

FIELD EXPERIMENT HISTORY

Title: 16 Influence of Clipping Timing on Corn Grain Yield
Experiment: 16 Influence of Clipping on Corn **Trial ID** 2433 **Year:** 2003
Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS 375 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 10/01/03 **pH** 6.8 **OM (%)** 3.8 **P (ppm)** 59 **K (ppm)** 199

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Soil Finisher Cultivated

	<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: Harness 2.5 pt/A **Insecticide:** None
 Hornet 4.5 oz/A **Hybrid:** Pioneer 35R58

Irrigation: None

Planting Date: 5/2/03 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 30000 **plants per acre** **Planting Method:** Kinze Inter-Row Planter

Harvest Date: 10/23/03 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB Factorial **Replications:** 3
Plot Size Seeded: 10' x 15' **Experiment Size:** 0.17 Acre
Harvest Plot Size: 15' x 5' **Harvest Plant Density:** 26200 **plants per acre**

Factors/Treatments:

<u>Growth Stage at Time of Clipping:</u>	<u>Date of Clipping:</u>
V2 - 2 plant pattern	V6 - 2 plant pattern
V2 - 4 plant pattern	V6 - 4 plant pattern
V2 - 8 plant pattern	V6 - 8 plant pattern
V2 - All plants	V6 - All plants
V4 - 2 plant pattern	Control
V4 - 4 plant pattern	
V4 - 8 plant pattern	
V4 - All plants	

Results: Table C-80.

**Table C-80. Influence of Clipping on Corn Grain Yield
Arlington, WI - 2003**

Treatment	Grain yield bu/A	Grain moisture %	Test weight lbs/bu	Lodging %	Harvest pop plants/A	Grower return \$/A
V2 - 2 plant	212	22.4	55	1	31170	397
V2 - 4 plant	198	22.9	55	15	26717	369
V2 - 8 plant	222	23.1	56	0	25555	412
V2 - Clip entire plot	220	23.4	55	0	31944	408
V4 - 2 plant	185	23.0	55	0	20522	343
V4 - 4 plant	195	22.6	55	5	20909	365
V4 - 8 plant	194	24.1	54	3	23038	356
V4 - Clip entire plot	147	28.6	50	0	23426	256
V6 - 2 plant	184	23.2	55	0	18198	341
V6 - 4 plant	194	22.2	55	12	26523	363
V6 - 8 plant	208	23.1	55	4	28266	386
V6 - Clip entire plot	177	24.1	53	3	27491	325
Control A - UTC	217	22.2	57	4	30589	408
Control B - UTC	219	22.2	57	3	32138	412
Mean	198	23.4	55	4	26177	367
<u>Probability(%)</u>						
Treatment (T)	0.0	0.0	0.0	15.9	0.2	0.0
<u>LSD(0.10)</u>						
Treatment (T)	16	0.8	1	NS	5524	30
<u>CV(%)</u>						
	6	2	1	176	15	6

FIELD EXPERIMENT HISTORY

Title: 16 Corn Grain yield response to cohort emergence
Experiment: 16 Cohorts **Trial ID** 2434 **Year** 2003
Personnel: J.G. Lauer, P.J. Flannery and K.D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS 375 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date** 10/01/03 **pH** 6.8 **OM (%)** 3.8 **P (ppm)** 59 **K (ppm)** 199

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Soil Finisher Cultivated

	<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: Harness 2.5 pt/A **Insecticide:** None
 Hornet 4.5 oz/A **Hybrid:** Pioneer 35R58

Irrigation: None

Planting Date 5/2/03 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 30000 plants per acre **Planting Method:** Kinze Inter-Row Planter

Harvest Date: 10/27/03 **Harvest Method:** Hand Harvest

Experimental Design

Design: RCB Factorial **Replications:** 3
Plot Size Seeded 15' x 10' **Experiment Size** 0.19 Acre

Harvest Plot Size: Single Plants

Factors/Treatments:

Treatments:

A = Plant clipped completely at V3 on 6/13
 B = Emerged leaves clipped at V3 on 6/13
 C = Control - No clipping

Results: Table C-81.

**Table C-81. Corn Grain response to cohort emergence.
Arlington, WI - 2003**

Treatment	Five Neighboring plants south	Plant	Five Neighboring plants north	Yield Components @ 0% Moisture		
				Kernels per ear no./ear	Yield per ear grams	100 Kernel weight grams
1	All leaves clipped	A	All leaves clipped	549	121	22.2
2	All leaves clipped	B	All leaves clipped	623	164	26.3
3	All leaves clipped	C	All leaves clipped	665	195	29.3
4	All leaves clipped	A	Emerged leaves clipped	442	96	21.7
5	All leaves clipped	B	Emerged leaves clipped	609	151	24.8
6	All leaves clipped	C	Emerged leaves clipped	629	180	28.8
7	All leaves clipped	A	Control	498	110	22.0
8	All leaves clipped	B	Control	623	156	25.1
9	All leaves clipped	C	Control	654	182	27.8
10	Emerged leaves clipped	A	Emerged leaves clipped	391	89	23.5
11	Emerged leaves clipped	B	Emerged leaves clipped	524	125	23.8
12	Emerged leaves clipped	C	Emerged leaves clipped	626	160	25.5
13	Emerged leaves clipped	A	Control	351	77	21.3
14	Emerged leaves clipped	B	Control	544	112	20.7
15	Emerged leaves clipped	C	Control	585	165	28.1
16	Control	A	Control	296	65	22.1
17	Control	B	Control	474	101	21.2
18	Control	C	Control	587	155	26.3
Mean				547	138	24.8
Probability(%)						
Treatment (T)				0.1	0.0	0.0
LSD(0.10)						
Treatment (T)				110	25	2.9
CV(%)						
				14	13	8

A = All leaves clipped

B = Emerged leaves clipped

C = Control

FIELD EXPERIMENT HISTORY

Title: 16 Effect of Primed Seed on Corn Grain Performance
Experiment: 16 Effect of Primed Seed on Corn **Trial ID** 2498 **Year:** 2003
Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: ARS412 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 10/15/03 **pH** 6.6 **OM (%)** 4.1 **P (ppm)** 74 **K (ppm)** 151

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/18/03

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer: Preplant :	46-0-0	325	N/A
Starter :	6-24-24	150	4 /23/03
Post plant :	N/A	N/A	N/A
Manure:	N/A	N/A	

Herbicide: Harness 2.5 pt/A **Insecticide:** None
 Hornet 4.5 oz/A **Hybrid:** See Factors
 Callisto 3.0 oz/A

Irrigation: None

Planting Date: 4/23/03 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 30300 plants per acre **Planting Method:** Kinze Plot Planter

Harvest Date: 9/30/03 **Harvest Method:** Kincaid Plot Combine

Notes: Primed seeds were moistened and then incubated for 21 hours prior to planting.

Experimental Design

Design: RCB Factorial **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.18 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 28842 plants per acre

Factors/Treatments:

<u>Primed Seed:</u>	<u>Hybrids:</u>
0%	Pioneer 35R58
25%	Pioneer 38T28
50%	
75%	
100%	

Results: Table C-82.

**Table C-82. Effect of Primed Seed On Corn Grain Performance
Arlington, WI - 2003.**

Primed seed	Hybrid	Yield bu/A	Moisture %	Test		Harvest pop plants/A	Grower return \$/A	Seeds planted seeds/A	Emergence on Day of Year					Silk date doy
				wt lbs/bu	Lodged %				130	132	133	135	155	
	Pioneer 35R58	205	27.4	51	1	27905	362	30303	26	41	70	83	93	208
	Pioneer 38T28	199	21.2	54	4	29779	376	30303	28	48	80	90	96	203
0% primed seed		199	24.6	53	3	28446	363	30303	7	26	66	84	93	206
25% primed seed		203	24.4	53	1	28380	371	30303	18	37	70	84	91	205
50% primed seed		209	24.5	53	2	29436	383	30303	24	39	72	86	95	206
75% primed seed		198	24.0	53	3	29172	364	30303	41	54	81	89	96	205
100% primed seed		198	24.2	53	3	28776	364	30303	45	67	85	90	95	206
0% primed seed	Pioneer 35R58	206	28.1	51	0	26532	362	30303	6	23	55	76	89	208
0% primed seed	Pioneer 38T28	192	21.0	54	7	30360	365	30303	8	29	77	92	97	203
25% primed seed	Pioneer 35R58	203	27.3	51	0	27720	360	30303	15	30	66	80	90	208
25% primed seed	Pioneer 38T28	202	21.4	54	1	29040	383	30303	20	43	75	89	93	203
50% primed seed	Pioneer 35R58	202	26.8	51	1	29040	360	30303	25	40	67	83	94	208
50% primed seed	Pioneer 38T28	216	22.1	54	4	29832	405	30303	23	39	77	90	95	203
75% primed seed	Pioneer 35R58	209	27.6	51	2	27984	369	30303	38	50	75	86	95	207
75% primed seed	Pioneer 38T28	187	20.3	55	4	30360	358	30303	45	58	87	92	98	203
100% primed seed	Pioneer 35R58	202	27.2	51	0	28248	359	30303	44	63	85	91	95	208
100% primed seed	Pioneer 38T28	195	21.2	55	5	29304	369	30303	45	71	84	90	95	203
Mean		202	24.3	53	2	28842	369	30303	27	45	75	87	94	205
Probability(%)														
Primed (P)		44.9	98.2	71.4	73.7	50.4	38.3	-	0.0	0.0	0.6	20.3	31.7	36.1
Hybrid (H)		16.9	0.0	0.0	1.2	0.1	6.5	-	40.0	8.3	0.4	0.1	5.4	0.0
P x H		12.2	76.8	38.4	56.4	21.5	17.6	-	82.5	78.9	29.0	10.9	48.8	25.8
LSD (0.10)														
Primed (P)		NS	NS	NS	NS	NS	NS	-	7	10	8	NS	NS	NS
Hybrid (H)		NS	1.2	0	2	762	12	-	NS	6	5	3	2	0
P x H		NS	NS	NS	NS	NS	NS	-	NS	NS	NS	NS	NS	NS
CV(%)														
		6	8	1	135	4	5	-	28	22	11	6	4	0

FIELD EXPERIMENT HISTORY

Title: 16 Influence of Thinning Timing on Corn Grain Yield
Experiment: 16 Influence of Thinning on Corn **Trial ID** 2497 **Year:** 2003
Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: ARS 374 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam
Soil Test: **Date:** 10/15/03 **pH:** 7.0 **OM (%)** 2.3 **P (ppm)** 40 **K (ppm)** 143

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher

	<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: Harness 2.5 pt/A **Insecticide:** None
 Hornet 3.0 oz/A **Hybrid:** Pioneer 35R57
Irrigation: None
Planting Date: 5/16/03 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 22000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/23/03 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB Factorial **Replications:** 3
Plot Size Seeded: 10' x 25' **Experiment Size:** 0.1 Acre
Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 20680 plants per acre

Factors/Treatments:

<u>Stage of Thinning:</u>	<u>Date of Thinning:</u>
V2	June 6
V4	June 18
V6	June 25
V8	July 6
V10	July 11
V12	July 17

Results: Table C-83.

**Table C-83. Influence of Thinning Timing on Corn Grain Yield.
Arlington, WI - 2003**

Treatment	Population	Grain yield	Grain moisture	Test weight	Lodging	Grower return
growth stage	plants/A	bu/A	%	lbs/bu	%	\$/A
V2	22176	143	21.2	54	1	271
V4	21780	163	20.6	56	0	310
V6	19932	143	20.0	55	0	274
V8	20328	133	20.6	56	1	254
V10	19272	143	21.3	55	0	270
V12	20592	125	21.2	56	2	238
Mean	20680	142	20.8	55	1	270
<u>Probability(%)</u>						
Treatment (T)	17.8	14.9	38.4	45.0	26.2	14.1
<u>LSD(0.10)</u>						
Treatment (T)	NS	NS	NS	NS	NS	NS
<u>CV(%)</u>						
	7	11	4	2	202	11