

## FIELD EXPERIMENT HISTORY

**Title:** Tillage in Corn and Soybean Production Systems  
**Experiment:** 17Tillage **Trial ID:** 6501 **Year:** 2020  
**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:** 11/12/18 **pH** 6.9 **OM (%)** 3.7 **P (ppm)** 60 **K (ppm)** 186

### Plot Management

**Tillage Operations:** See Factors

	<u>Analysis:</u>	<u>Product 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>	32-0-0	CC:593 CS: 500	6/19/20 6/19/20
<b>Manure:</b>	N/A	N/A	N/A
<b>Herbicide:</b>	Dual II-Magnum @ 24 oz/A 4/24/20 Roundup Power Max @ 32 oz/A 4/24/20 Roundup Power Max @ 32 oz/A 6/15/20		
		<b>Hybrid/Variety:</b> C: Jung 56SS538RIB S: Asgrow AG20X9	
<b>Irrigation:</b> NO		<b>Row Width:</b> 30"	
<b>Planting Date:</b> C: 5/5/20 S: 5/12/20		<b>Planting Depth:</b> C: 1.5" S: 1"	
<b>Planting Method:</b> JD1700 w RTK		<b>Harvest Method:</b> C: MF 8XP plot combine S: Almaco plot combine	
<b>Target Plant Density:</b> 35000 & 45000 Plants/Acre		<b>Harvest Date:</b> C: 10/21/20 S: 10/16/20	

**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:</u>	<u>Density:</u>
1) CC	1) Rotational tillage: NT since 2016.	1) S1 - 35000 ppa
2) CS	2) T1: Fall Strip-Till, Knife 9in Full berm.	2) S2 - 45000 ppa
	3) T2: Fall Strip-Till, Knife 9in no berm.	
	4) T3: Fall Strip-Till, Knife 6in Full berm.	
	5) T4: Fall Strip-Till, Knife 6in no berm.	
	6) NT: Spring 1-13-wave coulter with trash whippers on planter.	

**Results: Tables 2017-01 & 2017-02**

**Table:2017- 01 .Tillage in Corn and Soybean Production Systems - Corn  
Arlington, WI - 2020.**

Rotation	Tillage	Fungicide	Yield bu/A	Moisture %	Test weight lbs/bu	Lodged			Harvest density plants/A	AGI \$3.44/bu \$/A
						Total %	Stalk %	Root %		
CC			208	30.6	51.2	1.2	1.0	0.1	35625	627
CS			215	27.9	51.0	7.5	6.5	1.0	37125	657
	NT		198	30.0	50.9	5.1	5.1	0.0	37313	599
	RT		194	30.7	50.9	3.0	3.0	0.0	36125	584
	T1		221	27.9	51.3	3.7	2.7	1.0	35875	677
	T2		222	28.5	51.0	7.2	6.1	1.0	35688	676
	T3		216	29.1	51.4	2.6	2.2	0.3	37625	657
	T4		217	29.2	51.3	4.5	3.5	1.0	35625	660
		35000	210	29.0	51.1	4.9	4.3	0.6	33708	639
		45000	213	29.5	51.1	3.8	3.2	0.6	39042	646
CC	NT		207	31.1	51.0	1.6	1.6	0.0	36250	621
CC	RT		180	32.6	51.2	0.0	0.0	0.0	34875	534
CC	T1		218	29.3	51.2	0.7	0.4	0.3	35000	663
CC	T2		220	29.1	51.1	2.0	2.0	0.0	34750	667
CC	T3		216	30.7	51.4	1.0	1.0	0.0	38000	648
CC	T4		209	30.7	51.3	1.6	1.2	0.4	34875	627
CS	NT		190	28.8	50.7	8.6	8.6	0.0	38375	576
CS	RT		209	28.8	50.6	6.0	6.0	0.0	37375	634
CS	T1		224	26.5	51.4	6.7	5.0	1.7	36750	691
CS	T2		223	27.9	50.8	12.3	10.3	2.1	36625	684
CS	T3		217	27.6	51.3	4.1	3.5	0.6	37250	666
CS	T4		226	27.7	51.2	7.5	5.8	1.7	36375	693
CC		35000	211	30.3	51.4	1.1	1.0	0.1	32917	637
CC		45000	205	30.9	51.1	1.2	1.1	0.1	38333	617
CS		35000	209	27.7	50.9	8.7	7.7	1.0	34500	640
CS		45000	221	28.0	51.1	6.4	5.4	1.0	39750	674
	NT	35000	203	29.8	50.9	6.2	6.2	0.0	32875	613
	NT	45000	194	30.1	50.9	4.0	4.0	0.0	41750	585
	RT	35000	191	30.3	50.9	2.3	2.3	0.0	34125	575
	RT	45000	198	31.1	50.9	3.7	3.7	0.0	38125	593
	T1	35000	219	27.8	51.3	4.5	3.2	1.3	33000	670
	T1	45000	223	28.0	51.3	2.9	2.3	0.7	38750	683
	T2	35000	219	28.5	51.1	7.4	7.4	0.0	33125	667
	T2	45000	225	28.5	50.8	6.9	4.8	2.1	38250	685
	T3	35000	214	29.2	51.5	3.9	3.6	0.3	35000	650
	T3	45000	218	29.1	51.3	1.2	0.9	0.3	40250	664
	T4	35000	215	28.5	51.3	5.0	3.3	1.7	34125	656
	T4	45000	220	29.9	51.3	4.1	3.8	0.3	37125	664
CC	NT	35000	208	30.9	51.2	2.2	2.2	0.0	30500	625
CC	NT	45000	206	31.4	50.9	1.1	1.1	0.0	42000	617
CC	RT	35000	188	32.2	51.2	0.0	0.0	0.0	34250	560
CC	RT	45000	172	33.0	51.1	0.0	0.0	0.0	35500	509

continue



**Table:2017- 02 .Tillage, Rotation and Planting Density  
in Corn and Soybean - Soybean . Arlington, WI - 2020**

Tillage treatment	Yield bu/A	Moisture %	*AGI \$8.21/bu \$/A
NT	64	10.5	513
RT	58	10.4	461
T1	65	10.3	516
T2	67	10.3	537
T3	67	10.3	533
T4	66	10.4	526
Mean	64	10.4	514
<b><u>Probability(%)</u></b>			
Tillage (T)	5.7	2.5	5.7
<b><u>LSD(0.10)</u></b>			
Tillage (T)	5	0.1	43

\*AGI - Adjusted Gross Income