Corn performance with row spacing and fertilizer placement, Carrington, 2013.
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A field study continued at the NDSU Carrington Research Extension Center to examine the performance of corn with row spacing and placement of fertilizer at planting. Experimental design was a randomized complete block with split-plot arrangement (whole plot = 2 row widths and split plot = 4 fertilizer application methods) with four replications. The dryland trial was established in spring wheat stubble on a Fram-Wyard loam soil with 3.0% organic matter, 8.2 pH, and phosphorus at 5 ppm (low). The trial was strip-tilled on May 9-10, 2013 using a Yetter strip-till opener with 22- and 30-inch row spacing at a 5- to 6-inch tillage depth that established a berm 8-inches wide and included deep-banded 10-34-0 fertilizer treatments. DeKalb 'DKC33-78 RIB' Roundup Ready corn was planted with a John Deere 71 4-row flex planter on May 14 and included in-furrow and 2x0" banded 10-34-0. Broadcast 10-34-0 was surface-applied May 15 without mechanical incorporation. Grain was harvested with a plot combine on October 9.

Averaged across fertilizer treatments, corn stand tended to be higher with 22-inch rows at 32,500 plants/A compared to 30-inch rows at 30,550 plants/A (Table). Grain yield tended to be highest with 22-inch rows. Averaged across row spacings, plant stand tended to be reduced with banded (in-furrow and 2x0-inch) 10-34-0 at planting. All fertilizer treatments tended to increase yield compared to the untreated check, with 2x0-inch band having the highest numerical yield at 154 bu/A. No statistical differences occurred among agronomy factors with the plant row by fertilizer treatment interaction.

Table. Corn response to row spacing and fertilizer placement at planting, Carrington, 2013.

Treatment	Plant				Seed		
	Emerge	Silk	Stand (May 31)	Height (July 3)	Yield	Test weight[1]	Harvest moisture
	Jday		plt/A	cm	bu/A	lb/bu	%
Row spacing (inches):							
1. 22	153	217	32,500	70	151.4	50.1	32.5
2. 30	153	216	30,550	74	143.2	50.2	32.2
LSD (0.05)	NS	NS	NS	NS	NS	NS	NS
Placement of 10-34-0 fertilizer:							
1. untreated check	153	217	33,260	71	140.1	49.8	32.5
2. deep band at 12 gpa	153	217	32,620	71	147.2	49.9	33.2
3. deep band at 6 gpa/ in-furrow at 6 gpa	153	216	29,390	75	149.7	50.5	30.8
4. 2x0 inch band at 12 gpa	153	216	29,270	74	154.0	50.6	31.6
5. broadcast at 18 gpa	153	217	33,060	69	145.5	49.9	33.8
LSD (0.05)	NS	NS	NS	NS	NS	NS	NS
mean	153	217	31,520	72	127	50.1	32.4
CV (%)	0.4	0.9	11.6	13.7	15.9	1.5	10.7

[1]After grain was dried.