Corn Arborite Trial Final Report

Objective: To determine hoe Weyerhaeuser stabilized urea compares to urea and Agrotain stabilized urea applied at several rates at six to eight leaf growth stage.

Location: LSU AgCenter's Macon Ridge Research Station – Winnsboro, LA

Experimental Design: Randomized complete block, 14 N rate x N source treatments, with four replications

Soil: Gigger: Gigger silt loam

Preplant soil analyses:

pH-6.8; OM-1.31%; Ca-1,048 ppm; Mg-245 ppm; P-39 ppm; K-97 ppm;

S-22 ppm; Cu-1.4 ppm; Zn-1.8 ppm

Hybrid: Dekalb DKC66-96

Plot Size: Four-rows wide, 40-inch centers, 50 ft long

Cultural Practices: All LSU AgCenter recommended practices for corn were followed. Dekalb DKC 66-96 was planted on March 18 at 32,000 seed/acre. Applied seven furrow irrigations: 5/16, 5/25, 6/1, 6/8, 6/16, 6/30, and 7/7. Treatments were hand-broadcast on 4/24 (7-8 leaf growth stage) on dry soil. On the night of 4/27 a 2.35-inch rain event occurred. Seed samples were collected from each plot and will be analyzed for N. Harvest date was August 11.

Results: Yields were exceptional ranging from 96.9 bu/acre for the no-N control to 220.3 bu/acre for treatment number 8 (Table 1), with a trial average of 196.2 bu/acre. The CV was 5.0% and LSD (0.10) was 11.6 bu/acre. Hand-broadcast treatments were applied on dry soil on

April 24th. A 2.35-inch rain occurred on the night of April 27th. Average seed N and seed N uptake (yield * seed N) for each treatment is listed below.

Table 1. Influence of N sources and rates on corn yield on Gigger silt loam at the Macon Ridge Research Station in Winnsboro, LA, 2011.

Tmt no.	N Rate	N Source	Yield	Seed N	Seed N uptake
	lb/acre		bu/acre	%	lb N/a
1	0	None	96.9	1.24	67.3
2	100	Urea	183.1	1.36	139.7
3	150	Urea	203.0	1.41	160.7
4	200	Urea	194.7	1.38	150.1
5	250	Urea	203.5	1.48	168.4
6	100	Arborite Ag Coated Urea	202.2	1.44	162.5
7	150	Arborite Ag Coated Urea	206.9	1.46	169.7
8	200	Arborite Ag Coated Urea	220.3	1.51	185.7
9	250	Arborite Ag Coated Urea	217.4	1.54	187.8
10	150	Calcium Sulfate Coated Urea	191.6	1.39	149.1
11	150	Calcium Sulfate Coated Urea with Arborite Ag	201.4	1.41	159.3
12	150	Urea + Agrotain	209.5	1.49	174.3
13	150	Potassium Sulfate Coated Urea	202.0	1.42	160.9
14	150	Zinc Sulfate Coated Urea	213.7	1.46	174.7
Average			**196.2**	**1.43**	**157.9**
CV,%			**5.0**	**3.1**	**6.2**
LSD (0.10)			**11.6**	**0.05**	**11.6**