

**Corn Row Configuration and Planting Rate Trial at Minot
NDSU North Central Research Extension Center**

2017 and 2018 Combined Means

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	15,819	67	33	24.5	61.7	71.7
		30k	21,321	68	33	23.1	60.8	84.3
		35k	19,335	68	35	21.6	59.0	89.8
	30" Twin	22k	18,303	70	34	23.2	59.6	83.8
		30k	22,773	69	35	21.5	59.0	101.5
		35k	26,595	68	33	22.7	60.4	99.7
85 day	30" Single	22k	14,444	72	34	23.7	58.2	85.9
		30k	21,169	72	36	23.8	58.0	111.6
		35k	20,481	73	35	22.6	56.9	111.2
	30" Twin	22k	20,022	74	34	25.2	59.4	109.3
		30k	22,697	73	35	24.0	57.6	107.2
		35k	26,786	73	33	26.0	60.1	104.3
C.V.%			18.5	2.2	6.2	7.9	2.7	11.0
LSD 5%			4,456	2	NS	2.1	1.8	12.4

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	18,761	70	34	23.2	59.1	92.4
30" Twin	22,863	71	34	23.8	59.4	101.0
LSD 5%	2,202	NS	NS	NS	NS	7.5

Combined Means-Planting 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	17,147	71	34	24.1	59.7	87.7
30k	21,990	71	35	23.1	58.9	101.2
35k	23,299	70	34	23.2	59.1	101.3
LSD 5%	2,519	NS	NS	NS	NS	8.8

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	20,691	68	34	22.8	60.1	88.5
85 day	20,933	73	35	24.2	58.4	104.9
LSD 5%	NS	1	NS	0.9	0.9	6.6

*Days after planting.

NS = No statistical difference between treatments.

Planting Date: May 15, 2017 & May 14, 2018

Harvest Date: Oct. 21, 2017 & Oct. 11, 2018

Previous Crop: 2017 = Barley, 2018 = Soybean

Tillage System: Minimum Till Soil Type: Williams Loam

Test Weight and Yield are adjusted to 15.5% moisture

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 8 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 with the later maturing hybrid producing significantly higher yields. 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.