8.6
LSD 5%			5,397	3	2	2.0	2.1	15.1

Combined Means - Row Configuration

Row Configuration	Harvest Stand	Days to Silk	Ear Height	Harvest Moisture	Test Weight	Grain Yield
	plants/A	DAP*	inches	%	lbs/bu	bu/A
30" Single	19,284	73	34	17.3	56.0	98.7
30" Twin	22,493	73	34	17.7	56.4	107.9
LSD 5%	2,083	NS	NS	NS	NS	8.5

Combined Means - Seeding Rate

Planting Rate	Harvest Stand	Days to Silk	Ear Height	Harvest Moisture	Test Weight	Grain Yield
Seeds/A	plants/A	DAP*	inches	%	lbs/bu	bu/A
22k	18,322	73	32	17.4	56.2	94.0
30k	22,009	73	35	17.7	56.2	110.6
35k	22,334	72	34	17.3	56.2	105.3
LSD 5%	2,478	NS	1	NS	NS	9.5

2017 Corn Row Configuration and Planting Rate Trial at Minot continued

Combined Means - Hybrid

Hybrid	Harvest Stand	Days to Silk	Ear Height	Harvest Moisture	Test Weight	Grain Yield
RM	plants/A	DAP*	inches	%	lbs/bu	bu/A
76 day	22,251	71	34	17.5	57.6	99.2
85 day	19,526	75	34	17.4	54.8	107.4
LSD 5%	2,170	1	NS	NS	1.0	NS

**Days after planting.*
NS = No statistical difference between treatments.

Planting Date: May 15 *Harvest Date: October 21*
Previous Crop: Barley *Tillage System: Minimum Till*
Soil Type: Williams Loam
Note: The trial sustained severe drought (3.6" of precip Jan 1 - July 30)

Summary: The main objective of this trial was to compare single row and twin row configurations. The trial was planted with a SRES small plot planter using Great Plains no-till openers and Monosem seed singulation meters. The twin row configuration consists of 10 inch paired rows that are planted on 30 inch centers. This configuration is common with some crops such as peanut and with corn in some regions of the country. A twin row configuration allows for more plant to plant growing space within each row compared to traditional single rows. This trial also included 3 planting rates of two hybrids with distinctly different maturities. Comparisons between row configurations showed twin rows producing significantly higher plant stands which translated into 9 more bushels of yield on average. 30k and 35k planting rates produced similar plant stands and grain yields. As would be expected, there were differences between the hybrids however, grain yields were statistically similar. In conclusion, this trial does show benefits of using a twin row configuration however, the trial will need to be repeated in order to validate this conclusions.