

## FIELD EXPERIMENT HISTORY

**Title:** Tillage in Corn and Soybean Production Systems  
**Experiment:** 17Tillage **Trial ID:** 6168 **Year:** 2017  
**Personnel:** J. G. Lauer, 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:** 11/1 /16 **pH** 5.8 **OM (%)** 3.2 **P (ppm)** 9 **K (ppm)** 112

### Plot Management

**Tillage Operations:** See Factors

	<u>Analysis:</u>	<u>Product Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
<b>Preplant :</b>	0-0-60	125 lb/A	4 /19/17
<b>Starter :</b>	9-23-31	160 lb/A	5/15/17
	0-0-62	140 lb/A	5/15/17
<b>Post plant :</b>	28-0-0	CC: 678	6/9/17
		CS: 571	6/9/17
<b>Manure:</b>	N/A	N/A	N/A
<b>Herbicide:</b>	Medal II EC 24 oz/A 5/4/17		
	Durango DMA 22 oz/A 5/4/17		
	2,4-D Low Vol 4 16 oz/A 5/4/17		
	Durango DMA 28 oz/A 6/19/17		
	Roundup WM 32 oz/A 6/27/17		
		<b>Hybrid/Variety:</b>	C: SS: Dekalb DKC52-68RIB
			S: RR: Syngenta NK Brand S20T6)
<b>Irrigation:</b>	NO	<b>Row Width:</b>	30"
<b>Planting Date:</b>	C: 5/15/17	<b>Planting Depth:</b>	C: 1.5"
	S: 5/15/17		S: 1"
<b>Planting Method:</b>	JD1700 w RTK	<b>Harvest Method:</b>	C: MF 8XP plot combine
<b>Target Plant Density:</b>	35000 <b>Plants/Acre</b>		S: Almaco plot combine
		<b>Harvest Date:</b>	C: 10/30/17
			S: 10/19/17
<b>Notes:</b>	T2 and T3 were similar as well as T4 and T5 in 2016		

### 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:</u>	<u>Fungicide:</u>
1) CC	1) Rotational tillage: NT with fertilizer surface broadcast (2016)	1) S1 - UTC
2) CS	2) T1: Strip-Till with fertilizer banded. Soybean planted to 15-inch rows.	2) S2 - 4 fl oz/a Priaxor
	3) T2: Strip-Till with fertilizer banded. Soybean planted to 30-inch rows.	in-furrow at planting
	4) T3: Strip-Till with fertilizer surface broadcast. Soybean planted to 15-inch rows.	
	5) T4: Strip-Till with fertilizer surface broadcast. Soybean planted to 30-inch rows.	
	6) NT: Spring one 13-wave coulter with trash whippers on planter; with fertilizer surface broadcast	

**Results: Tables 1717-01 & 1717-02**

**Table:1717- 01 .Tillage in Corn and Soybean Production Systems - Corn  
Arlington, WI - 2017.**

Rotation	Tillage	Fungicide	Yield bu/A	Moisture %	Test weight lbs/bu	Lodged			Harvest density plants/A	AGI \$3.44/bu \$/A
						Total %	Root %	Stalk %		
CC			226	27.6	51.7	1.2	0.9	0.3	31208	671
CS			256	24.6	52.8	1.4	0.9	0.5	33896	774
	NT		249	25.8	52.3	1.1	0.7	0.3	34188	749
	RT		228	26.8	51.9	3.1	2.0	1.1	31625	682
	T1		248	23.8	52.8	0.4	0.0	0.4	34438	755
	T2		250	24.8	52.8	0.9	0.6	0.3	32938	756
	T3		235	27.5	51.9	1.0	1.0	0.0	31625	699
	T4		234	27.8	51.9	1.5	1.1	0.4	30500	695
		Priaxor	243	26.2	52.4	1.1	0.9	0.3	32708	728
		UTC	239	26.0	52.2	1.5	0.9	0.6	32396	717
CC	NT		233	26.5	51.7	1.1	1.1	0.0	34250	696
CC	RT		216	28.7	51.4	3.6	1.7	1.8	29500	636
CC	T1		238	24.4	52.5	0.0	0.0	0.0	34000	721
CC	T2		242	26.4	52.0	0.4	0.4	0.0	32500	724
CC	T3		218	29.6	51.2	0.8	0.8	0.0	29250	638
CC	T4		210	30.0	51.5	1.5	1.5	0.0	27750	612
CS	NT		266	25.1	52.9	1.0	0.4	0.7	34125	801
CS	RT		241	24.9	52.4	2.6	2.2	0.4	33750	727
CS	T1		258	23.2	53.2	0.7	0.0	0.7	34875	789
CS	T2		258	23.3	53.6	1.4	0.7	0.7	33375	788
CS	T3		252	25.4	52.6	1.1	1.1	0.0	34000	760
CS	T4		259	25.7	52.4	1.5	0.7	0.8	33250	777
CC		Priaxor	225	27.8	51.8	1.0	0.9	0.1	31542	668
CC		UTC	227	27.4	51.6	1.4	0.9	0.5	30875	674
CS		Priaxor	260	24.6	52.9	1.2	0.8	0.4	33875	787
CS		UTC	251	24.6	52.7	1.5	0.9	0.7	33917	760
	NT	Priaxor	253	25.8	52.5	0.7	0.7	0.0	34000	759
	NT	UTC	246	25.8	52.1	1.4	0.7	0.7	34375	739
	RT	Priaxor	236	27.1	51.9	1.9	1.5	0.4	33125	702
	RT	UTC	221	26.5	52.0	4.3	2.5	1.8	30125	662
	T1	Priaxor	253	23.9	52.7	0.4	0.0	0.4	33750	770
	T1	UTC	243	23.7	52.9	0.3	0.0	0.3	35125	741
	T2	Priaxor	247	24.4	53.1	0.4	0.4	0.0	32500	749
	T2	UTC	253	25.3	52.5	1.4	0.7	0.7	33375	763
	T3	Priaxor	236	27.8	52.1	1.6	1.6	0.0	32125	701
	T3	UTC	234	27.3	51.8	0.3	0.3	0.0	31125	696
	T4	Priaxor	232	28.2	52.0	1.9	1.1	0.8	30750	687
	T4	UTC	237	27.4	51.9	1.1	1.1	0.0	30250	703
CC	NT	Priaxor	235	26.8	51.9	0.7	0.7	0.0	34250	703
CC	NT	UTC	230	26.2	51.5	1.4	1.4	0.0	34250	690
CC	RT	Priaxor	220	28.4	51.7	1.6	0.8	0.8	31750	650
CC	RT	UTC	212	29.0	51.2	5.6	2.7	2.9	27250	623

continue



**Table:1717- 02 .Tillage, Rotation and Planting Density  
in Corn and Soybean - Soybean Arlington, WI - 2017.**

Tillage treatment	Fungicide	Yield bu/A	Moisture %	*AGI \$8.48/bu \$/A
NT		58	16.2	471
RT		50	16.5	406
T1		57	16.4	467
T2		61	16.2	498
T3		57	15.9	466
T4		55	16.2	454
	Priaxor	57	16.4	466
	UTC	56	16.1	455
NT	Priaxor	57	16.3	466
NT	UTC	58	16.1	477
RT	Priaxor	53	16.6	433
RT	UTC	46	16.4	380
T1	Priaxor	58	16.3	476
T1	UTC	56	16.4	459
T2	Priaxor	61	16.2	497
T2	UTC	61	16.1	499
T3	Priaxor	58	16.3	476
T3	UTC	56	15.5	457
T4	Priaxor	55	16.5	451
T4	UTC	56	15.8	458
Mean		56	16.2	461
<b>Probability(%)</b>				
Tillage (T)		0.0	80.8	0.0
Fungicide (F)		11.2	17.4	12.1
T x F		13.9	86.8	13.7
<b>LSD(0.10)</b>				
Tillage (T)		3	NS	21
Fungicide (F)		NS	NS	NS
T x F		NS	NS	NS

\*AGI - Adjusted Gross Income

In 2016, for Reps 1 and 3, T1/T2 was applied to T3/T4; and T3/T4 to T1/T2.