



RESEARCH UPDATE: HUMIHANCE

2018-2020 CORN TRIAL DETAILS

LOCATIONS AND YEARS TESTED	CORN VARIETIES	AVG. SEED RATE
1.Nebraska- 2018, 2019, 2020- Silt Loam	NK1082-3330	32,800
2.Maryland- 2019, 2020- Silt Loam	LG564STXRIB	
3.Tennessee- 2019, 2020- Silt Loam	NK0812-3120	
	Channel 215-75VT2PRIB	
	DK64-35	
	112 Day Hybrid	
COOPERATOR	PLANT DATE RANGE	HARVEST DATE RANGE
1.Real Farm Research-NE	End of April – Mid-May	Mid-October – Mid-November
2.Mulford Consulting-MD		
3.University of Tennessee-2019		
4.AgriCenter International-TN 2020		

TRIAL DESCRIPTION AND EXPERIMENTAL DESIGN

Seven field trials on corn were carried out across three years and four different locations. Four trials evaluated Humihance compared to competitor products, and three trials evaluated the efficacy of Humihance versus standard dry fertilizer inputs. All trials were replicated 4 times and arranged in a randomized complete block design.

TREATMENTS

Competitor Trials

Treatment	Location	Year	Rate gal/ton	Dry Fertilizer	Application	Plot Size	Reps
Humihance	Nebraska	2020	0.5	Urea 200 lb/A	Broadcast (Planting)	47.5 ft x 30 in (4 Rows)	4
		2019	0.5	Urea 475 lb/A			
		2018	1	Urea 250 lb/A			
	Tennessee	2020	0.5	155 lb/A DAP + 400 lb/A KCL	Broadcast (Planting)	30 ft x 10 ft (4 Rows)	4
			0.5	530 lb/A Urea	36 DAE		
Agrotain	Nebraska	2020	0.5	Urea 200 lb/A	Broadcast (Planting)	47.5 ft x 30 in (4 Rows)	4
		2019	0.5	Urea 475 lb/A			
		2018	0.5	Urea 250 lb/A			
	Tennessee	2020	0.5	155 lb/A DAP + 400 lb/A KCL	Broadcast (Planting)	30 ft x 10 ft (4 Rows)	4
			0.5	530 lb/A Urea	36 DAE		
Nutrisphere	Nebraska	2020	0.5	Urea 200 lb/A	Broadcast (Planting)	47.5 ft x 30 in (4 Rows)	4
		2019	0.5	Urea 475 lb/A			
		2018	0.5	Urea 250 lb/A			
	Tennessee	2020	0.5	155 lb/A DAP + 400 lb/A KCL	Broadcast (Planting)	30 ft x 10 ft (4 Rows)	4
			0.5	530 lb/A Urea	36 DAE		
Control	Nebraska	2020	--	Urea 200 lb/A	Broadcast (Planting)	47.5 ft x 30 in (4 Rows)	4
		2019	--	Urea 475 lb/A			
		2018	--	Urea 250 lb/A			
	Tennessee	2020	--	155 lb/A DAP + 400 lb/A KCL	Broadcast (Planting)	30 ft x 10 ft (4 Rows)	4
			--	530 lb/A Urea	36 DAE		

Efficacy Trials

Treatment	Location	Year	Rate gal/ton	Dry Fertilizer	Application	Plot Size	Reps
Humihance	Maryland	2020	0.5	185-59-60-24(S)/A	Broadcast (Pre-plant)	100 ft x 15 ft (6 Rows)	4
		2019	0.5	20 lb/A 11-52-0 + 120 lb/A 0-0-60			
	Tennessee	2019	0.5	180 lb/A Urea	Broadcast (Pre-plant)	30 ft x 10 ft (4 Rows)	4
		2020	--	185-59-60-24(S)/A			
Control	Maryland	2020	--	185-59-60-24(S)/A	Broadcast Pre-plant	100 ft x 15 ft (6 Rows)	4
		2019	--	20 lb/A 11-52-0 + 120 lb/A 0-0-60			
	Tennessee	2019	--	180 lb/A Urea	Broadcast (Pre-plant)	30 ft x 10 ft (4 Rows)	4
		2020	--	185-59-60-24(S)/A			

MAINTENANCE

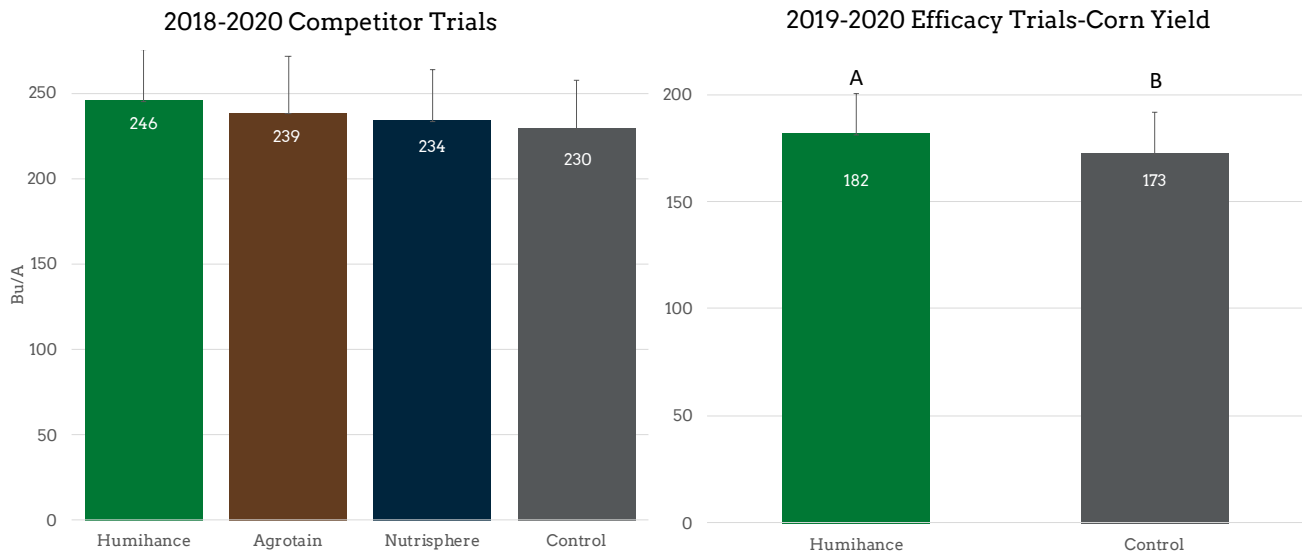
Nebraska- 2018/2019- minimum till, SureStar herbicide applied. 2020 plots were strip tilled and Acuron herbicide applied.

Maryland-2019/2020 Plots were prepared with early preplant burndown of ammonium sulfate, 2, 4 D Ester, Dual, and Roundup. Postemergence herbicide applications at V3 stage of Roundup and 2, 4 D, and insecticide application of Besiege.

Tennessee-In 2019 trials were complete in Jackson TN. Plots were no-till and non-irrigated. Standard management practice of weed, insect, and disease for the region were followed. In 2020 trials were carried out in Memphis, TN. Plots were conventional till.

TRIAL RESULTS SUMMARY

Competitor trials resulted in Humihance outperforming competitor products in all studies. In efficacy trials Humihance significantly increased corn yield compared to the control plots across multiple locations and years. Coating Humihance on dry fertilizer inputs increased corn yield by an average of 12.50 bu/A compared to dry fertilizer inputs alone. An average ROI of \$36.00 was obtained due to Humihance application.



* Letters above bars that are different represent statistical significance at a P-value of 0.05.

AVERAGE ROI

2018-2020 Competitor Trials			2019-2020 Efficacy Trials	
Treatment	Price/A*	ROI/Control per Acre	Price/A*	ROI/Control per Acre
Humihance	\$984.00	\$45.00	\$727.00	\$27.00
Agrotain	\$956.00	\$11.25	--	--
Control	\$920.00	--	\$694.00	--

*Calculated at \$4.00 Bu; Humihance at \$80.00/gal; Agrotain: \$99.98