

FIELD EXPERIMENT HISTORY

Title: Tillage in Corn and Soybean Production Systems
Experiment: 17Tillage Trial ID 2259 Year: 2001
Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn
Location: Arlington, WI County: Columbia
Supported By: HATCH

Site Information

Field: 396 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** 10/01/97 **pH** 6.8 **OM (%)** 3.4 **P (ppm)** 40 **K (ppm)** 210

Plot Management

Tillage Operations: See Factors 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	325	N/A
Starter :	N/A	N/A	N/A
Post plant :	N/A	N/A	N/A
Manure:	N/A	N/A	N/A

Herbicide: Roundup 1.0 qt/A 5/9 - All
Frontier 22 oz/A 5/14 - corn
Permit 0.67 oz/A 6/14 - corn
Buctril 1.5 pt/A 6/26 - corn
Poast 2 pt/A - soybean

Insecticide: None

Irrigation: None

Hybrid/Variety: Pioneer 35R57
Dairyland DSR215RR

Planting Date: C & S: 5/14/01

Row Width: 30"

Planting Method: Kinze Inter-Row Planter

Planting Depth: 1.5"

Harvest Date: C: 10/25
S: 10/16

Harvest Method: C: Kincaid Plot Combine
S: Almaco Plot Combine

Experimental Design

Design: RCB Split Plot **Replications:** 4
Plot Size Seeded: 20' x 100' **Experiment Size:** 4.5A
Harvest Plot Size: 5' x 100'
Factors/Treatments:

Rotation

Continuous Corn
Corn / Soybean
Soybean / Corn

Tillage

CP = Fall chisel plow and spring soil finisher.
T1 = Fall Zone Builder sub soiler and small ridger (offset east).
T2 = Fall Zone Builder sub soiler (offset east).
T3 = Fall coultter cart and small ridger.
T4 = Spring chisel plow and spring soil finisher.
NT = Spring 1-13 wave coultter with trash whippers.

Results: Tables C-58 and C-59.

**Table C-58. Tillage in Corn and Soybean Production Systems.
Arlington, WI - 2001.**

Rotation	Future tillage treatment	Yield bu/A	Moisture %	Test weight lbs/bu	Lodged %	Harvest population plants/A	Grower return \$/A
CC	CP	177	23.4	49.4	5	33000	379
CC	T1	182	23.5	49.5	6	32250	389
CC	T2	191	23.5	49.2	3	33333	408
CC	T3	185	24.2	48.9	2	30750	395
CC	T4	185	23.2	49.6	6	31750	395
CC	NT	178	22.7	49.8	4	30750	381
Mean		183	23.4	49.4	4	31913	391
CS	CP	181	23.0	50.1	3	31250	387
CS	T1	178	22.8	49.8	5	32500	380
CS	T2	175	22.9	49.7	4	30250	374
CS	T3	179	23.2	49.7	1	31000	384
CS	T4	179	23.5	49.3	8	32750	382
CS	NT	185	22.9	49.9	2	32250	395
Mean		179	23.0	49.7	4	31667	384
<u>Probability(%)</u>							
Rotation (R)		51.2	53.6	60.9	82.9	63.7	51.2
Tillage (T)		97.3	34.5	64.9	12.6	60.9	97.3
R x T		30.2	36.3	67.2	91.5	20.4	30.2
<u>LSD (0.10)</u>							
Rotation (R)		NS	NS	NS	NS	NS	NS
Tillage (T)		NS	NS	NS	NS	NS	NS
R x T		NS	NS	NS	NS	NS	NS
<u>CV(%)</u>							
		5	3	2	92	6	5

**Table C-59. Tillage in Corn and Soybean Production Systems.
Arlington, WI - 2001.**

Rotation	Future tillage treatment	Yield bu/A	Moisture %	Grower return \$/A
SC	CP	42	17.1	191
SC	T1	44	17.2	203
SC	T2	42	16.9	191
SC	T3	45	17.1	206
SC	T4	44	17.0	202
SC	NT	43	17.3	196
Mean		43	17.1	198
<u>Probability(%)</u>				
Tillage (T)		41.3	35.8	37.7
<u>LSD (0.10)</u>				
Tillage (T)		NS	NS	NS
<u>CV(%)</u>				
		6	1	6