

## FIELD EXPERIMENT HISTORY

**Title:** Tillage in Corn and Soybean Production Systems  
**Experiment:** 17Tillage **Trial ID:** 5751 **Year:** 2013  
**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:** 11/4/2013 **pH:** 6.1 **OM (%)** 3.1 **P (ppm)** 18 **K (ppm)** 117

### Plot Management

**Tillage Operations:** See Factors

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b> <b>Preplant :</b>	N/A	N/A	N/A
<b>Starter :</b>	N/A	N/A	N/A
<b>Post plant :</b>	28-0-0	190	6/18/2013
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:** C:Dual Mag 28 oz/A on 5/24  
 Hornet 5 oz/A on 5/24  
 Roundup Pmax 28 oz/A on 7/3  
 S:Authority 8 oz/A on 5/25  
 Roundup Powermax 36 oz/A on 6/17  
**Insecticide:** None

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

**Planting Date:** Corn: 5/13 & 5/21/13 **Row Width:** 30"  
 Soybean: 5/21/13

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

**Target Plant Density:** 35000 **Plants/Acre**  
**Harvest Date:** Corn: 10/29/13 **Harvest Method:** C: MF 8XP plot combine  
S: Almaco plot combine  
 Soybean: 10/28/13

**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:**

<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 13
Corn / Soybean	2) T1: Fall Strip-Till, knife 9in., Full Berm	S2: May 21
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, No Berm	
	6) NT: Spring 1-13 wave coulter	

**Results: Tables 1317-01 & 1317-02**

**Table:1317-01 .Tillage, Rotation and Date of Planting in Corn and Soybean  
Production Systems - Corn. Arlington, WI - 2013.**

Rotation	Tillage	Date of Planting	Yield bu/A	Moisture %	Test weight lbs/bu	Lodged			Harvest density plants/A	Return \$4.04/bu \$/A
						Total %	Root %	Stalk %		
CC			195	22.1	50.9	1.1	0.6	0.5	32479	714
CS			170	21.6	50.2	0.4	0.3	0.1	34333	628
	CP		181	20.8	51.0	0.0	0.0	0.0	33000	671
	NT		180	23.1	49.9	1.2	0.8	0.4	33125	657
	T1		178	21.4	50.6	0.6	0.4	0.2	33250	657
	T2		188	21.6	50.8	0.3	0.3	0.0	33688	691
	T3		186	22.2	50.6	1.9	0.9	1.0	34125	683
	T4		181	22.0	50.4	0.8	0.4	0.4	33250	666
		13-May	184	20.0	51.7	0.6	0.2	0.4	33542	682
		21-May	181	23.8	49.4	0.9	0.7	0.3	33271	659
CC	CP		193	20.4	51.5	0.0	0.0	0.0	31500	716
CC	NT		184	23.8	50.0	1.6	1.2	0.4	32375	671
CC	T1		194	21.7	51.2	0.8	0.4	0.3	32125	713
CC	T2		207	21.8	51.2	0.7	0.7	0.0	33000	759
CC	T3		202	22.8	50.8	2.6	0.7	1.9	33000	739
CC	T4		187	22.3	50.7	1.1	0.8	0.4	32875	685
CS	CP		169	21.2	50.4	0.0	0.0	0.0	34500	625
CS	NT		175	22.4	49.8	0.7	0.4	0.4	33875	643
CS	T1		162	21.1	49.9	0.4	0.4	0.0	34375	600
CS	T2		169	21.4	50.4	0.0	0.0	0.0	34375	623
CS	T3		170	21.6	50.4	1.1	1.1	0.0	35250	626
CS	T4		176	21.7	50.2	0.4	0.0	0.4	33625	648
CC		13-May	198	20.2	52.1	0.8	0.1	0.6	33000	734
CC		21-May	191	24.1	49.7	1.5	1.1	0.4	31958	693
CS		13-May	169	19.7	51.2	0.5	0.4	0.1	34083	630
CS		21-May	171	23.4	49.2	0.4	0.2	0.1	34583	625
	CP	13-May	177	19.0	52.0	0.0	0.0	0.0	33625	660
	CP	21-May	186	22.6	49.9	0.0	0.0	0.0	32375	681
	NT	13-May	182	21.7	50.4	1.1	0.7	0.4	33250	671
	NT	21-May	177	24.5	49.3	1.2	0.9	0.4	33000	643
	T1	13-May	178	19.5	51.7	0.4	0.4	0.0	32875	663
	T1	21-May	179	23.3	49.5	0.8	0.4	0.3	33625	651
	T2	13-May	186	19.3	52.3	0.0	0.0	0.0	34375	693
	T2	21-May	190	24.0	49.4	0.7	0.7	0.0	33000	689
	T3	13-May	192	20.2	51.8	1.9	0.4	1.5	33625	711
	T3	21-May	180	24.1	49.4	1.8	1.4	0.4	34625	654
	T4	13-May	187	20.1	51.8	0.4	0.0	0.4	33500	693
	T4	21-May	176	24.0	49.1	1.1	0.8	0.4	33000	639

continue

**Table:1317-01 .Tillage, Rotation and Date of Planting in Corn and Soybean****(continued) Production Systems - Corn. Arlington, WI - 2013.**

Rotation	Tillage	Date of Planting	Yield bu/A	Moisture %	Test weight lbs/bu	Lodged			Harvest density plants/A	Return \$4.04/bu \$/A
						Total %	Root %	Stalk %		
CC	CP	13-May	195	18.9	52.6	0.0	0.0	0.0	32750	728
CC	CP	21-May	192	22.0	50.4	0.0	0.0	0.0	30250	704
CC	NT	13-May	192	21.7	50.7	0.7	0.7	0.0	33000	707
CC	NT	21-May	176	25.9	49.2	2.5	1.7	0.8	31750	635
CC	T1	13-May	202	20.2	52.3	0.0	0.0	0.0	32000	747
CC	T1	21-May	187	23.1	50.1	1.6	0.9	0.7	32250	680
CC	T2	13-May	205	19.5	52.7	0.0	0.0	0.0	34000	763
CC	T2	21-May	208	24.1	49.7	1.4	1.4	0.0	32000	755
CC	T3	13-May	208	20.6	51.9	3.1	0.0	3.1	33250	770
CC	T3	21-May	196	24.9	49.7	2.2	1.4	0.8	32750	708
CC	T4	13-May	186	20.0	52.1	0.8	0.0	0.8	33000	691
CC	T4	21-May	188	24.6	49.2	1.5	1.5	0.0	32750	679
CS	CP	13-May	159	19.2	51.4	0.0	0.0	0.0	34500	593
CS	CP	21-May	180	23.1	49.5	0.0	0.0	0.0	34500	657
CS	NT	13-May	172	21.7	50.1	1.5	0.8	0.7	33500	635
CS	NT	21-May	179	23.2	49.5	0.0	0.0	0.0	34250	652
CS	T1	13-May	155	18.7	51.0	0.7	0.7	0.0	33750	579
CS	T1	21-May	170	23.5	48.8	0.0	0.0	0.0	35000	622
CS	T2	13-May	167	19.0	51.9	0.0	0.0	0.0	34750	623
CS	T2	21-May	171	23.8	49.0	0.0	0.0	0.0	34000	623
CS	T3	13-May	176	19.8	51.7	0.8	0.8	0.0	34000	653
CS	T3	21-May	164	23.4	49.2	1.4	1.4	0.0	36500	600
CS	T4	13-May	187	20.1	51.4	0.0	0.0	0.0	34000	695
CS	T4	21-May	164	23.3	49.0	0.8	0.0	0.8	33250	600
Mean			182	21.9	50.5	0.8	0.5	0.3	33406	671
<b>Probability (%)</b>										
Rotation (R)			13.3	69.8	11.0	10.0	31.6	13.0	4.4	11.9
Tillage (T)			89.6	0.7	0.4	2.1	45.7	5.1	71.4	86.5
Date of Planting (DOP)			59.2	0.0	0.0	31.0	11.5	49.0	55.2	15.0
R x T			53.1	51.6	24.1	78.8	72.7	3.1	75.6	47.0
R x DOP			30.9	66.3	35.9	14.8	4.0	47.8	9.6	24.0
T x DOP			69.7	63.0	2.1	94.7	83.4	30.5	55.7	66.9
R x T x DOP			46.6	30.0	86.6	26.2	93.7	5.7	89.8	45.8
<b>LSD (0.10)</b>										
Rotation (R)			NS	NS	NS	0.5	NS	NS	1297	NS
Tillage (T)			NS	0.9	0.4	0.9	NS	0.5	NS	NS
Date of Planting (DOP)			NS	0.5	0.2	NS	NS	NS	NS	NS
R x T			NS	NS	NS	NS	NS	0.8	NS	NS
R x DOP			NS	NS	NS	NS	0.7	NS	1161	NS
T x DOP			NS	NS	0.6	NS	NS	NS	NS	NS
R x T x DOP			NS	NS	NS	NS	NS	1.1	NS	NS

**Table:1317-02 .Tillage, Rotation and Date of Planting in Corn and Soybean  
Arlington, WI - 2013.**

Tillage treatment	Yield bu/A	Moisture %	Return \$12.42/bu \$/A
CP	54	12.2	660
NT	53	12.1	642
T1	52	12.1	640
T2	54	12.1	654
T3	54	12.1	658
T4	52	12.1	634
Mean	53	12.1	648
<b>Probability(%)</b>			
Tillage (T)	90.9	74.8	90.9
<b>LSD(0.10)</b>			
Tillage (T)	NS	NS	NS