

University of Illinois Nitrogen Trials 2017-02 Biomass-Grain-Stover

OVERVIEW:	This document features results from the 2017 University of Illinois Nitrogen Management Study. The SoilBiotics treatment was either a preplant applied 4 - Ultra Boost treated urea compared to other products and a control, or a sidedress applied UAN plus 3 - Growth Boost vs. other products and a control.
LOCATIONS:	University of Illinois Crop Sciences Research and Education Center, Champaign, IL (CU). University of Illinois Crop Physiology Laboratory Research Plots, Harrisburg, IL (HA).
HYBRID:	Croplan 6640 VT Triple PRO. Previous crop: Soybeans.
PLANTING DATE:	(CU) 5/30/17 (HA) 5/9/17
HARVEST DATE:	Various
POPULATION:	34,000 plants/acre. Plots were arranged using an RCBD with six replications.
ROWS:	30"
PLOT SIZE:	37.5 ft long by 4 rows wide
SOIL TYPE:	Silty clay loam
SOIL %OM, CEC and pH:	(CU) OM 4.1% - CEC 32.0 - pH 5.2; (HA) OM 2.2% - CEC 12.0 – pH 7.2
SOIL P and K LEVELS:	(CU) P = 33 ppm - K = 236 ppm; (HA) P = 26 ppm – K = 120ppm. Both sites (Melich 3 extraction)
TILLAGE:	Conventional: Fall Chisel Plow & Spring Field Cultivator (2 passes)
WEED TREATMENT:	Preplant: Harness Extra, Postemergence: Roundup, Status (BASF), AMS (CU). Preplant: Lumax EZ, Postemergence: Armezon, Roundup, AMS (HA).
FERTILIZER:	Both locations, 140 lbs of N (No Applied N = Control),
TREATMENTS:	Nutrisphere: 2qt/ton urea Agrotain: 3qt/ton urea 4 - Ultra Boost: 1 gal per ton urea (preplant broadcast) 3 - Growth Boost 2qt/acre 50/50 Split N treatment (UAN Y-drop) Hydra-Hume: 10 lbs per 60lbs of N from urea

This section features some of the results for plant stover biomass accumulation, grain and stover N concentration, grain and stover N content, and total plant N uptake.

Treatment	Biomass lbs Ac ⁻¹	N Concentration		N Content		Total N Uptake
		Grain	Stover	Grain	Stover	
Harrisburg						
No Applied N	9161	1.08	0.49	103	41	145
Upfront N (Urea)	9385	1.10	0.63	127	60	187
+ Agrotain	9068	1.14	0.62	135	56	192
+ Nutrisphere	9577	1.08	0.63	124	52	175
+ Hydra-Hume	9806	1.07	0.65	125	63	188
+ Ultra Boost	9885	1.10	0.65	125	64	190
50/50 Split N						
UAN Broadcasted	9234	1.17	0.55	138	51	189
UAN Y-dropped	9158	1.11	0.57	131	52	183
+ Agrotain	9868	1.12	0.64	133	62	195
+ Nutrisphere	9471	1.14	0.61	136	57	194
+ Hydra-Hume	9309	1.12	0.57	133	53	186
+ Growth Boost	9981	1.10	0.57	134	57	191

Summary: **4 - Ultra Boost** treated urea applied as Upfront N and **3 - Growth Boost** treated UAN applied as 50/50 Split N with urea treatment in Harrisburg had highest Biomass versus other treatments.