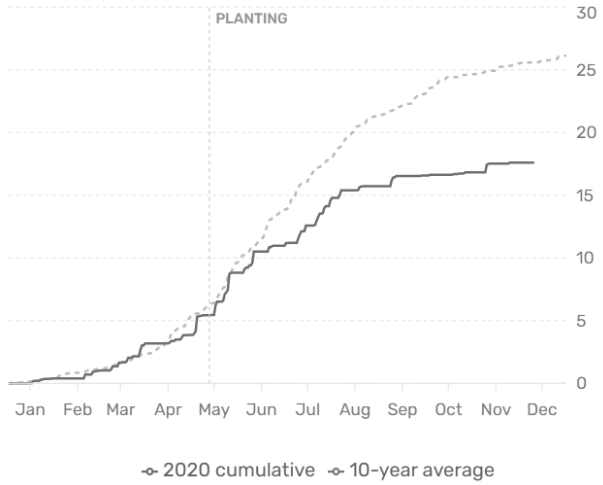
ReaX™ Mn in Starter on Corn

Study ID: 0709047202002
County: Dawson
Soil Type: Coly-Hobbs silt loam; Cozad silt loam; Hord silt loam
Planting Date: 5/12/20
Harvest Date: 10/23/20
Population: 34,000
Row Spacing (in): 30
Hybrid: Channel® 209-15VT2
Reps: 7
Previous Crop: Soybean
Tillage: Strip-Till, Ridge-Till
Herbicides: ***Pre:*** 24 oz/ac Durango® DMA®, and 3 qt/ac Vilify™ on 5/14/20
Seed Treatment: None

Irrigation: Gravity, Total: 12"
Rainfall (in):



Soil Tests (grid sampling, December 2019):

Soil pH	Soluble Salts	OM	Nitrate	Mehlich P-	SO_4-S	Ammonium Acetate (ppm)				Sum of Cations	DPTA (ppm)			
1:1	1:1 mmho/cm	LOI %	lb N/A	III ppm P	ppm	K	Ca	Mg	Na	meq/100g	Zn	Fe	Mn	Cu
6.8	0.5	2.6	17	14	2	404	2971	484	59	20	1.5	19.9	10.3	0.9
7.1	0.6	2.6	17	18	6	378	3407	432	63	22	1.8	18.1	7.4	0.8
6.9	0.5	2.9	17	17	2	398	2396	420	66	17	1.5	28.1	13.6	0.9
6.4	0.3	3.1	14	15	2	378	2071	418	72	15	1.5	28.1	13.6	0.9
6.9	0.5	2.8	12	23	15	361	2409	373	85	16	0.8	22.9	10.5	0.6
6.9	0.5	2.7	10	15	2	328	2542	423	71	17	0.4	21.7	10.1	0.6
7.0	0.4	2.5	12	15	2	254	2271	365	73	15	0.7	15.2	7.9	0.6

Introduction: The purpose of this study is to evaluate the impact of ReaX™ Mn in starter fertilizer. Soil tests indicated Mn levels ranged from 7.4 to 13.6 ppm. The producer's goal is to increase Mn levels to 20 ppm. ReaX™ Mn is a 4% Mn C2 powdered manganese. The two treatments were applied with starter at planting on May 12, 2020:

Check: 1 gal/ac Altura™, 1 gal/ac ReaX™ K, and 0.125 gal/ac ReaX™ Zn.

ReaX™Mn: 1 gal/ac Altura™, 1 gal/ac ReaX™ K, 0.125 gal/ac ReaX™ Zn, and 0.5 gal/ac ReaX™ Mn.

Additional fertilizer on the field was the same for both treatments and included a strip-till application of 15 gal/ac 32% UAN, 5 gal/ac 12-0-0-26S, 0.25 gal/ac chelated zinc, and 15 gal/ac 10-34-0 on May 11, 2020, and a sidedress application of 43 gal/ac 32% UAN and 8 gal/ac 12-0-0-26S on June 24, 2020. A previous cover crop of wheat, turnip, and rapeseed was terminated on April 30, 2020. This study will be continued for 3 years on the same locations to document if soil fertility levels change with the use of ReaX™ Mn.

Results:

	Early Season Stand Count (plants/ac)	Harvest Stand Count (plants/ac)	Moisture (%)	Yield (bu/ac)†	Marginal Net Return‡ ($/ac)
Check	33,286 A*	32,095 A	18.5 A	196 A	688.83 A
ReaX™ Mn	32,714 A	31,333 A	18.5 A	199 A	689.29 A
P-Value	0.213	0.316	0.486	0.202	0.944

*Values with the same letter are not significantly different at a 90% confidence level.
†Bushels per acre corrected to 15.5% moisture.
‡Marginal net return based on $3.51/bu corn and $8.50/ac for ReaX™ Mn.

Summary: The ReaX™ Mn did not result in statistically significant differences in early season or at harvest stand counts. After one year of the study, there were no differences in grain yield or marginal net return.

Sponsored by: University of Nebraska Lincoln

In Partnership with: Nebraska Corn Board; Nebraska Soybean Checkoff; Nebraska Corn Growers Association; Nebraska Dry Bean Commission