

**Corn Response to Starter Fertilizer
NDSU Carrington Research Extension Center
2009**

Experiments were conducted at the Carrington Research Extension Center in 2009 to evaluate corn response to starter fertilizers on soils with very low and medium phosphorus (P) levels. Soils test indicated 2 ppm P₂O₅ at the very low P site and 9 ppm at the medium P site. DKC 35-19' corn was direct seeded May 18 at the medium P site and sown using conventional tillage practices May 19 at the low P site in 30-inch rows at 26,400 pure live seeds/acre. The 10-34-0 plus Torque treatment was planted May 20. The low P site was not harvested due to spray tank contamination. The medium P site was harvested November 18.

Table. Corn Resposne to Starter Fertilizer.															
Treatment	Rate	Placement	Very Low P Site				Medium P Site								
			Plant Population	6/30/09	Plant Population	6/30/09	Days to Silk	Ear Height	Plant Height	Harvest Moisture	Grain Protein @ 0%	Starch Content	Test Weight	Grain Yield	
				Leaves /plant		Leaves /plant									inch
Untreated Check	0 gal/a		28314	8.3	31581	7.0	223.0	27.6	83.3	21.6	9.2	70.2	50.9	89	
10-34-0	3 gal/a	In-Furrow	27497	9.5	28042	7.9	220.0	26.0	80.5	20.3	10.1	69.2	51.9	99	
10-34-0	6 gal/a	In-Furrow	26681	10.0	29403	8.1	220.5	28.5	83.1	20.7	10.5	69.4	51.7	100	
10-34-0	9 gal/a	In-Furrow	29403	10.4	23414	8.2	220.3	28.1	84.8	19.5	10.5	69.2	52.6	104	
10-34-0	12 gal/a	In-Furrow	20963	10.3	23958	8.1	220.5	29.1	83.1	19.8	10.3	69.7	52.3	94	
10-34-0 + Avail	3 gal/a	In-Furrow	27225	9.3	29131	7.6	220.3	28.3	82.3	20.3	10.2	69.1	52.2	99	
10-34-0 + Avail	6 gal/a	In-Furrow	28042	9.9	28859	8.2	220.0	28.5	82.1	20.3	10.5	69.0	52.5	99	
10-34-0 + Avail	9 gal/a	In-Furrow	25864	10.1	25319	8.2	218.5	29.7	84.6	19.9	10.3	68.9	52.6	98	
10-34-0 + Avail	12 gal/a	In-Furrow	24503	10.0	25047	8.0	220.0	28.3	84.3	20.4	10.9	68.9	52.3	100	
10-34-0	6 gal/a	2x2	26408	9.5	27770	7.4	221.3	29.9	83.7	21.0	9.9	69.5	51.7	103	
10-34-0	12 gal/a	2x2	28586	9.8	26953	7.6	221.5	28.9	84.1	20.4	10.4	69.0	51.4	100	
10-34-0 + Avail	6 gal/a	2x2	27225	9.3	28042	7.2	221.5	31.1	84.4	20.8	10.4	69.5	51.4	95	
10-34-0 + Avail	12 gal/a	2x2	29675	9.9	29675	7.7	220.8	29.9	84.6	20.2	10.0	69.4	51.8	101	
10-34-0	6 gal/a	In-Furrow	29675	9.1	29403	8.1	220.8	29.3	82.7	21.2	10.3	69.6	51.9	97	
Torque	1 pt/a	In-Furrow													
LSD (P=.05)			4536	0.7	4360.7	0.6	1.6	NS	NS	NS	NS	0.7	1.0	11	
CV			11.7	4.8	11.1	5.3	0.5	8.6	3.5	4.0	6.2	0.7	1.4	7.9	
Grand Mean			27147	9.7	27614	7.8	220.6	28.8	83.4	20.5	10.2	69.3	52.0	98.4	