

FIELD EXPERIMENT HISTORY

Title: Tillage in Corn and Soybean Production Systems
Experiment: 17Tillage **Trial ID:** 3411 **Year:** 2011
Personnel: J. G. Lauer, J.M. Gaska, T.H. Diallo, K. D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: 396 **Previous Crop:** Corn / Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 10/21/11 **pH:** 6.0 **OM (%)** 3.1 **P (ppm)** 11 **K (ppm)** 100

Plot Management

Tillage Operations: See Factors

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	N/A	N/A	N/A
Starter :	N/A	N/A	N/A
Post plant :	28-0-0	CC:190, CS:160	6/18/2011
Manure:	N/A	N/A	N/A
Herbicide:	C:Dual II Magnum 24 oz/A Hornet 5 oz/A Roundup PowerMax 24 oz/A Pursuit 4 oz/A	Insecticide: None	
Irrigation: None		Hybrid/Variety: C: Pioneer 35F44 S: Pioneer 92Y20	
Planting Date: Corn: 5/3 & 5/27/11 Soybean: 6/1/11		Row Width: 30"	
Planting Method: Kinze 2000 Interplant planter		Planting Depth: Corn: 1.5" Soybean: 1"	
Target Plant Density: 32500 Plants/Acre		Harvest Method: C: Kincaid plot combine S: Almaco plot combine	
Harvest Date: Corn: 10/21/11 Soybean: 11/2/11			

Experimental Design

Design: RCB Split-plot **Replications:** 4
Plot Size Seeded: 10' x 50' **Experiment Size:** 3.6 A
Harvest Plot Size: 5' x 46'
Factors/Treatments:

<u>Rotation:</u>	<u>Tillage For All Rotations:</u>	<u>Date of Planting:</u>
Continuous Corn	1) CP: Fall chisel plow +2 spring field cultivator.	S1: May 3
Corn / Soybean	2) T1: Fall Strip-Till, knife 9in., Full Berm,	S2: May 27
Soybean / Corn	3) T2: Fall Strip-Till, knife 9in., No Berm,	
	4) T3: Fall Strip-Till, knife 6in., Full Berm,	
	5) T4: Fall Strip-Till, knife	
	6) NT: Spring 1-13 wave coulter	

Results: Tables C-56 and C-57

Table C- 56 .Tillage, Rotation, and Date of Planting in Corn and Soybean Production Systems - Corn. Arlington, WI - 2011.

Rotation	Tillage	Date of Planting	Yield bu/A	Moisture %	Test weight lbs/bu	Grower return \$/A	Lodged			Harvest plants/A
							Total %	Root %	Stalk %	
		May-3	179	17.7	53.9	958	4.3	4.1	0.2	34167
		May-27	171	24.8	51.6	894	10.3	9.8	0.6	35854
	CP		174	19.9	52.8	924	7.7	6.6	1.1	34750
	NT		162	23.2	51.2	851	4.9	4.7	0.2	34188
	T1		170	20.2	52.3	904	8.5	8.3	0.2	35500
	T2		182	20.9	52.0	963	7.8	7.7	0.2	35000
	T3		190	22.2	55.6	1006	8.6	8.6	0.1	35438
	T4		172	20.8	52.4	910	6.2	5.8	0.5	35187
	CP	May-3	188	17.5	58.5	1015	2.5	2.3	0.3	34375
	CP	May-27	159	22.3	47.1	832	12.9	11.0	1.8	35125
	NT	May-3	159	18.8	48.8	846	2.3	2.2	0.1	33000
	NT	May-27	165	27.7	53.6	857	7.6	7.2	0.3	35375
	T1	May-3	158	15.8	50.5	847	4.3	4.2	0.1	34625
	T1	May-27	183	24.6	54.1	960	12.6	12.3	0.3	36375
	T2	May-3	177	16.1	50.4	952	6.1	6.0	0.1	33875
	T2	May-27	186	25.7	53.6	973	9.5	9.3	0.3	36125
	T3	May-3	195	19.0	57.4	1048	5.0	4.9	0.1	34875
	T3	May-27	184	25.4	53.9	965	12.3	12.2	0.1	36000
	T4	May-3	194	18.7	57.6	1042	5.4	5.0	0.4	34250
	T4	May-27	149	22.9	47.2	778	7.1	6.6	0.5	36125
CC			186	23.9	55.1	978	10.1	10.0	0.2	34583
CS			164	18.5	50.3	874	4.5	3.9	0.5	35438
CC		May-3	196	19.8	56.9	1045	6.9	6.7	0.2	33500
CC		May-27	176	28.0	53.3	911	13.4	13.2	0.2	35667
CS		May-3	162	15.5	50.8	871	1.7	1.5	0.2	34833
CS		May-27	166	21.5	49.9	877	7.3	6.4	0.9	36042
CC	CP		190	22.2	56.0	1006	7.9	7.9	0.1	34250
CC	NT		164	26.4	53.9	855	7.8	7.7	0.1	33125
CC	T1		189	22.9	55.2	999	14.3	14.1	0.2	36000
CC	T2		200	23.5	55.3	1054	10.3	10.2	0.1	34500
CC	T3		192	24.7	54.6	1005	12.3	12.3	0.0	34625
CC	T4		180	23.9	55.4	948	8.2	7.6	0.6	35000
CS	CP		157	17.5	49.6	841	7.5	5.4	2.0	35250
CS	NT		160	20.1	48.5	847	2.0	1.7	0.3	35250
CS	T1		151	17.5	49.3	808	2.7	2.5	0.3	35000
CS	T2		164	18.4	48.7	871	5.4	5.2	0.2	35500
CS	T3		188	19.7	56.6	1007	5.0	4.8	0.1	36250
CS	T4		163	17.7	49.4	871	4.3	3.9	0.3	35375

continue

**Table C- 57 Corn and Soybean Cropping Systems - Soybean
Arlington, WI - 2011.**

Tillage treatment	Yield bu/A	Moisture %	Grower return \$/A
CP	52	14.8	563
NT	48	14.8	515
T1	50	14.7	543
T2	50	14.8	545
T3	52	14.8	558
T4	51	14.7	554
Mean	51	14.8	547
<u>Probability(%)</u>			
Tillage (T)	42.7	81.2	42.9
<u>LSD(0.10)</u>			
Tillage (T)	NS	NS	NS