

FIELD EXPERIMENT HISTORY

Title: Tillage in Corn and Soybean Production Systems
Experiment: 17Tillage **Trial ID:** 3657 **Year:** 2012
Personnel: J. G. Lauer, T. H. Diallo, K. D. Kohn, J. M. Gaska
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: 396 **Previous Crop:** Corn / Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 11/6/2012 **pH:** 6.2 **OM (%)** 3.4 **P (ppm)** 20 **K (ppm)** 112

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	6/13/2012
Manure:	N/A	N/A	N/A

Herbicide: C: Dual II Magnum 24 oz/A
 Hornet 3 oz/A
 S: Intro 90 oz/A
 Authroity First 8 oz/A

Insecticide: None

Irrigation: None **Hybrid/Variety:** C: Dekalb DKC55-09
S: Pioneer 92Y30

Planting Date: Corn: 4/12 & 5/11/12 **Row Width:** 30"
 Soybean: 5/23/12

Planting Method: Kinze 2000 Interplant planter **Planting Depth:** Corn: 1.5"
Soybean: 1"

Target Plant Density: 32500 **Plants/Acre**
Harvest Date: Corn: 11/16/12 **Harvest Method:** C: Kincaid plot combine
S: Almaco plot combine
 Soybean: 10/12/12

Notes:

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:

Rotation

Continuous Corn
 Corn / Soybean
 Soybean / Corn

Tillage For All Rotations:

- 1) CP: Fall chisel plow +2 spring field cultivator
- 2) T1: Fall Strip-Till, knife 9in., Full Berm
- 3) T2: Fall Strip-Till, knife 9in., No Berm
- 4) T3: Fall Strip-Till, knife 6in., Full Berm
- 5) T4: Fall Strip-Till, knife, No Berm
- 6) NT: Spring 1-13 wave coultter

Date of Planting:

S1: April 12
 S2: May 11

Results: Tables C-60 & C-61

Table C- 60 .Tillage, Rotation and Date of Planting in Corn and Soybean Production Systems - Corn. Arlington, WI - 2012.

Rotation	Tillage	Date of Planting	Yield bu/A	Moisture %	Test weight lbs/bu	Return \$6.65/bu \$/A	Lodged			Plant Height Inch	Harvest density plants/A
							Total %	Root %	Stalk %		
		April-12	138	14.9	57.3	887	0.8	0.4	0.5	63	30979
		May-11	158	16.4	55.3	1007	2.7	2.4	0.4	65	37271
	CP		145	14.7	57.7	931	5.5	5.2	0.3	64	32813
	NT		141	16.1	54.9	900	0.7	0.2	0.5	66	34313
	T1		147	15.5	56.6	939	0.8	0.5	0.3	63	35188
	T2		156	16.0	56.4	996	0.9	0.3	0.6	66	33750
	T3		153	15.9	56.3	979	1.0	0.8	0.3	64	34125
	T4		146	15.8	56.1	937	1.8	1.1	0.7	63	34563
	CP	April-12	136	14.7	58.3	875	1.5	1.3	0.3	65	27625
	CP	May-11	154	14.7	57.1	986	9.4	9.1	0.3	62	38000
	NT	April-12	137	15.3	55.9	879	1.0	0.3	0.7	67	31625
	NT	May-11	144	16.9	53.8	920	0.5	0.2	0.3	64	37000
	T1	April-12	131	14.7	57.6	843	0.4	0.2	0.2	61	34000
	T1	May-11	162	16.2	55.6	1036	1.2	0.9	0.3	66	36375
	T2	April-12	149	14.9	57.5	959	0.8	0.2	0.5	64	30250
	T2	May-11	162	17.2	55.2	1033	1.0	0.4	0.6	67	37250
	T3	April-12	139	15.1	57.3	892	0.5	0.1	0.4	61	30125
	T3	May-11	167	16.7	55.4	1066	1.6	1.4	0.1	68	38125
	T4	April-12	136	14.7	57.4	873	0.9	0.1	0.9	62	32250
	T4	May-11	157	16.8	54.9	1000	2.6	2.1	0.5	64	36875
CC			151	16.6	55.5	964	1.7	1.4	0.4	65	33854
SC			145	14.7	57.2	930	1.8	1.4	0.5	63	34396
CC		April-12	143	15.7	56.5	918	0.9	0.4	0.4	65	30833
CC		May-11	159	17.5	54.4	1010	2.6	2.3	0.3	66	36875
SC		April-12	133	14.1	58.2	855	0.8	0.3	0.5	62	31125
SC		May-11	157	15.3	56.2	1004	2.8	2.4	0.4	65	37667
CC	CP		147	15.0	57.2	947	8.0	7.7	0.4	65	32000
CC	NT		146	17.4	53.7	934	0.1	0.1	0.1	67	35000
CC	T1		148	16.3	55.8	947	0.4	0.1	0.3	65	34500
CC	T2		165	17.1	55.7	1054	0.5	0.1	0.4	68	33125
CC	T3		155	17.0	55.4	992	0.4	0.2	0.2	66	34375
CC	T4		143	16.8	55.1	911	0.9	0.0	0.9	62	34125
SC	CP		143	14.3	58.3	915	2.9	2.7	0.1	63	33625
SC	NT		135	14.9	56.1	866	1.3	0.4	0.9	64	33625
SC	T1		145	14.7	57.3	931	1.2	0.9	0.3	62	35875
SC	T2		146	14.9	57.1	937	1.3	0.6	0.7	64	34375
SC	T3		151	14.7	57.3	967	1.6	1.3	0.3	63	33875
SC	T4		150	14.8	57.2	963	2.7	2.2	0.5	64	35000

continued

**Table C- 61. Corn and Soybean Cropping Systems - Soybean
Arlington, WI - 2012.**

Tillage treatment	Yield bu/A	Moisture %	Return \$13.60/bu \$/A
CP	51	8.5	679
NT	53	8.5	716
T1	49	8.6	658
T2	52	8.6	695
T3	50	8.6	667
T4	50	8.6	669
Mean	51	8.6	681
<u>Probability(%)</u>			
Tillage (T)	64.1	99.5	64.1
<u>LSD(0.10)</u>			
Tillage (T)	NS	NS	NS