

Corn Response to Starter Fertilizers and Plant Growth Promoters

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An experiment was conducted at the Carrington Research Extension Center in 2008 to evaluate corn response to starter fertilizers and growth promoters. A fall soil test indicated 60 lbs. N/ac, 10 ppm P₂O₅, 189 ppm K₂O, and 5.9 pH. Nitrogen was applied at 83 lbs./ac prior to planting. Mycogen '2K154' corn was direct-seeded into spring wheat stubble May 13 in 30-inch rows at 26,400 seeds/acre. The trial was harvested November 6.

Plant stand, days to silk, ear and plant height, harvest moisture, grain protein, starch content and test weight were similar among treatments (Table). Grain yield ranged from 82 to 112 bu/ac. Six gal/ac 10-34-0 applied 2x2 and 6 gal/ac 10-34-0 plus 1 pt/ac Torque applied in-furrow increased grain yield compared to the untreated check.

Table. Corn Response to Starter Fertilizers and Plant Growth Promoters.

Treatment	Rate	Placement	Plant Population plants/ac	Days to Silk	Ear Height inch	Plant Height	Harvest Moisture	Grain Protein % @ 0% Moisture	Starch Content % Moisture	Test Weight lb/bu	Grain Yield bu/ac
Untreated Check	0 gal/a		26681	83.8	36.9	89.1	22.7	10.9	67.2	55.2	86
10-34-0	2 gal/a	In-Furrow	28314	82.8	35.8	85.4	20.6	11.0	67.4	56.2	90
10-34-0	4 gal/a	In-Furrow	26953	82.8	39.0	88.2	21.9	10.2	68.4	55.9	92
10-34-0	6 gal/a	In-Furrow	24503	82.5	38.8	86.7	19.7	10.2	68.0	56.6	96
10-34-0	8 gal/a	In-Furrow	25047	82.5	37.0	89.2	20.0	10.4	68.0	56.2	102
10-34-0	10 gal/a	In-Furrow	26953	83.3	36.8	88.6	21.5	10.6	67.4	54.8	93
10-34-0	6 gal/a	2x2	24230	82.0	38.8	86.9	20.5	10.7	67.6	55.5	105
10-34-0	12 gal/a	2x2	25319	82.3	34.6	84.1	19.9	11.0	67.6	55.0	104
4-16-16	6.5 gal/a	In-Furrow	24230	84.3	38.2	91.5	23.8	10.6	67.6	55.9	101
4-16-16	13 gal/a	In-Furrow	26408	83.0	37.6	87.2	21.3	10.5	67.8	55.8	97
10-34-0 + Torque	6 gal/a 1 pt/a	In-Furrow	25319	82.8	36.6	87.2	20.3	10.5	67.3	55.7	112
10-34-0 + Accolade	6 gal/a 7 oz/ac	2x2 In-Furrow	24775	82.8	37.0	87.2	21.4	10.5	67.2	55.2	102
Accolade	7 oz/ac	In-Furrow	26681	83.3	37.2	88.3	22.4	10.6	67.7	55.3	82
LSD (P=.05)			NS	NS	NS	NS	NS	NS	NS	NS	18.0
CV			7.45	1.47	7.99	4.09	9.11	4.25	0.72	1.4	11.71
Grand Mean			25801	82.9	37.3	87.7	21.2	10.6	67.6	55.6	97