

FIELD EXPERIMENT HISTORY

Title: Influence of Thinning Timing on Corn Grain Yield
Experiment: 16Thin **Trial ID:** 5936 **Year:** 2014
Personnel: J.G. Lauer, K.D. Kohn, and T. Diallo
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS392 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 11/04/14 **pH:** 7.0 **OM (%)** 2.9 **P (ppm)** 51 **K (ppm)** 124

Plot Management

Tillage Operations: Chisel Plow Field cultivator

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer: Preplant :	46-0-0	340 lbs	5 /19/14
Starter :	N/A	N/A	N/A
Post plant :	N/A	N/A	N/A
Manure:	N/A	N/A	N/A

Herbicide: Dual II Mag 24 oz/A on 5/30/14 **Insecticide:** None
 Callisto 5oz/A 5/30/14 **Hybrid:** Pioneer 0062AMX
 Rifle 12 oz/A 5/30/14

Irrigation: None
Planting Date: 5/23/14 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 60000 plants per acre **Planting Method:** JD1700 planter w/ RTK
Harvest Date: 11/05/14 **Harvest Method:** Massey Ferguson 8XP

Notes:

Experimental Design

Design: RCB Complete Factorial **Replications:** 4
Plot Size Seeded: 10' x 25' **Experiment Size:** 0.41 Acre
Harvest Plot Size: 5' x 21' **Harvest Plant Density:** 29837 plants per acre

Factors/Treatments:

Growth Stage at Time of Thinning:

- 1) UTC
- 2) V2 - 6-Jun
- 3) V4 - 13-Jun
- 4) V6 - 23-Jun
- 5) V8 - 01-Jul
- 6) V10 -10-Jul
- 7) V12 -17-Jul
- 8) V14 - 22-Jul
- 9) V18 - 28-Jul
- 10) VT - 30-Jul
- 11) R1 - 01-Aug
- 12) R2 - 07-Aug
- 13) R3 - 18-Aug
- 14) R4 - 25-Aug
- 15) R5 - 05-Sep
- 16) R6 - 06-Oct

Results: Table 1416-01

**Table: 1416-01. Influence of Thinning on Corn Grain Yield.
Arlington, WI - 2014.**

Thin time	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging			AGI \$3.70/b \$/A	Harvst density plants/A	Grain Yield Components			
				Total %	Stalk %	Root %			rows/ear no.	Kernel per row no.	per ear no.	mass mg
UTC	207	18.5	53.2	2.4	2.4	0.0	700	52168	14.9	27.6	417	196
V2	226	19.5	52.4	1.0	1.0	0.0	759	31218	16.8	39.1	657	248
V4	220	19.3	54.1	0.3	0.3	0.0	740	30492	16.7	39.8	665	249
V6	205	20.2	52.6	0.0	0.0	0.0	686	29144	16.2	39.6	642	228
V8	193	19.3	52.0	0.3	0.3	0.0	649	30492	15.1	36.8	560	243
V10	178	18.8	52.8	0.0	0.0	0.0	600	29766	15.4	38.8	596	232
V12	182	19.0	54.2	2.5	2.5	0.0	613	29247	15.7	38.0	598	232
V14	175	19.1	53.4	5.4	5.4	0.0	588	30699	15.1	33.9	518	224
V16	168	19.5	54.4	14.5	14.2	0.4	565	27692	15.6	37.6	587	249
VT	152	20.3	53.4	21.9	20.4	1.6	510	26758	15.0	35.8	540	268
R1	166	19.8	54.1	13.8	11.2	2.6	557	28521	15.6	33.4	521	245
R2	167	20.5	53.2	15.2	14.1	1.1	557	27173	15.2	36.8	565	270
R3	146	20.5	54.0	23.7	18.8	4.9	487	27277	15.4	33.1	509	259
R4	124	20.4	54.2	30.1	23.0	7.1	415	24477	15.6	31.1	485	240
R5	100	18.1	53.9	21.8	19.9	1.9	338	25721	15.8	31.4	496	225
R6	99	17.4	53.5	16.7	16.4	0.4	337	26551	15.2	29.3	445	190
Mean	169	19.4	53.5	10.6	9.4	1.2	569	29837	15.6	35.1	550	237
Probability(%)												
Treatment	0.0	0.0	6.6	0.0	0.0	0.1	0.0	0.0	42.0	0.0	0.0	19.8
LSD (0.10)												
Treatment	17	0.8	1.3	9.6	10.3	2.6	58	1994	NS	3.7	88	NS

FIELD EXPERIMENT HISTORY

Title: Influence of Thinning Timing on Corn Grain Yield at High Densities
Experiment: 16Thin **Trial ID:** 5937 **Year:** 2014
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Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

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	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer: Preplant :	46-0-0	340 lbs	5 /19/14
Starter :	N/A	N/A	N/A
Post plant :	N/A	N/A	N/A
Manure:	N/A	N/A	N/A

Herbicide: Dual II Mag 24 oz/A on 5/30/14 **Insecticide:** None
 Callisto 5oz/A 5/30/14 **Hybrid:** Dekalb DKC48-12SS
 Rifle 12 oz/A 5/30/14

Irrigation: None
Planting Date: 5/23/14 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 75000 plants per acre **Planting Method:** JD1700 planter w/ RTK
Harvest Date: 11/05/14 **Harvest Method:** Massey Ferguson 8XP

Experimental Design

Design: RCB Complete Factorial **Replications:** 4
Plot Size Seeded: 10' x 25' **Experiment Size:** 0.22 Acre
Harvest Plot Size: 5' x 21' **Harvest Plant Density:** 38547 plants per acre

Factors/Treatments:

Growth Stage at Time of Thinning:

- 1) UTC
- 2) V2 - 6-Jun
- 6) V10 -10-Jul
- 11) R1 - 01-Aug
- 13) R3 - 18-Aug
- 16) R6 - 06-Oct

Results: Table 1416-02 & 1416-03

**Table: 1416-02. Influence of Thinning on Corn Grain Yield at High Densities.
Arlington, WI - 2014.**

Thin time	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging			Return \$3.70/b \$/A	Harvst density plants/A	Grain Yield Components			
				Total %	Stalk %	Root %			rows/ear no.	per row no.	per ear no.	Kernel mass mg
UTC	222	20.3	53.8	0.2	0.2	0.0	741	64614	13.4	23.7	321	265
V2	233	20.8	52.5	0.3	0.3	0.0	777	35885	16.2	36.4	587	245
V10	208	19.2	52.1	0.6	0.6	0.0	702	36507	15.9	33.4	530	245
R1	176	21.1	52.4	2.9	0.7	2.2	586	32566	16.2	31.4	507	253
R3	154	21.7	52.1	12.1	6.3	5.8	511	32048	16.7	26.6	444	240
R6	95	18.9	54.8	24.8	24.4	0.4	320	29662	15.6	27.0	421	203
Mean	181	20.4	52.9	6.8	5.4	1.4	606	38547	15.7	29.7	468	242
Probability(%)												
Treatment	0.0	0.0	0.8	0.0	0.0	3.5	0.0	0.0	26.8	0.0	0.0	85.3
LSD (0.10)												
Treatment	11	0.9	1.3	6.2	6.1	3.2	38	2407	NS	3.3	69	NS

**Table : 14 16 -03. Influence of Thinning on Corn Grain Yield at High Densities .
Arlington, WI - 20 14 .**

Plant density plants/A	Grain yield bu/A	Grain moisture %	Test weight lb/bu	AGI \$3.67/b \$/A	Harvest density plants/A	Grain Yield Components			
						rows/ear no.	per row no.	per ear no.	Kernel mass mg
90K	213 ± 6	19 ± 0	54 ± 0	716 ± 18	85875	15.0	18.4	276	180
105K	178 ± 13	19 ± 0	52 ± 2	598 ± 47	93758	14.4	19.4	279	209
120K	162 ± 1	19 ± 2	52 ± 1	545 ± 5	109937	15.6	17.7	276	154