

## FIELD EXPERIMENT HISTORY

**Title:** Corn and Soybean Rotation Study  
**Experiment:** 09CS-Biochar **Trial ID:** 3469 **Year:** 2011  
**Personnel:** J. G. Lauer, T. H. Diallo, K.D. Kohn, J.M. Gaska,  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

### Site Information

**Field:** 334 E **Previous Crop:** Corn/Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 10/21/11 **pH:** 5.9 **OM (%)** 3 **P (ppm)** 11 **K (ppm)** 129

### Plot Management

**Tillage Operations:** Field Cultivator Soil Finisher

<b>Fertilizer:</b>	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Preplant :</b>	Biochar	122.7 lb/ plot	5 /5 /09
<b>Starter :</b>	N/A	N/A	N/A
<b>Post plant :</b>	C: 28-0-0	210	6 /8 /11
<b>Manure:</b>	N/A	N/A	N/A
<b>Herbicide:</b>	Dual II Mag: 24oz/A 5/03/11 Roundup: 22 oz/A 5/03/11	<b>Insecticide:</b> N/A	
<b>Irrigation:</b>	None	<b>Hybrid:</b> C: Pioneer 35F44 S: Pioneer 92Y20	
<b>Planting Date:</b>	C: 5/10/11 S: 6/01/11	<b>Planting Depth:</b> C: 1.5" S: 1"	<b>Row Width:</b> 30"
<b>Target Plant Density:</b>	Corn: 32500 Plants/A Soybean: 150000 Plants/A	<b>Planting Method:</b> Kinze 2000 Interplant planter	
<b>Harvest Date:</b>	Corn: 10/24/11 Soybean: 11/01/11	<b>Harvest Method:</b> C: Kincaid plot combine S: Almaco plot combine #2	

### Experimental Design

**Design:** RCB split-split plot **Replications:** 4  
**Plot Size Seeded:** 10' x 35' **Experiment Size:** 0.5 A  
**Harvest Plot Size:** 5' x 31'

#### **Factors/Treatments:**

<u>Tillage:</u>	<u>Rotation:</u>	<u>Applied Fertilizer:</u>
1-No-Till	1- Continuous Corn or Soybean	C and S: 1-Biochar
2-Conventional	2 - Alternating Corn - Soybean	2-UTC

**Results: Tables C-35 and C-36**



**Table C- 36. Fertilizer in Corn- Soybean Cropping Systems - Soybean  
Arlington, WI - 2011.**

Tillage	Fertilizer	Yield bu/A	Moisture %	Grower return \$/A
	Biochar	43	14.4	460
	UTC	45	14.2	489
CT		46	14.5	502
NT		41	14.1	447
CT	Biochar	46	14.5	495
CT	UTC	47	14.5	508
NT	Biochar	39	14.3	425
NT	UTC	43	14.0	469
Means		44	14.3	474
<b>Probability(%)</b>				
Tillage (T)		31.0	4.4	31.2
Fertilizer (F)		42.1	27.0	42.0
T x F		65.6	39.5	65.4
<b>LSD(0.10)</b>				
Tillage (T)		NS	0.3	NS
Fertilizer (F)		NS	NS	NS
T x F		NS	NS	NS