

## FIELD EXPERIMENT HISTORY

Expt. Number: 9590 Year: 1995  
Title: Twenty Year Corn/Soybean Rotation Study  
Personnel: E.S. Oplinger, J.G. Lauer, J.M. Gaska, M.J. Martinka and K.D. Hudelson  
Location: Arlington Research Station, Arlington, WI  
Supported by: HATCH Project 1890

---

### FIELD INFORMATION

Field: 334W  
Soil Type: Plano Silt Loam  
Soil Test Results: Test Date: 7/95 pH: 6.5 P (ppm): 33 K (ppm): 225 OM (%): 3.7  
Fertilizer Applied: Soybean : None  
Corn: 150 lb/a nitrogen  
Tillage Operations: No-till or  
Fall chisel plowed and Spring field cultivated(2x) and cultimulched  
Previous Crop: Corn and soybean  
Previous Herbicide: Basagran, Pinnacle, Poast, Pursuit, Buctril, and Accent  
Irrigation: None

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split-Split-Split Plot  
Replicates: 4  
Variables: A: Tillage, B: Rotation Sequence, C: Corn and Soybean - Seeding Rate

	<u>Corn</u>	<u>Soybean</u>
Area Planted:	10' x 35'	10' x 35'
Area Harvested:	5' x 31'	5' x 31'
Row Spacing:	30"	7.5"
Hybrid/Variety:	P3769	NK S19-90
Planting Date:	5/5/95	5/5/95
Planting Equip:	JD Maxemerge Planter	John Deere No-till Drill
Harvesting Date:	Oct. 4, 1995	Sept. 27, 1995
Harvesting Equip:	Almaco plot combines	

	<u>Date</u>	<u>Material</u>	<u>Plots</u>	<u>Rate</u>
Herbicides:	May 15	Round-up	Soybean+Corn	1 qt/a
	May 15	Dual	Soybean+Corn	3 pt/a
	May 15	Banvel	Corn	1 pt/a
	June 14	Pursuit	Soybean	4 oz/a
	June 14	Pinnacle	Soybean	0.25 oz/a
	June 14	28% UAN	Soybean	2 qt/a
	June 14	NIS	Soybean	0.5%
Insecticides:	5/5/95	Lorsban	Corn only	8 oz/1000' row

---

Results: Table D-1 and D-2.

**Table D-1. 20 Year Corn/Soybean Rotation Study - Corn.  
Arlington, WI Experiment 9590.**

Tillage	Rotation 13th Year	Seeding Rate seeds/a	Final Population plants/a	Moist %	Yield bu/a
Conv			19829	18.9	126.7
No-Till			22134	20.2	125.0
	ccsssscccC		20808	19.9	120.9
	ccsssssscC		21112	19.3	129.0
	ccccsssssC		23138	18.7	141.6
	ssssccccC		19215	20.5	115.0
	csssscccC		20644	20.3	122.2
	ccccccccC		19719	19.5	113.2
	scscscscsC		22237	18.7	137.4
Conv	ccsssscccC		19368	18.9	122.6
No-Till	ccsssscccC		22248	20.9	119.4
Conv	ccsssssscC		19532	18.9	124.7
No-Till	ccsssssscC		22693	19.8	133.3
Conv	ccccsssssC		22646	18.3	141.3
No-Till	ccccsssssC		23630	19.0	141.9
Conv	ssssccccC		18361	19.3	123.0
No-Till	ssssccccC		20070	21.7	107.1
Conv	csssscccC		19157	19.6	121.2
No-Till	csssscccC		22131	21.0	123.2
Conv	ccccccccC		18548	18.8	121.0
No-Till	ccccccccC		20890	20.2	105.4
Conv	scscscscsC		21194	18.5	131.7
No-Till	scscscscsC		23279	19.0	143.2
		25K	16119	19.3	105.7
		30K	21514	19.7	129.3
		35K	25313	19.7	142.2
Conv		25K	15085	18.7	106.1
No-Till		25K	17153	19.8	105.3
Conv		30K	20335	18.9	131.5
No-Till		30K	22693	20.4	127.2
Conv		35K	24068	19.0	142.5
No-Till		35K	26557	20.4	142.0
	ccsssscccC	25K	15667	20.1	97.7
	ccsssssscC	25K	16159	18.8	112.6
	ccccsssssC	25K	18337	18.7	115.6
	ssssccccC	25K	12752	20.0	100.3
	csssscccC	25K	16862	19.9	104.2
	ccccccccC	25K	14824	19.2	96.1
	scscscscsC	25K	18232	18.6	111.9
	ccsssscccC	30K	21042	20.0	125.1
	ccsssssscC	30K	21499	19.8	131.8
	ccccsssssC	30K	23888	18.7	149.9
	ssssccccC	30K	20269	20.9	114.3
	csssscccC	30K	20796	20.6	122.4
	ccccccccC	30K	20164	19.4	115.7
	scscscscsC	30K	22939	18.6	144.8
	ccsssscccC	35K	25714	19.8	140.6
	ccsssssscC	35K	25679	19.5	142.8
	ccccsssssC	35K	27190	18.6	159.4
	ssssccccC	35K	24625	20.5	126.8
	csssscccC	35K	24274	20.5	142.6
	ccccccccC	35K	24169	19.9	127.8
	scscscscsC	35K	25539	19.1	155.6

**Table D-1. 20 Year Corn/Soybean Rotation Study - Corn.  
Arlington, WI Experiment 9590.**

Tillage	Rotation 13th Year	Seeding Rate seeds/a	Final Population plants/a	Moist %	Yield bu/a
Conv	ccsssscccC	25K	14333	19.1	99.2
No-Till	ccsssscccC	25K	17002	21.1	96.2
Conv	ccsssscccC	25K	14965	18.7	111.8
No-Till	ccsssscccC	25K	17354	18.8	113.3
Conv	ccsssscccC	25K	18618	18.3	118.7
No-Till	ccsssscccC	25K	18056	19.0	112.5
Conv	ssssccccC	25K	11593	19.2	101.3
No-Till	ssssccccC	25K	13911	20.8	99.3
Conv	csssscccC	25K	15457	19.2	107.3
No-Till	csssscccC	25K	18267	20.6	101.1
Conv	ccccccccC	25K	13279	18.6	97.8
No-Till	ccccccccC	25K	16370	19.9	94.4
Conv	scscscscC	25K	17354	18.3	105.1
No-Till	scscscscC	25K	19110	18.9	118.6
Conv	ccsssscccC	30K	19602	18.8	121.1
No-Till	ccsssscccC	30K	22482	20.8	128.0
Conv	ccsssscccC	30K	19602	19.3	123.0
No-Till	ccsssscccC	30K	23396	20.4	140.6
Conv	ccsssscccC	30K	23607	18.2	151.4
No-Till	ccsssscccC	30K	24169	19.2	148.4
Conv	ssssccccC	30K	20023	19.7	126.2
No-Till	ssssccccC	30K	20515	22.1	102.5
Conv	csssscccC	30K	19813	19.7	125.9
No-Till	csssscccC	30K	21780	21.8	117.7
Conv	ccccccccC	30K	18618	18.8	127.2
No-Till	ccccccccC	30K	21710	20.1	104.2
Conv	scscscscC	30K	21077	18.1	142.9
No-Till	scscscscC	30K	24801	19.0	146.7
Conv	ccsssscccC	35K	24169	18.7	147.2
No-Till	ccsssscccC	35K	27260	20.8	133.9
Conv	ccsssscccC	35K	24028	18.7	139.4
No-Till	ccsssscccC	35K	27330	20.2	146.1
Conv	ccsssscccC	35K	25714	18.5	153.9
No-Till	ccsssscccC	35K	28665	18.8	164.8
Conv	ssssccccC	35K	23466	19.0	135.9
No-Till	ssssccccC	35K	25785	22.0	117.6
Conv	csssscccC	35K	22201	20.1	133.5
No-Till	csssscccC	35K	26347	20.8	149.4
Conv	ccccccccC	35K	23747	19.2	138.0
No-Till	ccccccccC	35K	24590	20.7	117.6
Conv	scscscscC	35K	25152	19.0	147.0
No-Till	scscscscC	35K	25925	19.2	164.3
Mean			20982	19.6	125.8
<b>Probability%</b>					
Tillage (T)			1.1	0.1	> 50
Rotation (R)			< 0.1	< 0.1	< 0.1
T x R			> 50	3.1	25.4
Seeding Rate (S)			< 0.1	2.1	< 0.1
T x S			> 50	30.7	> 50
R x S			23.3	21.8	> 50
T x R x S			> 50	> 50	> 50
<b>LSD 10%</b>					
Tillage (T)			944	0.3	NS
Rotation (R)			1192	0.5	10.4
Seeding Rate (S)			650	0.2	5.2
<b>CV%</b>					
			9.9	4.0	13.1

## FIELD EXPERIMENT HISTORY

**Expt. Number:** 9591 **Year:** 1995  
**Title:** 4-Year Corn/Soybean/Wheat Rotation Study  
**Personnel:** E.S. Oplinger, J.G. Lauer, J.M. Gaska, M.J. Martinka and K.D. Hudelson  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Loveland Industries, HATCH Project 1890

### FIELD INFORMATION

**Field:** 334E  
**Soil Type:** Plano Silt Loam  
**Soil Test Results:** Test Date: 7/95 pH: 6.4 P (ppm): 33 K (ppm): 230 OM (%): 3.5  
**Fertilizer Applied:** Soybean : None  
 Corn: 150 lb/a nitrogen  
**Tillage Operations:** No-till or  
 Fall chisel plowed and Spring field cultivated(2x) and cultimulched  
**Previous Crop:** Corn and soybean  
**Previous Herbicide:** Basagran, Pinnacle, Poast, Pursuit, Buctril, and Accent  
**Irrigation:** None

### EXPERIMENTAL PROCEDURE

**Exp. Design:** RCB Split-Split Plot  
**Replicates:** 4  
**Variables:** A: Tillage, B: Rotation Sequence, C: Corn - Coulter, Soybean - Inoculum

	<u>Corn</u>	<u>Soybean</u>
<b>Area Planted:</b>	7.5' x 35'	7.5' x 35'
<b>Area Harvested:</b>	5' x 31'	5' x 31'
<b>Row Spacing:</b>	30"	7.5"
<b>Hybrid/Variety:</b>	P3769	NK S19-90
<b>Planting Date:</b>	5/12/95	5/8/95
<b>Planting Equip:</b>	JD Maxemerge Planter	Tye Notill Drill
<b>Harvesting Date:</b>	Oct. 4, 1995	Sept. 27, 1995
<b>Harvesting Equip:</b>	Almaco plot combines	

<b>Herbicides:</b>	<u>Date</u>	<u>Material</u>	<u>Plots</u>	<u>Rate</u>
	May 26	Dual	Soybean+Corn	3 pt/a
	May 26	Banvel	Corn	1 pt/a
	June 14	Pursuit	Soybean	4 oz/a
	June 14	Pinnacle	Soybean	0.25 oz/a
	June 14	28% UAN	Soybean	2 qt/a
	June 14	NIS	Soybean	0.5%
<b>Insecticides:</b>	5/12/95	Counter	Corn only	8 oz/1000' row

**Results:** Table D-3 and D-4.

**Table D-3. 4-Year Corn/Soybean/Wheat Rotation Study. Arlington, WI Experiment 9591.**

Tillage	Rotation	Coulter		
		Type	Moist %	Yield bu/a
Conv			19.7	125.5
No-Till			21.2	62.6
	cccCccc		21.2	94.7
	wwwCcsc		20.4	89.1
	cswCccc		19.2	127.6
	wcsCccs		19.9	112.7
	cwsCcsc		20.1	105.2
	wscCsc		20.3	123.1
	cswCccc		20.3	106.0
	scsCscs		20.2	103.3
Conv	cccCccc		21.2	94.7
No-Till	cccCccc		-	-
Conv	wwwCcsc		20.2	113.4
No-Till	wwwCcsc		20.9	24.3
Conv	cswCccc		19.2	127.6
No-Till	cswCccc		-	-
Conv	wcsCccs		19.1	143.8
No-Till	wcsCccs		20.7	77.1
Conv	cwsCcsc		18.9	145.9
No-Till	cwsCcsc		21.4	58.7
Conv	wscCsc		20.3	123.1
No-Till	wscCsc		-	-
Conv	cswCccc		19.9	120.2
No-Till	cswCccc		22.8	20.6
Conv	scsCscs		19.0	133.7
No-Till	scsCscs		21.4	72.9
		Bubble	20.3	107.5
		Fluted	20.0	106.3
Conv		Bubble	19.8	126.2
No-Till		Bubble	21.6	59.3
Conv		Fluted	19.6	124.8
No-Till		Fluted	20.9	65.4
	cccCccc	Bubble	20.9	94.4
	wwwCcsc	Bubble	20.7	86.3
	cswCccc	Bubble	19.1	125.3
	wcsCccs	Bubble	20.4	117.2
	cwsCcsc	Bubble	20.4	104.3
	wscCsc	Bubble	20.6	119.4
	cswCccc	Bubble	19.6	124.5
	scsCscs	Bubble	20.3	103.0
	cccCccc	Fluted	21.5	95.1
	wwwCcsc	Fluted	20.0	92.5
	cswCccc	Fluted	19.4	130.0
	wcsCccs	Fluted	19.4	108.7
	cwsCcsc	Fluted	19.8	106.0
	wscCsc	Fluted	20.0	126.9
	cswCccc	Fluted	20.9	92.2
	scsCscs	Fluted	20.1	103.5

**Table D-3. 4-Year Corn/Soybean/Wheat Rotation Study. Arlington, WI Experiment 9591.**

Tillage	Rotation	Coulter		
		Type	Moist	Yield
			%	bu/a
Conv	cccCccc	Bubble	20.9	94.4
No-Till	cccCccc	Bubble	-	-
Conv	wwwCcsc	Bubble	20.7	116.3
No-Till	wwwCcsc	Bubble	20.9	26.3
Conv	cswCccc	Bubble	19.1	125.3
No-Till	cswCccc	Bubble	-	-
Conv	wcsCccs	Bubble	19.7	148.3
No-Till	wcsCccs	Bubble	21.2	75.7
Conv	cwsCcsc	Bubble	19.2	144.2
No-Till	cwsCcsc	Bubble	22.0	51.1
Conv	wscCsc	Bubble	20.6	119.4
No-Till	wscCsc	Bubble	-	-
Conv	cswCccc	Bubble	19.6	124.5
No-Till	cswCccc	Bubble	-	-
Conv	scsCscs	Bubble	18.8	136.5
No-Till	scsCscs	Bubble	21.8	69.6
Conv	cccCccc	Fluted	21.5	95.1
No-Till	cccCccc	Fluted	-	-
Conv	wwwCcsc	Fluted	19.8	110.6
No-Till	wwwCcsc	Fluted	20.9	20.2
Conv	cswCccc	Fluted	19.4	130.0
No-Till	cswCccc	Fluted	-	-
Conv	wcsCccs	Fluted	18.5	139.2
No-Till	wcsCccs	Fluted	20.3	78.2
Conv	cwsCcsc	Fluted	18.7	147.6
No-Till	cwsCcsc	Fluted	21.0	64.5
Conv	wscCsc	Fluted	20.0	126.9
No-Till	wscCsc	Fluted	-	-
Conv	cswCccc	Fluted	20.2	116.0
No-Till	cswCccc	Fluted	22.8	20.6
Conv	scsCscs	Fluted	19.3	130.9
No-Till	scsCscs	Fluted	21.0	76.2
Mean			20.2	106.9
<b>Probability %</b>				
Tillage (T)			2.3	0.2
Rotation (R)			0.2	<0.1
T x R			>50	29.7
Coulter (C)			>50	40.1
T x C			>50	15.3
R x C			48.5	>50
T x R x C			22.8	>50
<b>CV %</b>			5.6	11.6

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity - Comparison of Hybrids. **Year:** 1995  
**Personnel:** J.G. Lauer, K.D. Hudelson  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Hatch

---

### FIELD INFORMATION

Field: 406  
Soil Type: Plano Silt Loam  
Soil Test Results: Test Date: 10/95    pH: 6.4    P (ppm): 47    K (ppm): 185    OM (%): 3.4  
Fertilizer: May 1 - 150 lbs/a 6-24-24 starter  
April 28 - 150 lbs N/a 46-0-0 preplant  
Tillage Operations: Chisel Plow, Field Cultivate(2x)  
Previous Crop: Soybean  
Irrigation: None

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB  
Replicates: 3  
Variables: Hybrids:  
Carhart's CX92A    Dekalb DK 580    Golden H2441  
Dairyland ST-1180    Dekalb DK306    NK PX9060  
Dairyland ST-1289    Dekalb DK385    Pioneer 3394  
Dairyland ST-1400    Dekalb DK493    Pioneer 3730  
Dairyland ST-1412    Golden H2387    Pioneer 3845  
Pioneer 3947  
  
Area Planted: 10' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
  
Planting Date: May 1  
Planting Equip: Kinze Plot Planter w/seed cones  
Planting Rate: 40,000 thinned to 28,000 plants/a  
  
Harvesting Date: Oct. 12  
Harvesting Equip: Almaco Plot Combine  
  

	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Herbicides:	Bladex	2 qts/a	preemerg
	Lasso	2 qts/a	preemerg

---

Results: Tables E-1 and E-2.

**Table E-1. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Arlington, WI - 1995.**

Hybrid	Relative Maturity	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Carhart's CX92A	90	.	9.7	11.2	13.0	95.9
Dairyland ST-1180	80	.	8.9	10.1	11.8	87.8
Dairyland ST-1289	90	.	9.7	11.1	13.0	96.4
Dairyland ST-1400	100	.	9.4	11.0	12.9	92.0
Dairyland ST-1412	110	.	9.1	10.2	12.3	99.2
Dekalb DK 580	108	.	9.4	11.1	12.8	94.9
Dekalb DK306	80	.	9.9	10.9	12.7	99.4
Dekalb DK385	88	.	9.7	10.7	12.8	94.2
Dekalb DK493	99	.	9.6	10.5	12.9	98.7
Golden H2387	100	.	9.7	11.2	13.4	102.4
Golden H2441	105	.	9.7	11.0	13.2	95.5
NK PX9060	80	.	9.2	10.7	12.2	90.0
Pioneer 3394	110	.	9.1	9.8	12.3	102.5
Pioneer 3730	100	.	8.8	10.2	12.0	96.1
Pioneer 3845	90	.	9.8	11.0	13.0	111.7
Pioneer 3947	80	.	9.6	10.4	12.4	105.4
		151	2.0	3.1	4.3	9.5
		158	4.0	4.9	7.2	21.1
		165	5.5	7.7	9.2	35.9
		174	7.8	9.3	12.3	68.4
		181	10.7	12.4	15.8	126.3
		188	12.8	14.3	17.1	151.2
		194	15.8	16.6	18.1	.
		213	17.8	17.8	17.8	274.9
Carhart's CX92A	90	151	2.0	3.0	4.2	9.0
Carhart's CX92A	90	158	4.0	5.0	7.2	17.0
Carhart's CX92A	90	165	5.8	8.1	9.6	35.3
Carhart's CX92A	90	174	7.7	9.6	12.4	65.0
Carhart's CX92A	90	181	11.0	13.2	16.0	125.0
Carhart's CX92A	90	188	13.0	15.0	17.9	148.3
Carhart's CX92A	90	194	16.2	17.2	18.4	.
Carhart's CX92A	90	213	18.1	18.2	18.3	271.7
Dairyland ST-1180	80	151	1.7	2.0	3.8	7.5
Dairyland ST-1180	80	158	3.8	4.7	6.9	16.7
Dairyland ST-1180	80	165	5.0	7.0	8.9	28.7
Dairyland ST-1180	80	174	7.6	10.0	11.9	61.0
Dairyland ST-1180	80	181	9.9	12.2	15.0	113.3
Dairyland ST-1180	80	188	12.0	13.4	15.7	140.7
Dairyland ST-1180	80	194	15.0	15.2	16.2	.
Dairyland ST-1180	80	213	15.9	15.9	15.9	246.7



**Table E-1. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Arlington, WI - 1995.**

Hybrid	Relative Maturity	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Dairyland ST-1289	90	151	2.0	2.9	4.0	9.7
Dairyland ST-1289	90	158	4.0	4.8	7.1	20.0
Dairyland ST-1289	90	165	5.4	8.0	9.3	33.0
Dairyland ST-1289	90	174	8.1	10.1	12.6	61.7
Dairyland ST-1289	90	181	11.0	13.3	16.1	118.3
Dairyland ST-1289	90	188	13.1	15.0	18.1	150.0
Dairyland ST-1289	90	194	16.3	17.3	19.1	.
Dairyland ST-1289	90	213	17.3	17.3	17.3	282.3
Dairyland ST-1400	100	151	2.0	3.0	4.2	9.2
Dairyland ST-1400	100	158	4.0	4.9	7.0	21.3
Dairyland ST-1400	100	165	5.2	7.7	8.9	33.0
Dairyland ST-1400	100	174	7.7	9.1	12.1	63.7
Dairyland ST-1400	100	181	10.3	12.8	15.9	103.3
Dairyland ST-1400	100	188	12.3	14.4	17.6	130.3
Dairyland ST-1400	100	194	14.8	16.9	18.6	.
Dairyland ST-1400	100	213	18.9	18.9	18.9	283.3
Dairyland ST-1412	110	151	2.0	2.7	4.0	9.7
Dairyland ST-1412	110	158	4.0	4.9	6.8	22.3
Dairyland ST-1412	110	165	5.0	6.8	8.7	39.0
Dairyland ST-1412	110	174	7.3	8.7	11.9	65.7
Dairyland ST-1412	110	181	10.1	11.6	15.2	125.0
Dairyland ST-1412	110	188	12.1	14.0	16.3	150.0
Dairyland ST-1412	110	194	15.1	15.7	17.9	.
Dairyland ST-1412	110	213	18.5	18.5	18.5	283.0
Dekalb DK 580	108	151	2.0	3.2	4.2	8.0
Dekalb DK 580	108	158	4.0	4.4	7.2	19.0
Dekalb DK 580	108	165	5.9	8.0	9.0	34.0
Dekalb DK 580	108	174	7.9	9.2	11.8	62.7
Dekalb DK 580	108	181	10.3	12.3	16.0	113.3
Dekalb DK 580	108	188	12.4	14.3	17.4	144.0
Dekalb DK 580	108	194	14.9	19.7	19.2	.
Dekalb DK 580	108	213	17.4	17.4	17.4	283.0
Dekalb DK306	80	151	2.1	3.2	4.4	9.5
Dekalb DK306	80	158	4.2	5.2	7.7	21.7
Dekalb DK306	80	165	6.1	8.3	10.0	37.7
Dekalb DK306	80	174	8.3	9.7	13.3	73.3
Dekalb DK306	80	181	11.8	13.2	15.7	135.0
Dekalb DK306	80	188	13.8	14.6	16.7	166.7
Dekalb DK306	80	194	16.9	16.9	17.0	.
Dekalb DK306	80	213	17.1	17.1	17.1	251.7

**Table E-1. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Arlington, WI - 1995.**

Hybrid	Relative Maturity	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Dekalb DK385	88	151	2.0	2.8	4.2	8.8
Dekalb DK385	88	158	4.0	4.7	7.0	20.0
Dekalb DK385	88	165	5.2	7.4	9.0	32.0
Dekalb DK385	88	174	7.6	8.4	12.3	60.0
Dekalb DK385	88	181	11.0	12.4	16.1	116.7
Dekalb DK385	88	188	13.0	14.8	17.4	152.3
Dekalb DK385	88	194	17.2	17.4	18.3	.
Dekalb DK385	88	213	18.1	18.1	18.1	269.3
Dekalb DK493	99	151	2.0	3.0	4.0	9.7
Dekalb DK493	99	158	4.0	4.7	6.9	21.3
Dekalb DK493	99	165	5.4	7.3	9.1	36.0
Dekalb DK493	99	174	7.8	8.3	12.1	65.0
Dekalb DK493	99	181	10.7	11.4	15.9	125.0
Dekalb DK493	99	188	12.8	14.7	17.6	149.0
Dekalb DK493	99	194	15.8	16.3	18.9	.
Dekalb DK493	99	213	18.4	18.4	18.4	285.0
Golden H2387	100	151	2.1	3.7	4.7	10.2
Golden H2387	100	158	4.1	5.4	7.8	21.3
Golden H2387	100	165	5.7	8.3	9.7	38.7
Golden H2387	100	174	7.8	9.7	12.6	75.7
Golden H2387	100	181	10.8	12.7	16.4	131.7
Golden H2387	100	188	12.7	14.6	17.9	160.0
Golden H2387	100	194	15.8	16.9	19.2	.
Golden H2387	100	213	18.7	18.7	18.7	279.0
Golden H2441	105	151	2.0	3.6	4.6	9.7
Golden H2441	105	158	4.1	4.6	7.3	21.3
Golden H2441	105	165	6.0	8.3	9.7	35.0
Golden H2441	105	174	8.0	9.8	12.4	70.3
Golden H2441	105	181	11.0	13.0	16.7	125.7
Golden H2441	105	188	12.9	14.8	17.9	146.3
Golden H2441	105	194	15.7	16.2	19.2	.
Golden H2441	105	213	17.6	17.6	17.6	260.3
NK PX9060	80	151	2.1	3.7	4.7	9.7
NK PX9060	80	158	4.0	5.3	7.4	22.0
NK PX9060	80	165	5.8	8.2	9.7	36.0
NK PX9060	80	174	8.0	11.2	13.3	72.0
NK PX9060	80	181	11.1	13.2	15.6	128.3
NK PX9060	80	188	13.2	14.1	16.0	157.3
NK PX9060	80	194	16.2	16.2	16.2	.
NK PX9060	80	213	17.3	17.3	17.3	262.0

**Table E-1. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Arlington, WI - 1995.**

Hybrid	Relative Maturity	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Pioneer 3394	110	151	2.1	2.8	4.7	10.0
Pioneer 3394	110	158	4.0	5.1	6.9	21.0
Pioneer 3394	110	165	5.4	6.8	8.6	36.3
Pioneer 3394	110	174	7.6	7.7	11.6	71.3
Pioneer 3394	110	181	10.2	10.9	15.0	138.3
Pioneer 3394	110	188	12.0	13.8	16.8	145.3
Pioneer 3394	110	194	14.6	14.7	18.1	.
Pioneer 3394	110	213	17.6	17.6	17.6	295.3
Pioneer 3730	100	151	2.0	2.7	4.0	10.2
Pioneer 3730	100	158	3.6	4.6	6.3	23.3
Pioneer 3730	100	165	5.2	7.1	8.3	37.7
Pioneer 3730	100	174	7.0	9.0	10.9	64.0
Pioneer 3730	100	181	9.4	12.0	14.9	117.3
Pioneer 3730	100	188	11.6	13.9	16.9	133.7
Pioneer 3730	100	194	14.6	15.7	17.7	.
Pioneer 3730	100	213	17.0	17.0	17.0	286.3
Pioneer 3845	90	151	2.0	3.7	4.8	10.8
Pioneer 3845	90	158	4.0	5.2	7.4	25.7
Pioneer 3845	90	165	5.3	7.9	9.7	41.3
Pioneer 3845	90	174	8.0	9.6	12.8	87.3
Pioneer 3845	90	181	10.8	12.8	15.7	150.0
Pioneer 3845	90	188	13.0	13.9	17.1	170.3
Pioneer 3845	90	194	16.8	16.8	17.9	.
Pioneer 3845	90	213	18.4	18.6	18.7	296.7
Pioneer 3947	80	151	2.0	3.0	4.7	10.3
Pioneer 3947	80	158	3.9	5.2	7.6	23.0
Pioneer 3947	80	165	5.7	7.9	8.7	40.0
Pioneer 3947	80	174	7.8	8.7	12.4	75.0
Pioneer 3947	80	181	11.3	12.0	16.2	155.0
Pioneer 3947	80	188	14.1	14.1	16.7	175.3
Pioneer 3947	80	194	17.1	17.1	17.1	.
Pioneer 3947	80	213	17.3	17.3	17.3	259.0
Mean	.	.	9.4	10.7	12.7	97.7
<b>Probability %</b>						
Hybrid (H)			< 0.1	0.2	< 0.1	< 0.1
Days (D)			< 0.1	< 0.1	< 0.1	< 0.1
H x D			< 0.1	< 0.1	< 0.1	< 0.1
<b>LSD (0.10)</b>						
Hybrid (H)			0.4	0.5	0.4	5.6
Day of Year (D)			0.1	0.3	0.2	2.1
<b>CV %</b>						
			6.2	11.4	6.2	6.4

**Table E-2. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Harvest Data  
Arlington, WI - 1995.**

Hybrid	Relative Maturity	Days to Silk	Final Population plants/a	Broken Stalks %	Moisture %	Yield bu/a
Carhart's CX92A	90	79.0	28248	5.8	15.6	166.9
Dairyland ST-1180	80	76.7	27720	13.0	15.7	140.2
Dairyland ST-1289	90	79.7	31152	5.5	15.8	166.6
Dairyland ST-1400	100	82.7	29568	7.7	17.5	165.6
Dairyland ST-1412	110	83.0	27588	2.8	23.8	208.9
Dekalb DK 580	108	83.3	28776	3.5	21.9	199.1
Dekalb DK306	80	75.0	27852	14.7	13.1	105.9
Dekalb DK385	88	76.7	28512	4.8	15.4	152.2
Dekalb DK493	99	78.3	29964	2.6	17.6	190.7
Golden H2387	100	77.3	28116	5.7	19.1	172.9
Golden H2441	105	77.7	28512	4.7	18.7	156.8
NK PX9060	80	75.0	28116	13.6	14.4	121.5
Pioneer 3394	110	83.0	28644	3.7	23.6	205.0
Pioneer 3730	100	78.0	26664	2.4	19.1	183.1
Pioneer 3845	90	78.7	28116	3.7	17.2	173.6
Pioneer 3947	80	74.7	27324	36.5	15.5	78.8
Mean		78.7	28430	8.2	17.8	161.7
<b>Probability %</b>						
Hybrid (H)		< 0.1	> 50	< 0.1	< 0.1	< 0.1
<b>LSD (0.10)</b>						
Hybrid (H)		1.0	NS	6.1	1.0	15.8
<b>CV %</b>						
		0.9	6.9	54.2	4.2	7.1

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity - Comparison of Hybrids. **Year:** 1995  
**Personnel:** J.G. Lauer, K.D. Hudelson  
**Location:** Hancock Research Station, Hancock, WI  
**Supported by:** Hatch

---

### FIELD INFORMATION

Field: V17  
Soil Type: Plainfield sand  
Soil Test Results: Test Date: 11/94    pH: 6.2    P (ppm): 102    K (ppm): 80    OM (%): 0.6  
Fertilizer: May 5 - 150 lbs/a 6-24-24 starter  
April 3 - 100 lbs/a 0-0-60 preplant  
June 6 - 75 lbs/a N 33.5-0-0 post  
June 23 - 125 lbs/a N 33.5-0-0 post  
Tillage Operations: Paratill (2x), Dyna drive  
Previous Crop: Cucumber  
Irrigation: Total seasonal irrigation: 10.49 inches

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB  
Replicates: 3  
Variables: Hybrids:  
Carhart's CX92A    Dekalb DK 580    Golden H2441  
Dairyland ST-1180    Dekalb DK306    NK PX9060  
Dairyland ST-1289    Dekalb DK385    Pioneer 3394  
Dairyland ST-1400    Dekalb DK493    Pioneer 3730  
Dairyland ST-1412    Golden H2387    Pioneer 3845  
Pioneer 3947  
  
Area Planted: 10' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
  
Planting Date: May 5  
Planting Equip: Kinze Plot Planter w/seed cones  
Planting Rate: 40,000 thinned to 28,000 plants/a  
  
Cultivation: June 23  
Harvesting Date: Oct. 17  
Harvesting Equip: Gleaner Plot Combine  
  

	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Herbicides:	Aatrex 4L	0.75 qts/a	premerge
	Lasso	2 qts/a	premerge

---

Results: Tables E-3 and E-4.

**Table E-3. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Hancock, WI - 1995.**

Hybrid	Plant Density	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Carhart's CX92A	90		9.5	11.1	12.6	93.3
Dairyland ST-1180	80		8.5	9.9	11.4	83.4
Dairyland ST-1289	90		9.9	11.3	12.9	97.8
Dairyland ST-1400	100		8.9	10.5	12.1	87.4
Dairyland ST-1412	110		8.4	9.6	11.4	89.4
Dekalb DK 580	108		9.1	10.4	12.3	90.9
Dekalb DK306	80		8.9	9.8	11.4	88.6
Dekalb DK385	88		9.4	10.5	12.4	93.1
Dekalb DK493	99		9.3	10.4	12.4	95.0
Golden H2387	100		9.3	10.9	12.6	92.7
Golden H2441	105		9.5	11.0	12.9	91.6
NK PX9060	80		9.3	10.8	12.1	99.4
Pioneer 3394	110		8.7	9.4	11.5	93.7
Pioneer 3730	100		8.7	10.0	12.0	96.8
Pioneer 3845	90		9.5	10.8	12.6	103.7
Pioneer 3947	80		9.1	10.3	11.9	104.8
		152	2.4	3.7	4.9	8.2
		158	4.0	4.8	6.8	15.8
		166	5.4	6.8	8.7	27.4
		174	7.7	9.6	12.0	58.1
		180	9.5	11.9	14.5	88.5
		188	11.6	13.5	15.9	113.6
		195	14.9	15.6	16.9	187.3
		209	17.6	17.6	17.6	251.9
Carhart's CX92A	90	152	2.3	3.8	4.8	7.7
Carhart's CX92A	90	158	4.1	5.2	6.9	15.3
Carhart's CX92A	90	166	5.8	6.9	9.1	29.3
Carhart's CX92A	90	174	8.2	10.4	12.4	60.7
Carhart's CX92A	90	180	10.1	13.0	15.4	87.3
Carhart's CX92A	90	188	12.0	14.9	16.8	110.7
Carhart's CX92A	90	195	15.0	16.1	17.2	181.7
Carhart's CX92A	90	209	18.1	18.1	18.1	253.7
Dairyland ST-1180	80	152	2.2	3.6	4.6	6.7
Dairyland ST-1180	80	158	3.8	4.7	6.9	11.7
Dairyland ST-1180	80	166	5.1	6.9	8.4	21.0
Dairyland ST-1180	80	174	7.1	9.7	11.8	46.7
Dairyland ST-1180	80	180	8.9	11.7	14.2	76.0
Dairyland ST-1180	80	188	10.9	13.0	14.8	105.7
Dairyland ST-1180	80	195	14.4	14.7	15.3	173.3
Dairyland ST-1180	80	209	15.4	15.4	15.4	226.3

**Table E-3. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Hancock, WI - 1995.**

Hybrid	Plant Density	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Dairyland ST-1289	90	152	2.8	3.8	5.1	9.0
Dairyland ST-1289	90	158	4.3	5.0	7.3	19.3
Dairyland ST-1289	90	166	5.8	7.3	9.6	33.3
Dairyland ST-1289	90	174	8.2	11.1	13.0	63.7
Dairyland ST-1289	90	180	10.6	13.2	15.6	91.7
Dairyland ST-1289	90	188	13.0	14.9	17.1	124.3
Dairyland ST-1289	90	195	16.7	17.3	17.9	191.7
Dairyland ST-1289	90	209	18.0	18.0	18.0	249.0
Dairyland ST-1400	100	152	2.2	3.6	4.9	7.3
Dairyland ST-1400	100	158	3.9	4.6	6.2	12.7
Dairyland ST-1400	100	166	5.0	6.8	8.2	21.7
Dairyland ST-1400	100	174	7.4	9.3	11.7	52.3
Dairyland ST-1400	100	180	9.0	11.7	14.0	82.0
Dairyland ST-1400	100	188	10.8	13.2	15.8	96.7
Dairyland ST-1400	100	195	13.7	15.8	17.2	155.0
Dairyland ST-1400	100	209	18.9	18.9	18.9	271.3
Dairyland ST-1412	110	152	2.0	3.0	4.1	7.3
Dairyland ST-1412	110	158	3.3	4.2	5.8	12.7
Dairyland ST-1412	110	166	4.8	5.9	7.3	22.0
Dairyland ST-1412	110	174	7.0	8.0	10.8	52.3
Dairyland ST-1412	110	180	8.4	10.8	13.0	77.3
Dairyland ST-1412	110	188	10.2	11.8	15.1	102.0
Dairyland ST-1412	110	195	13.2	14.6	16.4	173.3
Dairyland ST-1412	110	209	18.3	18.3	18.3	268.3
Dekalb DK 580	108	152	2.4	3.6	5.0	6.3
Dekalb DK 580	108	158	3.9	4.7	6.6	15.7
Dekalb DK 580	108	166	5.6	6.8	8.8	26.0
Dekalb DK 580	108	174	7.8	9.6	12.0	54.0
Dekalb DK 580	108	180	9.4	11.2	14.0	85.0
Dekalb DK 580	108	188	11.6	13.4	16.1	108.3
Dekalb DK 580	108	195	14.0	15.4	17.7	175.0
Dekalb DK 580	108	209	18.4	18.4	18.4	257.0
Dekalb DK306	80	152	2.4	3.2	4.8	7.7
Dekalb DK306	80	158	4.1	4.3	6.3	18.0
Dekalb DK306	80	166	5.3	6.6	8.4	27.0
Dekalb DK306	80	174	7.4	9.1	11.7	52.7
Dekalb DK306	80	180	9.4	11.4	13.8	85.3
Dekalb DK306	80	188	11.8	13.0	14.8	113.3
Dekalb DK306	80	195	15.3	15.0	15.6	183.3
Dekalb DK306	80	209	15.4	15.4	15.4	221.3

**Table E-3. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Hancock, WI - 1995.**

Hybrid	Plant Density	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Dekalb DK385	88	152	2.3	3.8	5.0	8.0
Dekalb DK385	88	158	4.0	4.6	7.1	16.3
Dekalb DK385	88	166	5.6	6.9	9.0	28.7
Dekalb DK385	88	174	7.9	9.2	12.3	59.0
Dekalb DK385	88	180	9.9	12.4	15.0	89.0
Dekalb DK385	88	188	12.1	13.9	16.4	112.3
Dekalb DK385	88	195	16.1	16.2	17.3	191.7
Dekalb DK385	88	209	17.3	17.3	17.3	239.7
Dekalb DK493	99	152	2.2	3.7	4.7	8.3
Dekalb DK493	99	158	3.9	4.6	6.8	15.7
Dekalb DK493	99	166	5.7	6.0	8.9	32.0
Dekalb DK493	99	174	7.7	9.4	12.2	57.7
Dekalb DK493	99	180	9.7	11.8	14.8	91.0
Dekalb DK493	99	188	11.8	14.1	16.3	113.3
Dekalb DK493	99	195	15.0	15.2	17.4	181.7
Dekalb DK493	99	209	18.3	18.3	18.3	260.3
Golden H2387	100	152	2.7	4.1	5.1	7.7
Golden H2387	100	158	4.0	5.3	7.1	13.0
Golden H2387	100	166	5.6	7.3	9.0	25.0
Golden H2387	100	174	7.9	10.2	12.0	52.0
Golden H2387	100	180	9.6	12.0	14.7	81.7
Golden H2387	100	188	11.4	13.7	16.3	116.0
Golden H2387	100	195	14.4	15.8	18.0	186.7
Golden H2387	100	209	18.6	18.6	18.6	259.3
Golden H2441	105	152	2.7	3.8	5.1	8.7
Golden H2441	105	158	4.2	5.2	7.0	16.3
Golden H2441	105	166	5.6	7.7	9.2	28.0
Golden H2441	105	174	8.0	10.2	12.4	59.0
Golden H2441	105	180	9.9	12.4	15.3	86.3
Golden H2441	105	188	11.8	14.2	17.0	107.3
Golden H2441	105	195	14.7	15.9	17.9	178.3
Golden H2441	105	209	18.9	18.9	18.9	249.0
NK PX9060	80	152	2.9	4.0	5.6	10.7
NK PX9060	80	158	4.3	5.8	7.6	17.7
NK PX9060	80	166	5.7	8.1	9.3	30.3
NK PX9060	80	174	7.8	11.1	13.2	64.3
NK PX9060	80	180	10.0	12.8	14.6	103.3
NK PX9060	80	188	12.3	13.8	15.2	123.7
NK PX9060	80	195	15.6	15.6	15.6	216.7
NK PX9060	80	209	15.4	15.4	15.4	228.3



**Table E-3. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Hancock, WI - 1995.**

Hybrid	Plant Density	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Pioneer 3394	110	152	2.4	3.4	4.7	8.0
Pioneer 3394	110	158	3.8	4.1	6.3	13.7
Pioneer 3394	110	166	5.2	5.7	7.9	23.7
Pioneer 3394	110	174	7.2	8.1	10.7	59.0
Pioneer 3394	110	180	8.4	9.7	13.0	84.0
Pioneer 3394	110	188	10.9	11.8	15.0	110.0
Pioneer 3394	110	195	13.1	13.8	16.2	176.7
Pioneer 3394	110	209	18.6	18.6	18.6	274.7
Pioneer 3730	100	152	2.0	3.4	4.6	10.0
Pioneer 3730	100	158	3.8	4.4	6.3	20.0
Pioneer 3730	100	166	5.0	5.7	8.3	31.0
Pioneer 3730	100	174	7.3	8.9	11.6	62.7
Pioneer 3730	100	180	8.9	11.6	14.2	84.7
Pioneer 3730	100	188	10.9	13.2	16.1	114.3
Pioneer 3730	100	195	14.6	15.4	17.2	178.3
Pioneer 3730	100	209	17.3	17.3	17.3	273.7
Pioneer 3845	90	152	2.9	4.0	5.1	10.3
Pioneer 3845	90	158	4.1	5.0	7.1	20.0
Pioneer 3845	90	166	5.3	6.8	9.0	31.7
Pioneer 3845	90	174	7.9	10.3	12.2	67.0
Pioneer 3845	90	180	9.8	12.4	15.1	103.3
Pioneer 3845	90	188	12.0	13.4	16.6	127.0
Pioneer 3845	90	195	16.2	16.4	17.6	210.0
Pioneer 3845	90	209	17.9	17.9	17.9	260.3
Pioneer 3947	80	152	2.2	3.9	5.0	7.7
Pioneer 3947	80	158	4.0	4.9	6.9	15.0
Pioneer 3947	80	166	5.4	7.7	8.8	27.7
Pioneer 3947	80	174	7.6	8.9	12.3	66.0
Pioneer 3947	80	180	9.8	11.9	14.7	108.3
Pioneer 3947	80	188	12.0	13.2	15.4	132.0
Pioneer 3947	80	195	15.8	15.8	15.9	243.3
Pioneer 3947	80	209	15.9	15.9	15.9	238.3
Mean			9.1	10.4	12.2	93.9
<b><u>Probability %</u></b>						
Hybrid (H)			< 0.1	< 0.1	< 0.1	< 0.1
Days (D)			< 0.1	< 0.1	< 0.1	< 0.1
H x D			< 0.1	< 0.1	< 0.1	< 0.1
<b><u>LSD (0.10)</u></b>						
Hybrid (H)			0.4	0.4	0.5	4.8
Day of Year (D)			0.1	0.1	0.1	2.0
<b><u>CV %</u></b>						
			7.3	7.2	5.8	6.3

**Table E-4. Determining Corn Hybrid Maturity - Comparison of Hybrid Harvest Data Hancock, WI.**

Hybrid	Relative Maturity	Final Population plants/a	Broken Stalks %	Moisture %	Yield bu/a
Carhart's CX92A	90	28512	4.6	16.5	163.9
Dairyland ST-1180	80	28512	6.0	16.6	126.1
Dairyland ST-1289	90	28512	2.3	16.9	139.6
Dairyland ST-1400	100	28512	3.2	18.5	151.8
Dairyland ST-1412	110	28512	0.5	23.4	193.7
Dekalb DK 580	108	28512	3.2	20.3	180.7
Dekalb DK306	80	28512	4.6	15.1	132.8
Dekalb DK385	88	28512	1.9	16.5	143.3
Dekalb DK493	99	28512	1.9	18.5	188.0
Golden H2387	100	28512	4.2	20.5	182.6
Golden H2441	105	28512	6.0	20.6	191.9
NK PX9060	80	28512	3.7	15.9	124.8
Pioneer 3394	110	28512	2.8	21.8	179.7
Pioneer 3730	100	28512	1.4	19.2	163.6
Pioneer 3845	90	28512	3.7	18.0	170.9
Pioneer 3947	80	28512	6.0	16.3	119.6
Mean		28512	3.5	18.4	159.6
<b><u>Probability %</u></b>					
Hybrid (H)			4.2	< 0.1	< 0.1
<b><u>LSD (0.10)</u></b>					
Hybrid (H)			2.8	0.9	18.9
<b><u>CV %</u></b>					
			58.2	3.5	8.5

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity - Comparison of Hybrids. **Year:** 1995  
**Personnel:** J.G. Lauer, K.D. Hudelson  
**Location:** Lancaster Research Station, Lancaster, WI  
**Supported by:** Hatch

---

### FIELD INFORMATION

Field: 306  
Soil Type: Fayette silt loam  
Soil Test Results: Test Date: 10/94    pH: 7.1    P (ppm): 31    K (ppm): 190    OM (%): 3.1  
Fertilizer: May 1 - 150 lbs/a 6-24-24 starter  
150 lbs N/a 82-0-0 preplant  
Tillage Operations: Chisel Plow, Soil Finisher  
Previous Crop: Soybean  
Irrigation: None

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB  
Replicates: 3  
Variables: Hybrids:  
Carhart's CX92A    Dekalb DK 580    Golden H2441  
Dairyland ST-1180    Dekalb DK306    NK PX9060  
Dairyland ST-1289    Dekalb DK385    Pioneer 3394  
Dairyland ST-1400    Dekalb DK493    Pioneer 3730  
Dairyland ST-1412    Golden H2387    Pioneer 3845  
Pioneer 3947  
  
Area Planted: 10' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
  
Planting Date: 6-Jan  
Planting Equip: Kinze Plot Planter w/seed cones  
Planting Rate: 40,000 thinned to 28,000 plants/a  
  
Cultivation: Rotary hoe on May 25  
Cultivate on June 21  
  
Harvesting Date: Oct. 14  
Harvesting Equip: Gleaner Plot Combine  
  

	<b>Material</b>	<b>Rate</b>	<b>Method</b>
Herbicides:	Roundup	2 qts/a	spot spray on May 1
	Bladex 4L	2 qts/a	premerge on May 15
	Dual II	2 pts/a	premerge on May 15
	Roundup	2 qts/a	hand wick on July 3
Insecticides:	Lorsban	7 lbs/a	planting

---

Results: Tables E-5 and E-6.

**Table E-5. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Lancaster, WI - 1995.**

Hybrid	Plant Density	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Carhart's CX92A	90		8.4	10.0	11.6	101.8
Dairyland ST-1180	80		6.5	8.1	10.2	66.4
Dairyland ST-1289	90		8.9	10.3	12.1	101.0
Dairyland ST-1400	100		8.3	10.0	11.6	100.6
Dairyland ST-1412	110		8.1	9.1	11.1	100.8
Dekalb DK 580	108		8.4	9.6	11.5	91.5
Dekalb DK306	80		7.4	8.8	10.8	75.0
Dekalb DK385	88		7.9	8.8	11.0	98.5
Dekalb DK493	99		8.4	9.2	11.5	100.2
Golden H2387	100		8.4	10.0	11.9	102.9
Golden H2441	105		8.4	9.6	11.6	98.2
NK PX9060	80		6.9	8.9	10.6	91.4
Pioneer 3394	110		8.5	9.3	11.7	108.6
Pioneer 3730	100		7.8	9.2	11.0	105.6
Pioneer 3845	90		8.3	9.7	11.6	110.7
Pioneer 3947	80		7.6	8.5	11.3	89.6
		153	2.0	2.8	4.5	10.4
		159	3.7	4.7	6.6	22.6
		167	4.9	6.9	8.9	32.8
		173	7.3	9.2	12.0	71.3
		179	9.3	11.4	14.4	109.9
		193	14.3	15.2	17.0	203.7
		220	17.9	18.0	18.1	272.4
Carhart's CX92A	90	153	2.0	3.0	4.6	9.5
Carhart's CX92A	90	159	4.0	5.0	6.7	21.7
Carhart's CX92A	90	167	4.9	7.2	9.0	33.0
Carhart's CX92A	90	173	7.6	10.3	12.4	67.7
Carhart's CX92A	90	179	9.7	12.3	14.9	110.0
Carhart's CX92A	90	193	14.8	15.4	17.1	206.7
Carhart's CX92A	90	220	16.9	17.1	17.4	264.3
Dairyland ST-1180	80	153	1.9	2.6	4.4	8.7
Dairyland ST-1180	80	159	3.6	4.0	6.3	17.7
Dairyland ST-1180	80	167	4.6	6.6	8.4	27.7
Dairyland ST-1180	80	173	7.1	9.6	11.9	61.7
Dairyland ST-1180	80	179	8.7	11.6	14.1	97.7
Dairyland ST-1180	80	193	13.4	14.2	15.9	185.0
Dairyland ST-1180	80	220	-	-	-	-

**Table E-5. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Lancaster, WI - 1995.**

Hybrid	Plant Density	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Dairyland ST-1289	90	153	2.1	3.1	4.7	10.5
Dairyland ST-1289	90	159	4.0	4.9	7.0	23.0
Dairyland ST-1289	90	167	5.1	7.1	9.4	34.7
Dairyland ST-1289	90	173	7.8	9.9	12.2	68.3
Dairyland ST-1289	90	179	10.0	12.2	14.9	111.7
Dairyland ST-1289	90	193	15.3	16.4	18.1	201.7
Dairyland ST-1289	90	220	18.1	18.2	18.3	257.0
Dairyland ST-1400	100	153	2.0	3.2	4.2	9.8
Dairyland ST-1400	100	159	3.8	4.9	6.7	21.0
Dairyland ST-1400	100	167	5.0	7.3	8.9	33.7
Dairyland ST-1400	100	173	7.2	9.7	11.8	70.7
Dairyland ST-1400	100	179	9.0	11.8	14.4	97.0
Dairyland ST-1400	100	193	13.6	15.8	17.3	188.3
Dairyland ST-1400	100	220	18.4	18.4	18.4	283.7
Dairyland ST-1412	110	153	2.0	2.4	4.1	10.3
Dairyland ST-1412	110	159	3.2	4.1	5.9	21.3
Dairyland ST-1412	110	167	4.7	5.9	8.3	31.0
Dairyland ST-1412	110	173	6.9	8.7	11.6	71.7
Dairyland ST-1412	110	179	8.7	10.6	13.8	103.7
Dairyland ST-1412	110	193	13.3	14.2	16.6	185.7
Dairyland ST-1412	110	220	17.6	17.7	17.8	282.0
Dekalb DK 580	108	153	2.1	2.2	4.1	7.7
Dekalb DK 580	108	159	3.9	4.3	6.3	19.0
Dekalb DK 580	108	167	4.6	6.8	8.4	27.3
Dekalb DK 580	108	173	7.0	9.2	11.4	61.0
Dekalb DK 580	108	179	8.9	11.2	13.9	94.3
Dekalb DK 580	108	193	13.6	15.2	17.7	173.3
Dekalb DK 580	108	220	18.4	18.4	18.4	257.7
Dekalb DK306	80	153	2.0	2.7	4.6	8.8
Dekalb DK306	80	159	3.9	5.1	6.8	21.7
Dekalb DK306	80	167	5.0	7.2	9.0	33.7
Dekalb DK306	80	173	7.7	9.3	12.9	69.0
Dekalb DK306	80	179	9.9	12.3	14.7	111.7
Dekalb DK306	80	193	15.8	15.9	16.7	205.0
Dekalb DK306	80	220	-	-	-	-
Dekalb DK385	88	153	2.0	2.4	4.4	10.0
Dekalb DK385	88	159	3.7	4.6	6.4	22.7
Dekalb DK385	88	167	5.0	6.6	8.7	33.3
Dekalb DK385	88	173	7.0	8.2	11.6	70.7
Dekalb DK385	88	179	9.2	10.7	14.3	96.7
Dekalb DK385	88	193	15.1	15.3	17.2	202.7
Dekalb DK385	88	220	17.2	17.2	17.2	253.7

**Table E-5. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Lancaster, WI - 1995.**

Hybrid	Plant Density	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Dekalb DK493	99	153	2.0	2.8	4.2	10.7
Dekalb DK493	99	159	3.7	4.3	6.6	23.0
Dekalb DK493	99	167	4.9	6.1	8.7	30.7
Dekalb DK493	99	173	7.4	8.3	12.0	70.0
Dekalb DK493	99	179	9.3	10.6	14.2	105.0
Dekalb DK493	99	193	14.3	15.6	17.7	190.3
Dekalb DK493	99	220	17.9	18.0	18.1	272.0
Golden H2387	100	153	2.1	3.0	4.8	9.7
Golden H2387	100	159	3.8	4.8	6.7	21.3
Golden H2387	100	167	4.9	7.3	9.0	30.3
Golden H2387	100	173	7.1	9.8	11.9	67.7
Golden H2387	100	179	9.1	11.9	14.8	108.3
Golden H2387	100	193	14.0	15.1	17.7	201.0
Golden H2387	100	220	18.0	18.3	18.7	282.0
Golden H2441	105	153	2.0	2.8	4.4	10.0
Golden H2441	105	159	3.8	4.6	6.7	21.0
Golden H2441	105	167	5.1	7.1	8.8	31.0
Golden H2441	105	173	7.4	8.9	11.8	69.0
Golden H2441	105	179	9.3	11.2	14.2	103.3
Golden H2441	105	193	13.4	14.6	17.0	185.0
Golden H2441	105	220	18.0	18.1	18.2	268.3
NK PX9060	80	153	2.0	3.2	4.8	12.2
NK PX9060	80	159	3.8	5.1	6.9	23.3
NK PX9060	80	167	4.7	7.4	9.1	34.0
NK PX9060	80	173	7.1	10.2	12.2	70.3
NK PX9060	80	179	9.2	12.0	14.4	111.7
NK PX9060	80	193	14.6	15.2	15.9	296.7
NK PX9060	80	220	-	-	-	-
Pioneer 3394	110	153	2.0	2.7	4.7	11.8
Pioneer 3394	110	159	3.8	4.8	6.9	27.7
Pioneer 3394	110	167	5.1	6.7	8.8	35.0
Pioneer 3394	110	173	7.3	8.2	11.4	80.7
Pioneer 3394	110	179	9.2	9.7	14.0	121.7
Pioneer 3394	110	193	13.6	14.2	17.3	201.0
Pioneer 3394	110	220	18.7	18.7	18.7	282.3
Pioneer 3730	100	153	2.0	2.7	4.2	12.3
Pioneer 3730	100	159	3.2	4.7	6.0	24.7
Pioneer 3730	100	167	4.7	6.6	8.4	36.7
Pioneer 3730	100	173	6.8	8.8	11.3	72.7
Pioneer 3730	100	179	8.8	11.1	14.1	116.7
Pioneer 3730	100	193	13.4	14.8	17.0	191.7
Pioneer 3730	100	220	17.6	17.6	17.6	284.7

**Table E-5. Determining Corn Hybrid Maturity - Comparison of Hybrids.  
Growth and Development  
Lancaster, WI - 1995.**

Hybrid	Plant Density	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
Pioneer 3845	90	153	2.0	2.9	4.7	12.3
Pioneer 3845	90	159	3.7	5.2	6.9	25.7
Pioneer 3845	90	167	4.9	7.0	9.1	35.7
Pioneer 3845	90	173	7.0	9.4	12.2	84.0
Pioneer 3845	90	179	9.1	11.8	14.3	128.3
Pioneer 3845	90	193	14.7	15.0	16.8	208.3
Pioneer 3845	90	220	17.8	17.8	17.8	280.7
Pioneer 3947	80	153	2.0	2.9	4.9	11.2
Pioneer 3947	80	159	3.9	4.2	7.0	26.3
Pioneer 3947	80	167	5.3	7.3	9.9	37.7
Pioneer 3947	80	173	7.8	9.2	13.7	85.7
Pioneer 3947	80	179	10.2	11.0	15.4	140.0
Pioneer 3947	80	193	16.4	16.6	16.7	236.7
Pioneer 3947	80	220	-	-	-	-
Mean			8.0	9.3	11.3	97.0
<b><u>Probability %</u></b>						
Hybrid (H)			< 0.1	< 0.1	< 0.1	1.8
Days (D)			< 0.1	< 0.1	< 0.1	< 0.1
H x D			< 0.1	< 0.1	< 0.1	8.2
<b><u>LSD (0.10)</u></b>						
Hybrid (H)			0.3	0.4	0.3	11.1
Day of Year (D)			0.1	0.2	0.1	6.0
<b><u>CV %</u></b>						
			7.8	8.7	6.7	18.3

**Table E-6. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Harvest Data  
Lancaster, WI - 1995.**

Hybrid	Relative Maturity	Final Population plants/a	Broken Stalks %	Moisture %	Yield bu/a
Carhart's CX92A	90	24156	16.5	14.4	102.1
Dairyland ST-1180	80	-	-	-	-
Dairyland ST-1289	90	28116	19.9	14.8	117.6
Dairyland ST-1400	100	27720	10.0	16.9	127.9
Dairyland ST-1412	110	25080	6.4	21.9	172.5
Dekalb DK 580	108	28248	5.7	19.3	156.7
Dekalb DK306	80	-	-	-	-
Dekalb DK385	88	22836	10.6	14.3	87.5
Dekalb DK493	99	28248	9.4	16.2	144.9
Golden H2387	100	27456	22.2	23.0	144.7
Golden H2441	105	28116	15.9	17.7	145.2
NK PX9060	80	-	-	-	-
Pioneer 3394	110	29172	8.0	19.7	128.7
Pioneer 3730	100	26400	8.4	16.3	125.6
Pioneer 3845	90	25542	10.8	15.4	98.4
Pioneer 3947	80	-	-	-	-
Mean		26870	11.9	17.5	129.3
<b><u>Probability %</u></b>					
Hybrid (H)		2.3	6.8	0.52	< 0.1
<b><u>LSD (0.10)</u></b>					
Hybrid (H)		2755	8.9	3.7	25.9
<b><u>CV %</u></b>					
		7.3	53.3	15.2	14.3



## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity - Date of Planting by Hybrid. **Year:** 1995  
**Personnel:** J.G. Lauer, K.D. Hudelson  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Hatch

---

---

### FIELD INFORMATION

Field: 406  
Soil Type: Plano Silt Loam  
Soil Test Results: Test Date: 10/95    pH: 6.4    P (ppm): 47    K (ppm): 185    OM (%): 3.4  
Fertilizer: Each Planting Date: 150 lbs/a 6-24-24 starter  
April 28 - 150 lbs N/a 46-0-0  
Tillage Operations: Chisel Plow, Field Cultivate(2x)  
Field Cultivate before each planting  
Previous Crop: Soybean  
Irrigation: None

---

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split Plot  
Replicates: 4  
Variables: A: Date of Planting, B: Hybrid  
Date of Planting: 20-Apr  
1-May  
15-May  
19-May  
30-May  
9-Jun  
Hybrids: Northrup King 9060  
Pioneer 3845  
Dekalb DK493  
Pioneer 3394  
Area Planted: 10' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
Planting Date: See above  
Planting Equip: Kinze Plot Planter w/seed cones  
Planting Rate: ~40,000 plants/a thinned to 28,000 plants/a  
Harvesting Date: Oct. 12  
Harvesting Equip: Almaco Plot Combine  

	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Herbicides:	Bladex	2 qts/a	preemerge
	Lasso	2 qts/a	preemerge

---

---

Results: Tables E-7 and E-8.

**Table E-7. Determining Corn Hybrid Maturity - Date of Planting by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
April 20			10.7	11.5	13.4	121.3
May 1			10.5	11.4	13.2	116.6
May 15			9.5	10.3	12.2	109.6
May 19			9.0	9.9	11.7	105.4
May 30			9.0	10.0	11.8	107.8
June 9			8.7	10.1	12.0	111.2
	Northrup King 9060		9.2	10.4	11.9	107.0
	Pioneer 3845		9.8	10.8	12.5	116.9
	Dekalb DK493		9.9	10.6	12.7	110.3
	Pioneer 3394		9.7	10.4	12.6	114.2
April 20	Northrup King 9060		10.2	11.4	12.8	115.3
April 20	Pioneer 3845		10.8	11.8	13.6	129.7
April 20	Dekalb DK493		10.9	11.6	13.6	117.9
April 20	Pioneer 3394		10.8	11.5	13.8	122.4
May 1	Northrup King 9060		10.2	11.3	12.8	112.1
May 1	Pioneer 3845		10.5	11.4	13.1	117.7
May 1	Dekalb DK493		10.8	11.5	13.5	113.5
May 1	Pioneer 3394		10.7	11.3	13.5	123.1
May 15	Northrup King 9060		8.6	9.7	11.2	99.2
May 15	Pioneer 3845		9.8	10.7	12.4	115.7
May 15	Dekalb DK493		9.9	10.5	12.7	108.1
May 15	Pioneer 3394		9.7	10.4	12.5	115.2
May 19	Northrup King 9060		8.7	9.9	11.3	100.6
May 19	Pioneer 3845		9.2	10.2	11.8	110.8
May 19	Dekalb DK493		9.1	9.8	11.8	104.8
May 19	Pioneer 3394		9.1	9.7	11.8	105.6
May 30	Northrup King 9060		8.7	10.0	11.5	106.3
May 30	Pioneer 3845		9.2	10.2	11.9	111.6
May 30	Dekalb DK493		9.3	10.0	12.0	106.6
May 30	Pioneer 3394		8.9	9.7	11.8	106.9
June 9	Northrup King 9060		8.6	10.2	11.7	109.5
June 9	Pioneer 3845		8.9	10.2	12.0	114.8
June 9	Dekalb DK493		8.9	10.3	12.3	110.8
June 9	Pioneer 3394		8.4	9.7	11.8	109.8
		153	1.7	2.2	4.0	7.8
		158	2.6	3.5	5.2	13.1
		165	3.9	5.0	7.0	22.2
		174	5.7	7.0	9.7	48.4
		181	8.2	9.7	12.9	85.4
		188	10.0	11.8	14.8	108.7
		198	14.6	15.5	17.1	185.1
		206	17.2	17.5	18.0	205.3
		213	18.3	18.3	18.5	266.8

**Table E-7. Determining Corn Hybrid Maturity - Date of Planting by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
April 20		153	2.8	3.7	5.2	10.8
April 20		158	4.0	5.3	7.2	20.8
April 20		165	5.1	6.7	9.0	32.3
April 20		174	7.5	8.9	12.4	71.8
April 20		181	10.3	11.4	15.2	128.5
April 20		188	12.3	13.7	16.7	146.0
April 20		198	17.0	17.3	18.2	206.1
April 20		206	18.6	18.6	18.6	208.2
April 20		213	18.7	18.7	18.7	267.6
May 1		153	2.4	3.4	4.8	9.6
May 1		158	3.8	4.8	6.5	17.7
May 1		165	5.0	6.4	8.6	28.6
May 1		174	7.3	8.6	11.9	65.9
May 1		181	10.0	11.2	14.9	115.8
May 1		188	11.9	13.4	16.5	133.2
May 1		198	17.1	17.2	18.1	201.6
May 1		206	18.8	18.8	18.9	208.1
May 1		213	18.9	18.9	18.9	269.0
May 15		153	1.1	1.4	3.3	6.3
May 15		158	2.5	3.6	5.1	12.4
May 15		165	3.9	4.9	6.8	20.1
May 15		174	6.3	7.5	10.4	52.4
May 15		181	8.9	10.4	14.0	91.9
May 15		188	10.7	12.5	15.7	117.3
May 15		198	15.9	16.3	17.8	197.9
May 15		206	18.3	18.3	18.5	211.8
May 15		213	18.9	18.9	18.9	275.9
May 19		153	0.7	0.5	2.6	4.4
May 19		158	2.0	3.3	4.5	10.8
May 19		165	3.3	4.2	6.1	18.5
May 19		174	5.7	7.3	9.7	48.9
May 19		181	8.2	9.8	13.1	81.3
May 19		188	10.0	12.0	15.2	110.6
May 19		198	15.0	15.7	17.2	191.9
May 19		206	17.8	17.8	18.1	209.1
May 19		213	18.7	18.7	18.7	273.5

**Table E-7. Determining Corn Hybrid Maturity - Date of Planting by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
May 30		153	-	-	-	-
May 30		158	0.8	0.6	2.6	3.9
May 30		165	2.0	2.9	4.6	11.6
May 30		174	4.9	6.4	8.5	34.5
May 30		181	7.2	9.1	12.1	60.3
May 30		188	8.9	10.9	14.1	91.3
May 30		198	13.4	14.6	16.7	181.3
May 30		206	16.8	17.0	17.7	211.6
May 30		213	18.5	18.5	18.6	268.2
June 9		153	-	-	-	-
June 9		158	-	-	-	-
June 9		165	-	-	-	-
June 9		174	2.7	3.2	5.0	17.3
June 9		181	4.9	6.6	8.4	34.6
June 9		188	6.3	8.3	10.6	53.8
June 9		198	9.5	11.9	14.2	131.6
June 9		206	12.8	14.3	16.2	183.3
June 9		213	16.2	16.4	17.5	246.8
	Northrup King 9060	153	1.8	2.4	4.1	7.6
	Northrup King 9060	158	2.6	3.9	5.4	13.3
	Northrup King 9060	165	3.9	5.4	7.3	22.3
	Northrup King 9060	174	5.8	7.9	10.2	47.5
	Northrup King 9060	181	8.3	10.9	13.2	85.3
	Northrup King 9060	188	10.3	12.2	14.7	110.2
	Northrup King 9060	198	14.5	15.2	15.9	175.8
	Northrup King 9060	206	15.8	16.0	16.2	187.8
	Northrup King 9060	213	16.2	16.2	16.2	250.6
	Pioneer 3845	153	1.8	2.6	4.3	8.6
	Pioneer 3845	158	2.7	3.7	5.4	14.4
	Pioneer 3845	165	3.9	5.2	7.1	23.6
	Pioneer 3845	174	5.7	7.1	9.5	52.1
	Pioneer 3845	181	8.2	9.9	12.9	92.2
	Pioneer 3845	188	10.0	11.8	14.9	113.4
	Pioneer 3845	198	15.3	16.0	17.4	192.2
	Pioneer 3845	206	17.5	17.7	18.0	210.0
	Pioneer 3845	213	18.2	18.2	18.3	277.3
	Dekalb DK493	153	1.4	1.9	3.5	7.4
	Dekalb DK493	158	2.6	3.1	4.8	11.8
	Dekalb DK493	165	3.8	4.6	6.7	20.7
	Dekalb DK493	174	5.6	6.5	9.5	44.5
	Dekalb DK493	181	8.3	9.5	13.0	75.8
	Dekalb DK493	188	10.1	11.9	15.1	99.7
	Dekalb DK493	198	14.8	15.7	17.6	185.3
	Dekalb DK493	206	18.1	18.5	19.0	209.5
	Dekalb DK493	213	19.3	19.3	19.6	272.5
	Pioneer 3394	153	1.7	2.1	4.0	7.6
	Pioneer 3394	158	2.6	3.5	5.2	13.1
	Pioneer 3394	165	3.9	4.9	7.0	22.4
	Pioneer 3394	174	5.8	6.5	9.4	49.7
	Pioneer 3394	181	8.2	8.6	12.6	88.3
	Pioneer 3394	188	9.8	11.4	14.5	111.4

**Table E-7. Determining Corn Hybrid Maturity - Date of Planting by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
	Pioneer 3394	198	13.9	15.1	17.2	187.0
	Pioneer 3394	206	17.3	17.7	18.7	214.0
	Pioneer 3394	213	19.2	19.4	19.8	266.8
April 20	Northrup King 9060	153	2.9	4.1	5.6	11.3
April 20	Northrup King 9060	158	4.1	5.8	7.4	22.0
April 20	Northrup King 9060	165	5.3	7.2	9.3	32.3
April 20	Northrup King 9060	174	7.8	10.5	13.5	75.5
April 20	Northrup King 9060	181	10.6	13.0	15.0	129.5
April 20	Northrup King 9060	188	12.9	13.8	16.0	147.3
April 20	Northrup King 9060	198	16.2	16.2	16.2	189.3
April 20	Northrup King 9060	206	16.3	16.3	16.3	189.3
April 20	Northrup King 9060	213	16.1	16.1	16.1	241.0
April 20	Pioneer 3845	153	2.9	4.1	5.4	13.0
April 20	Pioneer 3845	158	4.1	5.4	7.3	22.5
April 20	Pioneer 3845	165	5.1	6.8	9.3	35.0
April 20	Pioneer 3845	174	7.4	9.2	12.4	78.3
April 20	Pioneer 3845	181	10.3	11.8	15.1	141.3
April 20	Pioneer 3845	188	12.5	13.8	17.1	160.8
April 20	Pioneer 3845	198	18.2	18.3	18.8	219.3
April 20	Pioneer 3845	206	18.5	18.5	18.5	223.3
April 20	Pioneer 3845	213	18.6	18.6	18.6	274.3
April 20	Dekalb DK493	153	2.5	3.2	4.7	9.3
April 20	Dekalb DK493	158	4.0	4.8	6.8	19.3
April 20	Dekalb DK493	165	4.9	6.4	8.6	29.0
April 20	Dekalb DK493	174	7.4	8.1	11.8	64.3
April 20	Dekalb DK493	181	10.2	10.8	15.5	117.3
April 20	Dekalb DK493	188	12.1	13.8	17.0	134.0
April 20	Dekalb DK493	198	17.6	17.8	19.1	205.8
April 20	Dekalb DK493	206	19.6	19.6	19.6	210.8
April 20	Dekalb DK493	213	19.5	19.5	19.5	271.8
April 20	Pioneer 3394	153	2.7	3.3	5.0	9.8
April 20	Pioneer 3394	158	3.9	5.3	7.2	19.5
April 20	Pioneer 3394	165	5.1	6.3	8.8	33.0
April 20	Pioneer 3394	174	7.5	7.9	11.8	69.0
April 20	Pioneer 3394	181	9.9	10.0	15.1	126.0
April 20	Pioneer 3394	188	11.8	13.4	16.8	142.0

**Table E-7. Determining Corn Hybrid Maturity - Date of Planting by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
April 20	Pioneer 3394	198	16.3	16.8	18.8	210.0
April 20	Pioneer 3394	206	19.9	19.9	20.1	209.5
April 20	Pioneer 3394	213	20.3	20.3	20.3	283.3
May 1	Northrup King 9060	153	2.7	3.8	5.0	9.8
May 1	Northrup King 9060	158	3.9	5.3	6.9	18.5
May 1	Northrup King 9060	165	5.1	6.9	9.3	29.8
May 1	Northrup King 9060	174	7.6	10.2	12.9	68.8
May 1	Northrup King 9060	181	10.4	12.6	15.1	121.0
May 1	Northrup King 9060	188	12.7	13.7	16.1	143.5
May 1	Northrup King 9060	198	16.4	16.6	17.0	187.0
May 1	Northrup King 9060	206	17.0	17.0	17.0	187.0
May 1	Northrup King 9060	213	16.5	16.5	16.5	243.8
May 1	Pioneer 3845	153	2.3	3.5	5.0	9.8
May 1	Pioneer 3845	158	3.7	4.5	6.3	19.0
May 1	Pioneer 3845	165	4.8	6.2	8.1	26.8
May 1	Pioneer 3845	174	7.0	8.3	11.5	67.0
May 1	Pioneer 3845	181	9.7	11.3	14.7	120.3
May 1	Pioneer 3845	188	11.6	13.2	16.3	129.0
May 1	Pioneer 3845	198	18.2	18.2	18.3	200.5
May 1	Pioneer 3845	206	18.8	18.8	18.8	208.8
May 1	Pioneer 3845	213	18.7	18.7	18.7	278.5
May 1	Dekalb DK493	153	2.2	3.2	4.3	9.8
May 1	Dekalb DK493	158	3.6	4.7	6.3	15.5
May 1	Dekalb DK493	165	5.0	6.2	8.5	27.8
May 1	Dekalb DK493	174	7.2	7.8	11.8	59.8
May 1	Dekalb DK493	181	10.2	11.3	15.3	100.0
May 1	Dekalb DK493	188	11.9	13.6	17.0	120.0
May 1	Dekalb DK493	198	17.2	17.4	18.6	204.5
May 1	Dekalb DK493	206	19.8	19.8	19.8	214.0
May 1	Dekalb DK493	213	19.8	19.8	19.8	270.3
May 1	Pioneer 3394	153	2.3	2.9	4.9	9.3
May 1	Pioneer 3394	158	3.8	4.8	6.8	17.8
May 1	Pioneer 3394	165	5.0	6.2	8.6	30.0
May 1	Pioneer 3394	174	7.3	8.0	11.5	68.0
May 1	Pioneer 3394	181	9.8	9.8	14.7	122.0
May 1	Pioneer 3394	188	11.6	13.2	16.6	140.3
May 1	Pioneer 3394	198	16.5	16.7	18.6	214.3
May 1	Pioneer 3394	206	19.5	19.5	19.9	222.5
May 1	Pioneer 3394	213	20.3	20.3	20.3	283.5
May 15	Northrup King 9060	153	0.8	0.8	2.9	5.0
May 15	Northrup King 9060	158	2.1	3.8	4.9	10.8

**Table E-7. Determining Corn Hybrid Maturity - Date of Planting by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
May 15	Northrup King 9060	165	3.7	4.8	6.4	17.8
May 15	Northrup King 9060	174	6.1	7.8	10.3	44.0
May 15	Northrup King 9060	181	8.6	11.4	14.0	81.8
May 15	Northrup King 9060	188	10.6	12.7	15.4	111.8
May 15	Northrup King 9060	198	15.7	15.9	16.3	183.8
May 15	Northrup King 9060	206	15.9	15.9	15.9	187.0
May 15	Northrup King 9060	213	16.1	16.1	16.1	250.8
May 15	Pioneer 3845	153	1.4	2.3	3.9	7.3
May 15	Pioneer 3845	158	2.8	3.8	5.4	14.5
May 15	Pioneer 3845	165	4.1	5.6	7.3	23.5
May 15	Pioneer 3845	174	6.3	7.7	10.3	58.3
May 15	Pioneer 3845	181	8.9	10.6	14.3	105.0
May 15	Pioneer 3845	188	10.8	12.5	15.7	120.5
May 15	Pioneer 3845	198	16.8	17.0	18.3	207.8
May 15	Pioneer 3845	206	18.4	18.4	18.4	219.0
May 15	Pioneer 3845	213	18.4	18.4	18.4	285.5
May 15	Dekalb DK493	153	1.0	1.2	3.0	6.3
May 15	Dekalb DK493	158	2.5	3.0	4.8	11.0
May 15	Dekalb DK493	165	3.9	4.3	6.7	19.3
May 15	Dekalb DK493	174	6.4	7.4	10.8	50.5
May 15	Dekalb DK493	181	9.1	10.2	14.3	81.8
May 15	Dekalb DK493	188	11.0	12.7	16.3	111.5
May 15	Dekalb DK493	198	16.1	16.4	18.7	200.0
May 15	Dekalb DK493	206	20.3	20.3	20.3	208.8
May 15	Dekalb DK493	213	20.4	20.4	20.4	284.0
May 15	Pioneer 3394	153	1.0	1.4	3.4	6.8
May 15	Pioneer 3394	158	2.6	3.8	5.2	13.3
May 15	Pioneer 3394	165	4.0	4.8	6.8	20.0
May 15	Pioneer 3394	174	6.5	7.0	10.3	56.8
May 15	Pioneer 3394	181	9.0	9.3	13.5	99.0
May 15	Pioneer 3394	188	10.3	12.2	15.3	125.3
May 15	Pioneer 3394	198	15.0	16.0	18.2	200.3
May 15	Pioneer 3394	206	18.5	18.5	19.3	232.5
May 15	Pioneer 3394	213	20.3	20.3	20.3	283.3
May 19	Northrup King 9060	153	0.9	0.7	2.9	4.3
May 19	Northrup King 9060	158	2.0	3.7	4.8	11.5
May 19	Northrup King 9060	165	3.4	4.8	6.6	20.3
May 19	Northrup King 9060	174	5.8	8.3	10.7	47.8
May 19	Northrup King 9060	181	8.5	11.4	13.9	84.5
May 19	Northrup King 9060	188	10.4	12.7	15.3	115.0
May 19	Northrup King 9060	198	15.4	15.6	15.9	185.0
May 19	Northrup King 9060	206	15.8	15.8	15.8	186.3
May 19	Northrup King 9060	213	15.9	15.9	15.9	251.0
May 19	Pioneer 3845	153	0.8	0.6	2.8	4.5
May 19	Pioneer 3845	158	2.0	3.7	4.9	11.5
May 19	Pioneer 3845	165	3.3	4.3	6.0	19.0

**Table E-7. Determining Corn Hybrid Maturity - Date of Planting by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
May 19	Pioneer 3845	174	5.8	7.6	9.6	53.3
May 19	Pioneer 3845	181	8.2	9.8	13.0	88.0
May 19	Pioneer 3845	188	9.9	12.1	15.3	116.3
May 19	Pioneer 3845	198	15.5	16.3	17.6	205.3
May 19	Pioneer 3845	206	18.7	18.7	18.7	213.0
May 19	Pioneer 3845	213	18.7	18.7	18.7	286.3
May 19	Dekalb DK493	153	0.0	0.0	2.0	4.3
May 19	Dekalb DK493	158	2.0	2.6	4.1	9.5
May 19	Dekalb DK493	165	3.0	3.6	5.7	17.0
May 19	Dekalb DK493	174	5.4	6.6	9.2	44.0
May 19	Dekalb DK493	181	8.0	9.3	12.7	70.8
May 19	Dekalb DK493	188	9.9	11.8	15.4	102.3
May 19	Dekalb DK493	198	14.8	15.6	17.7	194.0
May 19	Dekalb DK493	206	19.1	19.1	19.4	216.3
May 19	Dekalb DK493	213	19.8	19.8	19.8	284.8
May 19	Pioneer 3394	153	0.9	0.9	2.6	4.8
May 19	Pioneer 3394	158	2.0	3.1	4.4	10.8
May 19	Pioneer 3394	165	3.5	4.3	6.2	17.8
May 19	Pioneer 3394	174	5.8	6.6	9.5	50.5
May 19	Pioneer 3394	181	8.0	8.4	12.8	82.0
May 19	Pioneer 3394	188	9.8	11.3	14.8	108.8
May 19	Pioneer 3394	198	14.1	15.3	17.4	183.5
May 19	Pioneer 3394	206	17.6	17.6	18.6	220.8
May 19	Pioneer 3394	213	20.2	20.2	20.2	272.0
May 30	Northrup King 9060	153	-	-	-	-
May 30	Northrup King 9060	158	0.8	0.8	2.8	3.8
May 30	Northrup King 9060	165	2.0	3.5	4.9	11.3
May 30	Northrup King 9060	174	4.8	6.9	8.9	31.8
May 30	Northrup King 9060	181	7.2	10.1	12.8	62.0
May 30	Northrup King 9060	188	8.8	11.9	14.4	93.8
May 30	Northrup King 9060	198	14.0	14.5	15.9	180.5
May 30	Northrup King 9060	206	16.6	16.6	16.7	197.5
May 30	Northrup King 9060	213	16.5	16.5	16.5	269.5
May 30	Pioneer 3845	153	-	-	-	-
May 30	Pioneer 3845	158	0.9	0.8	2.9	4.3
May 30	Pioneer 3845	165	2.1	3.1	4.8	13.5
May 30	Pioneer 3845	174	5.0	6.7	8.4	37.3
May 30	Pioneer 3845	181	7.3	9.1	11.9	62.5



**Table E-7. Determining Corn Hybrid Maturity - Date of Planting by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
May 30	Pioneer 3845	188	9.0	11.1	14.3	97.0
May 30	Pioneer 3845	198	13.5	14.8	17.2	186.8
May 30	Pioneer 3845	206	17.8	17.8	17.8	204.5
May 30	Pioneer 3845	213	17.9	17.9	17.9	287.0
May 30	Dekalb DK493	153	-	-	-	-
May 30	Dekalb DK493	158	0.8	0.4	2.1	3.8
May 30	Dekalb DK493	165	2.0	2.3	4.1	10.3
May 30	Dekalb DK493	174	4.8	6.0	8.5	31.8
May 30	Dekalb DK493	181	7.2	8.8	12.0	51.0
May 30	Dekalb DK493	188	9.0	10.6	14.1	79.8
May 30	Dekalb DK493	198	13.4	14.8	17.3	175.3
May 30	Dekalb DK493	206	17.2	17.3	18.3	224.8
May 30	Dekalb DK493	213	19.9	19.9	19.9	276.5
May 30	Pioneer 3394	153	-	-	-	-
May 30	Pioneer 3394	158	0.7	0.4	2.4	4.0
May 30	Pioneer 3394	165	2.0	2.8	4.6	11.3
May 30	Pioneer 3394	174	5.0	6.0	8.2	37.3
May 30	Pioneer 3394	181	7.3	8.3	11.6	65.5
May 30	Pioneer 3394	188	8.8	10.2	13.5	94.8
May 30	Pioneer 3394	198	12.5	14.3	16.6	182.8
May 30	Pioneer 3394	206	15.8	16.5	18.0	219.8
May 30	Pioneer 3394	213	19.3	19.3	19.8	239.8
June 9	Northrup King 9060	153	-	-	-	-
June 9	Northrup King 9060	158	-	-	-	-
June 9	Northrup King 9060	165	-	-	-	-
June 9	Northrup King 9060	174	2.8	3.3	5.2	17.0
June 9	Northrup King 9060	181	4.8	6.9	8.5	32.8
June 9	Northrup King 9060	188	6.2	8.6	10.8	50.0
June 9	Northrup King 9060	198	9.5	12.3	14.3	129.5
June 9	Northrup King 9060	206	13.2	14.3	15.6	179.8
June 9	Northrup King 9060	213	16.1	16.1	16.1	247.8

**Table E-7. Determining Corn Hybrid Maturity - Date of Planting by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
June 9	Pioneer 3845	153	-	-	-	-
June 9	Pioneer 3845	158	-	-	-	-
June 9	Pioneer 3845	165	-	-	-	-
June 9	Pioneer 3845	174	2.8	3.3	5.0	18.5
June 9	Pioneer 3845	181	5.0	7.0	8.8	36.0
June 9	Pioneer 3845	188	6.3	8.1	10.7	57.0
June 9	Pioneer 3845	198	9.5	11.7	14.3	133.5
June 9	Pioneer 3845	206	13.0	14.1	15.8	191.8
June 9	Pioneer 3845	213	16.9	17.0	17.5	252.3
June 9	Dekalb DK493	153	-	-	-	-
June 9	Dekalb DK493	158	-	-	-	-
June 9	Dekalb DK493	165	-	-	-	-
June 9	Dekalb DK493	174	2.6	2.8	5.0	17.0
June 9	Dekalb DK493	181	4.9	6.4	8.3	34.0
June 9	Dekalb DK493	188	6.6	8.6	10.8	50.8
June 9	Dekalb DK493	198	9.8	12.2	14.6	132.5
June 9	Dekalb DK493	206	13.0	14.9	16.9	182.8
June 9	Dekalb DK493	213	16.5	16.6	18.3	247.8
June 9	Pioneer 3394	153	-	-	-	-
June 9	Pioneer 3394	158	-	-	-	-
June 9	Pioneer 3394	165	-	-	-	-
June 9	Pioneer 3394	174	2.5	3.3	4.8	16.5
June 9	Pioneer 3394	181	5.0	5.9	8.0	35.5
June 9	Pioneer 3394	188	6.3	7.9	10.2	57.3
June 9	Pioneer 3394	198	9.3	11.3	13.8	131.0
June 9	Pioneer 3394	206	12.2	13.9	16.5	179.0
June 9	Pioneer 3394	213	15.1	15.9	17.8	239.3
Mean			9.6	10.6	12.4	112.1
<b>Probability %</b>						
Date of Planting (D)			< 0.1	< 0.1	< 0.1	< 0.1
Hybrid (H)			< 0.1	0.2	< 0.1	< 0.1
D x H			0.1	11.7	0.4	0.1
Days (T)			< 0.1	< 0.1	< 0.1	< 0.1
D x T			< 0.1	< 0.1	< 0.1	< 0.1
H x T			< 0.1	< 0.1	< 0.1	< 0.1
D x H x T			< 0.1	< 0.1	< 0.1	< 0.1
<b>LSD (0.10)</b>						
Date of Planting (D)			0.1	0.1	0.2	3.7
Hybrid (H)			0.1	0.2	0.2	1.9
Days (T)			0.1	0.1	0.1	1.9
<b>CV %</b>						
			5.7	6.0	4.8	7.0

**Table E-8. Determining Corn Hybrid Maturity - Date of Planting by Hybrid.  
Harvest Data  
Arlington, WI - 1995.**

Planting Date	Hybrid	Days to Silk	Broken Stalks %	Moisture %	Yield bu/a
April 20		90.3	3.7	17.2	155.8
May 1		80.4	3.6	17.1	152.6
May 15		69.8	3.3	17.7	151.9
May 19		66.4	2.9	18.7	150.4
May 30		59.4	3.8	19.7	145.3
June 9		57.4	3.7	22.7	105.4
	Northrup King 9060	65.4	6.5	14.6	108.7
	Pioneer 3845	70.2	2.2	17.9	144.7
	Dekalb DK493	71.4	3.5	19.4	161.9
	Pioneer 3394	75.5	1.7	23.7	169.7
April 20	Northrup King 9060	85.3	7.6	14.3	106.5
April 20	Pioneer 3845	89.3	1.4	16.4	160.0
April 20	Dekalb DK493	90.8	3.1	16.0	172.6
April 20	Pioneer 3394	95.8	2.8	21.9	184.3
May 1	Northrup King 9060	74.8	6.9	14.1	115.1
May 1	Pioneer 3845	80.5	1.7	17.0	146.8
May 1	Dekalb DK493	81.0	3.5	16.6	172.0
May 1	Pioneer 3394	85.5	2.1	20.8	176.6
May 15	Northrup King 9060	64.8	4.2	14.7	115.4
May 15	Pioneer 3845	68.8	3.5	16.5	152.0
May 15	Dekalb DK493	71.0	3.8	17.4	170.4
May 15	Pioneer 3394	74.5	1.7	22.2	169.6
May 19	Northrup King 9060	60.8	4.2	14.3	108.5
May 19	Pioneer 3845	65.3	1.7	17.3	158.2
May 19	Dekalb DK493	68.3	3.8	18.4	164.8
May 19	Pioneer 3394	71.3	1.7	24.9	170.0
May 30	Northrup King 9060	55.8	6.3	14.6	114.9
May 30	Pioneer 3845	58.0	2.4	17.2	152.8
May 30	Dekalb DK493	60.0	4.9	18.5	165.5
May 30	Pioneer 3394	64.0	1.7	28.5	148.1
June 9	Northrup King 9060	51.0	10.1	15.4	91.8
June 9	Pioneer 3845	59.3	2.4	23.0	98.4
June 9	Dekalb DK493	57.5	2.1	29.9	125.8
June 9	Pioneer 3394	61.8	0.0	-	-
Mean		70.6	3.5	18.7	145.2
<b>Probability %</b>					
Date of Planting (DOP)		< 0.1	> 50	< 0.1	< 0.1
Hybrid (H)		< 0.1	< 0.1	< 0.1	< 0.1
DOP x H		2.7	34.5	< 0.1	1.7
<b>LSD (0.10)</b>					
Date of Planting (DOP)		0.8	NS	1.1	7.8
Hybrid (H)		0.7	1.4	0.5	6.1
<b>CV %</b>					
		2.0	80.7	6.0	8.7

## FIELD EXPERIMENT HISTORY

Year: 1995

**Title:** Determining Corn Hybrid Maturity - Date of Planting by Hybrid and Plant Density.  
**Personnel:** J.G. Lauer, K.D. Hudelson  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Hatch

---

### FIELD INFORMATION

Field: 406  
Soil Type: Plano Silt Loam  
Soil Test Results: Test Date: 10/95 pH: 6.4 P (ppm): 47 K (ppm): 185 OM (%): 3.4  
Fertilizer: Each Planting Date: 150 lbs/a 6-24-24 starter  
April 28 - 150 lbs N/a 46-0-0  
Tillage Operations: Chisel Plow, Field Cultivate(2x)  
Field Cultivate before each planting  
Previous Crop: Soybean  
Irrigation: None

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split Plot Factorial  
Replicates: 4  
Variables: Date of Planting: May 1 and May 19  
Hybrids: Pioneer 3394 and 3845  
Plant Densities: 18,000 and 30,000 plants/a  
Area Planted: 10' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
Planting Date: May 1 and May 19  
Planting Equip: Kinze Plot Planter w/seed cones  
Planting Rate: variable  
Harvesting Date: Oct. 12  
Harvesting Equip: Almaco Plot Combine

	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Herbicides:	Bladex	2 qts/a	preemerg
	Lasso	2 qts/a	preemerg

---

Results: Tables E-9 and E-10.

**Table E-9. Determining Corn Hybrid Maturity - Date of Planting by Hybrid by Plant Density.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Plant Density plants/a	Day of Year	Leaf Development			Plant Height cm
				Leaf Collars	Hail Adjuster's Method	Total Leaves	
May 1				10.6	11.4	13.4	127.0
May 19				9.0	9.8	11.8	112.6
	Pioneer 3394			9.9	10.5	12.6	117.0
	Pioneer 3845			9.8	10.7	12.5	122.6
May 1	Pioneer 3394			10.7	11.4	13.5	123.8
May 1	Pioneer 3845			10.5	11.4	13.2	130.1
May 19	Pioneer 3394			9.0	9.6	11.7	110.2
May 19	Pioneer 3845			9.0	10.0	11.8	115.1
		18,000		10.0	10.7	12.7	118.1
		30,000		9.7	10.4	12.4	121.5
May 1		18,000		10.8	11.5	13.6	125.4
May 1		30,000		10.4	11.2	13.2	128.6
May 19		18,000		9.1	9.9	11.9	110.8
May 19		30,000		8.9	9.6	11.6	114.5
	Pioneer 3394	18,000		10.1	10.6	12.8	116.5
	Pioneer 3394	30,000		9.7	10.3	12.4	117.5
	Pioneer 3845	18,000		9.9	10.8	12.6	119.7
	Pioneer 3845	30,000		9.6	10.5	12.4	125.6
May 1	Pioneer 3394	18,000		11.0	11.6	13.8	124.3
May 1	Pioneer 3394	30,000		10.5	11.1	13.3	123.4
May 1	Pioneer 3845	18,000		10.6	11.5	13.3	126.6
May 1	Pioneer 3845	30,000		10.4	11.2	13.1	133.7
May 19	Pioneer 3394	18,000		9.1	9.7	11.8	108.8
May 19	Pioneer 3394	30,000		8.9	9.5	11.6	111.5
May 19	Pioneer 3845	18,000		9.1	10.1	11.9	112.8
May 19	Pioneer 3845	30,000		8.9	9.8	11.6	117.5
			153	1.8	2.1	3.9	7.7
			158	3.0	3.9	5.7	15.8
			165	4.6	5.6	7.4	23.7
			174	6.7	7.8	10.6	62.9
			181	9.4	10.7	14.2	113.5
			189	11.5	13.1	16.1	145.8
			194	14.1	14.4	17.3	195.3
			206	18.4	18.4	18.7	228.6
			213	19.1	19.1	19.1	285.0

**Table E-9. Determining Corn Hybrid Maturity - Date of Planting by Hybrid by Plant Density.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Plant Density plants/a	Day of Year	Leaf Development			Plant Height cm
				Leaf Collars	Hail Adjuster's Method	Total Leaves	
May 1			153	2.6	3.3	5.0	10.4
May 1			158	4.0	4.8	7.0	19.6
May 1			165	5.2	6.5	8.3	27.6
May 1			174	7.6	8.7	11.9	71.5
May 1			181	10.3	11.5	15.4	130.6
May 1			189	12.6	13.9	16.9	158.8
May 1			194	15.4	15.6	17.9	210.9
May 1			206	18.9	18.9	19.0	230.6
May 1			213	19.0	19.0	19.0	282.8
May 19			153	0.9	0.9	2.9	5.1
May 19			158	2.0	2.9	4.4	12.0
May 19			165	4.0	4.8	6.5	19.8
May 19			174	5.7	6.9	9.3	54.4
May 19			181	8.4	9.9	13.0	96.4
May 19			189	10.4	12.2	15.3	132.8
May 19			194	12.7	13.2	16.8	179.6
May 19			206	17.9	17.9	18.4	226.5
May 19			213	19.1	19.1	19.1	287.3
	Pioneer 3394		153	1.8	2.0	3.9	7.9
	Pioneer 3394		158	3.0	3.5	5.6	15.5
	Pioneer 3394		165	4.5	5.5	7.3	22.9
	Pioneer 3394		174	6.8	7.4	10.3	63.3
	Pioneer 3394		181	9.4	10.3	14.0	111.4
	Pioneer 3394		189	11.2	12.8	15.9	143.8
	Pioneer 3394		194	13.4	13.7	17.1	183.4
	Pioneer 3394		206	18.8	18.8	19.4	219.0
	Pioneer 3394		213	20.1	20.1	20.1	285.7
	Pioneer 3845		153	1.8	2.1	4.0	7.5
	Pioneer 3845		158	3.0	4.2	5.8	16.1
	Pioneer 3845		165	4.7	5.8	7.5	24.4
	Pioneer 3845		174	6.5	8.2	10.9	62.6
	Pioneer 3845		181	9.4	11.1	14.5	115.7
	Pioneer 3845		189	11.7	13.3	16.2	147.9
	Pioneer 3845		194	14.7	15.1	17.5	207.1
	Pioneer 3845		206	18.1	18.1	18.1	238.1
	Pioneer 3845		213	18.1	18.1	18.1	284.3
May 1	Pioneer 3394		153	2.7	3.2	5.0	10.8
May 1	Pioneer 3394		158	4.0	4.7	7.0	19.4
May 1	Pioneer 3394		165	5.1	6.3	8.0	27.0
May 1	Pioneer 3394		174	7.7	8.3	11.5	73.6
May 1	Pioneer 3394		181	10.3	11.1	15.3	129.3
May 1	Pioneer 3394		189	12.3	13.8	17.0	158.3
May 1	Pioneer 3394		194	14.6	14.9	17.9	197.5
May 1	Pioneer 3394		206	19.9	19.9	20.1	212.6
May 1	Pioneer 3394		213	20.1	20.1	20.1	286.1

**Table E-9. Determining Corn Hybrid Maturity - Date of Planting by Hybrid by Plant Density.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Plant Density plants/a	Day of Year	Leaf Development			Plant Height cm
				Leaf Collars	Hail Adjuster's Method	Total Leaves	
May 1	Pioneer 3845		153	2.6	3.3	5.0	10.0
May 1	Pioneer 3845		158	4.0	5.0	7.0	19.8
May 1	Pioneer 3845		165	5.4	6.8	8.7	28.3
May 1	Pioneer 3845		174	7.5	9.0	12.3	69.4
May 1	Pioneer 3845		181	10.3	12.0	15.6	132.0
May 1	Pioneer 3845		189	12.8	14.0	16.7	159.4
May 1	Pioneer 3845		194	16.1	16.3	17.8	224.4
May 1	Pioneer 3845		206	17.9	17.9	17.9	248.6
May 1	Pioneer 3845		213	17.9	17.9	17.9	279.4
May 19	Pioneer 3394		153	0.9	0.9	2.9	5.1
May 19	Pioneer 3394		158	2.0	2.4	4.3	11.6
May 19	Pioneer 3394		165	4.0	4.8	6.6	18.9
May 19	Pioneer 3394		174	5.9	6.6	9.1	53.0
May 19	Pioneer 3394		181	8.4	9.4	12.8	93.5
May 19	Pioneer 3394		189	10.1	11.9	14.9	129.3
May 19	Pioneer 3394		194	12.3	12.6	16.4	169.4
May 19	Pioneer 3394		206	17.6	17.6	18.7	225.4
May 19	Pioneer 3394		213	20.1	20.1	20.1	285.3
May 19	Pioneer 3845		153	1.0	1.0	2.9	5.0
May 19	Pioneer 3845		158	2.0	3.4	4.6	12.4
May 19	Pioneer 3845		165	4.0	4.8	6.4	20.6
May 19	Pioneer 3845		174	5.5	7.3	9.4	55.8
May 19	Pioneer 3845		181	8.4	10.3	13.3	99.4
May 19	Pioneer 3845		189	10.7	12.6	15.8	136.4
May 19	Pioneer 3845		194	13.2	13.9	17.2	189.8
May 19	Pioneer 3845		206	18.2	18.2	18.2	227.6
May 19	Pioneer 3845		213	18.2	18.2	18.2	289.3
		18,000	153	1.8	2.1	3.9	7.6
		18,000	158	3.0	3.9	5.7	15.4
		18,000	165	4.7	5.7	7.5	23.5
		18,000	174	6.8	7.9	10.7	62.1
		18,000	181	9.5	10.9	14.4	109.4
		18,000	189	11.6	13.2	16.3	143.3
		18,000	194	14.3	14.7	17.6	193.0
		18,000	206	18.8	18.8	19.1	226.4
		18,000	213	19.4	19.4	19.4	282.1
		30,000	153	1.8	2.1	4.0	7.8
		30,000	158	3.0	3.8	5.7	16.2
		30,000	165	4.5	5.6	7.4	23.9
		30,000	174	6.6	7.7	10.5	63.8
		30,000	181	9.3	10.6	14.0	117.7
		30,000	189	11.4	12.9	15.9	148.3
		30,000	194	13.8	14.1	17.1	197.5
		30,000	206	18.0	18.0	18.4	230.8
		30,000	213	18.8	18.8	18.8	287.9

**Table E-9. Determining Corn Hybrid Maturity - Date of Planting by Hybrid by Plant Density.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Plant Density plants/a	Day of Year	Leaf Development			Plant Height cm
				Leaf Collars	Hail Adjuster's Method	Total Leaves	
May 1		18,000	153	2.7	3.2	5.0	10.3
May 1		18,000	158	4.0	4.9	7.0	19.3
May 1		18,000	165	5.5	7.0	8.6	29.5
May 1		18,000	174	7.7	8.8	12.0	71.6
May 1		18,000	181	10.4	11.6	15.7	127.1
May 1		18,000	189	12.7	13.9	17.0	157.0
May 1		18,000	194	15.7	15.9	18.1	209.4
May 1		18,000	206	19.3	19.3	19.3	224.6
May 1		18,000	213	19.3	19.3	19.3	279.9
May 1		30,000	153	2.6	3.3	5.0	10.5
May 1		30,000	158	4.0	4.8	7.0	19.9
May 1		30,000	165	4.9	6.1	8.0	25.8
May 1		30,000	174	7.5	8.6	11.8	71.4
May 1		30,000	181	10.2	11.5	15.2	134.1
May 1		30,000	189	12.5	13.8	16.7	160.6
May 1		30,000	194	15.1	15.2	17.6	212.5
May 1		30,000	206	18.5	18.5	18.7	236.6
May 1		30,000	213	18.7	18.7	18.7	285.6
May 19		18,000	153	0.9	0.9	2.8	5.0
May 19		18,000	158	2.0	3.0	4.4	11.5
May 19		18,000	165	3.9	4.5	6.3	17.5
May 19		18,000	174	5.8	7.1	9.3	52.6
May 19		18,000	181	8.5	10.1	13.2	91.6
May 19		18,000	189	10.5	12.5	15.6	129.6
May 19		18,000	194	12.9	13.5	17.0	176.6
May 19		18,000	206	18.3	18.3	18.8	228.1
May 19		18,000	213	19.4	19.4	19.4	284.4
May 19		30,000	153	1.0	1.0	3.0	5.1
May 19		30,000	158	2.0	2.9	4.4	12.5
May 19		30,000	165	4.1	5.0	6.7	22.0
May 19		30,000	174	5.6	6.8	9.2	56.1
May 19		30,000	181	8.3	9.7	12.9	101.3
May 19		30,000	189	10.3	12.0	15.0	136.0
May 19		30,000	194	12.6	13.0	16.5	182.5
May 19		30,000	206	17.5	17.5	18.0	224.9
May 19		30,000	213	18.9	18.9	18.9	290.1
	Pioneer 3394	18,000	153	1.8	2.0	3.9	8.0
	Pioneer 3394	18,000	158	3.0	3.6	5.7	15.4
	Pioneer 3394	18,000	165	4.7	5.6	7.3	23.3
	Pioneer 3394	18,000	174	6.9	7.5	10.5	63.0
	Pioneer 3394	18,000	181	9.5	10.4	14.3	108.8
	Pioneer 3394	18,000	189	11.4	13.0	16.2	142.8
	Pioneer 3394	18,000	194	13.7	14.0	17.4	183.8
	Pioneer 3394	18,000	206	19.2	19.2	19.8	219.1
	Pioneer 3394	18,000	213	20.3	20.3	20.3	284.6



**Table E-9. Determining Corn Hybrid Maturity - Date of Planting by Hybrid by Plant Density.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Plant Density plants/a	Day of Year	Leaf Development			Plant Height cm
				Leaf Collars	Hail Adjuster's Method	Total Leaves	
	Pioneer 3394	30,000	153	1.8	2.1	4.0	7.9
	Pioneer 3394	30,000	158	3.0	3.5	5.6	15.6
	Pioneer 3394	30,000	165	4.3	5.4	7.3	22.6
	Pioneer 3394	30,000	174	6.8	7.4	10.1	63.6
	Pioneer 3394	30,000	181	9.2	10.2	13.7	114.0
	Pioneer 3394	30,000	189	11.0	12.7	15.7	144.8
	Pioneer 3394	30,000	194	13.2	13.4	16.8	183.1
	Pioneer 3394	30,000	206	18.3	18.3	19.0	218.9
	Pioneer 3394	30,000	213	19.9	19.9	19.9	286.8
	Pioneer 3845	18,000	153	1.8	2.1	4.0	7.3
	Pioneer 3845	18,000	158	3.0	4.2	5.8	15.4
	Pioneer 3845	18,000	165	4.7	5.8	7.6	23.8
	Pioneer 3845	18,000	174	6.7	8.4	10.9	61.3
	Pioneer 3845	18,000	181	9.4	11.3	14.5	110.0
	Pioneer 3845	18,000	189	11.8	13.5	16.4	143.9
	Pioneer 3845	18,000	194	14.8	15.3	17.7	202.3
	Pioneer 3845	18,000	206	18.4	18.4	18.4	233.6
	Pioneer 3845	18,000	213	18.4	18.4	18.4	279.6
	Pioneer 3845	30,000	153	1.7	2.2	4.0	7.8
	Pioneer 3845	30,000	158	3.0	4.2	5.8	16.8
	Pioneer 3845	30,000	165	4.7	5.8	7.5	25.1
	Pioneer 3845	30,000	174	6.4	8.0	10.8	63.9
	Pioneer 3845	30,000	181	9.3	11.0	14.4	121.4
	Pioneer 3845	30,000	189	11.7	13.1	16.1	151.9
	Pioneer 3845	30,000	194	14.5	14.8	17.3	211.9
	Pioneer 3845	30,000	206	17.7	17.7	17.7	242.6
	Pioneer 3845	30,000	213	17.7	17.7	17.7	289.0
May 1	Pioneer 3394	18,000	153	2.6	3.1	5.0	11.0
May 1	Pioneer 3394	18,000	158	4.0	4.8	7.1	19.0
May 1	Pioneer 3394	18,000	165	5.7	7.0	8.4	30.8
May 1	Pioneer 3394	18,000	174	7.8	8.3	11.9	74.5
May 1	Pioneer 3394	18,000	181	10.5	11.2	15.6	126.8
May 1	Pioneer 3394	18,000	189	12.6	13.8	17.3	158.5
May 1	Pioneer 3394	18,000	194	15.0	15.3	18.2	200.0
May 1	Pioneer 3394	18,000	206	20.3	20.3	20.4	210.5
May 1	Pioneer 3394	18,000	213	20.4	20.4	20.4	287.3
May 1	Pioneer 3394	30,000	153	2.8	3.3	5.0	10.5
May 1	Pioneer 3394	30,000	158	4.0	4.6	6.9	19.8
May 1	Pioneer 3394	30,000	165	4.5	5.6	7.5	23.3
May 1	Pioneer 3394	30,000	174	7.7	8.3	11.1	72.8
May 1	Pioneer 3394	30,000	181	10.1	11.1	14.9	131.8
May 1	Pioneer 3394	30,000	189	12.1	13.7	16.8	158.0
May 1	Pioneer 3394	30,000	194	14.3	14.5	17.6	195.0
May 1	Pioneer 3394	30,000	206	19.5	19.5	19.8	214.8
May 1	Pioneer 3394	30,000	213	19.8	19.8	19.8	285.0

**Table E-9. Determining Corn Hybrid Maturity - Date of Planting by Hybrid by Plant Density.  
Growth and Development  
Arlington, WI - 1995.**

Planting Date	Hybrid	Plant Density plants/a	Day of Year	Leaf Development			Plant Height cm
				Leaf Collars	Hail Adjuster's Method	Total Leaves	
May 1	Pioneer 3845	18,000	153	2.8	3.3	5.1	9.5
May 1	Pioneer 3845	18,000	158	4.0	5.0	6.9	19.5
May 1	Pioneer 3845	18,000	165	5.4	6.9	8.8	28.3
May 1	Pioneer 3845	18,000	174	7.7	9.3	12.2	68.8
May 1	Pioneer 3845	18,000	181	10.3	12.1	15.8	127.5
May 1	Pioneer 3845	18,000	189	12.8	14.0	16.8	155.5
May 1	Pioneer 3845	18,000	194	16.3	16.6	18.1	218.8
May 1	Pioneer 3845	18,000	206	18.3	18.3	18.3	238.8
May 1	Pioneer 3845	18,000	213	18.3	18.3	18.3	272.5
May 1	Pioneer 3845	30,000	153	2.4	3.3	4.9	10.5
May 1	Pioneer 3845	30,000	158	4.0	5.0	7.1	20.0
May 1	Pioneer 3845	30,000	165	5.3	6.7	8.6	28.3
May 1	Pioneer 3845	30,000	174	7.4	8.8	12.4	70.0
May 1	Pioneer 3845	30,000	181	10.3	11.8	15.4	136.5
May 1	Pioneer 3845	30,000	189	12.8	14.0	16.7	163.3
May 1	Pioneer 3845	30,000	194	15.9	15.9	17.6	230.0
May 1	Pioneer 3845	30,000	206	17.6	17.6	17.6	258.5
May 1	Pioneer 3845	30,000	213	17.6	17.6	17.6	286.3
May 19	Pioneer 3394	18,000	153	0.9	0.9	2.8	5.0
May 19	Pioneer 3394	18,000	158	2.1	2.5	4.3	11.8
May 19	Pioneer 3394	18,000	165	3.8	4.3	6.3	15.8
May 19	Pioneer 3394	18,000	174	6.0	6.7	9.1	51.5
May 19	Pioneer 3394	18,000	181	8.5	9.6	13.0	90.8
May 19	Pioneer 3394	18,000	189	10.3	12.1	15.2	127.0
May 19	Pioneer 3394	18,000	194	12.4	12.8	16.7	167.5
May 19	Pioneer 3394	18,000	206	18.0	18.0	19.1	227.8
May 19	Pioneer 3394	18,000	213	20.2	20.2	20.2	282.0
May 19	Pioneer 3394	30,000	153	0.9	0.9	2.9	5.3
May 19	Pioneer 3394	30,000	158	2.0	2.3	4.3	11.5
May 19	Pioneer 3394	30,000	165	4.2	5.3	7.0	22.0
May 19	Pioneer 3394	30,000	174	5.8	6.5	9.2	54.5
May 19	Pioneer 3394	30,000	181	8.3	9.3	12.5	96.3
May 19	Pioneer 3394	30,000	189	10.0	11.7	14.6	131.5
May 19	Pioneer 3394	30,000	194	12.1	12.3	16.1	171.3
May 19	Pioneer 3394	30,000	206	17.2	17.2	18.3	223.0
May 19	Pioneer 3394	30,000	213	20.0	20.0	20.0	288.5
May 19	Pioneer 3845	18,000	153	0.9	0.9	2.8	5.0
May 19	Pioneer 3845	18,000	158	2.0	3.4	4.6	11.3
May 19	Pioneer 3845	18,000	165	4.0	4.7	6.3	19.3
May 19	Pioneer 3845	18,000	174	5.7	7.5	9.6	53.8
May 19	Pioneer 3845	18,000	181	8.5	10.6	13.3	92.5
May 19	Pioneer 3845	18,000	189	10.8	12.9	16.0	132.3
May 19	Pioneer 3845	18,000	194	13.3	14.1	17.3	185.8
May 19	Pioneer 3845	18,000	206	18.6	18.6	18.6	228.5
May 19	Pioneer 3845	18,000	213	18.6	18.6	18.6	286.8

**Table E-9. Determining Corn Hybrid Maturity - Date of Planting by Hybrid by Plant Density. Growth and Development Arlington, WI - 1995.**

Planting Date	Hybrid	Plant Density plants/a	Day of Year	Leaf Development			Plant Height cm
				Leaf Collars	Hail Adjuster's Method	Total Leaves	
May 19	Pioneer 3845	30,000	153	1.0	1.0	3.0	5.0
May 19	Pioneer 3845	30,000	158	2.0	3.4	4.6	13.5
May 19	Pioneer 3845	30,000	165	4.0	4.8	6.4	22.0
May 19	Pioneer 3845	30,000	174	5.4	7.1	9.3	57.8
May 19	Pioneer 3845	30,000	181	8.3	10.1	13.3	106.3
May 19	Pioneer 3845	30,000	189	10.6	12.3	15.5	140.5
May 19	Pioneer 3845	30,000	194	13.1	13.7	17.0	193.8
May 19	Pioneer 3845	30,000	206	17.8	17.8	17.8	226.8
May 19	Pioneer 3845	30,000	213	17.8	17.8	17.8	291.8
Mean				9.8	10.6	12.6	119.8
<b>Probability %</b>							
Date of Planting (DOP)				< 0.1	< 0.1	< 0.1	0.3
Hybrid (H)				17.2	5.7	16.0	< 0.1
Plant Density (PD)				0.4	0.3	0.3	2.4
H x PD				> 50	> 50	> 50	9.1
H x DOP				20.4	6.2	7.9	> 50
PD x DOP				38.2	> 50	37.0	> 50
H x PD x DOP				43.9	45.7	32.2	29.3
Days (D)				< 0.1	< 0.1	< 0.1	< 0.1
D x DOP				< 0.1	< 0.1	< 0.1	< 0.1
D x H				< 0.1	< 0.1	< 0.1	< 0.1
D x PD				< 0.1	2.7	1.0	22.2
D x H x PD				> 50	> 50	> 50	> 50
D x H x DOP				< 0.1	< 0.1	< 0.1	< 0.1
D x PD x DOP				20.5	2.8	32.5	8.6
D x H x PD x DOP				16.7	48.5	44.2	> 50
<b>LSD (0.10)</b>							
Date of Planting (DOP)				0.2	0.2	0.3	3.9
Hybrid (H)				NS	0.2	NS	2.4
Plant Density (PD)				0.2	0.2	0.2	2.4
Day of Year (D)				0.1	0.2	0.2	2.8
<b>CV %</b>				6.1	6.2	5.5	5.7

**Table E-10. Determining Corn Hybrid Maturity - Date of Planting by Hybrid by Plant Density.  
Harvest Data  
Arlington, WI - 1995.**

Planting Date	Hybrid	Plant Density	Days to Silk	Final Population plants/a	Broken Stalks %	Moisture %	Yield bu/a
May 1			82	23265	2.3	19.2	159.9
May 19			67	23686	1.6	21.5	150.6
	Pioneer 3394		77	23711	1.7	23.7	167.7
	Pioneer 3845		72	23240	2.2	17.1	142.7
May 1	Pioneer 3394		85	23463	2.0	21.9	173.8
May 1	Pioneer 3845		80	23067	2.6	16.5	145.9
May 19	Pioneer 3394		70	23958	1.5	25.4	161.6
May 19	Pioneer 3845		65	23414	1.8	17.7	139.5
		18,000	74	18340	1.3	20.6	142.8
		30,000	75	28611	2.6	20.1	167.6
May 1		18,000	82	18464	2.1	19.3	151.4
May 1		30,000	83	28067	2.4	19.2	168.3
May 19		18,000	67	18216	0.5	21.9	134.2
May 19		30,000	68	29156	2.7	21.1	166.9
	Pioneer 3394	18,000	76	18315	1.1	24.2	156.2
	Pioneer 3394	30,000	78	29106	2.4	23.1	179.3
	Pioneer 3845	18,000	73	18365	1.6	17.0	129.4
	Pioneer 3845	30,000	72	28116	2.8	17.2	156.0
May 1	Pioneer 3394	18,000	83	18018	1.6	22.1	170.6
May 1	Pioneer 3394	30,000	86	28908	2.4	21.7	177.1
May 1	Pioneer 3845	18,000	80	18909	2.6	16.5	132.1
May 1	Pioneer 3845	30,000	80	27225	2.5	16.6	159.6
May 19	Pioneer 3394	18,000	70	18612	0.5	26.3	141.7
May 19	Pioneer 3394	30,000	71	29304	2.4	24.5	181.6
May 19	Pioneer 3845	18,000	65	17820	0.6	17.5	126.7
May 19	Pioneer 3845	30,000	65	29007	3.1	17.8	152.3
Mean			75	23475	2.0	20.4	155.2
<b>Probability %</b>							
Date of Planting (DOP)			< 0.1	> 50	37.5	1.1	2.7
Hybrid (H)			< 0.1	27.8	28.5	< 0.1	< 0.1
Plant Density (PD)			7.7	< 0.1	0.8	14.9	< 0.1
H x PD			0.5	23.6	> 50	4.0	> 50
DOP x H			40.5	> 50	> 50	0.1	> 50
DOP x PD			40.5	13.0	4.0	32.5	10.3
DOP x H x PD			40.5	8.5	36.4	20.9	7.2
<b>LSD (0.10)</b>							
Date of Planting (DOP)			0.6	NS	NS	1.0	5.4
Hybrid (H)			0.6	NS	NS	0.5	8.0
Plant Density (PD)			0.6	730	0.7	NS	8.0
<b>CV %</b>			1.4	5.1	60.3	4.2	8.4

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity - Plant Density by Hybrid. **Year:** 1995  
**Personnel:** J.G. Lauer, K.D. Hudelson  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Hatch

---

### FIELD INFORMATION

Field: 406  
Soil Type: Plano Silt Loam  
Soil Test Results: Test Date: 10/95    pH: 6.4    P (ppm): 47    K (ppm): 185    OM (%): 3.4  
Fertilizer: May 1 - 150 lbs/a 6-24-24 starter  
April 28 - 150 lbs N/a 46-0-0  
Tillage Operations: Chisel Plow, Field Cultivate(2x)  
Previous Crop: Soybean  
Irrigation: None

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split Plot  
Replicates: 4  
Variables: A: Plant Density, B: Hybrid  
Plant Density: 12,000  
                  18,000  
                  24,000  
                  30,000  
                  36,000  
                  42,000  
Hybrids: Northrup King 9060  
           Pioneer 3845  
           Dekalb DK493  
           Pioneer 3394  
Area Planted: 10' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
Planting Date: May 1  
Planting Equip: Kinze Plot Planter w/seed cones  
Planting Rate: Variable  
Harvesting Date: Oct. 5  
Harvesting Equip: Almaco Plot Combine  
Herbicides: 

<u>Material</u>	<u>Rate</u>	<u>Method</u>
Bladex	2 qts/a	preemerg
Lasso	2 qts/a	preemerg

---

Results: Tables E-11 and E-12.

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
12,000			9.0	10.1	12.0	80.0
18,000			8.9	9.9	11.8	84.9
24,000			8.8	9.8	11.7	84.8
30,000			8.8	9.7	11.7	86.6
36,000			8.7	9.8	11.7	86.9
42,000			8.7	9.6	11.6	90.2
	Northrup King 9060		8.7	10.2	11.6	81.4
	Pioneer 3845		8.9	10.0	11.8	89.5
	Dekalb DK493		8.9	9.6	11.8	82.2
	Pioneer 3394		8.8	9.5	11.8	89.2
12,000	Northrup King 9060		8.8	10.3	11.6	73.5
12,000	Pioneer 3845		8.9	10.1	11.9	84.8
12,000	Dekalb DK493		9.3	10.1	12.3	77.6
12,000	Pioneer 3394		9.2	9.9	12.3	84.1
18,000	Northrup King 9060		8.8	10.3	11.7	83.7
18,000	Pioneer 3845		9.0	10.1	11.8	87.5
18,000	Dekalb DK493		8.8	9.5	11.7	79.5
18,000	Pioneer 3394		8.9	9.8	11.9	88.8
24,000	Northrup King 9060		8.8	10.4	11.8	82.5
24,000	Pioneer 3845		8.8	9.9	11.7	87.9
24,000	Dekalb DK493		8.7	9.4	11.6	79.0
24,000	Pioneer 3394		8.8	9.5	11.8	89.8
30,000	Northrup King 9060		8.6	10.1	11.5	82.0
30,000	Pioneer 3845		8.9	10.0	11.8	91.4
30,000	Dekalb DK493		8.9	9.5	11.9	83.8
30,000	Pioneer 3394		8.6	9.3	11.6	89.2
36,000	Northrup King 9060		8.8	10.3	11.7	81.8
36,000	Pioneer 3845		8.9	10.0	11.8	91.4
36,000	Dekalb DK493		8.8	9.6	11.8	84.2
36,000	Pioneer 3394		8.5	9.1	11.4	90.1
42,000	Northrup King 9060		8.6	10.0	11.3	84.7
42,000	Pioneer 3845		8.8	9.7	11.6	93.7
42,000	Dekalb DK493		8.8	9.4	11.6	89.2
42,000	Pioneer 3394		8.7	9.3	11.7	93.4
		151	2.0	2.8	4.2	10.0
		158	3.8	4.7	6.7	17.8
		165	5.1	6.5	8.3	27.5
		174	7.4	9.4	12.5	66.2
		181	10.2	11.6	15.3	119.9
		195	15.7	16.2	17.7	-
		213	17.7	17.7	17.7	272.1

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
12,000		151	2.0	2.6	4.1	9.2
12,000		158	3.9	4.8	6.7	16.3
12,000		165	5.1	6.6	8.5	24.6
12,000		174	7.6	9.6	12.6	61.6
12,000		181	10.4	12.2	15.9	105.9
12,000		195	16.2	16.7	18.1	-
12,000		213	18.1	18.1	18.1	262.5
18,000		151	2.0	2.9	4.3	10.3
18,000		158	3.8	4.6	6.6	17.9
18,000		165	5.1	6.5	8.5	28.4
18,000		174	7.5	9.5	12.6	64.1
18,000		181	10.3	12.0	15.5	118.3
18,000		195	15.8	16.3	17.7	-
18,000		213	17.7	17.7	17.7	270.3
24,000		151	2.0	2.8	4.2	10.2
24,000		158	3.7	4.6	6.6	17.1
24,000		165	5.1	6.3	8.3	26.0
24,000		174	7.3	9.5	12.5	64.9
24,000		181	10.3	11.8	15.3	118.8
24,000		195	15.6	16.1	17.6	-
24,000		213	17.7	17.7	17.7	271.7
30,000		151	2.0	2.9	4.3	10.1
30,000		158	3.8	4.8	6.8	18.5
30,000		165	5.2	6.4	8.3	27.9
30,000		174	7.4	9.3	12.5	65.8
30,000		181	10.2	11.4	15.1	122.3
30,000		195	15.6	16.1	17.6	-
30,000		213	17.7	17.7	17.7	275.2
36,000		151	2.0	3.0	4.3	9.7
36,000		158	3.8	4.6	6.6	17.7
36,000		165	5.2	6.6	8.3	28.2
36,000		174	7.3	9.3	12.3	68.6
36,000		181	10.0	11.3	15.0	124.0
36,000		195	15.4	15.9	17.6	-
36,000		213	17.6	17.6	17.6	273.1
42,000		151	2.0	2.8	4.2	10.4
42,000		158	3.8	4.7	6.7	19.1
42,000		165	5.0	6.3	8.1	29.6
42,000		174	7.3	9.2	12.3	72.2
42,000		181	10.1	11.2	14.9	130.4
42,000		195	15.4	15.8	17.4	-
42,000		213	17.4	17.4	17.4	279.8

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
	Northrup King 9060	151	2.0	3.2	4.5	9.7
	Northrup King 9060	158	3.9	5.3	7.1	18.4
	Northrup King 9060	165	5.2	7.1	8.8	27.7
	Northrup King 9060	174	7.5	11.0	13.3	68.6
	Northrup King 9060	181	10.6	13.1	15.2	125.6
	Northrup King 9060	195	16.0	16.0	16.2	-
	Northrup King 9060	213	16.2	16.2	16.2	238.3
	Pioneer 3845	151	2.0	3.0	4.3	10.8
	Pioneer 3845	158	3.9	4.8	6.7	18.9
	Pioneer 3845	165	5.0	6.4	8.4	28.5
	Pioneer 3845	174	7.3	9.7	12.4	70.9
	Pioneer 3845	181	10.1	11.8	15.3	125.2
	Pioneer 3845	195	16.3	16.6	17.8	-
	Pioneer 3845	213	17.7	17.7	17.7	282.5
	Dekalb DK493	151	2.0	2.5	3.9	9.1
	Dekalb DK493	158	3.6	4.1	6.2	15.6
	Dekalb DK493	165	4.9	5.9	7.9	24.5
	Dekalb DK493	174	7.4	8.5	12.2	56.7
	Dekalb DK493	181	10.2	11.2	15.4	104.6
	Dekalb DK493	195	15.6	16.3	18.6	-
	Dekalb DK493	213	18.6	18.6	18.6	282.8
	Pioneer 3394	151	2.0	2.6	4.2	10.4
	Pioneer 3394	158	3.9	4.5	6.7	18.1
	Pioneer 3394	165	5.3	6.5	8.3	29.0
	Pioneer 3394	174	7.5	8.4	12.0	68.7
	Pioneer 3394	181	10.0	10.5	15.1	124.3
	Pioneer 3394	195	14.7	15.8	18.1	-
	Pioneer 3394	213	18.1	18.1	18.1	284.8
12,000	Northrup King 9060	151	2.0	2.9	4.2	8.9
12,000	Northrup King 9060	158	3.9	5.3	7.0	16.3
12,000	Northrup King 9060	165	5.1	7.2	8.9	23.8
12,000	Northrup King 9060	174	7.4	10.7	12.7	61.0
12,000	Northrup King 9060	181	10.4	13.4	15.5	109.8
12,000	Northrup King 9060	195	16.3	16.3	16.4	-
12,000	Northrup King 9060	213	16.4	16.4	16.4	221.5
12,000	Pioneer 3845	151	1.9	2.6	4.3	9.9
12,000	Pioneer 3845	158	3.9	4.7	6.8	16.8
12,000	Pioneer 3845	165	4.9	6.5	8.6	26.0
12,000	Pioneer 3845	174	7.3	10.0	12.6	65.8
12,000	Pioneer 3845	181	10.1	12.2	15.7	113.8
12,000	Pioneer 3845	195	16.7	16.9	17.6	-
12,000	Pioneer 3845	213	17.6	17.6	17.6	276.8



**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
12,000	Dekalb DK493	151	2.0	2.5	3.9	8.4
12,000	Dekalb DK493	158	3.9	4.5	6.3	15.3
12,000	Dekalb DK493	165	5.0	5.9	8.0	20.5
12,000	Dekalb DK493	174	7.8	9.0	12.7	56.0
12,000	Dekalb DK493	181	10.6	11.9	16.3	90.0
12,000	Dekalb DK493	195	16.3	17.0	19.4	-
12,000	Dekalb DK493	213	19.4	19.4	19.4	275.5
12,000	Pioneer 3394	151	2.0	2.3	4.3	9.6
12,000	Pioneer 3394	158	3.8	4.7	6.8	16.8
12,000	Pioneer 3394	165	5.3	6.7	8.5	28.0
12,000	Pioneer 3394	174	7.8	8.7	12.5	63.8
12,000	Pioneer 3394	181	10.5	11.2	15.9	110.0
12,000	Pioneer 3394	195	15.6	16.8	19.1	-
12,000	Pioneer 3394	213	19.1	19.1	19.1	276.3
18,000	Northrup King 9060	151	2.0	3.6	4.7	9.6
18,000	Northrup King 9060	158	3.9	5.3	7.1	19.3
18,000	Northrup King 9060	165	5.1	7.3	9.1	30.0
18,000	Northrup King 9060	174	7.9	11.2	13.8	67.3
18,000	Northrup King 9060	181	11.0	13.4	15.5	140.5
18,000	Northrup King 9060	195	16.0	16.1	16.2	-
18,000	Northrup King 9060	213	16.2	16.2	16.2	235.5
18,000	Pioneer 3845	151	2.0	2.9	4.3	11.6
18,000	Pioneer 3845	158	3.9	4.8	6.5	19.5
18,000	Pioneer 3845	165	5.2	6.7	8.6	30.0
18,000	Pioneer 3845	174	7.3	9.6	12.4	67.0
18,000	Pioneer 3845	181	10.3	12.2	15.6	118.3
18,000	Pioneer 3845	195	16.6	16.8	17.8	-
18,000	Pioneer 3845	213	17.8	17.8	17.8	278.8
18,000	Dekalb DK493	151	2.0	2.5	3.8	8.8
18,000	Dekalb DK493	158	3.4	3.8	6.0	13.8
18,000	Dekalb DK493	165	4.8	5.6	7.9	24.3
18,000	Dekalb DK493	174	7.3	8.4	12.1	52.5
18,000	Dekalb DK493	181	9.9	11.4	15.3	93.3
18,000	Dekalb DK493	195	15.6	16.4	18.6	-
18,000	Dekalb DK493	213	18.6	18.6	18.6	284.8
18,000	Pioneer 3394	151	2.0	2.6	4.3	11.0
18,000	Pioneer 3394	158	4.0	4.7	6.7	19.3
18,000	Pioneer 3394	165	5.3	6.7	8.4	29.5
18,000	Pioneer 3394	174	7.5	8.9	12.0	69.8
18,000	Pioneer 3394	181	10.1	11.1	15.4	121.3
18,000	Pioneer 3394	195	15.1	16.0	18.3	-
18,000	Pioneer 3394	213	18.3	18.3	18.3	282.0

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
24,000	Northrup King 9060	151	2.0	3.3	4.6	10.1
24,000	Northrup King 9060	158	3.9	5.4	7.3	17.8
24,000	Northrup King 9060	165	5.3	7.2	9.1	27.5
24,000	Northrup King 9060	174	7.6	11.4	13.6	72.5
24,000	Northrup King 9060	181	10.8	13.3	15.3	129.3
24,000	Northrup King 9060	195	16.3	16.3	16.4	-
24,000	Northrup King 9060	213	16.4	16.4	16.4	237.8
24,000	Pioneer 3845	151	2.1	2.9	4.3	10.5
24,000	Pioneer 3845	158	3.8	4.6	6.6	18.3
24,000	Pioneer 3845	165	4.9	6.2	8.2	26.5
24,000	Pioneer 3845	174	7.1	9.8	12.4	68.0
24,000	Pioneer 3845	181	10.1	12.1	15.3	121.3
24,000	Pioneer 3845	195	16.0	16.3	17.7	-
24,000	Pioneer 3845	213	17.7	17.7	17.7	282.8
24,000	Dekalb DK493	151	2.0	2.4	3.9	9.8
24,000	Dekalb DK493	158	3.3	3.8	5.8	14.5
24,000	Dekalb DK493	165	4.4	5.4	7.4	22.5
24,000	Dekalb DK493	174	7.1	8.4	12.0	51.8
24,000	Dekalb DK493	181	10.1	11.1	15.3	97.0
24,000	Dekalb DK493	195	15.3	16.1	18.4	-
24,000	Dekalb DK493	213	18.4	18.4	18.4	278.5
24,000	Pioneer 3394	151	1.9	2.6	4.0	10.4
24,000	Pioneer 3394	158	3.8	4.5	6.7	18.0
24,000	Pioneer 3394	165	5.5	6.5	8.4	27.5
24,000	Pioneer 3394	174	7.6	8.4	12.0	67.5
24,000	Pioneer 3394	181	10.0	10.6	15.2	127.5
24,000	Pioneer 3394	195	14.7	15.8	18.0	-
24,000	Pioneer 3394	213	18.0	18.0	18.0	287.8
30,000	Northrup King 9060	151	2.0	3.1	4.6	10.0
30,000	Northrup King 9060	158	3.9	5.4	7.2	19.5
30,000	Northrup King 9060	165	5.3	7.1	8.8	28.0
30,000	Northrup King 9060	174	7.6	11.0	13.4	68.0
30,000	Northrup King 9060	181	10.6	12.9	14.9	120.0
30,000	Northrup King 9060	195	15.8	15.8	16.0	-
30,000	Northrup King 9060	213	16.0	16.0	16.0	246.8
30,000	Pioneer 3845	151	2.0	3.2	4.4	11.3
30,000	Pioneer 3845	158	3.9	5.3	6.9	20.5
30,000	Pioneer 3845	165	5.3	6.4	8.5	28.8
30,000	Pioneer 3845	174	7.3	9.7	12.4	73.3
30,000	Pioneer 3845	181	10.1	11.4	15.2	135.3
30,000	Pioneer 3845	195	16.3	16.6	17.8	-
30,000	Pioneer 3845	213	17.8	17.8	17.8	279.5

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
30,000	Dekalb DK493	151	2.0	2.7	4.0	8.9
30,000	Dekalb DK493	158	3.7	4.2	6.3	16.3
30,000	Dekalb DK493	165	5.1	5.8	7.8	25.8
30,000	Dekalb DK493	174	7.4	8.3	12.2	55.8
30,000	Dekalb DK493	181	10.3	11.1	15.5	110.0
30,000	Dekalb DK493	195	15.8	16.3	18.7	-
30,000	Dekalb DK493	213	18.9	18.9	18.9	286.3
30,000	Pioneer 3394	151	2.0	2.7	4.2	10.3
30,000	Pioneer 3394	158	3.9	4.5	6.8	17.8
30,000	Pioneer 3394	165	5.1	6.1	7.9	29.0
30,000	Pioneer 3394	174	7.4	8.1	11.9	66.0
30,000	Pioneer 3394	181	9.9	10.3	14.8	123.8
30,000	Pioneer 3394	195	14.4	15.5	17.9	-
30,000	Pioneer 3394	213	18.1	18.1	18.1	288.3
36,000	Northrup King 9060	151	2.0	3.6	4.6	9.3
36,000	Northrup King 9060	158	3.9	5.3	7.0	18.5
36,000	Northrup King 9060	165	5.3	7.4	8.8	29.0
36,000	Northrup King 9060	174	7.4	10.8	13.3	70.8
36,000	Northrup King 9060	181	10.4	12.9	15.1	125.0
36,000	Northrup King 9060	195	16.0	16.0	16.4	-
36,000	Northrup King 9060	213	16.4	16.4	16.4	238.3
36,000	Pioneer 3845	151	1.9	3.1	4.3	10.1
36,000	Pioneer 3845	158	4.0	4.6	6.6	18.3
36,000	Pioneer 3845	165	5.1	6.5	8.3	29.0
36,000	Pioneer 3845	174	7.3	9.6	12.3	75.3
36,000	Pioneer 3845	181	10.0	11.5	15.1	129.0
36,000	Pioneer 3845	195	16.3	16.5	17.9	-
36,000	Pioneer 3845	213	17.9	17.9	17.9	287.0
36,000	Dekalb DK493	151	2.0	2.5	4.0	9.5
36,000	Dekalb DK493	158	3.4	4.1	6.2	16.5
36,000	Dekalb DK493	165	5.1	6.3	8.2	25.8
36,000	Dekalb DK493	174	7.4	8.6	12.3	60.0
36,000	Dekalb DK493	181	10.0	11.2	15.2	113.3
36,000	Dekalb DK493	195	15.4	16.1	18.5	-
36,000	Dekalb DK493	213	18.5	18.5	18.5	280.0
36,000	Pioneer 3394	151	2.0	2.7	4.1	10.0
36,000	Pioneer 3394	158	3.9	4.4	6.5	17.5
36,000	Pioneer 3394	165	5.3	6.3	8.0	29.0
36,000	Pioneer 3394	174	7.0	8.1	11.5	68.3
36,000	Pioneer 3394	181	9.7	9.7	14.4	128.8
36,000	Pioneer 3394	195	14.0	15.0	17.4	-
36,000	Pioneer 3394	213	17.4	17.4	17.4	287.0

**Table E-11. Determining Corn Hybrid Maturity - Plant Density by Hybrid.  
Growth and Development  
Arlington, WI - 1995.**

Plant Density	Hybrid	Day of Year	Leaf Development			Plant Height cm
			Leaf Collars	Hail Adjuster's Method	Total Leaves	
42,000	Northrup King 9060	151	2.0	3.0	4.3	10.1
42,000	Northrup King 9060	158	3.9	5.3	7.1	19.0
42,000	Northrup King 9060	165	4.9	6.6	8.3	28.0
42,000	Northrup King 9060	174	7.3	10.7	13.1	72.0
42,000	Northrup King 9060	181	10.5	12.9	14.8	129.0
42,000	Northrup King 9060	195	15.7	15.7	15.9	-
42,000	Northrup King 9060	213	15.9	15.9	15.9	250.0
42,000	Pioneer 3845	151	2.1	3.2	4.4	11.1
42,000	Pioneer 3845	158	3.8	4.7	6.5	20.3
42,000	Pioneer 3845	165	4.8	6.1	7.9	31.0
42,000	Pioneer 3845	174	7.3	9.3	12.3	76.0
42,000	Pioneer 3845	181	10.1	11.1	15.0	133.8
42,000	Pioneer 3845	195	16.1	16.3	17.8	-
42,000	Pioneer 3845	213	17.7	17.7	17.7	290.3
42,000	Dekalb DK493	151	2.0	2.4	3.9	9.4
42,000	Dekalb DK493	158	3.6	4.2	6.4	17.5
42,000	Dekalb DK493	165	5.1	6.1	7.9	28.3
42,000	Dekalb DK493	174	7.3	8.5	11.9	64.0
42,000	Dekalb DK493	181	10.0	10.6	14.9	124.3
42,000	Dekalb DK493	195	15.3	15.9	18.1	-
42,000	Dekalb DK493	213	18.1	18.1	18.1	291.8
42,000	Pioneer 3394	151	2.0	2.8	4.3	10.9
42,000	Pioneer 3394	158	3.9	4.4	6.9	19.5
42,000	Pioneer 3394	165	5.1	6.4	8.5	31.3
42,000	Pioneer 3394	174	7.5	8.4	11.8	76.8
42,000	Pioneer 3394	181	10.0	10.0	14.9	134.5
42,000	Pioneer 3394	195	14.6	15.5	17.8	-
42,000	Pioneer 3394	213	17.8	17.8	17.8	287.3
Mean		.	8.8	9.8	11.7	85.6
<b>Probability %</b>						
Plant Density (PD)			2.6	1.6	1.7	0.1
Hybrid (H)			10.2	< 0.1	11.6	< 0.1
PD x H			13.4	46.5	14.6	> 50
Days (T)			< 0.1	< 0.1	< 0.1	< 0.1
PD x T			< 0.1	< 0.1	< 0.1	< 0.1
H x T			< 0.1	< 0.1	< 0.1	< 0.1
PD x H x T			39.4	> 50	> 50	38.8
<b>LSD (0.10)</b>						
Plant Density (PD)			0.2	0.2	0.2	3.0
Hybrid (H)			NS	0.2	NS	2.0
Days (T)			0.1	0.1	0.1	1.7
<b>CV %</b>						
			6.7	8.3	6.0	8.2

**Table E-12. Determining Corn Hybrid Maturity - Plant Density by Hybrid.**  
**Harvest Data**  
**Arlington, WI - 1995.**

Plant Density	Hybrid	Days to Silk	Final Population plants/a	Broken Stalks %	Moisture %	Yield bu/a
12,000		80.0	16434	8.6	19.4	113.1
18,000		79.8	19874	7.5	18.9	138.9
24,000		80.0	24676	5.0	18.5	155.0
30,000		80.3	29626	4.7	18.5	164.5
36,000		80.6	32819	4.3	18.1	167.9
42,000		81.5	39006	5.0	18.4	164.0
	Northrup King 9060	75.5	26153	11.4	14.6	98.4
	Pioneer 3845	79.4	26433	5.0	17.6	153.4
	Dekalb DK493	81.3	29007	4.0	17.8	173.2
	Pioneer 3394	85.2	26697	3.0	24.5	177.3
12,000	Northrup King 9060	75.3	14553	19.0	15.6	67.8
12,000	Pioneer 3845	78.5	15840	7.6	17.6	113.8
12,000	Dekalb DK493	82.0	21681	4.9	18.8	141.2
12,000	Pioneer 3394	84.3	13662	2.9	25.5	129.5
18,000	Northrup King 9060	74.8	19503	21.9	14.4	76.0
18,000	Pioneer 3845	78.8	18810	3.1	17.6	141.1
18,000	Dekalb DK493	81.5	22077	2.2	18.3	166.7
18,000	Pioneer 3394	84.0	19107	3.0	25.2	171.7
24,000	Northrup King 9060	74.3	23463	10.6	14.1	98.8
24,000	Pioneer 3845	79.5	24849	4.6	17.6	164.1
24,000	Dekalb DK493	80.5	26037	3.3	17.7	179.4
24,000	Pioneer 3394	85.8	24354	1.6	24.6	177.9
30,000	Northrup King 9060	75.8	29403	5.7	14.5	112.2
30,000	Pioneer 3845	79.0	30492	7.1	17.4	163.6
30,000	Dekalb DK493	81.0	30195	3.2	17.4	185.9
30,000	Pioneer 3394	85.3	28413	2.8	24.9	196.3
36,000	Northrup King 9060	75.8	31581	4.7	14.4	117.0
36,000	Pioneer 3845	80.5	32373	3.0	17.7	166.9
36,000	Dekalb DK493	80.5	32868	6.8	17.0	183.9
36,000	Pioneer 3394	85.5	34452	2.6	23.5	203.5
42,000	Northrup King 9060	77.0	38412	6.7	14.5	118.4
42,000	Pioneer 3845	80.3	36234	4.9	17.9	170.8
42,000	Dekalb DK493	82.3	41184	3.6	17.6	182.2
42,000	Pioneer 3394	86.5	40194	5.0	23.5	184.6
Mean		80.3	27072	5.9	18.6	150.6
<b>Probability %</b>						
Plant Density (PD)		1.7	< 0.1	7.4	0.3	< 0.1
Hybrid (H)		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PD x H		7.7	1.1	0.2	24.6	13.0
<b>LSD (0.10)</b>						
Plant Density (PD)		0.8	1228	2.7	0.4	5.9
Hybrid (H)		0.5	1021	2.3	0.4	5.5
<b>CV %</b>		1.3	7.8	81.6	4.6	7.5

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity - Comparison of Sweet Corn Hybrids      **Year:** 1995  
**Personnel:** J.G. Lauer, W. F. Tracy  
**Location:** West Madison Research Station, Madison, WI  
**Supported by:** Hatch

---

---

### FIELD INFORMATION

**Field:** B502  
**Soil Type:** Plano Silt Loam  
**Soil Test Results:** Test Date: 10/95    pH: 7.1      P (ppm): 48      K (ppm): 175      OM (%): 3.5  
**Fertilizer:** Manure 30 tons/a  
**Tillage Operations:** Moldboard Plow, Soil Finisher  
**Previous Crop:** Soybean

---

---

### EXPERIMENTAL PROCEDURE

**Exp. Design:** RCB  
**Replicates:** 3  
**Variables:** Hybrids: Variable, see individual studies.  
**Area Planted:** 10' x 13'  
**Row Spacing:** 30"  
**Planting Date:** 15-May (Study 1)    30-May (Studies 2 to 5)  
**Planting Equip:** Almaco Plot Planter w/seed cones  
**Planting Rate:** 20000 plants/a

	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Herbicides:	Bladex	2 qts/a	preplant incorporated
	Lasso	2 qts/a	preplant incorporated

---

---

Results: Tables E-13 to E-17.

**Table E-13. Determining Corn Hybrid Maturity.  
Comparison of Sweet Corn Hybrids - Study 1.  
Madison, WI - 1995.**

Sweet Corn Hybrid	Day of Year	Leaf Development			Plant Height cm
		Leaf Collars	Hail Adjuster's Method	Total Leaves	
Challenger		8.3	9.8	11.7	72.9
SS Jubilee		8.0	9.5	11.5	81.7
Zenith		8.6	10.7	12.3	78.9
	160	2.9	3.6	5.4	11.1
	166	4.1	5.1	7.1	24.7
	174	6.7	9.3	11.4	49.7
	179	8.3	11.0	13.7	64.0
	188	10.7	13.9	16.3	92.4
	209	17.0	17.0	17.0	225.0
Challenger	160	2.9	3.4	5.2	11.0
Challenger	166	4.0	5.0	6.9	23.0
Challenger	174	6.8	9.0	11.2	47.0
Challenger	179	8.3	10.9	13.7	61.3
Challenger	188	11.0	13.8	16.1	90.0
Challenger	209	16.8	16.8	16.8	205.0
SS Jubilee	160	2.9	3.6	5.2	11.3
SS Jubilee	166	4.1	4.7	7.1	24.3
SS Jubilee	174	6.3	8.9	11.2	53.3
SS Jubilee	179	7.9	10.4	13.4	66.0
SS Jubilee	188	10.2	13.2	15.6	93.3
SS Jubilee	209	16.3	16.3	16.3	241.7
Zenith	160	3.0	3.9	5.7	11.0
Zenith	166	4.2	5.7	7.2	26.7
Zenith	174	6.9	10.0	11.7	48.7
Zenith	179	8.6	11.8	14.1	64.7
Zenith	188	11.0	14.6	17.2	94.0
Zenith	209	18.0	18.0	18.0	228.3
Mean	.	8.3	10.0	11.8	77.8
<b><u>Probability %</u></b>					
Hybrid (H)		9.1	1.3	7.6	11.1
Day of Year (D)		< 0.1	< 0.1	< 0.1	< 0.1
H x D		< 0.1	21.3	0.2	< 0.1
<b><u>LSD (0.10)</u></b>					
Hybrid (H)		0.5	0.4	0.6	NS
Day of Year (D)		0.2	0.3	0.2	4.2
<b><u>CV %</u></b>					
		5.4	6.0	4.8	6.7

**Table E-14. Determining Corn Hybrid Maturity.  
Comparison of Sweet Corn Hybrids - Study 2.  
Madison, WI - 1995.**

Sweet Corn Hybrid	Day of Year	Leaf Development			Plant Height cm
		Leaf Collars	Hail Adjuster's Method	Total Leaves	
Delectable		6.3	7.4	9.2	58.9
Incredible		6.5	7.6	9.4	60.1
Miracle		6.4	7.5	9.3	56.9
Sugar Buns		6.2	7.3	9.2	63.7
	160	1.0	1.2	2.8	6.0
	166	2.0	2.8	4.4	10.3
	174	4.7	6.1	8.3	26.3
	179	6.1	7.9	10.4	39.2
	188	7.9	10.4	13.2	58.0
	209	16.4	16.5	16.6	219.6
Delectable	160	1.0	1.6	3.1	6.0
Delectable	166	2.1	2.9	4.6	10.0
Delectable	174	4.8	6.1	8.1	24.7
Delectable	179	6.0	7.9	10.2	39.7
Delectable	188	8.1	10.3	13.3	60.0
Delectable	209	15.9	15.9	15.9	213.3
Incredible	160	1.0	1.1	2.2	5.0
Incredible	166	2.0	2.6	4.4	10.7
Incredible	174	4.8	6.4	8.7	28.0
Incredible	179	6.3	8.0	10.8	40.7
Incredible	188	8.1	10.7	13.3	57.7
Incredible	209	16.9	16.9	16.9	218.3
Miracle	160	1.0	1.0	2.9	6.7
Miracle	166	2.0	2.8	4.1	9.7
Miracle	174	4.7	6.0	7.9	22.3
Miracle	179	6.1	7.9	10.1	33.3
Miracle	188	7.8	10.3	13.1	51.0
Miracle	209	17.0	17.2	17.4	218.3
Sugar Buns	160	1.0	1.0	3.0	6.3
Sugar Buns	166	2.0	3.0	4.3	11.0
Sugar Buns	174	4.6	6.0	8.3	30.0
Sugar Buns	179	5.9	7.7	10.3	43.0
Sugar Buns	188	7.7	10.2	13.1	63.3
Sugar Buns	209	16.0	16.0	16.0	228.3
Mean		6.4	7.5	9.3	59.9
<b><u>Probability %</u></b>					
Hybrid (H)		> 50	> 50	> 50	39.4
Day of Year (D)		< 0.1	< 0.1	< 0.1	< 0.1
H x D		13.6	8.3	2.8	> 50
<b><u>LSD (0.10)</u></b>					
Hybrid (H)		NS	NS	NS	NS
Day of Year (D)		0.2	0.3	0.3	4.3
<b><u>CV %</u></b>					
		8.1	11.0	9.1	10.4



**Table E-15. Determining Corn Hybrid Maturity.  
Comparison of Sweet Corn Hybrids - Study 3.  
Madison, WI - 1995.**

Sweet Corn Hybrid	Day of Year	Leaf Development			Plant Height cm
		Leaf Collars	Hail Adjuster's Method	Total Leaves	
How Sweet It Is		6.3	7.4	9.0	52.2
How Sweet It Is	160	1.0	1.0	2.6	4.7
How Sweet It Is	166	2.1	3.0	4.3	8.7
How Sweet It Is	174	4.9	6.8	8.0	24.7
How Sweet It Is	179	6.1	7.8	10.3	35.3
How Sweet It Is	188	8.1	10.1	13.2	56.7
How Sweet It Is	209	15.4	15.4	15.4	183.3
Mean		6.3	7.4	9.0	52.2
<b>Probability %</b>					
Day of Year (D)		< 0.1	< 0.1	< 0.1	< 0.1
<b>LSD (0.10)</b>					
Day of Year (D)		1.0	1.0	1.1	22.3
<b>CV %</b>					
		7.5	8.9	8.7	28.8

**Table E-16. Determining Corn Hybrid Maturity.  
Comparison of Sweet Corn Hybrids - Study 4.  
Madison, WI - 1995.**

Sweet Corn Hybrid	Day of Year	Leaf Development			Plant Height cm
		Leaf Collars	Hail Adjuster's Method	Total Leaves	
Challenger		6.3	7.4	9.3	52.6
SS Jubilee		6.4	7.4	9.1	53.1
Zenith		6.2	7.3	8.9	51.6
	160	1.0	1.0	2.8	6.1
	166	2.0	2.9	4.3	8.6
	174	4.7	6.5	8.0	25.3
	179	6.0	7.9	10.3	36.2
	188	8.2	10.2	13.3	53.2
	209	15.8	15.8	15.8	185.0
Challenger	160	1.0	1.0	2.7	6.3
Challenger	166	2.0	2.9	4.7	9.3
Challenger	174	4.8	7.0	8.4	27.3
Challenger	179	6.1	8.0	10.9	38.0
Challenger	188	8.2	10.2	13.4	56.0
Challenger	209	15.6	15.6	15.6	178.3
SS Jubilee	160	1.0	1.0	2.8	5.3
SS Jubilee	166	2.0	2.9	4.3	8.7
SS Jubilee	174	4.7	6.3	7.8	23.0
SS Jubilee	179	5.8	7.9	9.8	32.7
SS Jubilee	188	8.0	9.9	13.0	52.0
SS Jubilee	209	16.7	16.7	16.7	196.7
Zenith	160	1.0	1.0	2.9	6.7
Zenith	166	2.0	2.9	3.9	7.7
Zenith	174	4.8	6.2	7.9	25.7
Zenith	179	6.2	7.9	10.2	38.0
Zenith	188	8.2	10.4	13.6	51.7
Zenith	209	15.2	15.2	15.2	180.0
Mean		6.3	7.4	9.1	52.4
<b><u>Probability %</u></b>					
Hybrid (H)		> 50	> 50	49.3	> 50
Day of Year (D)		< 0.1	< 0.1	< 0.1	< 0.1
H x D		43.2	32.3	30.3	> 50
<b><u>LSD (0.10)</u></b>					
Hybrid (H)		NS	NS	NS	NS
Day of Year (D)		0.5	0.5	0.6	9.3
<b><u>CV %</u></b>					
		7.9	9.0	8.2	22.3

**Table E-17. Determining Corn Hybrid Maturity.  
Comparison of Sweet Corn Hybrids - Study 5.  
Madison, WI - 1995.**

Sweet Corn Hybrid	Day of Year	Leaf Development			Plant Height cm
		Leaf Collars	Hail Adjuster's Method	Total Leaves	
Empire		6.3	7.4	9.1	59.6
Excellency		6.5	7.7	9.4	57.9
GH 1703		6.4	7.7	9.2	53.9
Jubilee		6.3	7.5	9.1	55.9
	160	1.0	1.0	2.9	5.8
	166	2.0	2.7	4.1	9.3
	174	4.7	6.6	8.0	26.3
	179	6.1	8.2	10.2	38.2
	188	7.8	10.4	13.4	55.1
	209	16.6	16.6	16.6	206.3
Empire	160	1.0	1.0	2.9	7.0
Empire	166	2.0	2.6	4.1	9.7
Empire	174	4.4	6.3	8.0	26.0
Empire	179	6.1	8.0	10.0	39.7
Empire	188	7.6	9.9	13.1	55.0
Empire	209	16.6	16.6	16.6	220.0
Excellency	160	0.9	0.9	2.8	4.7
Excellency	166	2.0	2.8	4.1	8.7
Excellency	174	4.9	6.7	8.2	27.7
Excellency	179	6.2	8.4	10.8	41.0
Excellency	188	8.1	11.0	14.0	57.0
Excellency	209	16.7	16.7	16.7	208.3
GH 1703	160	1.0	1.1	2.8	4.7
GH 1703	166	2.0	2.6	4.1	9.7
GH 1703	174	4.6	6.8	7.8	25.7
GH 1703	179	6.0	8.3	9.9	35.0
GH 1703	188	7.7	10.4	13.4	55.3
GH 1703	209	17.0	17.0	17.0	193.3
Jubilee	160	1.0	1.0	3.0	6.7
Jubilee	166	2.0	2.8	4.0	9.3
Jubilee	174	4.8	6.6	8.0	26.0
Jubilee	179	6.0	8.0	10.2	37.0
Jubilee	188	7.8	10.3	13.2	53.0
Jubilee	209	16.1	16.1	16.1	203.3
Mean		6.4	7.6	9.2	56.8
<b>Probability %</b>					
Hybrid (H)		> 50	> 50	> 50	48.1
Day of Year (D)		< 0.1	< 0.1	< 0.1	< 0.1
H x D		> 50	> 50	> 50	23.9
<b>LSD (0.10)</b>					
Hybrid (H)		NS	NS	NS	NS
Day of Year (D)		0.3	0.3	0.3	4.6
<b>CV %</b>					
		5.9	8.2	6.8	11.9

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity - Comparison of Sweet Corn Hybrids. **Year:** 1995  
**Personnel:** J.G. Lauer, J.L. Wedberg, C.J. Garvey  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Hatch

---

---

### FIELD INFORMATION

**Field:** 504  
**Soil Type:** Plano Silt Loam  
**Soil Test Results:** Test Date: NA pH: NA P (ppm): NA K (ppm): NA OM (%): NA  
**Fertilizer:** 160 lbs N/a Anhydrous (82-0-0)  
**Tillage Operations:** Chisel plow, Field Cultivate (2x)  
**Previous Crop:** Corn

---

---

### EXPERIMENTAL PROCEDURE

**Exp. Design:** RCB  
**Replicates:** 3  
**Variables:** Hybrids: Empire, Heritage, Sprint  
**Row Spacing:** 30"  
**Planting Date:** May 12 (Study A) and June 14 (Study B)  
**Planting Equip:** Almaco Plot Planter w/seed cones  
**Planting Rate:** 20000 plants/a

	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Herbicides:	Lasso (Arena)	2 qts/a	preemerg
	Buctril	0.75 pt/a	post

---

---

Results: Tables E-18 to E-19.

**Table E-18. Determining Corn Hybrid Maturity.  
Comparison of Sweet Corn Hybrids - Study A.  
Arlington, WI - 1995.**

Sweet Corn Hybrid	Day of Year	Growth Stage Measurement			Plant Height cm
		Leaf Collars	Leaves Hail Method	Total Leaves	
Empire		8.3	8.8	11.1	68.5
Heritage		8.2	8.8	11.4	70.9
Sprint		8.3	9.2	11.4	70.8
	157	2.6	3.6	5.0	10.1
	163	3.4	4.4	5.9	12.3
	171	5.3	6.0	8.9	27.9
	177	6.6	8.0	11.0	42.1
	187	8.8	10.5	14.1	68.4
	191	9.7	10.8	14.5	89.6
	201	14.4	13.3	15.3	138.7
	206	15.7	14.9	15.6	171.4
Empire	157	2.8	3.8	5.3	9.8
Empire	163	3.5	4.5	5.9	11.5
Empire	171	5.4	6.0	8.9	27.3
Empire	177	6.8	7.8	11.0	40.8
Empire	187	8.9	10.5	14.0	66.3
Empire	191	9.9	10.6	14.0	90.3
Empire	201	14.2	13.0	14.6	135.5
Empire	206	15.0	14.1	14.9	167.0
Heritage	157	2.2	3.1	4.4	8.5
Heritage	163	3.1	4.2	5.6	13.0
Heritage	171	5.2	6.2	8.8	26.8
Heritage	177	6.5	7.8	10.8	43.0
Heritage	187	8.5	10.0	13.9	70.3
Heritage	191	9.4	10.5	14.6	88.8
Heritage	201	14.5	13.4	16.3	142.5
Heritage	206	16.4	15.6	16.5	174.3
Sprint	157	2.9	3.9	5.2	12.0
Sprint	163	3.4	4.6	6.2	12.3
Sprint	171	5.2	5.9	9.0	29.8
Sprint	177	6.5	8.6	11.3	42.5
Sprint	187	8.9	11.1	14.4	68.8
Sprint	191	9.8	11.4	14.9	89.8
Sprint	201	14.4	13.4	14.9	138.0
Sprint	206	15.7	15.0	15.4	173.0
Mean		8.3	9.0	11.3	70.1
<b>Probability %</b>					
Hybrid (H)		> 50	49.5	> 50	> 50
Day of Year (D)		< 0.1	< 0.1	< 0.1	< 0.1
H x D		10.9	4.8	< 0.1	> 50
<b>LSD (0.10)</b>					
Hybrid (H)		NS	NS	NS	NS
Day of Year (D)		0.4	0.4	0.3	7.5
<b>CV %</b>		6.7	8.4	6.0	15.7

**Table E-19. Determining Corn Hybrid Maturity.  
Comparison of Sweet Corn Hybrids - Study B.  
Arlington, WI - 1995.**

Sweet Corn Hybrid	Day of Year	Growth Stage Measurement			Plant Height cm
		Leaf Collars	Leaves Hail Method	Total Leaves	
Empire		8.0	8.6	11.1	71.2
Heritage		6.9	8.1	10.7	60.3
Sprint		6.8	8.0	10.3	66.8
	177	2.3	2.8	4.4	10.9
	187	4.4	4.9	7.6	31.2
	191	5.0	5.8	8.9	37.3
	201	8.2	10.6	13.4	70.8
	206	9.9	11.6	14.5	98.8
	214	13.7	13.6	15.3	147.8
Empire	177	2.8	3.3	4.9	12.0
Empire	187	4.9	5.7	8.4	32.8
Empire	191	5.4	6.4	9.6	37.8
Empire	201	9.1	10.9	14.0	77.3
Empire	206	11.1	11.3	14.6	108.0
Empire	214	14.8	13.8	14.8	159.3
Heritage	177	2.0	2.5	3.9	10.3
Heritage	187	4.1	4.7	7.1	28.5
Heritage	191	4.9	5.6	8.5	33.8
Heritage	201	7.9	10.6	13.1	63.0
Heritage	206	9.4	11.6	14.7	88.5
Heritage	214	13.2	13.4	16.6	138.0
Sprint	177	2.1	2.7	4.2	10.5
Sprint	187	4.1	4.3	7.4	32.3
Sprint	191	4.8	5.4	8.6	40.3
Sprint	201	7.5	10.3	12.9	72.0
Sprint	206	9.2	11.8	14.1	100.0
Sprint	214	13.2	13.5	14.5	146.0
Mean		7.2	8.2	10.7	66.1
<b><u>Probability %</u></b>					
Hybrid (H)		0.1	5.6	4.7	2.9
Day of Year (D)		< 0.1	< 0.1	< 0.1	< 0.1
H x D		0.1	< 0.1	< 0.1	0.4
<b><u>LSD (0.10)</u></b>					
Hybrid (H)		0.3	0.4	0.5	5.8
Day of Year (D)		0.2	0.2	0.2	3.5
<b><u>CV %</u></b>					
		8.0	9.5	5.9	7.7

## FIELD EXPERIMENT HISTORY

Year: 1995

**Title:** On-Farm Row Spacing Study  
**Personnel:** J.G. Lauer, T. Wood, G. & S. Steiger, S. Fischer  
**Location:** Steiger Bros. Farms; Bloomington, WI

---

---

### FIELD INFORMATION

Field: Wilkinson East Hill Top

Soil Test Results: Date:1993      pH:6.6      P(ppm):30      K(ppm):96      O.M.(%):3.8

Fertilizer Applied: 130 lbs/a total      Analysis: 9-23-30      Time: Planting  
140 lbs/a N      Analysis: 82-0-0      Time: Preplant

Tillage Operations: Spring Soil Finisher

Previous Crop: Soybean

---

---

### EXPERIMENTAL PROCEDURE

Exp. Design: Strip Plots

Reps: 6

Variables: 2 Row Spacings

Plot Size: Planted: 15' (6 rows) by length of field (strip plot) for 30 in. rows  
Planted: 12.67' (4 rows) by length of field (strip plot) for 38 in. rows  
Harvested: 4 rows by length of field (strip plot)  
Row Spacing: 30 in. and 38 in.

Hybrids: Pioneer 3417

Planting: Date: May 12  
Equipmen: 30 inch rows: 6-row Case-IH 800 Air Planter  
38 inch rows: 4-row John Deere 7000

Harvesting: Date: Nov. 4  
Equipment: Combine harvested

	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Weed Control:	Lasso	2 qts/a	Preemergence
	Banvel	0.5 pts/a	Post
	Cultivation (1x)		Post

Insecticide: None

---

---

Results: Table E-25.

**Table E-25. On-Farm Row Spacing Study  
Steiger Bros. Farms  
Blomington, WI 1995.**

Row Spacing	Plant Density plants/a	Moist %	Yield bu/a
30	27750	15.3	165.2
38	27583	15.3	154.5
Mean	27667	15.3	159.8
<b><u>Probability</u></b>			
Row Spacing (RS)	>50	>50	<0.1
<b><u>LSD (0.10)</u></b>			
Row Spacing (RS)	NS	NS	2.0
<b><u>CV %</u></b>			
	4.3	1.2	1.1



## FIELD EXPERIMENT HISTORY

Year: 1995

**Title:** Row Spacing by Plant Population by Hybrid  
**Personnel:** J.G. Lauer, T. Wood, D. Heimdahl, K.D. Hudelson  
**Location:** Lancaster Agricultural Research Station, Lancaster, WI

---

### FIELD INFORMATION

Soil Type: Fayette Silt Loam

Soil Test Results: Date: Oct. 1994      pH:7.1      P(ppm):31      K(ppm):190      O.M.(%):3.1

Fertilizer Applied: 180 lbs/a N      Analysis: 82-0-0      Time: preplant  
140 lbs/a total      Analysis: 8-32-17      Time: planting

Tillage Operations: Fall Chisel Plow, Spring Soil Finisher

Previous Crop: corn

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split-Split plot

Replicates: 4

Variables: 2 Row Spacings and 2 Plant Populations and 3 Hybrids

Plot Size: Planted: 10' (4 rows) by 40' for 30" row spacing  
12.67' (4 rows) by 40' for 38" row spacing  
Harvested: 2 rows by 37.5'  
Row Spacing: 30" and 38"

Hybrids: Cenex/LOL 544  
Cenex/LOL 555  
Pioneer 3417

Planting: Date: May 12  
Equipment: 30" row spacing: 4-row John Deere 7000  
Equipment: 38" row spacing: 4-row Case-IH Air Planter  
Seeding Rate: 40,000 plants/A

Harvesting: Date: Oct. 14  
Equipment: Gleaner KKS Plot Combine

	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Weed Control:	Roundup	2 qts/a	preemerg
	Dual II	2 pts/a	preemerg
	Bladex	2 qts/a	preemerg
	Rotary Hoe		5/25
	Cultivate		6/21

Insecticide: Lorsban      8.7 lbs/a      planting

---

Results: Table E-24.

**Table E-24. Row Spacing by Plant Population by Hybrid.  
Lancaster, WI 1995.**

Row Spacing inches	Plant Population plants/a	Hybrid	Broken Stalks %	Moist %	Yield bu/a
30			11.0	20.2	136.1
38			8.4	20.5	120.6
	24,000		9.6	20.3	121.7
	30,000		9.8	20.4	135.1
30	24,000		11.1	20.2	126.8
38	24,000		8.2	20.4	116.6
30	30,000		11.0	20.2	145.5
38	30,000		8.6	20.5	124.7
		Cenex 544	9.3	19.7	131.6
		Cenex 555	10.2	20.4	117.3
		Pioneer 3417	9.7	20.9	136.3
30		Cenex 544	9.6	19.4	141.7
38		Cenex 544	9.0	20.0	121.5
30		Cenex 555	11.4	20.4	129.2
38		Cenex 555	9.0	20.5	105.3
30		Pioneer 3417	12.1	20.8	137.5
38		Pioneer 3417	7.3	21.0	135.1
	24,000	Cenex 544	8.8	19.8	123.7
	30,000	Cenex 544	9.7	19.6	139.5
	24,000	Cenex 555	10.7	20.4	110.3
	30,000	Cenex 555	9.8	20.5	124.2
	24,000	Pioneer 3417	9.4	20.8	131.0
	30,000	Pioneer 3417	10.0	21.1	141.6
30	24,000	Cenex 544	7.7	19.5	130.7
38	24,000	Cenex 544	10.0	20.1	116.8
30	30,000	Cenex 544	11.5	19.4	152.8
38	30,000	Cenex 544	7.9	19.9	126.2
30	24,000	Cenex 555	12.5	20.5	123.3
38	24,000	Cenex 555	8.8	20.4	97.4
30	30,000	Cenex 555	10.4	20.4	135.2
38	30,000	Cenex 555	9.1	20.6	113.2
30	24,000	Pioneer 3417	13.0	20.7	126.4
38	24,000	Pioneer 3417	5.8	20.8	135.6
30	30,000	Pioneer 3417	11.2	20.9	148.6
38	30,000	Pioneer 3417	8.8	21.2	134.6
Mean			9.7	20.3	128.4
<b>Probability</b>					
Row Spacing (RS)			17.6	47.9	1.7
Plant Population (PP)			> 50	> 50	4.0
RS x PP			> 50	49.4	33.8
Hybrid (H)			> 50	< 0.1	0.1
RS x H			45.0	11.3	6.1
PP x H			> 50	10.6	> 50
RS x PP x H			23.0	> 50	34.6
<b>LSD (0.10)</b>					
Row Spacing (RS)			NS	NS	7.6
Plant Population (PP)			NS	NS	10.0
Hybrid (H)			NS	0.2	7.8
<b>CV %</b>			46.6	1.5	10.1

**Field Experiment History**

**Title: Silage Plant Density by Hybrid Silage Quality - 1995.**

**Personnel: J. Cusicanqui, J.G. Lauer, K.D. Hudelson**

Experimental Design: RCB Split Plot  
 Replications: 4  
 Variables: 5 Plant Densities and 2 Hybrid Silage Qualities

Location	Cooperators	Soil Type	Previous Crop	Row Width (in)	Plot Size (ft)	Planting Date	Harvest Dates	Tillage Operations	--Soil Test--			--Nitrogen Fertilizer--			Weed Control	Insecticides
									pH	P	K	actual (lb/a)	form	time		
Arlington	S. Kraak	Plano Silt Loam	Soybean	30	22	1-May	11-Sep	No-Till	6.4	47	185	150 9	46-0-0 6-24-24	preplant starter	Bladex 2qts/A Lasso 2qts/A	none
Ashland	M. Mlynarek T. Syverud	Manistee Loamy Sand	Corn	30	25	18-May	20-Sep	Moldboard plow Disk Field cult.	6.8	175	148	150	46-0-0	preplant	Lasso 2qts/A Bladex 2qts/A Cultivate	none
Lancaster	T. Wood D. Heimdahl	Rozetta Silt Loam	Corn	30	22	6-May	12-Sep	ChiselPlow Soil finisher	7.1	31	190	9 180	8-32-17 82-0-0	starter preplant	Roundup 2qts/A Dual II 2pts/A Banvel 1 pt/A Rotary Hoe & Cultivate	Lorsban 7lbs/A
Marshfield	D. Wiersma T. Drendel	Withee Silt Loam	Alfalfa/Hay	30	22	5-May	25-Sep	Chisel plow Disk Field Cult.	6.8	35	118	120 14	46-0-0 9-23-30	post starter	Dual 2.5pts/A Bladex 2qts/A Cultivate	none
Spoooner Silt Loam	R. Rand Y. Berger	Antigo Silt Loam	Corn	36	18	11-May	13-Sep	Moldboard plow Disk/Drag	6.6	12	55	9 110	5-10-30 46-0-0	planting post	Atrazine 1.5pts/A Prowl 3pts/A Cultivate	none
Valders	S. Hendrickson J. Maney T.& B. Maney	Kewaunee Clay Loam	Barley	30	22	12-May	17-Sep	Moldboard plow Field cult.(2x)	7.6	21	160	9 12,000 Gals/A	6-24-24 Manure	starter	Accent 0.5oz/A Banvel 0.5pts/A Cultivate	none

Results: Tables E-26 to E-31.

**Table E-26. Silage Plant Density by Hybrid Silage Quality  
Arlington, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%			tons DM/a		
18000		18909	15741	0.0	53	63.8	71.0	38.1	7.2	3.6	3.5
24000		23859	19107	0.0	53	62.4	67.6	37.4	7.6	3.8	3.8
30000		29403	26433	0.0	45	60.8	66.3	37.0	8.1	4.2	3.9
36000		35838	30987	0.3	43	54.9	63.9	35.7	9.4	4.6	4.8
42000		42174	34551	0.2	48	58.3	65.5	36.8	8.9	4.4	4.6
	Cargill 4327 (H)	30373	24116	0.1	42	59.9	68.1	34.5	8.3	4.1	4.2
	Pioneer 3417 (L)	29700	26611	0.1	55	60.2	65.6	39.4	8.2	4.2	4.1
18000	Cargill 4327 (H)	19206	15642	0.0	45	63.1	71.8	35.1	7.4	3.7	3.7
24000	Cargill 4327 (H)	24552	16434	0.0	53	63.0	69.2	35.4	7.4	3.7	3.6
30000	Cargill 4327 (H)	29700	25938	0.0	38	60.4	66.0	34.6	8.3	4.4	4.0
36000	Cargill 4327 (H)	36243	29898	0.6	34	55.5	65.6	33.1	9.5	4.5	5.1
42000	Cargill 4327 (H)	42174	32670	0.0	39	57.6	67.7	34.4	8.6	4.2	4.5
18000	Pioneer 3417 (L)	18612	15840	0.0	61	64.4	70.2	41.1	6.9	3.5	3.4
24000	Pioneer 3417 (L)	23166	21780	0.0	54	61.9	65.9	39.3	7.9	4.0	3.9
30000	Pioneer 3417 (L)	29106	26928	0.0	53	61.3	66.6	39.4	7.9	4.0	3.8
36000	Pioneer 3417 (L)	35442	32076	0.0	53	54.3	62.3	38.3	9.2	4.7	4.5
42000	Pioneer 3417 (L)	42174	36432	0.5	56	59.0	63.2	39.1	9.3	4.6	4.7
	Mean	30036	35364	0.1	49	60.0	66.8	37.0	8.2	4.1	4.1
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	>50	1.0	<0.1	2.2	13.3	<0.1	2.7	46.0
Hybrid (H)		18.5	1.6	>50	<0.1	>50	3.0	<0.1	>50	>50	>50
PD x H		>50	42.2	33.0	17.5	>50	>50	>50	>50	>50	10.4
<b>LSD (0.10)</b>											
Plant Density (PD)		1758	2783	NS	4.8	2.8	3.3	NS	0.7	0.5	NS
Hybrid (H)		NS	1606	NS	4.1	NS	1.8	1.0	NS	NS	NS
<b>CV (%)</b>											
		5.1	11.4	451.7	15.2	5.3	4.8	5.0	12.5	11.1	16.8

**Table E-27. Silage Plant Density by Hybrid Silage Quality  
Lancaster, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%			tons DM/a		
18000		17424	17028	0.6	43	58.2	60.2	35.3	6.4	3.9	2.5
24000		24057	23958	4.1	33	56.0	61.0	32.2	7.5	3.7	3.8
30000		29106	27324	2.8	32	56.1	59.4	32.8	7.6	4.1	3.5
36000		36333	33462	3.8	38	56.8	63.9	35.4	8.1	4.2	3.9
42000		41382	37125	4.0	32	51.9	61.2	33.1	8.8	4.4	4.5
	Cargill 4327 (H)	30452	28393	3.6	27	56.1	60.0	31.0	7.6	4.2	3.4
	Pioner 3417 (L)	28868	27165	2.6	44	55.5	62.3	36.6	7.7	3.9	3.8
18000	Cargill 4327 (H)	18216	17622	0.0	34	59.6	56.6	32.6	6.2	4.5	1.7
24000	Cargill 4327 (H)	23760	23958	6.6	24	57.0	60.4	29.7	7.4	3.9	3.5
30000	Cargill 4327 (H)	29304	27918	2.0	21	55.9	56.8	29.2	7.6	4.3	3.4
36000	Cargill 4327 (H)	37620	34452	3.6	34	58.4	65.7	33.1	8.1	4.2	3.9
42000	Cargill 4327 (H)	43362	38016	5.6	24	49.5	60.2	30.2	9.0	4.3	4.7
18000	Pioner 3417 (L)	16632	16434	1.5	53	56.8	63.7	38.0	6.6	3.3	3.2
24000	Pioner 3417 (L)	24354	23958	1.7	43	55.0	61.6	34.7	7.5	3.4	4.1
30000	Pioner 3417 (L)	28908	26730	3.7	43	56.3	62.0	36.5	7.6	4.0	3.6
36000	Pioner 3417 (L)	35046	32472	4.0	43	55.2	62.1	37.6	8.1	4.2	3.9
42000	Pioner 3417 (L)	39402	36234	2.5	40	54.3	62.2	32.0	8.7	4.5	4.2
	Mean	29660	27779	3.1	36	55.8	61.1	33.8	7.7	4.1	3.6
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	5.2	11.5	7.3	>50	0.9	<0.1	28.5	2.1
Hybrid (H)		2.0	11.0	39.5	<0.1	5.5	19.1	<0.1	>50	12.8	46.2
PD x H		19.5	>50	27.2	>50	38.2	>50	>50	>50	30.8	>50
<b>LSD (0.10)</b>											
Plant Density (PD)		1250	1490	NS	NS	NS	NS	1.6	0.7	NS	0.7
Hybrid (H)		1065	NS	NS	4.3	NS	NS	1.3	NS	NS	NS
<b>CV (%)</b>											
CV (%)		6.5	8.2	110.0	22.0	4.9	8.9	7.0	10.6	15.6	20.3

**Table E-28. Silage Plant Density by Hybrid Silage Quality  
Marshfield, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%	%	%	tons DM/a		
18000		18414	18612	2.1	45	60.7	75.0	36.5	5.6	2.0	3.6
24000		23265	23067	2.1	49	60.3	69.4	39.2	6.1	2.6	3.4
30000		28809	28314	1.1	49	59.9	69.7	40.5	6.2	2.7	3.5
36000		33858	32373	3.6	49	60.7	69.4	41.4	5.6	2.6	3.0
42000		39996	37917	1.0	48	60.5	68.6	41.3	6.4	3.1	3.4
	Jaques 4120 (L)	28948	27878	1.5	49	60.6	68.5	40.0	6.1	3.0	3.2
	Pioneer 3757 (H)	28789	28234	2.4	47	60.3	72.0	39.5	5.8	2.3	3.5
18000	Jaques 4120 (L)	18216	18246	1.0	43	60.8	69.4	32.7	5.6	2.5	3.1
24000	Jaques 4120 (L)	23166	22968	2.5	48	58.8	67.3	39.3	6.0	2.7	3.3
30000	Jaques 4120 (L)	28116	27324	0.7	43	59.8	69.3	40.7	6.3	2.9	3.4
36000	Jaques 4120 (L)	35442	33462	2.4	58	61.7	68.9	44.2	6.3	3.3	3.1
42000	Jaques 4120 (L)	39798	37422	1.1	53	61.7	67.7	43.2	6.5	3.3	3.2
18000	Pioneer 3757 (H)	18612	19008	3.1	48	60.7	79.1	40.2	5.7	1.7	4.0
24000	Pioneer 3757 (H)	23364	23166	1.7	50	61.8	71.5	39.1	6.1	2.6	3.6
30000	Pioneer 3757 (H)	29502	29304	1.4	55	59.9	70.1	40.3	6.1	2.5	3.6
36000	Pioneer 3757 (H)	32274	31284	4.9	40	59.8	68.8	38.6	4.8	2.0	2.8
42000	Pioneer 3757 (H)	40194	38412	1.0	43	59.3	69.5	39.5	6.3	2.8	3.5
	Mean	28868	28056	2.0	48	60.4	70.3	39.8	6.0	2.6	3.4
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	24.6	>50	>50	15.2	19.1	40.2	14.3	29.9
Hybrid (H)		>50	>50	25.1	>50	>50	0.2	>50	14.1	<0.1	>50
PD x H		23.3	33.7	>50	5.3	6.6	29.5	3.2	13.2	1.7	71.7
<b>LSD (0.10)</b>											
Plant Density (PD)		1350	1104	NS	NS	NS	NS	NS	NS	NS	NS
Hybrid (H)		NS	NS	NS	NS	NS	0.9	NS	NS	0.2	NS
<b>CV (%)</b>											
		6.8	7.1	118.6	20.7	3.0	2.4	9.6	11.2	11.5	18.9

**Table E-29. Silage Plant Density by Hybrid Silage Quality  
Valders, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%	%	%	tons DM/a		
18000		18018	18018	6.5	30	61.1	67.7	36.8	6.9	3.6	3.3
24000		23859	23463	5.1	36	60.4	67.7	36.6	7.4	3.8	3.6
30000		27819	26829	3.3	30	59.7	67.9	35.8	7.6	3.8	3.8
36000		32373	29403	4.4	36	60.6	68.1	34.9	7.8	4.1	3.7
42000		37224	33066	1.9	35	60.4	66.4	39.2	7.7	4.4	3.3
	Jaques 4120 (L)	26888	24196	2.8	36	60.7	66.3	38.5	7.4	4.2	3.3
	Pioneer 3757 (H)	28829	28116	5.7	31	60.2	68.8	34.9	7.5	3.7	3.8
18000	Jaques 4120 (L)	18216	17424	3.2	30	61.2	66.0	35.2	6.6	3.6	3.0
24000	Jaques 4120 (L)	22572	21780	5.5	40	60.5	67.0	38.6	7.3	4.0	3.3
30000	Jaques 4120 (L)	26334	25148	2.5	30	58.1	65.4	36.8	8.0	4.1	3.9
36000	Jaques 4120 (L)	33264	27918	2.2	45	63.0	67.8	37.6	7.7	4.5	3.2
42000	Jaques 4120 (L)	34056	28710	0.6	35	60.6	65.5	44.2	7.7	4.7	3.1
18000	Pioneer 3757 (H)	17820	18612	9.7	30	60.9	69.4	38.4	7.2	3.5	3.7
24000	Pioneer 3757 (H)	25146	25146	4.8	33	60.3	68.4	34.6	7.6	3.7	3.9
30000	Pioneer 3757 (H)	29304	28512	4.1	30	61.3	70.5	34.8	7.2	3.4	3.8
36000	Pioneer 3757 (H)	31482	30888	6.6	28	58.2	68.5	32.2	7.9	3.7	4.2
42000	Pioneer 3757 (H)	40392	37422	3.3	35	60.2	67.4	34.3	7.7	4.1	3.6
	Mean	27859	26155	4.2	34	60.4	67.6	36.7	7.5	3.9	3.6
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	29.9	>50	>50	>50	>50	1.8	2.4	24.8
Hybrid (H)		13.7	<0.1	7.7	9.4	>50	1.4	11.9	>50	0.4	2.6
PD x H		30.9	15.2	>50	24.8	21.1	>50	45.3	>50	>50	>50
<b>LSD (0.10)</b>											
Plant Density (PD)		3094	3403	NS	NS	NS	NS	NS	0.4	0.4	NS
Hybrid (H)		NS	1581	NS	NS	NS	1.6	NS	NS	0.3	0.4
<b>CV (%)</b>											
		14.0	10.9	113.4	26.4	5.2	4.2	18.8	12.7	11.5	18.3

**Table E-30. Silage Plant Density by Hybrid Silage Quality  
Spooner, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%			tons DM/a		
18000		17424	18117	0.6	40	58.3	67.6	32.8	5.30	2.46	2.84
24000		22869	23067	1.7	33	58.5	67.5	32.7	6.35	2.92	3.43
30000		29997	29898	2.0	40	59.5	68.5	34.2	6.95	3.26	3.69
36000		32472	32472	1.1	39	61.3	66.9	33.9	6.29	3.12	3.17
42000		38610	37719	2.1	41	60.0	65.4	37.2	7.48	3.69	3.79
	Pioneer 3902 (L)	28314	27918	1.2	33	59.1	67.7	33.5	6.46	2.94	3.52
	Pioneer 3921 (H)	28235	28591	1.8	44	59.9	66.7	34.8	6.48	3.24	3.24
18000	Pioneer 3902 (L)	17028	17828	1.2	30	58.1	69.0	32.7	5.33	2.24	3.09
24000	Pioneer 3902 (L)	23364	23364	0.9	28	57.3	67.2	33.0	6.37	2.78	3.59
30000	Pioneer 3902 (L)	29898	29304	2.9	38	59.3	68.8	33.8	6.71	3.04	3.67
36000	Pioneer 3902 (L)	32670	32472	0.6	33	59.1	67.3	33.7	7.09	3.22	3.87
42000	Pioneer 3902 (L)	38610	37422	0.6	38	61.8	66.2	34.4	6.82	3.43	3.39
18000	Pioneer 3921 (H)	17820	19206	0.0	50	58.5	66.1	32.9	5.27	2.68	2.59
24000	Pioneer 3921 (H)	22374	22770	2.5	38	59.8	67.9	32.5	6.32	3.06	3.26
30000	Pioneer 3921 (H)	30096	30492	1.4	43	59.7	68.3	34.5	7.20	3.48	3.72
36000	Pioneer 3921 (H)	32274	32472	1.7	45	63.5	66.5	34.2	5.48	3.03	2.45
42000	Pioneer 3921 (H)	38610	38016	3.6	45	58.1	64.6	40.0	8.14	3.95	4.19
	Mean	28274	28255	1.5	39	59.5	67.2	34.2	6.47	3.09	3.38
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	>50	27.7	>50	16.8	23.6	2.0	0.7	2.1
Hybrid (H)		>50	41.1	32.4	<0.1	>50	7.0	32.2	>50	2.9	33.5
PD x H		>50	>50	25.3	40.4	36.3	31.6	>50	27.1	41.4	>50
<b>LSD (0.10)</b>											
Plant Density (PD)		2844	2964	NS	4.4	NS	NS	NS	1.0	0.5	0.7
Hybrid (H)		NS	NS	NS	NS	NS	NS	NS	NS	0.2	NS
<b>CV (%)</b>											
		7.2	8.9	142.1	20.4	6.5	2.5	11.4	19.6	12.7	19.1



**Table E-31. Silage Plant Density by Hybrid Silage Quality  
Ashland, WI 1995**

Plant Density	Hybrid (H)=High Quality (L)=Low Quality	Final Stand	Ear Density	Broken Stalks	Kernel Milk	Moisture			Yield		
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain
plants/a		plants/a	ear/a	%	%	%			tons DM/a		
18000		17339	18992	0.0	56	66.5	72.4	41.4	8.8	5.3	3.5
24000		23958	23522	0.0	63	66.7	72.6	41.7	9.3	5.6	3.7
30000		29534	29447	0.0	61	65.0	70.6	43.1	10.4	5.8	4.6
36000		35284	32060	0.0	70	66.2	72.4	44.9	10.1	5.9	4.2
42000		39988	32671	0.0	63	66.9	69.5	44.7	9.7	6.4	3.3
	Pioneer 3902 (L)	29307	26066	0.0	58	66.3	71.5	43.9	9.7	6.1	3.7
	Pioneer 3921 (H)	29133	28610	0.0	68	66.2	71.6	42.4	9.6	5.6	4.0
18000	Pioneer 3902 (L)	17424	17947	0.0	50	66.2	71.9	41.8	9.1	5.6	3.5
24000	Pioneer 3902 (L)	23871	22825	0.0	60	66.8	71.8	43.0	9.3	5.9	3.4
30000	Pioneer 3902 (L)	29447	29272	0.0	58	63.7	70.7	43.7	10.8	6.1	4.7
36000	Pioneer 3902 (L)	35545	30492	0.0	65	67.1	73.6	45.6	10.1	5.8	4.3
42000	Pioneer 3902 (L)	40249	29795	0.0	55	67.9	69.2	45.3	9.4	6.7	2.7
18000	Pioneer 3921 (H)	19250	20038	0.0	63	66.8	72.9	41.0	8.5	5.0	3.5
24000	Pioneer 3921 (H)	24045	22219	0.0	65	66.7	73.5	40.5	9.2	5.2	4.0
30000	Pioneer 3921 (H)	37621	29621	0.0	65	66.2	76.0	42.5	10.0	5.6	4.4
36000	Pioneer 3921 (H)	35022	33628	0.0	75	65.3	71.2	44.1	10.2	5.9	4.3
42000	Pioneer 3921 (H)	39723	35546	0.0	70	65.9	69.8	44.1	10.0	6.0	4.0
	Mean	29220	27338	0.0	63	66.3	71.5	43.2	9.7	5.8	3.9
<b>Probability (%)</b>											
Plant Density (PD)		<0.1	<0.1	>50	20.3	>50	>50	1.5	1.6	6.7	12.1
Hybrid (H)		>50	3.0	>50	<0.1	>50	>50	0.3	>50	0.2	0.7
PD x H		>50	>50	>50	>50	>50	15.1	>50	>50	24.3	>50
<b>LSD (0.10)</b>											
Plant Density (PD)		942	3956	NS	NS	NS	NS	1.9	0.8	NS	NS
Hybrid (H)		NS	1854	NS	3.7	NS	NS	0.7	NS	0.2	0.5
<b>CV (%)</b>											
		4.0	12.2		10.7	4.6	2.2	3.1	11.3	6.8	17.4

**Field Experiment History**

**Title: Silage Plant Density by Hybrid Silage Quality - 1995.**

**Personnel: J. Cusicanqui, J.G. Lauer, K.D. Hudelson**

Experimental Design:		RCB Split Plot														
Replications:		4														
Variables:		5 Plant Densities and 2 Hybrid Silage Qualities														
Location	Cooperators	Soil Type	Previous Crop	Row Width (in)	Plot Size (ft)	Planting Date	Harvest Dates	Tillage Operations	--Soil Test-- pH P K --(ppm)--			--Nitrogen Fertilizer-- actual form time			Weed Control	Insecticides
Arlington	S. Kraak	Plano Silt Loam	Soybean	30	22	1-May	11-Sep	No-Till	6.4	47	185	150	46-0-0	preplant	Bladex 2qts/A	none
Ashland	M. Mlynarek T. Syverud	Manistee Loamy Sand	Corn	30	25	18-May	20-Sep	Moldboard plow Disk Field cult.	6.8	175	148	150	46-0-0	preplant	Lasso 2qts/A Bladex 2qts/A Cultivate	none
Lancaster	T. Wood D. Heimdahl	Rozetta Silt Loam	Corn	30	22	6-May	12-Sep	ChiselPlow Soil finisher	7.1	31	190	9	8-32-17	starter	Roundup 2qts/A	Lorsban
Marshfield	D. Wiersma T. Drendel	Withee Silt Loam	Alfalfa/Hay	30	22	5-May	25-Sep	Chisel plow Disk Field Cult.	6.8	35	118	120	46-0-0	post	Dual II 2.5pts/A	none
Spoooner Silt Loam	R. Rand Y. Berger	Antigo Silt Loam	Corn	36	18	11-May	13-Sep	Moldboard plow Disk/Drag	6.6	12	55	9	5-10-30	planting	Atrazine 1.5pts/A	none
Valders	S. Hendrickson J. Maney T. & B. Maney	Kewaunee Clay Loam	Barley	30	22	12-May	17-Sep	Moldboard plow Field cult.(2x)	7.6	21	160	9	6-24-24	starter	Accent 0.5oz/A Banvel 0.5pts/A Cultivate	none

Results: Tables E-32 to E-34.

**Table E-32. Silage Plant Density by Hybrid Silage Quality. - Southern Zone.  
Arlington, WI and Lancaster, WI 1995.**

Site	Plant Density Hybrid plants/a	Final Stand plants/a	Ear Density ears/a	Broken Stalks %	Milk Line\$	Moisture			Yield			Whole Plant				Stover				
						Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.	
						%	%	tons DM/a	%	%	%	%	%	%	%	%	%	%	%	%
Arlington		31066.2	31304	0.3	0.6	66.5	75.3	39.6	8.7	4.2	4.5	7.0	51.8	27.7	74.1	6.4	73.1	41.7	63.4	
Lancaster		30511.8	30037	1.7	0.6	57.1	67.3	38.3	8.8	3.8	5.0	7.5	47.5	24.6	76.2	6.3	72.9	40.5	61.8	
	18000	19057.5	20691	0.6	0.6	63.6	74.3	38.6	7.6	3.3	4.3	7.6	47.7	24.5	76.5	6.6	72.1	39.8	64.0	
	24000	25492.5	25740	1.2	0.6	62.6	73.0	38.4	8.5	3.8	4.8	7.2	48.4	25.2	75.6	6.1	73.3	41.0	63.0	
	30000	31680	31433	0.9	0.6	59.8	69.6	38.1	9.0	4.0	5.1	7.2	49.7	26.2	75.0	6.4	74.1	42.0	61.8	
	36000	35937	35145	1.5	0.6	61.6	69.5	39.7	9.0	4.3	4.7	6.9	51.7	27.5	74.4	6.3	73.7	41.7	61.8	
	42000	41778	40343	0.8	0.6	61.3	70.2	40.1	9.5	4.6	5.0	7.2	50.8	27.3	74.1	6.3	71.7	41.0	62.3	
Arlington	18000	19899	22473	0.0	0.6	66.5	77.3	38.8	7.7	3.5	4.3	7.3	49.7	26.0	75.8	7.0	71.1	40.0	64.6	
Arlington	24000	26532	26730	0.7	0.6	66.3	74.7	39.1	8.7	4.1	4.6	7.0	50.1	26.4	74.8	6.2	72.8	40.5	64.6	
Arlington	30000	32274	32175	0.6	0.6	65.2	73.6	39.8	9.1	4.3	4.8	7.0	51.2	27.3	74.2	6.5	74.3	42.6	62.5	
Arlington	36000	35739	35046	0.3	0.5	67.1	75.7	40.2	8.9	4.3	4.6	6.6	55.7	30.4	72.0	6.3	74.0	42.7	62.6	
Arlington	42000	40887	40095	0.0	0.5	67.2	75.1	40.3	9.3	4.9	4.4	6.9	52.1	28.3	73.5	6.1	73.1	42.8	62.6	
Lancaster	18000	18216	18909	1.1	0.5	60.7	71.3	38.5	7.5	3.2	4.3	8.0	45.7	23.0	77.3	6.3	73.1	39.5	63.4	
Lancaster	24000	24453	24750	1.6	0.6	59.0	71.3	37.7	8.4	3.5	5.0	7.5	46.8	24.0	76.4	6.0	73.8	41.5	61.5	
Lancaster	30000	31086	30690	1.3	0.6	54.4	65.6	36.4	9.0	3.7	5.3	7.3	48.1	25.0	75.8	6.2	74.0	41.5	61.2	
Lancaster	36000	36135	35244	2.7	0.7	56.2	63.3	39.1	9.1	4.2	4.9	7.2	47.6	24.7	76.7	6.3	73.3	40.7	61.0	
Lancaster	42000	42669	40590	1.7	0.7	55.3	65.2	39.9	9.8	4.3	5.5	7.4	49.5	26.4	74.7	6.5	70.3	39.2	62.0	
	Cargill 4327	31224.6	31541	1.4	0.6	64.0	73.6	38.3	8.8	4.0	4.8	7.1	48.6	25.9	75.5	6.2	71.7	41.0	63.1	
	Pioneer 3417	30353.4	29799	0.6	0.6	59.6	69.0	39.7	8.7	4.0	4.7	7.3	50.7	26.4	74.7	6.5	74.3	41.2	62.1	
Arlington	Cargill 4327	31838.4	32868	0.4	0.6	68.1	77.8	39.3	9.0	4.3	4.8	6.9	50.6	27.3	74.3	6.2	71.4	41.5	63.9	
Arlington	Pioneer 3417	30294	29740	0.3	0.6	64.8	72.8	40.0	8.4	4.1	4.3	7.0	52.9	28.0	73.8	6.6	74.7	41.9	62.9	
Lancaster	Cargill 4327	30610.8	30215	2.4	0.7	59.9	69.4	37.4	8.6	3.8	4.9	7.4	46.6	24.4	76.7	6.1	71.9	40.4	62.3	
Lancaster	Pioneer 3417	30412.8	29858	0.9	0.6	54.4	65.3	39.3	8.9	3.8	5.1	7.6	48.5	24.8	75.6	6.4	73.9	40.6	61.3	
	18000 Cargill 4327	19206	22176	1.1	0.6	65.6	76.2	37.5	7.7	3.5	4.3	7.4	46.5	24.1	76.9	6.2	70.8	39.8	64.4	
	18000 Pioneer 3417	18909	19206	0.0	0.6	61.6	72.4	39.8	7.6	3.2	4.3	7.8	48.9	25.0	76.1	7.1	73.4	39.8	63.7	
	24000 Cargill 4327	25839	26334	2.0	0.6	65.0	76.0	37.8	8.6	3.8	4.8	7.3	46.6	24.5	76.3	5.6	72.3	41.4	63.5	
	24000 Pioneer 3417	25146	25146	0.4	0.6	60.2	70.0	39.1	8.5	3.7	4.7	7.1	50.3	25.9	74.8	6.6	74.3	40.7	62.6	
	30000 Cargill 4327	32967	33066	1.2	0.7	61.6	73.3	38.3	9.3	3.9	5.3	7.0	50.0	27.0	74.5	6.3	72.6	42.0	62.0	
	30000 Pioneer 3417	30393	29799	0.6	0.6	58.0	65.9	37.9	8.8	4.0	4.8	7.3	49.3	25.3	75.5	6.4	75.6	42.1	61.7	
	36000 Cargill 4327	36234	35937	1.9	0.7	64.1	70.2	39.6	9.0	4.4	4.6	6.8	50.1	26.6	75.5	6.3	73.1	41.6	62.2	
	36000 Pioneer 3417	35640	34353	1.1	0.6	59.1	68.7	39.8	9.0	4.1	4.9	7.0	53.2	28.5	73.2	6.3	74.2	41.7	61.3	
	42000 Cargill 4327	41877	40194	0.7	0.6	63.6	72.2	38.5	9.5	4.4	5.1	7.1	49.8	27.3	74.5	6.4	69.5	40.1	63.5	
	42000 Pioneer 3417	41679	40491	0.9	0.6	59.0	68.1	41.8	9.6	4.7	4.9	7.2	51.8	27.4	73.8	6.1	74.0	41.9	61.0	

**Table E-32. Silage Plant Density by Hybrid Silage Quality. - Southern Zone.  
Arlington, WI and Lancaster, WI 1995.**

Site	Plant Density	Hybrid	Final Stand	Ear Density	Broken Stalks	Milk Line§	Moisture			Yield			Whole Plant				Stover			
							Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.
	plants/a		plants/a	ears/a	%	§	%		tons DM/a				%				%			
Arlington	18000	Cargill 4327	20196	25146	0.0	0.6	68.7	78.6	37.7	7.9	3.7	4.3	7.1	48.1	25.4	76.0	6.7	68.8	39.2	65.5
Arlington	18000	Pioneer 3417	19602	19800	0.0	0.6	64.3	75.9	39.9	7.6	3.2	4.3	7.4	51.4	26.7	75.5	7.2	73.3	40.8	63.7
Arlington	24000	Cargill 4327	27324	27720	0.7	0.5	68.0	77.8	38.9	8.9	4.2	4.7	7.0	47.9	25.5	75.2	5.8	71.0	40.4	65.2
Arlington	24000	Pioneer 3417	25740	25740	0.7	0.6	64.5	71.6	39.4	8.4	4.0	4.4	7.0	52.2	27.3	74.3	6.6	74.7	40.6	64.1
Arlington	30000	Cargill 4327	34452	35046	1.1	0.6	66.8	77.9	40.9	9.5	4.2	5.3	6.9	52.0	28.5	73.5	6.5	72.2	42.2	62.9
Arlington	30000	Pioneer 3417	30096	29304	0.0	0.6	63.6	69.2	38.6	8.6	4.3	4.3	7.2	50.4	26.2	74.9	6.6	76.3	42.9	62.1
Arlington	36000	Cargill 4327	36234	36432	0.0	0.6	68.1	76.8	38.8	9.4	4.5	4.9	6.8	53.3	28.9	73.5	6.2	74.1	43.4	62.7
Arlington	36000	Pioneer 3417	35244	33660	0.6	0.4	66.0	74.5	41.7	8.3	4.0	4.3	6.4	58.2	31.8	70.6	6.4	74.0	42.0	62.5
Arlington	42000	Cargill 4327	40986	39996	0.0	0.5	69.0	77.7	40.1	9.3	4.7	4.6	6.7	51.7	28.4	73.4	6.1	71.1	42.4	63.2
Arlington	42000	Pioneer 3417	40788	40194	0.0	0.5	65.5	72.6	40.5	9.3	5.0	4.3	7.1	52.6	28.1	73.7	6.1	75.2	43.2	62.0
Lancaster	18000	Cargill 4327	18216	19206	2.3	0.5	62.6	73.8	37.3	7.5	3.2	4.3	7.7	45.0	22.8	77.8	5.8	72.8	40.3	63.2
Lancaster	18000	Pioneer 3417	18216	18612	0.0	0.5	58.8	68.8	39.7	7.6	3.2	4.3	8.2	46.4	23.2	76.8	6.9	73.4	38.8	63.7
Lancaster	24000	Cargill 4327	24354	24948	3.3	0.7	62.0	74.2	36.7	8.3	3.4	4.9	7.6	45.2	23.4	77.4	5.4	73.7	42.3	61.8
Lancaster	24000	Pioneer 3417	24552	24552	0.0	0.6	55.9	68.4	38.8	8.6	3.5	5.1	7.3	48.4	24.6	75.3	6.5	73.9	40.7	61.2
Lancaster	30000	Cargill 4327	31482	31086	1.3	0.7	56.4	68.6	35.6	9.0	3.7	5.4	7.1	47.9	25.5	75.4	6.1	73.1	41.7	61.1
Lancaster	30000	Pioneer 3417	30690	30294	1.3	0.5	52.5	62.6	37.3	8.9	3.7	5.3	7.4	48.3	24.5	76.2	6.3	75.0	41.3	61.3
Lancaster	36000	Cargill 4327	36234	35442	3.8	0.7	60.2	63.6	40.4	8.6	4.4	4.2	6.8	46.9	24.4	77.6	6.4	72.2	39.9	61.7
Lancaster	36000	Pioneer 3417	36036	35046	1.6	0.7	52.1	62.9	37.9	9.6	4.1	5.5	7.6	48.3	25.1	75.9	6.3	74.4	41.5	60.2
Lancaster	42000	Cargill 4327	42768	40392	1.4	0.7	58.1	66.8	36.8	9.7	4.2	5.6	7.6	47.9	26.1	75.5	6.8	67.9	37.8	63.9
Lancaster	42000	Pioneer 3417	42570	40788	1.9	0.7	52.6	63.7	43.0	9.9	4.4	5.5	7.3	51.0	26.6	73.9	6.2	72.7	40.5	60.0
Mean			30789	30670	1.0	0.6	61.8	71.3	39.0	8.8	4.0	4.8	7.2	49.7	26.2	75.1	6.3	73.0	41.1	62.6
<b>Probability (%)</b>																				
Location (L)			25.9	3.7	6.6	3.6	<0.1	<0.1	23.0	>50	3.7	13.2	1.2	0.9	0.5	1.9	>50	>50	9.9	9.1
Plant Density (PD)			<0.1	<0.1	>50	41.1	1.9	<0.1	38.8	<0.1	<0.1	7.1	5.2	9.9	2.8	9.2	23.6	6.2	4.8	4.4
L x PD			10.4	10.3	>50	0.3	3.4	0.1	>50	>50	7.8	35.4	>50	42.1	38.4	29.3	25.0	11.8	4.7	>50
Hybrid (H)			5.2	0.1	4.6	28.5	<0.1	<0.1	9.9	47.1	48.8	>50	7.5	2.7	35.0	16.5	1.0	<0.1	>50	1.6
L x H			12.9	0.9	7.4	21.4	17.1	>50	43.9	4.2	44.0	10.0	>50	>50	>50	>50	>50	33.6	>50	>50
D x H			41.3	17.9	>50	40.8	>50	6.4	>50	>50	17.0	>50	20.7	>50	31.9	45.4	1.5	>50	>50	48.0
L x D x H			>50	>50	26.2	28.4	>50	>50	21.9	>50	>50	>50	1.1	>50	>50	>50	>50	>50	29.9	35.8
<b>LSD (0.10)</b>																				
Location (L)			NS	921	1.2	0.1	2.4	1.3	NS	NS	0.3	NS	0.3	2.2	1.4	1.3	NS	NS	1.2	1.5
Plant Density (PD)			1325	1366	NS	NS	1.8	1.7	NS	0.5	0.2	0.5	0.4	2.7	1.7	1.5	NS	1.6	1.3	1.3
Hybrid (H)			732	843	0.6	NS	1.3	1.1	1.3	NS	NS	NS	0.1	1.5	NS	NS	0.2	1.2	NS	0.7
CV %			6.3	7.2	170	20.6	5.7	4.0	9.0	10.4	10.0	20.0	5.1	8.2	9.4	3.4	8.7	4.2	5.5	2.9

§ - Milk Line = percent down from tip to base of kernel.

**Table E-33. Silage Plant Density by Hybrid Silage Quality. - North Central Zone.  
Marshfield, WI and Valders, WI 1995.**

Site	Plant Density plants/a	Hybrid	Final Stand plants/a	Ear Density ears/a	Broken Stalks %	Milk Line§	Moisture			Yield			Whole Plant				Stover			
							Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.
							%			tons DM/a			%				%			
Marshfield			30136	31165	0.5	0.5	68.2	78.1	43.0	5.7	2.3	3.3	5.8	50.5	25.9	77.5	4.1	76.7	43.0	65.0
Valders			30175	33086	1.0	0.7	48.9	54.7	37.4	7.0	2.7	4.3	6.5	45.1	22.0	79.6	4.1	74.0	39.6	66.8
	18000		18563	23265	0.5	0.6	59.1	68.5	39.1	5.7	2.2	3.5	6.7	45.7	22.5	79.9	4.3	74.8	40.3	66.1
	24000		24354	26879	0.8	0.6	58.6	66.3	38.8	6.1	2.4	3.6	6.3	48.7	24.3	78.6	4.3	74.3	40.3	66.6
	30000		30393	32670	0.7	0.6	58.3	66.3	41.0	6.5	2.5	4.0	6.1	47.7	24.0	77.9	4.1	74.7	41.2	65.6
	36000		36185	36878	0.7	0.6	58.4	65.3	41.1	6.7	2.8	3.9	5.9	48.6	24.7	77.8	4.0	75.9	41.7	66.2
	42000		41283	40937	0.9	0.6	58.2	65.6	41.0	6.7	2.7	4.1	5.8	48.2	24.4	78.6	3.8	77.3	43.1	64.9
Marshfield	18000		18513	21582	0.0	0.5	69.0	79.2	41.2	4.7	1.9	2.8	6.1	48.2	24.2	79.0	4.2	75.7	41.4	65.5
Marshfield	24000		24057	25344	0.4	0.5	67.7	78.1	40.4	5.3	2.2	3.1	5.9	51.9	26.6	77.7	4.1	75.7	42.1	65.2
Marshfield	30000		30690	31977	0.7	0.5	68.4	77.1	44.0	5.7	2.4	3.4	5.8	52.5	27.0	75.9	4.1	76.1	42.9	65.0
Marshfield	36000		36036	36432	0.3	0.5	69.2	78.0	44.4	5.8	2.5	3.3	5.5	49.6	25.8	77.4	4.1	77.5	43.5	65.5
Marshfield	42000		41382	40491	1.0	0.5	66.7	78.1	44.8	6.8	2.8	4.0	5.6	50.2	26.1	77.5	3.9	78.7	45.0	63.6
Valders	18000		18612	24948	1.1	0.7	49.3	57.8	36.9	6.8	2.5	4.2	7.3	43.3	20.8	80.8	4.4	73.9	39.1	66.6
Valders	24000		24651	28413	1.2	0.7	49.5	54.4	37.2	6.8	2.7	4.1	6.7	45.4	22.1	79.5	4.5	72.9	38.6	68.0
Valders	30000		30096	33363	0.6	0.6	48.2	55.4	38.0	7.2	2.7	4.6	6.3	43.0	21.0	79.9	4.0	73.3	39.4	66.2
Valders	36000		36333	37323	1.1	0.7	47.6	52.6	37.8	7.6	3.1	4.5	6.2	47.6	23.6	78.3	3.9	74.3	39.8	67.0
Valders	42000		41184	41382	0.8	0.7	49.8	53.0	37.3	6.7	2.6	4.1	6.0	46.2	22.6	79.7	3.7	75.8	41.2	66.2
		Jacques 4120	29858	29660	0.7	0.6	55.6	63.4	38.1	6.2	2.5	3.7	6.0	49.6	25.0	77.2	4.0	76.7	41.9	64.4
		Pioneer 3757	30452	34591	0.7	0.5	61.5	69.4	42.3	6.5	2.6	3.9	6.3	45.9	22.9	79.9	4.2	74.1	40.7	67.4
Marshfield		Jacques 4120	29858	29304	0.7	0.5	66.4	76.4	40.9	5.5	2.4	3.2	5.6	52.4	27.0	76.2	3.8	78.1	43.7	63.3
Marshfield		Pioneer 3757	30413	33026	0.2	0.5	70.0	79.8	45.0	5.8	2.3	3.5	5.9	48.6	24.8	78.8	4.3	75.3	42.2	66.7
Valders		Jacques 4120	29858	30017	0.8	0.7	44.7	50.4	35.2	6.9	2.6	4.3	6.3	46.8	23.0	78.3	4.1	75.2	40.1	65.6
Valders		Pioneer 3757	30492	36155	1.1	0.6	53.0	59.0	39.6	7.2	2.8	4.4	6.6	43.3	21.0	81.0	4.1	72.9	39.1	68.0
	18000	Jacques 4120	18513	19107	0.0	0.6	56.9	66.5	35.2	5.7	2.3	3.4	6.9	47.7	23.7	78.3	4.2	75.9	40.8	64.8
	18000	Pioneer 3757	18612	27423	1.1	0.6	61.3	70.5	43.0	5.8	2.1	3.7	6.5	43.8	21.4	81.4	4.4	73.6	39.8	67.4
	24000	Jacques 4120	24354	24552	0.4	0.6	56.2	62.2	38.4	6.2	2.6	3.6	6.4	47.6	23.5	78.8	4.4	75.4	40.7	65.0
	24000	Pioneer 3757	24354	29205	1.2	0.6	61.1	70.3	39.2	5.9	2.3	3.7	6.1	49.7	25.1	78.5	4.2	73.3	40.0	68.3
	30000	Jacques 4120	29700	29502	0.7	0.6	55.0	62.7	38.9	6.1	2.4	3.7	5.6	50.9	26.0	75.8	3.8	76.4	42.1	63.8
	30000	Pioneer 3757	31086	35838	0.6	0.5	61.6	69.9	43.1	6.9	2.7	4.2	6.6	44.5	22.0	80.1	4.3	73.0	40.2	67.3
	36000	Jacques 4120	35739	35838	1.4	0.6	55.3	62.7	38.9	6.6	2.7	3.9	5.4	52.2	26.9	75.7	3.7	77.1	42.6	64.7
	36000	Pioneer 3757	36630	37917	0.0	0.5	61.6	67.8	43.3	6.8	2.9	3.9	6.3	45.0	22.4	79.9	4.3	74.7	40.8	67.8
	42000	Jacques 4120	40986	39303	1.3	0.7	54.4	62.7	39.1	6.5	2.6	3.9	5.6	49.6	25.1	77.6	3.7	78.4	43.5	63.8
	42000	Pioneer 3757	41580	42570	0.5	0.5	62.0	68.4	43.0	7.0	2.8	4.2	6.0	46.8	23.6	79.5	3.9	76.1	42.6	66.0

**Table E-33. Silage Plant Density by Hybrid Silage Quality. - North Central Zone.  
Marshfield, WI and Valders, WI 1995.**

Site	Plant Density plants/a	Hybrid	Final Stand plants/a	Ear Density ears/a	Broken Stalks %	Milk Line§	Moisture			Yield			Whole Plant				Stover				
							Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.	
							%			tons DM/a			%				%				
Marshfield	18000	Jacques 4120	18018	18216	0.0	0.5	67.5	77.3	36.2	4.5	1.9	2.6	6.1	49.9	25.2	77.7	4.0	76.6	41.6	64.9	
Marshfield	18000	Pioneer 3757	19008	24948	0.0	0.5	70.4	81.1	46.3	4.8	1.8	3.1	6.1	46.5	23.2	80.2	4.5	74.7	41.3	66.2	
Marshfield	24000	Jacques 4120	24354	24750	0.9	0.6	65.5	76.0	41.5	5.6	2.4	3.2	6.0	49.5	24.9	78.9	4.1	76.3	42.4	63.0	
Marshfield	24000	Pioneer 3757	23760	25938	0.0	0.5	69.9	80.2	39.4	5.1	2.0	3.1	5.7	54.4	28.2	76.6	4.2	75.1	41.7	67.5	
Marshfield	30000	Jacques 4120	30690	29700	0.7	0.5	67.0	75.6	42.0	5.3	2.3	3.0	5.2	58.0	30.4	72.8	3.6	78.8	44.8	62.5	
Marshfield	30000	Pioneer 3757	30690	34254	0.7	0.5	69.9	78.7	45.9	6.2	2.5	3.7	6.5	46.9	23.7	79.0	4.6	73.3	41.0	67.4	
Marshfield	36000	Jacques 4120	35046	34650	0.6	0.5	68.3	76.7	42.3	5.3	2.4	2.9	5.4	51.7	27.1	75.7	3.8	78.9	44.4	63.9	
Marshfield	36000	Pioneer 3757	37026	38214	0.0	0.4	70.2	79.3	46.5	6.2	2.6	3.7	5.7	47.5	24.4	79.1	4.4	76.0	42.7	67.1	
Marshfield	42000	Jacques 4120	41184	39204	1.5	0.6	63.7	76.4	42.7	6.9	2.9	4.0	5.5	52.8	27.6	75.9	3.8	80.0	45.4	62.1	
Marshfield	42000	Pioneer 3757	41580	41778	0.5	0.4	69.6	79.8	46.9	6.7	2.6	4.0	5.7	47.7	24.6	79.0	4.0	77.5	44.5	65.2	
Valders	18000	Jacques 4120	19008	19998	0.0	0.7	46.4	55.6	34.2	6.8	2.6	4.2	7.6	45.6	22.1	78.9	4.5	75.2	40.0	64.7	
Valders	18000	Pioneer 3757	18216	29898	2.2	0.7	52.2	59.9	39.7	6.7	2.5	4.3	6.9	41.0	19.5	82.6	4.3	72.6	38.3	68.6	
Valders	24000	Jacques 4120	24354	24354	0.0	0.7	46.8	48.4	35.2	6.8	2.8	4.0	6.9	45.7	22.1	78.6	4.8	74.5	39.0	67.0	
Valders	24000	Pioneer 3757	24948	32472	2.4	0.7	52.2	60.5	39.1	6.8	2.6	4.2	6.5	45.1	22.0	80.4	4.2	71.4	38.2	69.1	
Valders	30000	Jacques 4120	28710	29304	0.7	0.7	43.1	49.8	35.7	6.9	2.5	4.4	6.0	43.8	21.6	78.7	4.1	74.0	39.4	65.2	
Valders	30000	Pioneer 3757	31482	37422	0.6	0.5	53.4	61.0	40.3	7.6	2.9	4.8	6.7	42.1	20.4	81.1	4.0	72.6	39.4	67.3	
Valders	36000	Jacques 4120	36432	37026	2.2	0.8	42.2	48.8	35.5	7.8	3.0	4.8	5.5	52.6	26.7	75.8	3.6	75.4	40.7	65.5	
Valders	36000	Pioneer 3757	36234	37620	0.0	0.6	53.0	56.4	40.1	7.4	3.2	4.2	6.8	42.5	20.4	80.7	4.2	73.3	39.0	68.4	
Valders	42000	Jacques 4120	40788	39402	1.0	0.8	45.2	49.1	35.6	6.0	2.2	3.8	5.8	46.5	22.7	79.3	3.6	76.9	41.6	65.5	
Valders	42000	Pioneer 3757	41580	43362	0.5	0.6	54.3	57.0	39.0	7.3	2.9	4.4	6.3	45.8	22.6	80.0	3.8	74.7	40.8	66.8	
Mean			30155	32126	0.7	0.6	58.5	66.4	40.2	6.3	2.5	3.8	6.1	47.8	24.0	78.6	4.1	75.4	41.3	65.9	
<b>Probability (%)</b>																					
Location (L)			>50	1.2	3.2	<0.1	<0.1	<0.1	0.2	<0.1	0.2	<0.1	2.4	2.0	0.5	1.7	>50	0.5	0.2	1.2	
Plant Density (PD)			<0.1	<0.1	>50	>50	>50	9.4	21.6	3.6	0.2	27.0	1.5	31.6	19.3	11.3	11.9	<0.1	<0.1	23.5	
L x PD			>50	>50	48.9	38.2	45.7	33.1	49.0	3.7	2.6	13.7	>50	18.2	32.8	40.7	>50	>50	47.6	>50	
Hybrid (H)			12.0	<0.1	>50	<0.1	<0.1	<0.1	<0.1	19.4	35.5	27.5	3.3	0.4	0.6	<0.1	4.7	<0.1	0.3	<0.1	
L x H			>50	2.2	15.4	14.7	1.4	0.7	>50	>50	4.5	>50	>50	>50	>50	>50	4.0	>50	>50	32.3	
D x H			>50	0.4	5.7	>50	>50	>50	34.3	>50	4.6	>50	0.4	12.4	9.5	14.0	24.0	>50	>50	>50	
L x D x H			21.3	5.5	8.6	42.3	>50	>50	>50	38.9	20.6	>50	26.8	20.0	23.3	28.3	43.7	33.3	29.2	39.3	
<b>LSD (0.10)</b>																					
Location (L)			NS	1051	0.3	<0.1	1.6	1.5	2.1	0.4	0.2	0.3	0.5	3.3	1.7	1.3	NS	1.2	1.2	1.0	
Plant Density (PD)			890	1580	NS	NS	NS	2.0	NS	0.6	0.2	NS	0.4	NS	NS	NS	NS	1.1	0.8	NS	
Hybrid (H)			NS	848	NS	<0.1	1.5	1.5	1.7	NS	NS	NS	0.2	2.0	1.2	1.0	0.2	0.8	0.7	0.8	
<b>CV %</b>			5.5	7.0	180	16.8	6.9	6.0	11.3	16.1	12.1	25.2	9.9	11.0	13.5	3.5	12.6	2.7	4.2	3.3	

§ - Milk Line = percent down from tip to base of kernel.

**Table E-34. Silage Plant Density by Hybrid Silage Quality. - Northern Zone.  
Ashland, WI and Spooner, WI 1995.**

Site	Plant Density plants/a	Hybrid	Final Stand plants/a	Ear Density ears/a	Broken Stalks %	Milk Line\$	Moisture			Yield			Whole Plant				Stover			
							Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.
							%			tons DM/a			%				%			
Ashland			32564	34945	0.9	0.5	63.2	70.8	40.9	8.6	4.2	4.4	7.5	54.4	30.2	72.6	5.9	72.7	43.5	64.8
Spooner			32105	36159	1.4	0.6	64.1	71.2	39.7	7.4	2.9	4.5	7.3	51.8	27.0	74.3	6.0	72.8	41.3	63.7
	18000		20556	32002	1.2	0.5	65.0	73.5	40.3	6.7	2.8	3.9	7.5	51.6	27.2	74.3	6.1	70.8	40.4	65.3
	24000		26418	30353	0.9	0.5	65.1	73.4	39.9	7.8	3.4	4.4	7.3	53.4	28.6	72.9	6.0	71.2	41.0	64.5
	30000		32747	35203	1.1	0.6	63.7	69.2	40.0	8.0	3.6	4.4	7.4	53.1	28.7	73.4	5.5	75.1	44.2	63.3
	36000		38121	37821	1.2	0.6	62.9	70.2	40.7	8.7	3.9	4.8	7.5	53.3	28.8	73.7	6.4	72.7	42.8	64.4
	42000		43830	42380	1.3	0.5	61.6	68.6	40.5	8.8	4.0	4.8	7.3	54.3	29.7	72.7	5.9	74.0	43.7	63.6
Ashland	18000		20038	29621	1.4	0.5	65.0	73.1	41.5	7.1	3.4	3.7	7.7	51.7	27.8	74.6	6.0	70.8	41.3	66.1
Ashland	24000		26620	28943	0.7	0.5	64.2	72.7	41.0	8.3	4.2	4.2	7.6	54.1	29.4	72.4	5.8	72.2	42.7	64.7
Ashland	30000		32622	33299	0.9	0.6	62.6	69.3	39.8	8.8	4.2	4.6	7.4	54.5	30.5	72.3	5.4	75.2	45.4	63.9
Ashland	36000		38430	38333	0.5	0.5	63.0	70.1	41.7	9.3	4.7	4.7	7.5	55.4	30.9	72.0	6.4	71.9	43.4	65.2
Ashland	42000		45109	44528	0.9	0.5	61.2	68.8	40.4	9.5	4.6	4.9	7.4	56.6	32.1	71.4	6.0	73.4	44.9	64.4
Spooner	18000		21074	34384	1.0	0.6	65.0	74.0	39.2	6.3	2.2	4.1	7.4	51.4	26.7	74.0	6.3	70.8	39.6	64.6
Spooner	24000		26217	31763	1.1	0.6	65.9	74.1	38.8	7.2	2.6	4.6	6.9	52.7	27.7	73.4	6.2	70.2	39.2	64.4
Spooner	30000		32872	37107	1.3	0.6	64.7	69.1	40.1	7.2	3.0	4.1	7.4	51.7	26.9	74.5	5.5	75.0	43.1	62.8
Spooner	36000		37813	37308	1.8	0.6	62.8	70.4	39.7	8.0	3.1	4.8	7.4	51.3	26.6	75.4	6.4	73.6	42.3	63.7
Spooner	42000		42552	40233	1.7	0.5	62.1	68.5	40.5	8.2	3.3	4.8	7.2	52.0	27.3	74.0	5.7	74.7	42.5	62.9
		Pioneer 3902	32470	35660	1.0	0.6	63.0	70.6	39.7	8.0	3.6	4.5	7.4	53.1	28.7	73.2	6.1	72.1	42.0	64.7
		Pioneer 3921	32199	35444	1.2	0.5	64.3	71.4	40.9	7.9	3.5	4.4	7.5	53.2	28.5	73.7	5.8	73.4	42.8	63.8
Ashland		Pioneer 3902	32835	34616	0.7	0.6	60.8	68.5	40.1	8.9	4.4	4.5	7.4	54.1	30.0	72.7	5.9	72.4	43.4	65.0
Ashland		Pioneer 3921	32292	35274	1.1	0.5	65.6	73.0	41.7	8.4	4.0	4.3	7.7	54.8	30.3	72.4	5.9	73.0	43.7	64.7
Spooner		Pioneer 3902	32105	36703	1.4	0.6	65.1	72.6	39.2	7.2	2.7	4.5	7.3	52.1	27.3	73.6	6.3	71.7	40.6	64.4
Spooner		Pioneer 3921	32105	35614	1.4	0.5	63.1	69.8	40.1	7.5	3.0	4.5	7.3	51.5	26.7	74.9	5.7	73.9	42.0	62.9
	18000	Pioneer 3902	20554	31456	1.0	0.6	66.8	74.2	40.3	6.6	2.8	3.8	7.4	52.9	28.3	73.1	6.2	69.5	39.8	65.8
	18000	Pioneer 3921	20558	32549	1.3	0.5	63.2	72.9	40.3	6.9	2.8	4.1	7.7	50.2	26.2	75.5	6.0	72.1	41.0	64.9
	24000	Pioneer 3902	27366	31387	1.1	0.6	64.3	72.0	39.8	7.8	3.4	4.4	7.3	53.2	28.5	73.1	6.4	71.2	40.8	65.3
	24000	Pioneer 3921	25471	29318	0.7	0.5	65.9	74.8	40.1	7.7	3.4	4.4	7.3	53.5	28.6	72.7	5.7	71.2	41.2	63.7
	30000	Pioneer 3902	33497	35005	0.9	0.7	62.6	69.4	38.8	8.3	3.7	4.6	7.3	53.3	28.9	73.1	5.4	74.2	43.8	63.5
	30000	Pioneer 3921	31996	35401	1.3	0.5	64.8	69.0	41.1	7.7	3.6	4.1	7.5	52.9	28.5	73.8	5.5	75.9	44.6	63.2
	36000	Pioneer 3902	36913	37720	1.3	0.6	60.4	69.5	40.0	9.0	3.9	5.1	7.5	51.9	27.9	74.2	6.6	72.6	42.6	64.5
	36000	Pioneer 3921	39329	37921	1.1	0.5	65.3	70.9	41.5	8.3	3.9	4.4	7.5	54.7	29.6	73.2	6.2	72.8	43.1	64.4
	42000	Pioneer 3902	44020	42729	0.9	0.6	60.8	67.7	39.4	8.5	3.9	4.6	7.4	54.3	29.8	72.3	6.2	73.0	43.1	64.3
	42000	Pioneer 3921	43641	42031	1.7	0.5	62.5	69.5	41.5	9.1	4.0	5.1	7.3	54.4	29.7	73.1	5.6	75.1	44.3	63.0

**Table E-34. Silage Plant Density by Hybrid Silage Quality. - Northern Zone.  
Ashland, WI and Spooner, WI 1995.**

Site	Plant Density plants/a	Hybrid	Final Stand plants/a	Ear Density ears/a	Broken Stalks %	Milk Line§	Moisture			Yield			Whole Plant				Stover			
							Whole Plant	Stover	Grain	Whole Plant	Stover	Grain	Crude Protein	NDF	ADF	Digest.	Crude Protein	NDF	ADF	Digest.
							%			tons DM/a			%				%			
Ashland	18000	Pioneer 3902	20134	29234	1.0	0.6	65.2	72.3	41.6	7.1	3.4	3.7	7.5	51.9	28.0	74.1	5.8	70.2	41.1	66.1
Ashland	18000	Pioneer 3921	19941	30008	1.8	0.5	64.8	73.8	41.4	7.1	3.4	3.8	7.9	51.6	27.7	75.1	6.2	71.4	41.4	66.1
Ashland	24000	Pioneer 3902	27104	27685	0.0	0.6	62.3	70.0	40.9	8.7	4.5	4.3	7.7	52.1	28.2	73.6	6.0	72.7	42.8	65.0
Ashland	24000	Pioneer 3921	26136	30202	1.5	0.4	66.2	75.4	41.1	7.9	3.9	4.1	7.6	56.1	30.6	71.3	5.6	71.8	42.7	64.4
Ashland	30000	Pioneer 3902	32912	33106	0.6	0.7	59.5	65.9	38.5	9.4	4.4	4.9	7.2	55.4	31.2	71.9	5.1	76.2	46.4	63.2
Ashland	30000	Pioneer 3921	32331	33493	1.2	0.5	65.8	72.7	41.1	8.3	4.0	4.3	7.7	53.5	29.9	72.7	5.7	74.2	44.4	64.6
Ashland	36000	Pioneer 3902	38333	38333	1.0	0.7	58.3	67.4	40.1	9.8	4.8	4.9	7.3	54.3	30.3	72.9	6.2	71.9	43.3	64.9
Ashland	36000	Pioneer 3921	38526	38333	0.0	0.4	67.7	72.7	43.3	8.9	4.5	4.4	7.7	56.5	31.6	71.2	6.6	71.9	43.5	65.5
Ashland	42000	Pioneer 3902	45690	44722	0.9	0.6	58.9	67.0	39.4	9.3	4.7	4.6	7.5	57.0	32.3	70.9	6.6	71.3	43.4	65.6
Ashland	42000	Pioneer 3921	44528	44334	0.9	0.5	63.5	70.5	41.5	9.6	4.5	5.1	7.4	56.3	32.0	71.9	5.4	75.5	46.3	63.1
Spooner	18000	Pioneer 3902	20973	33678	1.1	0.6	68.4	76.0	39.0	6.1	2.3	3.8	7.3	54.0	28.5	72.1	6.7	68.8	38.4	65.6
Spooner	18000	Pioneer 3921	21175	35090	0.9	0.6	61.6	72.0	39.3	6.6	2.1	4.5	7.5	48.9	24.8	75.9	5.9	72.8	40.7	63.6
Spooner	24000	Pioneer 3902	27628	35090	2.2	0.7	66.3	74.0	38.7	6.9	2.4	4.4	6.8	54.4	28.8	72.6	6.7	69.7	38.8	65.6
Spooner	24000	Pioneer 3921	24805	28435	0.0	0.5	65.5	74.2	39.0	7.5	2.8	4.7	7.0	51.0	26.6	74.2	5.7	70.7	39.7	63.1
Spooner	30000	Pioneer 3902	34082	36905	1.3	0.7	65.7	72.9	39.1	7.2	2.9	4.3	7.5	51.3	26.6	74.2	5.7	72.2	41.2	63.7
Spooner	30000	Pioneer 3921	31662	37308	1.4	0.5	63.7	65.3	41.1	7.1	3.2	3.9	7.4	52.2	27.2	74.8	5.3	77.7	44.9	61.8
Spooner	36000	Pioneer 3902	35493	37107	1.6	0.6	62.5	71.6	39.8	8.3	3.0	5.3	7.6	49.5	25.6	75.6	6.9	73.4	41.9	64.0
Spooner	36000	Pioneer 3921	40132	37510	2.1	0.6	63.0	69.1	39.6	7.7	3.3	4.4	7.2	53.0	27.7	75.3	5.8	73.8	42.6	63.3
Spooner	42000	Pioneer 3902	42350	40737	0.9	0.6	62.7	68.4	39.5	7.6	3.1	4.6	7.2	51.6	27.2	73.7	5.8	74.7	42.8	63.0
Spooner	42000	Pioneer 3921	42753	39728	2.5	0.5	61.5	68.6	41.5	8.7	3.6	5.1	7.2	52.5	27.4	74.3	5.7	74.7	42.2	62.8
Mean			32334	35552	1.1	0.6	63.7	71.0	40.3	8.0	3.5	4.5	7.4	53.1	28.6	73.4	6.0	72.8	42.4	64.3
Probability (%)																				
Location (L)			29.8	7.7	30.3	8.5	31.5	>50	0.2	0.7	<0.1	>50	9.4	3.3	0.3	10.0	>50	>50	0.2	2.5
Plant Density (PD)			<0.1	<0.1	>50	41.7	11.9	<0.1	>50	<0.1	<0.1	6.4	>50	16.3	3.1	0.6	17.6	<0.1	<0.1	10.8
L x PD			>50	<0.1	>50	>50	>50	>50	6.4	>50	>50	>50	41.6	23.5	5.8	<0.1	>50	30.4	>50	>50
Hybrid (H)			>50	>50	>50	<0.1	6.4	8.9	<0.1	>50	>50	>50	35.0	>50	>50	25.6	0.5	5.2	12.4	6.3
L x H			>50	29.7	>50	18.9	<0.1	<0.1	31.1	7.0	0.1	>50	24.8	44.6	42.3	9.5	1.3	21.9	30.3	17.0
D x H			5.4	>50	>50	>50	1.2	9.6	13.1	22.0	>50	30.8	>50	37.0	39.0	16.2	20.5	>50	>50	>50
L x D x H			20.3	29.8	49.0	27.8	>50	1.5	35.1	>50	29.3	>50	>50	25.2	32.2	49.2	1.0	11.8	10.7	34.0
LSD (0.10)																				
Location (L)			NS	1107	NS	<0.1	NS	NS	0.5	0.6	0.2	NS	0.3	1.8	1.3	1.7	NS	NS	0.8	0.8
Plant Density (PD)			1802	1616	NS	NS	NS	1.9	NS	0.4	0.3	0.6	NS	NS	1.2	0.7	NS	1.6	1.2	NS
Hybrid (H)			NS	NS	NS	<0.1	1.2	0.9	0.6	NS	NS	NS	NS	NS	NS	NS	0.2	1.1	NS	0.7
CV %			6.5	10.4	202	21.9	4.9	3.2	3.7	11.7	10.7	21.2	6.4	7.1	9.1	2.6	8.6	4.1	5.5	3.0

§ - Milk Line = percent down from tip to base of kernel.



## FIELD EXPERIMENT HISTORY

Title: Silage Date of Planting by Hybrid Study.

Year: 1995

Personnel: J.G. Lauer, K.D.Hudelson

Location: Arlington Research Station, Arlington, WI

---

---

### FIELD INFORMATION

Field: 406

Soil Type: Plano Silt Loam

Soil Test Results: Test Date: 10/95 pH: 6.4 P (ppm): 47 K (ppm): 185 OM (%): 3.4

Fertilizer Applied: (lbs/a): 150 N Analysis: 46-0-0 (preplant)  
(lbs/a): 150 Total Analysis: 6-24-24 (starter)

Tillage Operations: Chisel Plow, Field Cultivate(2x)  
Field Cultivate before each planting

Previous Crop: Soybean

---

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split plot

Replicates: 4

Variables: 4 Planting Dates  
3 Hybrids

Plot Size: Planted: 10' (4 rows) by 25'  
Harvested: 1 row by 18'  
Row Spacing: 30"  
Planting Rate: 28,000 seeds/a

Hybrids: Pioneer 3417  
Pioneer 3751  
Pioneer 3921

Planting: May 15  
June 1  
June 19  
July 10  
Equipment: 4-row Kinze plot planter

Harvesting: Sept. 23 (1st two planting dates) and Sept. 28 (last two planting dates)  
Equipment: Hand harvest

	<u>Material</u>	<u>Rate/A</u>	<u>Method</u>
Herbicides/ Weed Control:	Bladex 4L/Lasso	2qt/2qt	preplant

---

---

Results: Table E-35.

**Table E-35. Silage Date of Planting by Hybrid Study.  
Arlington, WI 1995.**

Date of Planting	Hybrid	Kernel		Moisture			Yield		
		Harvest Stage % Milk	Final Stand plants/a	Whole Plant	Stover %	Grain	Whole Plant	Stover tons DM/a	Grain
May 15		20	32159	49.9	62.6	32.8	7.0	2.8	4.2
June 1		20	30653	50.6	61.4	35.3	7.2	3.1	4.1
June 19		.	34418	66.8	.	.	5.1	.	.
July 10		.	34525	75.5	.	.	3.8	.	.
	P3417	50	34687	62.2	58.8	39.5	6.2	3.4	4.1
	P3751	30	32831	62.3	67.0	35.8	5.6	2.6	4.2
	P3921	10	31299	57.5	60.3	26.9	5.5	2.9	4.2
May 15	P3417	40	32267	52.8	60.3	40.4	7.9	3.4	4.5
June 1	P3417	30	31299	51.2	57.2	38.7	7.1	3.4	3.7
June 19	P3417	.	38075	68.8	.	.	5.9	.	.
July 10	P3417	.	37107	76.1	.	.	3.8	.	.
May 15	P3751	20	31299	52.5	66.5	33.1	6.3	2.3	3.9
June 1	P3751	20	30976	53.1	67.5	38.5	7.3	2.8	4.5
June 19	P3751	.	36139	67.6	.	.	5.5	.	.
July 10	P3751	.	32912	76.2	.	.	3.5	.	.
May 15	P3921	0	32912	44.4	61.0	25.0	6.8	2.6	4.4
June 1	P3921	0	29685	47.4	59.5	28.7	7.2	3.0	4.2
June 19	P3921	.	29040	64.0	.	.	3.9	.	.
July 10	P3921	.	33557	74.3	.	.	3.9	.	.
Mean			32939	60.7	62.0	34.0	5.7	2.9	4.2
<b>Probability (%)</b>									
Date of Planting (DOP)			41.4	< 0.1	27.7	31.1	< 0.1	7.9	> 50
Hybrid (H)			1.2	0.1	0.2	< 0.1	3.4	5.6	> 50
DOP x H			3.7	> 50	47.4	3.6	2.5	> 50	5.3
<b>LSD (0.10)</b>									
Date of Planting (DOP)			NS	2.1	NS	NS	0.7	0.3	NS
Hybrid (H)			1727	2.1	3.0	2.2	0.4	0.5	NS
<b>CV %</b>			7.4	4.9	4.5	5.9	10.7	17.4	9.2

Note - treatments without stover or grain yield and moisture data had no ear pollination.

## FIELD EXPERIMENT HISTORY

**Expt. Number:** 9589 **Year:** 1995  
**Title:** Managing Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Personnel:** J.G. Lauer, J.R. Meyer, K.D. Hudelson  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Gustafson, Inc., Hatch Project 1890

---

### FIELD INFORMATION

Field: 338  
Soil Type: Plano Silt Loam  
Soil Test Results: Test Date: 4/95    pH: 7.0    P (ppm): 50    K (ppm): 105    OM (%): 4.0  
Fertilizer: 25-Apr 100 lbs/a 6-24-24 starter  
25-Apr 150 lbs N/a 28-0-0  
Tillage Operations: None  
Previous Crop: Corn  
Irrigation: None

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split-Split Plot  
Replicates: 6  
Variables: A: Tillage, B: Seed Quality, C: Seed Treatment

	Seed Treatments:	Rates (oz F.P./CWT):
	Captan 400	1.76 fl oz
	Captan 400 + Apron	1.76 fl oz + 0.1 fl oz
	Captan 400 + Apron + Raxil	1.76 fl oz + 20 ppm + 20 ppm
	Captan 400 + Apron + Gaucho	1.76 fl oz + 0.1 fl oz + 1.0 fl oz
	Captan 400 + Apron + Baytan	1.76 fl oz + 0.1 fl oz + 0.25 fl oz
	Maxim + Apron	25 ppm + 20 ppm
	Untreated Control	

Area Planted: 10' x 30'  
Area Harvested: 5.0' x 25'  
Row Spacing: 30"

Hybrid/Variety: Pioneer 3556 (Poor Seedling Vigor)  
Pioneer 3475 (Average Seedling Vigor)

Planting Date: 25-Apr  
Planting Equip: JD 7000 Planter w/ 3 coulters  
Planting Rate: 32,000 seeds/acre  
Harvesting Date: 5,6-Oct  
Harvesting Equip: Gleaner Plot Combine

	<u>Date</u>	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Insecticide:	25-Apr	Lorsban	8 oz/1000 ft	planter
Herbicides:	1-May	Bladex	2 qts/a	preemerg
	1-May	Lasso	2 qts/a	preemerg

---

Results: Table E-36.

**Table E-36. Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
Arlington, WI**

			Root and Plant Ratings - 35 Days after Planting																					
Tillage	Seedling Vigor	Seed Treatment	Days After Planting					Total										Whole Plant		Harvest Population plants/a	Final Emerg %	Broken Stalks %	Moist %	Yield bu/a
			24	27	29	31	35	41	Leaf Collars	Leaves Visible	Kernel Rot	Root Discolor	Primary Root Longevity	Primary Root Length	Seminal Root Number	Seminal Root Length	Nodal Root Number	Nodal Root Length	Dry Wt g					
			% Emergence					1\1	2\2	3\3	cm	cm	cm	cm	cm	cm	g							
No-Till			12.0	36.1	45.2	47.6	52.8	57.6	0.9	1.6	1.9	2.0	2.2	4.2	3.7	15.7	1.9	5.2	0.20	16822	52.5	1.8	30.1	100.8
Zone-Till			28.2	51.8	57.8	59.3	61.8	64.6	1.1	1.7	1.9	1.9	2.2	5.6	3.8	19.3	2.8	9.6	0.23	18756	58.5	2.2	29.3	115.7
	Average		15.1	36.5	43.3	46.3	50.4	54.7	0.9	1.6	1.9	2.1	2.2	4.9	3.0	14.2	1.7	4.7	0.20	15922	49.7	1.7	29.9	101.5
	Poor		25.2	51.4	59.7	60.7	64.2	67.4	1.1	1.7	1.9	1.8	2.2	4.9	4.5	20.8	3.1	10.1	0.23	19656	61.3	2.3	29.5	115.0
No-Till	Average		9.4	29.8	37.7	41.1	46.5	51.7	0.9	1.6	1.9	2.0	2.2	4.3	2.9	12.7	1.3	3.4	0.20	15151	47.3	1.7	30.4	93.5
Zone-Till	Average		20.7	43.2	48.9	51.4	54.3	57.8	0.9	1.6	1.9	2.2	2.2	5.4	3.1	15.6	2.1	5.9	0.21	16694	52.1	1.7	29.3	109.6
No-Till	Poor		14.6	42.5	52.6	54.1	59.1	63.5	1.0	1.7	1.9	2.1	2.3	4.0	4.5	18.5	2.5	7.0	0.21	18494	57.7	1.9	29.7	108.1
Zone-Till	Poor		35.8	60.4	66.8	67.3	69.3	71.3	1.3	1.7	2.0	1.6	2.2	5.9	4.6	23.4	3.6	13.4	0.25	20818	64.9	2.8	29.3	121.9
		Captan	20.6	44.7	52.5	54.9	57.0	61.8	1.0	1.7	1.9	2.3	2.2	4.5	3.5	16.3	2.6	8.2	0.22	17932	55.9	2.1	29.6	109.7
		Captan+Apron	21.2	44.0	52.7	54.2	58.3	61.2	1.0	1.6	1.9	1.8	2.3	5.0	3.9	18.9	2.3	6.8	0.21	17903	55.8	1.4	29.6	111.3
		Captan+Apron+Baytan	22.9	49.4	57.2	60.0	64.2	66.3	1.1	1.6	1.9	1.9	2.1	5.2	3.8	17.1	2.5	7.1	0.22	19050	59.4	2.0	29.5	109.6
		Captan+Apron+Gaucho	20.3	44.4	53.6	55.8	59.1	62.6	1.1	1.7	2.0	1.8	2.1	5.1	4.1	19.7	2.4	7.7	0.23	18571	57.9	2.3	29.5	111.2
		Captan+Apron+Raxil	18.3	39.0	45.5	47.8	53.9	58.7	1.0	1.7	1.9	2.0	2.1	4.8	3.8	16.0	2.2	7.0	0.22	17119	53.4	2.0	29.9	106.5
		Maxim+Apron	21.6	47.4	54.0	55.4	58.9	63.1	1.1	1.6	1.9	1.9	2.2	5.3	3.9	19.0	2.6	9.0	0.22	18179	56.7	2.6	29.3	112.7
		Untreated	16.0	38.8	45.0	46.4	49.6	53.8	1.0	1.6	1.9	2.1	2.5	4.3	3.3	14.9	2.1	6.0	0.21	15769	49.2	1.7	30.3	96.8
No-Till		Captan	11.6	37.5	46.4	48.3	52.7	59.0	0.9	1.8	1.9	2.4	2.2	3.7	3.6	16.5	2.2	6.9	0.20	16785	52.4	1.9	29.8	102.6
Zone-Till		Captan	29.7	51.9	58.7	61.5	61.3	64.5	1.0	1.7	1.9	2.2	2.2	5.3	3.4	16.1	3.0	9.6	0.24	19079	59.5	2.4	29.4	116.9
No-Till		Captan+Apron	15.2	38.3	48.3	50.0	54.9	59.0	0.9	1.7	1.9	1.8	2.2	4.7	3.7	17.2	1.7	4.0	0.20	17482	54.5	0.8	30.1	107.1
Zone-Till		Captan+Apron	27.1	49.7	57.1	58.3	61.8	63.3	1.2	1.6	1.9	1.9	2.4	5.3	4.0	20.5	2.9	9.4	0.22	18324	57.2	1.9	29.1	115.6
No-Till		Captan+Apron+Baytan	14.7	42.0	52.4	56.3	61.0	63.5	0.9	1.6	1.9	2.0	2.1	4.3	3.7	13.5	1.7	4.1	0.21	18440	57.5	2.3	29.9	103.4
Zone-Till		Captan+Apron+Baytan	31.1	56.8	62.1	63.7	67.5	69.0	1.2	1.7	2.0	1.9	2.0	6.2	4.0	21.0	3.4	10.1	0.24	19660	61.3	1.7	29.2	115.8
No-Till		Captan+Apron+Gaucho	14.6	39.7	50.2	51.9	56.5	60.4	1.0	1.7	2.0	1.9	2.3	4.3	4.0	18.2	1.9	6.0	0.21	17308	54.0	1.9	30.1	101.6
Zone-Till		Captan+Apron+Gaucho	26.1	49.1	57.0	59.6	61.6	64.8	1.2	1.7	2.0	1.7	2.0	5.8	4.2	21.0	2.8	9.4	0.24	19834	61.9	2.7	28.9	120.8
No-Till		Captan+Apron+Raxil	7.3	27.5	36.5	40.2	48.0	55.4	0.9	1.7	1.9	2.0	2.3	4.0	3.6	13.8	1.8	4.4	0.21	16698	52.1	2.6	30.5	99.3
Zone-Till		Captan+Apron+Raxil	29.3	50.6	54.5	55.4	59.8	62.0	1.1	1.7	1.9	2.0	2.0	5.6	4.0	18.7	2.6	9.5	0.23	17540	54.7	1.3	29.3	113.7
No-Till		Maxim+Apron	13.2	40.0	47.5	49.0	54.7	59.1	1.1	1.5	1.9	2.1	2.0	4.5	4.1	18.2	2.6	7.5	0.21	16930	52.8	1.6	29.6	105.5
Zone-Till		Maxim+Apron	30.0	54.7	60.5	61.8	63.0	67.1	1.1	1.7	1.9	1.7	2.4	6.1	3.8	19.9	2.6	10.6	0.23	19428	60.6	3.6	29.1	119.9
No-Till		Untreated	7.8	28.0	34.9	37.6	41.9	46.5	0.8	1.5	1.9	2.2	2.6	3.5	3.2	12.6	1.6	3.5	0.20	14113	44.0	1.5	30.4	86.3
Zone-Till		Untreated	24.3	49.6	55.1	55.2	57.4	61.2	1.1	1.6	1.9	2.0	2.4	5.1	3.4	17.2	2.5	8.5	0.21	17424	54.3	1.9	30.1	107.3
	Average	Captan	15.7	37.1	44.3	48.5	50.6	57.7	0.8	1.6	1.9	2.9	2.0	4.8	2.6	12.1	1.8	5.3	0.20	16582	51.7	1.5	29.5	107.2
	Poor	Captan	25.6	52.4	60.8	61.3	63.4	65.9	1.1	1.8	2.0	1.8	2.4	4.2	4.4	20.5	3.4	11.4	0.24	19283	60.1	2.8	29.6	112.3
	Average	Captan+Apron	17.0	39.4	47.7	49.9	54.4	58.2	0.8	1.7	1.9	1.8	2.3	4.8	3.1	14.3	1.6	4.3	0.19	16901	52.7	1.3	29.8	108.6
	Poor	Captan+Apron	25.3	48.6	57.6	58.4	62.2	64.1	1.2	1.6	2.0	1.9	2.3	5.2	4.6	23.5	3.0	9.2	0.23	18905	59.0	1.4	29.4	114.1
	Average	Captan+Apron+Baytan	19.3	41.5	48.3	52.8	56.6	58.4	1.0	1.6	1.9	2.3	2.0	5.4	3.1	14.4	1.8	4.2	0.22	17279	53.9	1.8	29.6	104.0
	Poor	Captan+Apron+Baytan	26.4	57.3	66.1	67.1	71.8	74.1	1.2	1.7	2.0	1.6	2.1	5.1	4.6	20.0	3.3	10.1	0.23	20822	64.9	2.3	29.5	115.3
	Average	Captan+Apron+Gaucho	14.9	38.3	46.3	49.6	52.6	56.4	1.0	1.6	2.0	1.8	2.0	5.5	3.2	15.4	1.6	4.2	0.22	16553	51.6	2.2	29.5	105.1
	Poor	Captan+Apron+Gaucho	25.8	50.5	60.9	61.9	65.5	68.7	1.2	1.8	2.0	1.9	2.2	4.6	5.0	23.6	3.2	11.3	0.24	20589	64.2	2.4	29.6	117.4
	Average	Captan+Apron+Raxil	12.8	31.0	36.1	39.9	46.1	50.1	0.8	1.6	1.8	2.0	2.3	4.1	2.8	14.3	1.2	3.5	0.19	14839	46.3	1.6	30.6	94.6
	Poor	Captan+Apron+Raxil	23.9	47.1	55.0	55.7	61.7	67.4	1.1	1.8	2.0	2.1	2.0	5.5	4.7	18.1	3.1	10.4	0.24	19399	60.5	2.3	29.3	118.4
	Average	Maxim+Apron	14.3	35.9	41.6	43.1	48.5	53.4	1.0	1.6	1.9	2.0	2.2	5.4	3.3	15.1	1.9	6.5	0.20	15536	48.5	2.1	29.7	104.3
	Poor	Maxim+Apron	28.8	58.9	66.5	67.7	69.3	72.9	1.1	1.7	2.0	1.8	2.2	5.2	4.6	23.0	3.3	11.5	0.24	20822	64.9	3.1	29.0	121.1
	Average	Untreated	11.5	32.4	38.9	40.1	44.0	48.9	0.9	1.6	1.9	2.0	2.5	4.0	2.9	13.8	2.0	4.6	0.21	13765	42.9	1.4	30.5	87.2
	Poor	Untreated	20.6	45.2	51.1	52.6	55.3	58.7	1.0	1.5	1.9	2.1	2.5	4.7	3.8	15.9	2.1	7.4	0.20	17772	55.4	2.0	30.0	106.5

**Table E-36. Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
Arlington, WI**

			Root and Plant Ratings - 35 Days after Planting																						
Tillage	Seedling Vigor	Seed Treatment	Days After Planting						Total		Kernel Rot	Root Discolor	Primary Root		Seminal Root		Nodal Root		Whole Plant Dry Wt	Harvest Population	Final Emerg	Broken Stalks	Moist %	Yield bu/a	
			24	27	29	31	35	41	Collars	Leaves Visible			Length	Length	Number	Length	Number	Length							g
			% Emergence						\1\	\2\	\3\	cm	cm	cm	cm	g	g	g	g	g	g	g	g	g	g
No-Till	Average	Captan	10.5	30.8	37.5	42.2	45.3	53.1	0.8	1.7	1.9	2.8	2.0	4.7	2.8	12.6	1.7	4.7	0.19	15740	49.1	1.9	30.2	96.0	
Zone-Till	Average	Captan	20.8	43.3	51.1	54.7	56.0	62.3	0.8	1.5	1.9	2.9	2.1	5.0	2.4	11.7	1.9	5.9	0.20	17424	54.3	1.0	28.9	118.3	
No-Till	Poor	Captan	12.7	44.2	55.3	54.4	60.1	65.0	1.0	1.8	1.9	2.0	2.5	2.8	4.4	19.7	2.7	9.2	0.21	17831	55.6	1.9	29.4	109.1	
Zone-Till	Poor	Captan	38.6	60.5	66.3	68.3	66.7	66.7	1.2	1.9	2.0	1.5	2.3	5.7	4.4	21.3	4.1	14.1	0.28	20735	64.7	3.8	29.9	115.6	
No-Till	Average	Captan+Apron	11.3	34.2	44.4	46.9	52.4	57.6	0.8	1.7	1.9	1.4	2.2	4.5	3.3	13.8	1.4	4.0	0.20	17134	53.4	0.7	30.6	107.0	
Zone-Till	Average	Captan+Apron	22.8	44.6	51.1	52.9	56.5	58.9	0.9	1.7	1.9	2.1	2.4	5.2	2.9	14.8	1.8	4.5	0.19	16669	52.0	1.9	29.1	110.1	
No-Till	Poor	Captan+Apron	19.2	42.4	52.2	53.1	57.4	60.4	0.9	1.6	1.9	2.1	2.2	5.0	4.0	20.7	1.9	4.1	0.20	17831	55.6	0.9	29.7	107.2	
Zone-Till	Poor	Captan+Apron	31.3	54.9	63.1	63.8	67.0	67.8	1.5	1.6	2.0	1.6	2.4	5.5	5.1	26.3	4.0	14.2	0.25	19980	62.3	1.9	29.1	121.1	
No-Till	Average	Captan+Apron+Baytan	12.1	35.0	44.9	51.1	53.4	56.9	0.9	1.5	1.9	2.1	2.3	4.4	2.8	9.9	1.2	2.5	0.21	16901	52.7	2.9	30.0	96.2	
Zone-Till	Average	Captan+Apron+Baytan	26.4	48.0	51.6	54.6	59.8	60.0	1.0	1.7	2.0	2.5	1.8	6.3	3.3	18.9	2.3	5.8	0.22	17656	55.1	0.7	29.2	111.8	
No-Till	Poor	Captan+Apron+Baytan	17.2	49.1	59.8	61.4	68.5	70.1	0.9	1.6	1.9	1.9	2.0	4.2	4.5	17.0	2.2	5.7	0.20	19980	62.3	1.7	29.8	110.7	
Zone-Till	Poor	Captan+Apron+Baytan	35.7	65.6	72.5	72.8	75.2	78.1	1.4	1.8	2.0	1.2	2.2	6.1	4.8	23.5	4.4	14.4	0.26	21664	67.6	2.8	29.1	119.8	
No-Till	Average	Captan+Apron+Gaucho	12.0	35.9	44.4	47.3	52.2	56.0	0.9	1.6	2.0	1.6	2.1	5.3	3.1	14.8	1.0	2.7	0.22	15507	48.4	2.4	30.1	95.1	
Zone-Till	Average	Captan+Apron+Gaucho	17.8	40.7	48.2	52.0	53.1	56.9	1.0	1.5	1.9	1.9	1.9	5.7	3.2	15.8	2.1	5.7	0.22	17598	54.9	1.9	28.9	115.0	
No-Till	Poor	Captan+Apron+Gaucho	17.2	43.5	56.0	56.5	60.9	64.9	1.0	1.8	2.0	2.3	2.4	3.3	4.8	21.0	2.8	9.4	0.21	19108	59.6	1.5	30.1	108.1	
Zone-Till	Poor	Captan+Apron+Gaucho	34.4	57.5	65.8	67.2	70.1	72.6	1.3	1.9	2.0	1.4	2.1	5.8	5.1	26.3	3.6	13.2	0.26	22070	68.8	3.4	29.0	126.7	
No-Till	Average	Captan+Apron+Raxil	5.4	19.0	26.6	31.7	41.1	46.0	0.8	1.5	1.8	1.9	2.5	3.4	2.5	12.7	0.9	1.7	0.19	14230	44.4	1.7	31.1	85.0	
Zone-Till	Average	Captan+Apron+Raxil	20.1	43.0	45.5	48.0	51.1	54.2	0.8	1.7	1.9	2.1	2.1	4.9	3.0	16.0	1.6	5.4	0.20	15449	48.2	1.6	30.1	104.1	
No-Till	Poor	Captan+Apron+Raxil	9.2	35.9	46.4	48.7	54.9	64.9	0.9	1.8	1.9	2.1	2.1	4.7	4.6	15.0	2.7	7.1	0.22	19166	59.8	3.5	30.0	113.6	
Zone-Till	Poor	Captan+Apron+Raxil	38.6	58.3	63.6	62.7	68.5	69.9	1.3	1.7	2.0	2.0	1.9	6.2	4.9	22.8	3.5	13.7	0.26	19631	61.2	1.1	28.6	123.2	
No-Till	Average	Maxim+Apron	8.2	30.1	36.2	37.1	44.4	49.6	1.1	1.4	1.9	2.4	1.9	4.5	3.3	13.4	1.5	4.6	0.17	14520	45.3	0.3	30.2	104.2	
Zone-Till	Average	Maxim+Apron	20.5	41.7	46.9	49.1	52.5	57.1	1.0	1.7	1.9	1.7	2.5	6.3	3.3	16.8	2.3	8.5	0.23	16553	51.6	3.9	29.2	104.4	
No-Till	Poor	Maxim+Apron	18.1	50.0	58.9	60.9	65.0	68.7	1.1	1.7	2.0	1.8	2.1	4.6	4.9	23.0	3.7	10.3	0.24	19341	60.3	2.9	29.0	106.8	
Zone-Till	Poor	Maxim+Apron	39.5	67.8	74.1	74.5	73.6	77.2	1.1	1.7	1.9	1.7	2.2	5.8	4.3	23.1	3.0	12.7	0.24	22303	69.6	3.3	29.0	135.4	
No-Till	Average	Untreated	6.7	23.6	30.1	31.7	37.0	42.4	0.7	1.6	1.8	2.1	2.7	3.5	2.5	12.2	1.6	3.8	0.22	12023	37.5	2.1	31.0	71.0	
Zone-Till	Average	Untreated	16.3	41.3	47.7	48.6	51.1	55.5	1.0	1.7	1.9	1.9	2.3	4.4	3.3	15.3	2.4	5.4	0.21	15507	48.4	0.7	30.0	103.3	
No-Till	Poor	Untreated	8.9	32.4	39.7	43.5	46.8	50.6	0.9	1.4	1.9	2.2	2.6	3.6	4.0	13.0	1.6	3.1	0.19	16204	50.5	0.9	29.9	101.5	
Zone-Till	Poor	Untreated	32.3	58.0	62.5	61.8	63.8	66.9	1.2	1.6	1.8	2.0	2.4	5.9	3.6	19.5	2.7	11.6	0.21	19341	60.3	3.1	30.2	111.4	
Mean			20.1	44.0	51.5	53.5	57.3	61.1	1.0	1.6	1.9	2.0	2.2	4.9	3.8	17.5	2.4	7.4	0.22	17789	55.5	2.0	29.7	108.3	
<b>Probability (%)</b>																									
Tillage (T)			0.3	0.1	0.1	0.2	0.2	0.2	1.8	12.3	14.6	46.7	48.3	< 0.1	44.6	3.2	1.4	0.9	7.2	0.2	0.2	36.2	1.1	0.6	
Seedling Vigor (V)			0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	2.6	9.1	17.4	> 50	> 50	< 0.1	< 0.1	< 0.1	> 50	0.1	< 0.1	< 0.1	11.3	2.8	< 0.1	
T x V			7.4	23.7	41.2	44.5	45.4	> 50	2.9	> 50	> 50	16.7	> 50	34.9	> 50	38.2	19.2	0.7	3.6	42.3	42.3	23.8	4.7	> 50	
Seed Treatment (S)			22.0	0.2	< 0.1	< 0.1	< 0.1	< 0.1	> 50	39.2	26.4	10.9	11.9	38.5	5.2	15.8	> 50	> 50	> 50	< 0.1	< 0.1	> 50	17.7	9.0	
T x S			> 50	18.5	15.8	44.6	43.5	42.5	48.8	> 50	> 50	> 50	23.1	> 50	> 50	> 50	44.3	> 50	> 50	> 50	> 50	20.8	> 50	> 50	
V x S			> 50	36.1	15.8	17.5	27.7	7.7	> 50	8.1	46.8	0.3	47.1	27.3	30.5	46.0	26.0	> 50	> 50	> 50	35.1	> 50	49.1	> 50	
T x V x S			> 50	> 50	> 50	> 50	> 50	> 50	> 50	> 50	> 50	14.8	> 50	> 50	19.1	> 50	27.1	> 50	13.0	> 50	> 50	3.3	> 50	31.9	
<b>LDS (0.10)</b>																									
Tillage (T)			NS	4.9	3.8	3.9	3.0	2.5	0.1	NS	NS	NS	NS	0.4	NS	2.4	0.5	2.2	0.02	617	1.9	NS	0.4	6.4	
Seedling Vigor (V)			4.5	3.2	3.3	3.4	2.8	3.1	0.1	0.1	0.1	NS	NS	NS	0.4	1.7	0.2	NS	0.01	846	2.6	NS	0.3	4.4	
Seed Treatment (S)			NS	4.8	4.6	4.7	4.2	4.2	NS	NS	NS	NS	NS	NS	0.4	NS	NS	NS	NS	1223	3.8	NS	0.6	9.3	
<b>CV%</b>			46.7	23.0	18.5	18.5	15.4	14.5	29.3	15.7	6.5	32.9	23.8	35.6	22.7	36.2	50.4	81.6	19.6	14.4	14.4	108.7	4.2	17.9	

\1\ Kernel rot with 1=deterioration 2=no deterioration  
 \2\ Root discoloration with 1=none, 2=trace, 3=light, 4=moderate, and 5=severe  
 \3\ Longevity of primary root with 1=living, 2=blighted, 3=dead or pruned

## FIELD EXPERIMENT HISTORY

**Title:** LANDEC Corn Seed Treatment Study **Year: 1995**  
**Personnel:** J.G. Lauer, and K.D. Hudelson  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Landec Corporation

---

---

### FIELD INFORMATION

Field: 338  
Soil Type: Plano Silt Loam  
Soil Test Results: Test Date: 4/95 pH: 7.0 P (ppm): 50 K (ppm): 105 OM (%): 4.0  
Fertilizer: 25-Apr 100 lbs/a 6-24-24 starter  
25-Apr 150 lbs N/a 28-0-0  
Tillage Operations: None  
Previous Crop: Corn  
Irrigation: None

---

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split Plot  
Replicates: 4  
Variables: A: Hybrid, B: Seed Treatment  
Area Planted: 10' x 30'  
Area Harvested: 5.0' x 25'  
Row Spacing: 30"  
Hybrid/Variety: LH192 x LH82  
LH200 x LH59  
Planting Date: 25-Apr-95  
Planting Equip: JD 7000 Planter  
Seeding Rate: 32,000  
Soil Temperature: 48.2°F at 1.5 inch depth  
Harvesting Date: 6-Oct  
Harvesting Equip: Gleaner Plot Combine

	<u>Date</u>	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Insecticide:	25-Apr	Lorsban	8 oz/1000 ft	planter
Herbicides:	1-May	Bladex	2 qts/a	preemerg
	1-May	Lasso	2 qts/a	preemerg

---

---

Results: Table E-37.

**Table E-37. LANDEC Corn Seed Treatment Study.  
Arlington, WI 1995.**

Hybrid	Seed Treatment	Days after Planting									Final Emerg. %	Final Population plants/A	Broken		Yield bu/A
		23	25	27	29	31	35	38	41	45			Stalks %	Moist %	
		% emergence									%	plants/A	%	%	bu/A
LH192 x LH82		14	24	36	44	47	50	56	57	58	58	18600	3.9	40.6	76
LH200 x LH59		2	6	14	21	26	30	38	40	41	46	14600	1.2	41.3	51
	CoatA	9	17	28	35	38	41	48	49	49	53	17000	2.6	40.9	72
	UTC	7	14	22	30	35	40	46	49	49	51	16200	2.5	41.4	55
LH192 x LH82	CoatA	16	27	40	47	49	50	58	58	59	61	19400	4.0	40.2	85
LH192 x LH82	UTC	11	21	31	41	46	50	54	57	57	56	17900	3.9	41.0	66
LH200 x LH59	CoatA	2	6	15	23	28	32	38	39	40	45	14500	1.2	40.8	59
LH200 x LH59	UTC	2	7	13	19	23	29	38	42	42	46	14600	1.1	41.8	43
Mean		8	15	25	32	36	40	47	49	49	52	16600	2.5	40.9	63
<b>Probability (%)</b>															
Hybrid (H)		3.2	0.7	0.9	1.2	1.4	0.9	1.6	2.1	2.3	1.7	1.7	1.6	>50	3.1
Seed Treatment (T)		2.2	1.0	4.0	1.2	18.4	>50	48.1	>50	>50	41.9	41.1	>50	22.7	4.4
H x T		1.4	0.5	13.5	35.9	>50	>50	>50	>50	>50	36.4	36.2	>50	>50	>50
<b>LSD (0.10)</b>															
Hybrid (H)		7	6	9	10	10	8	9	9	9	6	2000	1.3	NS	15
Seed Treatment (T)		1	2	4	3	NS	NS	NS	NS	NS	NS	NS	NS	NS	13
CV %		19.1	10.6	17.1	8.5	14.3	14.7	11.6	14.5	14.1	10.1	10.1	51.6	3.3	21.3

## FIELD EXPERIMENT HISTORY

**Title:** Performance of Transgenic Bt Corn **Year:** 1995  
**Personnel:** J.L. Wedberg, J.G. Lauer, K.D. Hudelson  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Ciba Seeds, Northrup King Co.

---

### FIELD INFORMATION

---

Field: 296  
Soil Type: Plano Silt Loam  
Soil Test Results: Test Date: pH: P (ppm): K (ppm): OM (%):  
Fertilizer: 25-Apr 100 lbs/a 6-24-24 starter  
150 lbs/a 46-0-0 preplant  
Tillage Operations: Chisel Plow, Field Cultivate  
Previous Crop: Corn  
Irrigation: None

---

### EXPERIMENTAL PROCEDURE

---

Exp. Design: RCB Split-Split Plot  
Replicates: 4  
Variables: A: Hybrid Pair, B: ECB Treatment, C: Isoline  
Area Planted: 10' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
Hybrid/Variety: Ciba 1134E/1134X (w Bt gene / wo Bt gene)  
Ciba 3206E/3206X (w Bt gene / wo Bt gene)  
Ciba 3208E/3208X (w Bt gene / wo Bt gene)  
NK 1032Bt/397 (w Bt gene / wo Bt gene)  
NK 1033Bt/777 (w Bt gene / wo Bt gene)  
DK512/GH2387 (checks)  
ECB Treatment: 21-June @V7  
28-June @V9  
26-July @ early pollination  
9-Aug @ late pollination  
Planting Date: 15-May  
Planting Equip: Kinze Plot Planter  
Harvesting Date: 18-Oct  
Harvesting Equip: Gleaner Plot Combine  
Insecticide: Date 15-May Material Lorsban Rate 8 oz/1000 ft Method planter  
Herbicides: 22-May Bladex 2 qts/a preemerg  
22-May Lasso 2 qts/a preemerg

---

Results: Table E-38 and E-39.



**Table E-38. Performance of Transgenic Bt Corn - Isolines. Arlington, WI 1995**

Hybrid	ECB Treatment	Isoline	Guthrie Rating	ECB	ECB	Broken %	Moist %	Yield bu/a
				Cavities/Plant	Larve/Plant			
Ciba 1134E/1134X			1.7	2.4	0.2	4.9	16.8	157.8
Ciba 3206E/3206X			1.4	1.1	0.1	2.4	18.2	154.8
Ciba 3208E/3208X			1.7	1.4	0.3	1.4	19.6	178.8
NK 1032Bt/397			1.9	1.8	0.2	1.6	17.4	165.7
NK 1033Bt/777			1.8	1.4	0.3	1.0	18.1	161.7
	+ECB		2.1	1.6	0.2	2.5	18.2	160.4
	No ECB		1.3			2.0	17.8	167.1
Ciba 1134E/1134X	+ECB		2.2	2.4	0.2	5.5	17.1	149.1
Ciba 3206E/3206X	+ECB		1.7	1.1	0.1	2.5	18.5	148.0
Ciba 3208E/3208X	+ECB		2.1	1.4	0.3	2.3	19.7	186.2
NK 1032Bt/397	+ECB		2.4	1.8	0.2	1.2	17.6	159.7
NK 1033Bt/777	+ECB		2.2	1.4	0.3	0.9	18.3	158.9
Ciba 1134E/1134X	No ECB		1.2	-	-	4.4	16.5	166.5
Ciba 3206E/3206X	No ECB		1.2	-	-	2.3	17.8	161.5
Ciba 3208E/3208X	No ECB		1.3	-	-	0.5	19.5	171.3
NK 1032Bt/397	No ECB		1.4	-	-	1.9	17.1	171.6
NK 1033Bt/777	No ECB		1.3	-	-	1.1	18.0	164.5
		+Bt Gene	1.0	0.4	0.1	1.5	18.2	172.3
		-Bt Gene	2.4	2.8	0.4	3.0	17.8	155.2
	+ECB	+Bt Gene	1.0	0.4	0.1	1.9	18.4	170.2
	No ECB	+Bt Gene	1.0			1.1	18.0	174.5
	+ECB	-Bt Gene	3.2	2.8	0.4	3.0	18.1	150.6
	No ECB	-Bt Gene	1.6			3.0	17.5	159.8
Mean			1.7	1.6	0.2	2.3	18.0	163.8
<b>Probability %</b>								
Hybrid (H)			10.0	10.6	> 50	< 0.1	10.0	14.2
ECB (E)			< 0.1	-	-	41.8	0.1	12.2
H x E			41.3	-	-	> 50	> 50	15.7
Isoline (I)			< 0.1	< 0.1	0.3	< 0.1	1.6	< 0.1
H x I			2.0	32.9	28.4	0.2	49.6	> 50
E x I			< 0.1	-	-	30.9	> 50	> 50
H x E x I			49.1	-	-	> 50	40.8	> 50
<b>LSD (0.10)</b>								
Hybrid (H)			0.3	NS	NS	1.2	1.7	NS
ECB (E)			0.1	-	-	NS	0.2	NS
Isoline (I)			0.1	0.7	0.1	0.7	0.3	6.4
<b>CV %</b>								
			21.0	78.3	128.1	81.1	3.8	10.2

**Table E-39. Performance of Transgenic Bt Corn -All Hybrids.  
Arlington, WI 1995**

Hybrid	ECB Treatment	Guthrie Rating	ECB	ECB	Broken %	Moist %	Yield bu/a
			Cavities/Plant	Larve/Plant			
Ciba 1134E (+Bt)		1.0	0.9	0.2	2.3	16.8	170.1
Ciba 1134X (-Bt)		2.5	3.8	0.3	7.6	16.8	145.6
Ciba 3206E (+Bt)		1.0	0.5	0.1	2.3	18.5	160.9
Ciba 3206X (-Bt)		1.9	1.7	0.1	2.5	17.9	148.7
Ciba 3208E (+Bt)		1.0	0.7	0.1	1.2	19.6	184.8
Ciba 3208X (-Bt)		2.4	2.2	0.6	1.6	19.5	172.7
DK512		2.8	4.7	0.9	2.1	17.0	172.4
GH2387		2.5	5.7	0.6	8.1	18.9	164.9
NK 1032Bt (+Bt)		1.0	0.0	0.0	0.7	17.6	174.6
NK 397 (-Bt)		2.8	3.6	0.3	2.5	17.1	156.7
NK 1033Bt (+Bt)		1.0	0.0	0.0	0.9	18.5	171.3
NK 777 (-Bt)		2.5	2.8	0.5	1.1	17.8	152.2
	+ECB	2.4	2.2	0.3	2.8	18.2	160.1
	No ECB	1.3			2.6	17.8	169.0
Ciba 1134E (+Bt)	+ECB	1.0	0.9	0.2	3.2	17.3	164.7
Ciba 1134X (-Bt)	+ECB	3.5	3.8	0.3	7.7	17.0	133.5
Ciba 3206E (+Bt)	+ECB	1.0	0.5	0.1	2.5	18.6	153.2
Ciba 3206X (-Bt)	+ECB	2.4	1.7	0.1	2.5	18.5	142.8
Ciba 3208E (+Bt)	+ECB	1.0	0.7	0.1	2.5	19.8	197.1
Ciba 3208X (-Bt)	+ECB	3.2	2.2	0.6	2.1	19.6	175.2
DK512	+ECB	3.9	4.7	0.9	1.8	16.8	163.0
GH2387	+ECB	3.3	5.7	0.6	7.4	18.8	154.8
NK 1032Bt (+Bt)	+ECB	1.0	0.0	0.0	0.4	17.8	167.2
NK 397 (-Bt)	+ECB	3.7	3.6	0.3	2.1	17.5	152.3
NK 1033Bt (+Bt)	+ECB	1.0	0.0	0.0	1.1	18.6	168.7
NK 777 (-Bt)	+ECB	3.4	2.8	0.5	0.7	18.0	149.1
Ciba 1134E (+Bt)	No ECB	1.0	-	-	1.4	16.3	175.5
Ciba 1134X (-Bt)	No ECB	1.5	-	-	7.4	16.7	157.6
Ciba 3206E (+Bt)	No ECB	1.0	-	-	2.1	18.4	168.5
Ciba 3206X (-Bt)	No ECB	1.3	-	-	2.5	17.2	154.6
Ciba 3208E (+Bt)	No ECB	1.0	-	-	0.0	19.5	172.4
Ciba 3208X (-Bt)	No ECB	1.6	-	-	1.1	19.4	170.3
DK512	No ECB	1.6	-	-	2.5	17.2	181.9
GH2387	No ECB	1.7	-	-	8.8	19.0	175.0
NK 1032Bt (+Bt)	No ECB	1.0	-	-	1.1	17.5	182.0
NK 397 (-Bt)	No ECB	1.8	-	-	2.8	16.8	161.2
NK 1033Bt (+Bt)	No ECB	1.0	-	-	0.7	18.4	173.8
NK 777 (-Bt)	No ECB	1.7	-	-	1.4	17.5	155.3
Mean		1.9	2.2	0.3	2.7	18.0	164.6
<b>Probability %</b>							
Hybrid (H)		< 0.1	< 0.1	1.4	< 0.1	2.7	1.9
ECB (E)		< 0.1	-	-	> 50	0.5	1.8
H x E		< 0.1	-	-	> 50	28.1	37.9
<b>LSD (0.10)</b>							
Hybrid (H)		0.3	1.7	0.4	1.7	1.6	17.9
ECB (E)		0.1	-	-	NS	0.2	6.0
<b>CV %</b>							
		18.6	-	-	81.3	3.3	10.7

## FIELD EXPERIMENT HISTORY

**Title:** Performance of Transgenic Bt Corn **Year:** 1995  
**Personnel:** J.L. Wedberg, J.G. Lauer, K.D. Hudelson  
**Location:** Hancock Research Station, Hancock, WI  
**Supported by:** Ciba Seeds, Northrup King Co.

---

### FIELD INFORMATION

---

Field: E-23  
Soil Type: Plainfield Sand  
Soil Test Results: Test Date: Nov 94 pH: 6.1 P (ppm): 100 K (ppm): 67 OM (%): 0.8  
Fertilizer: 11-May 100 lbs/a 6-24-24 starter  
200 lbs/a 33-0-0 post 21,23-Jun  
Tillage Operations: Plow  
Previous Crop: Potato  
Irrigation: 6.9 inches total seasonal irrigation

---

### EXPERIMENTAL PROCEDURE

---

Exp. Design: RCB Split-Split Plot  
Replicates: 4  
Variables: A: Hybrid Pair, B: ECB Treatment, C: Isoline  
Area Planted: 10' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
Hybrid/Variety: Ciba 1134E/1134X (w Bt gene / wo Bt gene)  
Ciba 3206E/3206X (w Bt gene / wo Bt gene)  
Ciba 3208E/3208X (w Bt gene / wo Bt gene)  
NK 1032Bt/397 (w Bt gene / wo Bt gene)  
NK 1033Bt/777 (w Bt gene / wo Bt gene)  
DK512/GH2387 (checks)  
ECB Treatment: 21-June @V7  
29-June @ V9  
27-July @ early pollination  
10-August @ late pollination  
Planting Date: 11-May  
Planting Equip: Kinze Plot Planter  
Harvesting Date: 16-Oct  
Harvesting Equip: Gleaner Plot Combine

	<u>Date</u>	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Insecticide:	11-May	Lorsban	8 oz/1000 ft	planter
Herbicides:	16-May	Aatrex/Lasso	2 qts/a & 1.5 pts/a	preemerg
	24-May	Aatrex/Lasso	2 qts/a & 1.5 pts/a	preemerg

---

Results: Table E-40 and E-41.

**Table E-40. Performance of Transgenic Bt Corn - Isolines.  
Hancock, WI 1995**

Hybrid	ECB		Guthrie		Moist	Yield
	Treatment	Isoline	Rating	Broken		
				%	%	bu/a
Ciba 1134E/1134X			2.5	4.9	17.3	122.6
Ciba 3206E/3206X			2.1	2.9	20.3	124.6
Ciba 3208E/3208X			2.1	2.7	21.8	151.6
NK 1032Bt/397			2.7	1.5	17.9	144.1
NK 1033Bt/777			2.3	1.3	18.8	142.5
	+ECB		3.2	3.2	18.9	129.9
	No ECB		1.5	2.1	19.6	143.9
Ciba 1134E/1134X	+ECB		3.5	6.1	17.1	114.3
Ciba 3206E/3206X	+ECB		2.9	3.6	20.4	119.8
Ciba 3208E/3208X	+ECB		2.9	3.0	21.0	137.1
NK 1032Bt/397	+ECB		3.6	1.6	17.8	137.7
NK 1033Bt/777	+ECB		3.2	1.6	17.9	141.6
Ciba 1134E/1134X	No ECB		1.4	3.7	17.5	130.9
Ciba 3206E/3206X	No ECB		1.3	2.1	20.2	129.3
Ciba 3208E/3208X	No ECB		1.4	2.3	22.5	166.0
NK 1032Bt/397	No ECB		1.9	1.4	18.0	149.6
NK 1033Bt/777	No ECB		1.4	1.1	19.8	143.4
		+Bt Gene	1.2	1.5	19.2	144.6
		-Bt Gene	3.5	3.8	19.3	129.2
	+ECB	+Bt Gene	1.2	1.9	19.0	144.5
	No ECB	+Bt Gene	1.2	1.1	19.3	144.6
	+ECB	-Bt Gene	5.2	4.4	18.8	114.6
	No ECB	-Bt Gene	1.7	3.2	19.8	143.1
Mean			2.3	2.7	19.2	137.0
<b><u>Probability %</u></b>						
Hybrid (H)			5.6	3.1	< 0.1	< 0.1
ECB (E)			< 0.1	4.1	1.4	0.2
H x E			29.9	> 50	7.2	27.2
Isoline (I)			< 0.1	< 0.1	> 50	< 0.1
E x I			< 0.1	> 50	> 50	< 0.1
<b><u>LSD (0.10)</u></b>						
Hybrid (H)			0.4	1.8	1.2	6.6
ECB (E)			0.2	0.8	0.4	6.5
Isoline (I)			0.4	0.7	NS	5.6
<b><u>CV %</u></b>			44.6	70.9	12.2	10.8

**Table E-41. Performance of Transgenic Bt Corn - All Hybrids. Hancock, WI 1995**

Hybrid	ECB Treatment	Guthrie Rating	Broken %	Moist %	Yield bu/a
Ciba 1134E (+Bt)		1.0	2.5	16.8	133.6
Ciba 1134X (-Bt)		3.9	7.3	17.8	111.6
Ciba 3206E (+Bt)		1.0	0.9	19.8	119.7
Ciba 3206X (-Bt)		3.2	4.8	20.8	129.4
Ciba 3208E (+Bt)		1.7	2.9	21.6	154.9
Ciba 3208X (-Bt)		2.5	2.5	21.9	148.2
DK512		4.3	4.1	19.1	139.8
GH2387		3.1	6.8	19.5	137.8
NK 1032Bt (+Bt)		1.3	1.1	18.2	156.4
NK 397 (-Bt)		4.1	2.0	17.7	130.0
NK 1033Bt (+Bt)		1.0	0.2	19.4	158.2
NK 777 (-Bt)		3.6	2.5	18.3	126.9
	+ECB	3.6	3.6	18.7	129.6
	No ECB	1.5	2.6	19.7	144.8
Ciba 1134E (+Bt)	+ECB	1.0	2.5	16.5	130.8
Ciba 1134X (-Bt)	+ECB	6.0	9.6	17.8	97.8
Ciba 3206E (+Bt)	+ECB	1.0	1.8	19.4	122.4
Ciba 3206X (-Bt)	+ECB	4.7	5.3	21.5	117.3
Ciba 3208E (+Bt)	+ECB	2.0	3.9	21.3	144.0
Ciba 3208X (-Bt)	+ECB	3.7	2.1	20.8	130.2
DK512	+ECB	6.3	5.0	18.2	124.7
GH2387	+ECB	4.8	6.4	17.7	131.4
NK 1032Bt (+Bt)	+ECB	1.0	1.1	18.1	159.9
NK 397 (-Bt)	+ECB	6.2	2.1	17.4	108.1
NK 1033Bt (+Bt)	+ECB	1.0	0.4	19.6	165.5
NK 777 (-Bt)	+ECB	5.4	2.9	16.2	117.8
Ciba 1134E (+Bt)	No ECB	1.0	2.5	17.2	136.4
Ciba 1134X (-Bt)	No ECB	1.8	5.0	17.8	125.4
Ciba 3206E (+Bt)	No ECB	1.0	0.0	20.2	117.0
Ciba 3206X (-Bt)	No ECB	1.7	4.3	20.1	141.6
Ciba 3208E (+Bt)	No ECB	1.5	1.8	22.0	165.7
Ciba 3208X (-Bt)	No ECB	1.2	2.9	23.0	166.2
DK512	No ECB	2.4	3.2	20.0	154.9
GH2387	No ECB	1.4	7.1	21.2	144.3
NK 1032Bt (+Bt)	No ECB	1.7	1.1	18.2	152.9
NK 397 (-Bt)	No ECB	2.1	1.8	17.9	146.4
NK 1033Bt (+Bt)	No ECB	1.0	0.0	19.2	150.9
NK 777 (-Bt)	No ECB	1.9	2.1	20.4	136.0
Mean		2.6	3.1	19.2	137.3
<b>Probability %</b>					
Hybrid (H)		< 0.1	< 0.1	< 0.1	< 0.1
ECB (E)		< 0.1	6.1	1.5	< 0.1
H x E		< 0.1	> 50	26.0	0.2
<b>LSD (0.10)</b>					
Hybrid (H)		0.8	2.3	1.8	12.2
ECB (E)		0.3	0.8	0.7	4.7
<b>CV %</b>					
		30.9	77.0	10.3	10.0

## FIELD EXPERIMENT HISTORY

**Title:** Performance of Transgenic Bt Corn **Year:** 1995  
**Personnel:** J.L. Wedberg, J.G. Lauer, K.D. Hudelson  
**Location:** Lancaster Research Station, Lancaster, WI  
**Supported by:** Ciba Seeds, Northrup King Co.

---

---

### FIELD INFORMATION

Field: 111  
Soil Type: Rozetta silt loam  
Soil Test Results: Test Date: Oct 94 pH: 7.7 P (ppm): 25 K (ppm): 115 OM (%): 2.3  
Fertilizer: 17-May 100 lbs/a 6-24-24 starter  
Tillage Operations: Spring Chisel Plow 2x, disk, cultimulch  
Previous Crop: Alfalfa  
Irrigation: none

---

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split-Split Plot  
Replicates: 4  
Variables: A: Hybrid Pair, B: ECB Treatment, C: Isoline  
Area Planted: 10' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
Hybrid/Variety: Ciba 1134E/1134X (w Bt gene / wo Bt gene)  
Ciba 3206E/3206X (w Bt gene / wo Bt gene)  
Ciba 3208E/3208X (w Bt gene / wo Bt gene)  
NK 1032Bt/397 (w Bt gene / wo Bt gene)  
NK 1033Bt/777 (w Bt gene / wo Bt gene)  
DK512/GH2387 (checks)  
ECB Treatment: 22-June @V5  
28-June @ V7-8  
31-July @ early pollination  
7-August @ late pollination  
Planting Date: 17-May  
Planting Equip: Kinze Plot Planter  
Harvesting Date: 14-Oct  
Harvesting Equip: Gleaner Plot Combine

	<u>Date</u>	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Insecticide:		none		
Herbicides:	11-May	Roundup	2 qts/a	preplant
	11-May	2,4-D	1 pt/a	preplant
	26-May	Dual II	2 pts/a	preemerg
	30-May	Banvel	1 pt/a	post

---

---

Results: Table E-42 and E-43.

**Table E-42. Performance of Transgenic Bt Corn - Isolines.  
Lancaster, WI 1995**

Hybrid	ECB		Guthrie		Moist	Yield
	Treatment	Isoline	Rating	Broken		
				%	%	bu/a
Ciba 1134E/1134X			2.1	11.7	16.5	131.2
Ciba 3206E/3206X			1.5	8.4	18.9	138.6
Ciba 3208E/3208X			1.7	3.4	19.4	160.7
NK 1032Bt/397			2.0	3.3	18.5	145.3
NK 1033Bt/777			2.1	2.9	19.4	161.1
	+ECB		2.4	5.4	18.6	148.1
	No ECB		1.4	6.4	18.5	146.6
Ciba 1134E/1134X	+ECB		2.6	10.0	16.3	131.9
Ciba 3206E/3206X	+ECB		1.9	8.9	19.1	133.4
Ciba 3208E/3208X	+ECB		2.0	3.1	19.5	167.7
NK 1032Bt/397	+ECB		2.5	2.4	18.6	149.5
NK 1033Bt/777	+ECB		2.7	2.7	19.5	157.9
Ciba 1134E/1134X	No ECB		1.5	13.3	16.6	130.4
Ciba 3206E/3206X	No ECB		1.1	7.8	18.6	143.8
Ciba 3208E/3208X	No ECB		1.3	3.6	19.4	153.6
NK 1032Bt/397	No ECB		1.5	4.2	18.5	141.1
NK 1033Bt/777	No ECB		1.5	3.1	19.3	164.2
		+Bt Gene	1.2	4.3	19.2	156.0
		-Bt Gene	2.6	7.5	17.9	138.7
	+ECB	+Bt Gene	1.1	4.0	19.2	158.3
	No ECB	+Bt Gene	1.2	4.7	19.2	153.7
	+ECB	-Bt Gene	3.6	6.9	18.0	137.9
	No ECB	-Bt Gene	1.6	8.2	17.7	139.6
Mean			1.9	5.9	18.5	147.4
<b><u>Probability %</u></b>						
Hybrid (H)			6.1	< 0.1	< 0.1	1.5
ECB (E)			< 0.1	29.1	24.6	> 50
H x E			> 50	> 50	19.8	4.5
Isoline (I)			< 0.1	< 0.1	< 0.1	< 0.1
E x I			< 0.1	> 50	31.5	32.3
<b><u>LSD (0.10)</u></b>						
Hybrid (H)			0.4	2.3	0.5	15.3
ECB (E)			0.2	NS	NS	NS
Isoline (I)			0.3	1.4	0.2	5.3
<b><u>CV %</u></b>						
			48.0	60.4	2.9	9.5

**Table E-43. Performance of Transgenic Bt Corn - All Hybrids. Lancaster, WI 1995**

Hybrid	ECB	Guthrie		Moist	Yield
	Treatment	Rating	Broken		
			%	%	bu/a
Ciba 1134E (+Bt)		1.8	10.0	16.8	135.7
Ciba 1134X (-Bt)		2.4	13.3	16.2	126.6
Ciba 3206E (+Bt)		1.0	5.1	19.2	148.3
Ciba 3206X (-Bt)		2.0	11.7	18.6	129.0
Ciba 3208E (+Bt)		1.0	2.6	20.1	160.7
Ciba 3208X (-Bt)		2.3	4.2	18.8	160.7
DK512		3.6	4.9	16.7	143.3
GH2387		3.2	13.0	17.8	153.9
NK 1032Bt (+Bt)		1.0	2.0	20.0	159.7
NK 777 (-Bt)		3.2	3.8	18.7	146.5
NK 1033Bt (+Bt)		1.0	2.0	20.1	175.6
NK 397 (-Bt)		3.0	4.6	17.1	131.0
	+ECB	2.7	6.0	18.4	148.5
	No ECB	1.5	6.9	18.3	146.6
Ciba 1134E (+Bt)	+ECB	1.7	6.6	16.7	143.6
Ciba 1134X (-Bt)	+ECB	3.6	13.5	16.0	120.3
Ciba 3206E (+Bt)	+ECB	1.0	6.2	19.5	144.4
Ciba 3206X (-Bt)	+ECB	2.7	11.7	18.8	122.4
Ciba 3208E (+Bt)	+ECB	1.1	2.2	20.0	172.3
Ciba 3208X (-Bt)	+ECB	3.0	4.0	19.0	163.1
DK512	+ECB	4.8	5.5	16.9	138.3
GH2387	+ECB	4.0	11.7	17.8	162.7
NK 1032Bt (+Bt)	+ECB	1.0	2.6	20.0	162.6
NK 397 (-Bt)	+ECB	4.0	2.2	17.3	136.4
NK 1033Bt (+Bt)	+ECB	1.0	2.6	20.1	168.7
NK 777 (-Bt)	+ECB	4.5	2.9	19.0	147.2
Ciba 1134E (+Bt)	No ECB	1.9	13.5	16.9	127.9
Ciba 1134X (-Bt)	No ECB	1.2	13.1	16.4	132.9
Ciba 3206E (+Bt)	No ECB	1.0	4.0	19.0	152.2
Ciba 3206X (-Bt)	No ECB	1.2	11.7	18.3	135.5
Ciba 3208E (+Bt)	No ECB	1.0	2.9	20.2	149.1
Ciba 3208X (-Bt)	No ECB	1.5	4.4	18.6	158.2
DK512	No ECB	2.4	4.4	16.5	148.2
GH2387	No ECB	2.4	14.2	17.9	145.1
NK 1032Bt (+Bt)	No ECB	1.0	1.5	20.0	156.7
NK 397 (-Bt)	No ECB	1.9	6.9	17.0	125.5
NK 1033Bt (+Bt)	No ECB	1.0	1.5	20.2	182.6
NK 777 (-Bt)	No ECB	2.0	4.7	18.4	145.7
Mean		2.1	6.4	18.3	147.6
<b>Probability %</b>					
Hybrid (H)		< 0.1	< 0.1	< 0.1	< 0.1
ECB (E)		< 0.1	27.8	18.6	> 50
H x E		< 0.1	> 50	33.6	9.9
<b>LSD (0.10)</b>					
Hybrid (H)		0.8	3.5	0.6	18.0
ECB (E)		0.2	NS	NS	NS
<b>CV %</b>		23.6	65.2	2.4	9.5





**Table E-44. Fertilizer Placement in Corn Under Zone Tillage.  
Arlington, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement		Emergence Day of Year		Plant Height Day of Year			Leaf Collars Day of Year			Relative Growth Rate	Final Population plants/a	Broken Stalks %	Grain Moist %	Yield bu/a
		P & K		137	156	151	165	179	151	165	179					
None				44.7	85.1	15.7	54.6	143.8	1.9	5.0	9.4	4.6	26048	1.1	21.9	136.0
Zone Builder				54.9	86.6	15.8	52.7	142.7	1.9	4.9	9.3	4.5	27030	1.2	21.5	156.2
	Chisel Plow			53.6	85.8	15.7	53.4	141.2	1.9	4.9	9.5	4.5	26695	1.1	21.0	155.4
	One Coulter			48.1	85.9	16.1	54.9	144.8	1.9	4.9	9.2	4.6	26374	1.2	22.1	142.1
	Three Coulters			47.6	85.7	15.4	52.4	143.6	1.8	4.9	9.2	4.6	26548	1.2	21.9	140.7
None	Chisel Plow			49.7	84.1	15.3	52.8	136.8	1.9	5.0	9.5	4.4	26262	1.1	21.1	150.1
None	One Coulter			41.6	85.2	16.6	57.9	151.6	1.8	5.0	9.3	4.8	25717	1.2	22.5	126.8
None	Three Coulters			42.7	85.9	15.2	53.4	144.1	1.8	4.9	9.1	4.6	26164	1.1	22.1	131.0
Zone Builder	Chisel Plow			57.5	87.5	16.2	53.9	145.1	1.8	4.8	9.5	4.6	27128	1.2	20.9	160.7
Zone Builder	One Coulter			54.7	86.7	15.7	52.6	139.7	1.9	4.9	9.1	4.4	27030	1.1	21.7	157.4
Zone Builder	Three Coulters			52.5	85.4	15.6	51.5	143.3	1.9	5.0	9.2	4.6	26932	1.4	21.8	150.4
		2 x 2		49.8	85.3	15.7	53.3	143.4	1.9	5.0	9.5	4.6	26718	1.2	21.4	147.2
		2 x 15		.	86.3	15.8	53.7	142.9	1.8	4.9	9.2	4.6	26360	1.1	21.9	144.9
None		2 x 2		44.7	84.5	15.9	56.2	148.7	1.9	5.0	9.5	4.8	26090	1.2	21.7	135.9
None		2 x 15		.	85.6	15.5	53.2	139.4	1.8	4.9	9.2	4.4	26006	1.0	22.1	136.0
Zone Builder		2 x 2		54.9	86.1	15.5	51.2	139.5	1.9	5.0	9.4	4.4	27346	1.3	21.2	158.5
Zone Builder		2 x 15		.	87.0	16.1	54.2	145.9	1.8	4.8	9.1	4.6	26713	1.2	21.7	153.8
	Chisel Plow	2 x 2		53.6	84.9	15.5	52.6	140.4	1.9	4.9	9.6	4.5	26820	1.2	20.7	155.5
	Chisel Plow	2 x 15		.	86.7	16.0	54.0	141.9	1.8	4.9	9.5	4.5	26569	1.0	21.4	155.2
	One Coulter	2 x 2		48.1	85.0	16.1	54.8	143.7	2.0	5.1	9.4	4.6	26178	1.4	21.9	141.7
	One Coulter	2 x 15		.	86.9	16.2	55.0	145.8	1.8	4.8	9.0	4.6	26569	0.9	22.3	142.6
	Three Coulters	2 x 2		47.6	86.1	15.5	52.6	146.1	1.9	4.9	9.4	4.7	27155	1.1	21.7	144.5
	Three Coulters	2 x 15		.	85.3	15.3	52.2	141.1	1.8	4.9	9.0	4.5	25941	1.3	22.1	137.0
None	Chisel Plow	2 x 2		49.7	83.3	15.6	54.3	144.7	2.0	5.0	9.6	4.6	26192	1.1	20.6	150.4
None	Chisel Plow	2 x 15		.	84.9	15.0	51.6	130.8	1.9	5.0	9.5	4.2	26332	1.0	21.7	149.8
None	One Coulter	2 x 2		41.6	84.5	17.0	60.4	155.6	1.9	5.1	9.4	5.0	25382	1.7	22.3	124.5
None	One Coulter	2 x 15		.	85.8	16.3	55.4	147.6	1.8	4.9	9.1	4.7	26052	0.7	22.7	129.2
None	Three Coulters	2 x 2		42.7	85.8	15.0	53.7	145.7	1.8	4.9	9.4	4.7	26695	0.8	22.1	132.9
None	Three Coulters	2 x 15		.	86.1	15.3	53.2	142.5	1.7	4.9	8.8	4.5	25634	1.3	22.0	129.1
Zone Builder	Chisel Plow	2 x 2		57.5	86.5	15.4	51.3	137.3	1.8	4.8	9.6	4.4	27449	1.3	20.8	160.6
Zone Builder	Chisel Plow	2 x 15		.	88.6	16.9	56.5	153.0	1.8	4.8	9.5	4.9	26806	1.0	21.0	160.7
Zone Builder	One Coulter	2 x 2		54.7	85.6	15.3	50.5	134.8	2.0	5.1	9.3	4.3	26974	1.1	21.5	158.9
Zone Builder	One Coulter	2 x 15		.	87.9	16.1	54.6	144.5	1.8	4.7	8.9	4.6	27086	1.0	21.9	156.0
Zone Builder	Three Coulters	2 x 2		52.5	86.3	15.8	51.7	146.4	1.9	5.0	9.4	4.7	27616	1.4	21.3	156.0
Zone Builder	Three Coulters	2 x 15		.	84.5	15.3	51.4	140.1	1.9	5.0	9.1	4.5	26248	1.4	22.2	144.8
			Fall	49.6	87.4	15.3	52.8	142.1	1.8	4.9	9.3	4.5	26667	1.3	21.8	145.7
			None	49.4	85.2	16.2	53.9	142.5	1.9	5.0	9.4	4.5	26569	0.9	21.9	144.8
			Starter	50.3	84.9	15.8	53.9	144.9	1.8	4.9	9.3	4.6	26380	1.3	21.4	147.8
None			Fall	50.4	87.1	15.4	54.4	142.8	1.9	5.0	9.4	4.6	26304	1.1	22.1	134.9
None			None	40.0	82.8	16.1	55.2	144.0	1.9	5.0	9.4	4.6	25857	0.8	22.1	137.5
None			Starter	43.6	85.4	15.6	54.2	144.4	1.8	4.9	9.3	4.6	25983	1.4	21.5	135.6
Zone Builder			Fall	48.8	87.7	15.3	51.5	141.4	1.8	4.8	9.2	4.5	27030	1.4	21.5	156.5
Zone Builder			None	58.8	87.5	16.3	52.9	141.4	2.0	5.0	9.4	4.5	27281	1.0	21.6	152.1
Zone Builder			Starter	57.0	84.5	15.9	53.6	145.3	1.8	4.9	9.3	4.6	26778	1.3	21.2	159.9

**Table E-44. Fertilizer Placement in Corn Under Zone Tillage.  
Arlington, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement	P & K	Emergence		Plant Height			Leaf Collars			Relative Growth Rate	Final Population	Broken Stalks	Grain Moist	Yield
				Day of Year	Day of Year	151	165	179	Day of Year	Day of Year	Day of Year					
				%	cm						plants/a	%	%	bu/a		
	Chisel Plow	Fall		54.2	87.4	15.7	53.4	142.4	1.8	4.8	9.5	4.5	27121	1.1	21.0	156.4
	Chisel Plow	None		54.8	86.2	16.0	53.6	139.0	1.9	5.0	9.6	4.4	26869	1.0	21.1	155.0
	Chisel Plow	Starter		51.8	84.0	15.5	53.0	142.2	1.9	5.0	9.5	4.6	26094	1.3	21.0	154.7
	One Coulter	Fall		47.0	87.2	15.5	53.7	142.3	1.8	4.9	9.2	4.5	26178	1.6	22.2	141.2
	One Coulter	None		48.0	85.0	16.3	54.4	143.6	1.9	5.0	9.1	4.6	26241	0.9	22.3	135.4
	One Coulter	Starter		49.4	85.7	16.5	56.5	148.4	1.9	4.9	9.3	4.7	26702	1.0	21.7	149.8
	Three Coulters	Fall		47.7	87.5	14.8	51.1	141.5	1.8	5.0	9.1	4.5	26702	1.2	22.2	139.5
	Three Coulters	None		45.3	84.3	16.3	53.8	145.1	1.9	5.0	9.5	4.6	26597	0.8	22.1	143.9
	Three Coulters	Starter		49.7	85.2	15.2	52.2	144.3	1.8	4.8	9.0	4.6	26346	1.8	21.4	138.7
None	Chisel Plow	Fall		55.2	86.9	15.4	53.4	137.8	2.0	4.9	9.6	4.4	26932	1.2	21.2	151.6
None	Chisel Plow	None		42.9	83.5	15.5	53.1	134.7	1.9	5.0	9.6	4.3	26052	0.5	21.1	148.6
None	Chisel Plow	Starter		51.1	82.1	14.9	51.9	137.8	1.9	5.1	9.4	4.4	25801	1.5	21.2	150.2
None	One Coulter	Fall		44.3	85.5	16.3	57.9	151.8	1.8	5.0	9.5	4.9	25592	1.3	22.6	125.9
None	One Coulter	None		40.9	81.7	16.8	56.9	150.2	1.8	5.0	9.1	4.8	25340	1.3	22.8	126.7
None	One Coulter	Starter		39.5	88.2	16.8	58.8	152.8	1.8	4.9	9.2	4.9	26220	1.1	22.1	127.9
None	Three Coulters	Fall		51.8	88.9	14.5	52.1	139.8	1.7	5.0	8.9	4.5	26388	0.9	22.6	127.1
None	Three Coulters	None		36.1	83.1	16.0	55.9	148.7	1.9	4.9	9.4	4.8	26178	0.8	22.4	137.2
None	Three Coulters	Starter		40.2	85.8	15.0	52.3	143.8	1.7	4.7	9.0	4.6	25927	1.5	21.3	128.7
Zone Builder	Chisel Plow	Fall		53.1	87.9	16.0	53.5	146.4	1.6	4.6	9.5	4.7	27309	0.9	20.9	161.3
Zone Builder	Chisel Plow	None		66.8	88.9	16.4	54.0	142.8	2.0	5.0	9.6	4.5	27686	1.5	21.2	161.5
Zone Builder	Chisel Plow	Starter		52.5	85.8	16.1	54.1	146.1	1.8	4.9	9.5	4.7	26387	1.1	20.8	159.2
Zone Builder	One Coulter	Fall		49.7	88.9	14.9	50.6	135.1	1.8	4.8	8.9	4.3	26765	1.9	21.8	156.4
Zone Builder	One Coulter	None		55.2	88.2	15.9	52.4	138.8	2.0	5.0	9.1	4.4	27142	0.6	21.8	144.1
Zone Builder	One Coulter	Starter		59.3	83.1	16.3	54.8	145.1	1.9	4.8	9.3	4.6	27183	0.8	21.4	171.8
Zone Builder	Three Coulters	Fall		43.6	86.2	14.9	50.4	142.8	1.9	5.0	9.2	4.6	27016	1.4	21.8	151.8
Zone Builder	Three Coulters	None		54.5	85.5	16.4	52.2	142.5	2.0	5.0	9.5	4.5	27016	0.8	21.9	150.6
Zone Builder	Three Coulters	Starter		59.3	84.5	15.4	52.1	144.6	1.9	4.9	9.0	4.6	26764	2.1	21.5	148.7
		2 x 2	Fall	49.6	87.2	15.1	51.5	140.3	1.8	5.0	9.3	4.5	26918	1.3	21.5	146.8
		2 x 2	None	49.4	85.6	16.3	54.1	142.8	2.0	5.1	9.6	4.5	26862	1.0	21.6	141.5
		2 x 2	Starter	50.3	83.2	15.6	54.3	147.2	1.9	4.9	9.5	4.7	26374	1.4	21.3	153.3
		2 x 15	Fall	.	87.5	15.6	54.0	143.7	1.8	4.8	9.2	4.6	26416	1.2	22.1	144.6
		2 x 15	None	.	84.7	16.1	53.8	142.3	1.9	4.9	9.3	4.5	26276	0.8	22.2	148.0
		2 x 15	Starter	.	86.6	15.9	53.5	142.7	1.8	4.9	9.0	4.5	26387	1.2	21.5	142.2
None		2 x 2	Fall	50.4	87.9	15.4	55.3	147.1	1.9	5.0	9.3	4.7	26332	1.3	21.8	133.7
None		2 x 2	None	40.0	82.7	16.3	56.9	148.8	2.0	5.1	9.6	4.8	25857	0.9	21.7	134.2
None		2 x 2	Starter	43.6	83.1	15.8	56.2	150.0	1.9	5.0	9.6	4.8	26080	1.4	21.4	140.0
None		2 x 15	Fall	.	86.3	15.3	53.6	139.0	1.9	5.0	9.4	4.4	26276	1.0	22.4	136.1
None		2 x 15	None	.	82.9	15.9	53.7	139.7	1.8	4.9	9.3	4.4	25857	0.7	22.4	140.8
None		2 x 15	Starter	.	87.7	15.3	52.4	139.4	1.8	4.9	8.9	4.5	25885	1.3	21.6	131.2
Zone Builder		2 x 2	Fall	48.8	86.5	14.8	48.6	135.2	1.8	5.0	9.3	4.3	27504	1.3	21.2	159.9
Zone Builder		2 x 2	None	58.8	88.6	16.3	52.0	138.2	2.0	5.1	9.5	4.4	27868	1.1	21.4	148.9
Zone Builder		2 x 2	Starter	57.0	83.3	15.5	52.9	145.1	1.9	4.9	9.4	4.6	26667	1.5	21.1	166.7
Zone Builder		2 x 15	Fall	.	88.8	15.8	54.3	147.6	1.7	4.7	9.1	4.7	26555	1.5	21.8	153.0
Zone Builder		2 x 15	None	.	86.5	16.3	53.8	144.5	2.0	5.0	9.3	4.6	26695	0.8	21.9	155.3
Zone Builder		2 x 15	Starter	.	85.6	16.3	54.4	145.4	1.8	4.9	9.1	4.6	26890	1.2	21.4	153.1
	Chisel Plow	2 x 2	Fall	54.2	85.8	15.3	52.1	141.6	1.8	4.9	9.4	4.5	26765	0.9	20.7	156.8
	Chisel Plow	2 x 2	None	54.8	86.2	15.9	52.4	137.4	2.0	5.1	9.8	4.4	27518	1.0	21.0	155.6
	Chisel Plow	2 x 2	Starter	51.8	82.8	15.3	53.2	142.4	1.9	4.9	9.6	4.6	26178	1.6	20.5	154.1
	Chisel Plow	2 x 15	Fall	.	88.9	16.1	54.6	143.1	1.8	4.7	9.6	4.5	27477	1.2	21.4	156.0
	Chisel Plow	2 x 15	None	.	86.2	16.1	54.6	140.5	1.9	4.9	9.4	4.5	26220	1.0	21.2	154.5
	Chisel Plow	2 x 15	Starter	.	85.2	15.8	52.9	142.1	1.9	5.1	9.4	4.5	26010	1.0	21.5	155.3

**Table E-44. Fertilizer Placement in Corn Under Zone Tillage.  
Arlington, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen		Emergence		Plant Height			Leaf Collars			Relative Growth Rate	Final Population	Broken Stalks	Grain Moist	Yield
		Place-ment	P & K	137	156	151	165	179	151	165	179					
				%		cm						plants/a		%		bu/a
	One Coulter	2 x 2	Fall	47.0	86.5	15.3	51.5	135.6	1.9	5.0	9.3	4.3	26388	1.8	22.0	139.6
	One Coulter	2 x 2	None	48.0	84.1	16.6	55.5	144.2	2.0	5.1	9.3	4.6	25843	1.2	22.0	123.5
	One Coulter	2 x 2	Starter	49.4	84.5	16.3	57.3	151.4	1.9	5.0	9.6	4.8	26304	1.3	21.6	161.9
	One Coulter	2 x 15	Fall	.	87.9	15.7	55.9	148.9	1.7	4.8	9.0	4.8	25969	1.4	22.4	142.7
	One Coulter	2 x 15	None	.	85.8	16.1	53.2	143.1	1.9	4.9	9.0	4.5	26639	0.6	22.6	147.3
	One Coulter	2 x 15	Starter	.	86.9	16.8	55.7	145.4	1.8	4.7	8.9	4.6	27100	0.6	21.9	137.7
	Three Coulters	2 x 2	Fall	47.7	89.2	14.7	50.9	143.8	1.8	5.0	9.3	4.6	27602	1.2	21.9	144.0
	Three Coulters	2 x 2	None	45.3	86.5	16.4	54.3	146.7	1.9	4.9	9.6	4.7	27225	0.8	21.6	145.4
	Three Coulters	2 x 2	Starter	49.7	82.4	15.4	52.4	147.9	1.8	4.9	9.3	4.7	26639	1.4	21.7	143.9
	Three Coulters	2 x 15	Fall	.	85.8	14.8	51.3	139.2	1.8	5.0	8.9	4.5	25801	1.1	22.5	135.0
	Three Coulters	2 x 15	None	.	82.1	16.1	53.3	143.6	1.9	5.0	9.3	4.5	25969	0.8	22.7	142.4
	Three Coulters	2 x 15	Starter	.	87.9	15.1	51.9	140.6	1.8	4.8	8.7	4.5	26053	2.1	21.1	133.5
None	Chisel Plow	2 x 2	Fall	55.2	86.5	16.0	54.8	147.7	2.0	5.0	9.4	4.7	26472	1.3	20.7	148.7
None	Chisel Plow	2 x 2	None	42.9	82.4	15.8	54.7	143.0	2.0	5.1	9.9	4.6	25969	0.6	20.7	148.8
None	Chisel Plow	2 x 2	Starter	51.1	81.1	14.8	53.5	143.3	2.0	5.0	9.6	4.6	26136	1.3	20.4	153.7
None	Chisel Plow	2 x 15	Fall	.	87.2	14.9	52.3	130.4	2.0	4.9	9.8	4.2	27393	1.1	21.6	154.4
None	Chisel Plow	2 x 15	None	.	84.5	15.3	52.0	128.5	1.8	4.9	9.4	4.1	26136	0.4	21.4	148.4
None	Chisel Plow	2 x 15	Starter	.	83.1	15.0	50.6	133.6	1.9	5.1	9.3	4.3	25466	1.6	21.9	146.7
None	One Coulter	2 x 2	Fall	44.3	85.8	16.3	58.5	151.5	1.8	5.0	9.5	4.8	25131	2.0	22.3	122.4
None	One Coulter	2 x 2	None	40.9	81.7	17.0	59.5	153.5	2.0	5.2	9.3	4.9	25215	1.6	22.6	117.8
None	One Coulter	2 x 2	Starter	39.5	85.8	17.7	63.2	161.7	1.8	5.0	9.5	5.1	25801	1.7	21.9	133.3
None	One Coulter	2 x 15	Fall	.	85.2	16.2	57.3	152.0	1.8	5.0	9.5	4.9	26053	0.6	22.8	129.5
None	One Coulter	2 x 15	None	.	81.7	16.7	54.3	146.8	1.7	4.8	9.0	4.6	25466	1.0	23.1	135.6
None	One Coulter	2 x 15	Starter	.	90.6	16.0	54.5	143.8	1.8	4.8	8.8	4.6	26639	0.6	22.2	122.5
None	Three Coulters	2 x 2	Fall	51.8	91.3	14.0	52.7	142.2	1.7	4.8	9.0	4.6	27393	0.6	22.4	129.9
None	Three Coulters	2 x 2	None	36.1	83.8	16.0	56.5	150.0	1.9	4.9	9.5	4.8	26388	0.6	22.0	135.9
None	Three Coulters	2 x 2	Starter	40.2	82.4	15.0	52.0	145.0	1.8	4.9	9.5	4.6	26304	1.2	22.0	133.0
None	Three Coulters	2 x 15	Fall	.	86.5	15.0	51.5	137.5	1.7	5.2	8.8	4.4	25382	1.2	22.7	124.4
None	Three Coulters	2 x 15	None	.	82.4	16.0	55.3	147.3	1.8	5.0	9.3	4.7	25969	0.9	22.8	138.5
None	Three Coulters	2 x 15	Starter	.	89.2	15.0	52.7	142.7	1.7	4.5	8.3	4.6	25550	1.7	20.6	124.5
Zone Builder	Chisel Plow	2 x 2	Fall	53.1	85.2	14.8	50.0	137.0	1.6	4.8	9.5	4.4	27058	0.6	20.7	164.9
Zone Builder	Chisel Plow	2 x 2	None	66.8	89.9	15.9	50.8	133.1	2.0	5.0	9.7	4.2	29068	1.4	21.4	162.5
Zone Builder	Chisel Plow	2 x 2	Starter	52.5	84.5	15.6	53.0	141.6	1.8	4.8	9.5	4.5	26220	1.9	20.5	154.6
Zone Builder	Chisel Plow	2 x 15	Fall	.	90.6	17.3	57.0	155.8	1.5	4.5	9.5	4.9	27561	1.2	21.1	157.7
Zone Builder	Chisel Plow	2 x 15	None	.	87.9	16.9	57.3	152.5	2.0	5.0	9.5	4.9	26304	1.6	21.0	160.5
Zone Builder	Chisel Plow	2 x 15	Starter	.	87.2	16.5	55.1	150.6	1.8	5.0	9.5	4.8	26555	0.3	21.1	163.8
Zone Builder	One Coulter	2 x 2	Fall	49.7	87.2	14.5	46.3	123.6	2.0	5.0	9.1	3.9	27644	1.5	21.7	156.8
Zone Builder	One Coulter	2 x 2	None	55.2	86.5	16.3	52.5	137.3	2.0	5.1	9.3	4.4	26472	0.9	21.5	129.2
Zone Builder	One Coulter	2 x 2	Starter	59.3	83.1	15.3	52.9	143.6	2.0	5.0	9.7	4.6	26806	0.9	21.3	190.6
Zone Builder	One Coulter	2 x 15	Fall	.	90.6	15.4	54.9	146.6	1.6	4.6	8.8	4.7	25885	2.2	22.0	155.9
Zone Builder	One Coulter	2 x 15	None	.	89.9	15.6	52.4	140.3	2.0	4.9	9.0	4.5	27812	0.3	22.1	158.9
Zone Builder	One Coulter	2 x 15	Starter	.	83.1	17.4	56.6	146.5	1.8	4.6	9.0	4.6	27560	0.6	21.5	153.0
Zone Builder	Three Coulters	2 x 2	Fall	43.6	87.2	15.3	49.6	145.0	1.9	5.1	9.4	4.7	27812	1.8	21.3	158.1
Zone Builder	Three Coulters	2 x 2	None	54.5	89.2	16.6	52.6	144.3	2.0	5.0	9.6	4.6	28063	0.9	21.2	154.9
Zone Builder	Three Coulters	2 x 2	Starter	59.3	82.4	15.6	52.8	150.0	1.9	4.9	9.1	4.8	26974	1.5	21.5	154.9
Zone Builder	Three Coulters	2 x 15	Fall	.	85.2	14.6	51.1	140.5	1.9	4.9	9.0	4.5	26220	1.0	22.4	145.5
Zone Builder	Three Coulters	2 x 15	None	.	81.7	16.3	51.8	140.8	2.0	5.0	9.4	4.5	25969	0.6	22.6	146.3
Zone Builder	Three Coulters	2 x 15	Starter	.	86.5	15.1	51.4	139.1	1.9	5.0	8.9	4.4	26555	2.6	21.6	142.5
Mean				49.8	85.8	15.8	53.5	143.2	1.9	4.9	9.3	4.6	26539	1.2	21.7	146.1

**Table E-44. Fertilizer Placement in Corn Under Zone Tillage.  
Arlington, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement		Emergence Day of Year		Plant Height Day of Year			Leaf Collars Day of Year			Relative Growth Rate	Final Population plants/a	Broken Stalks %	Grain Moist %	Yield bu/a
		P & K		137	156	151	165	179	151	165	179					
<b>Probability %</b>																
Fall Tillage (F)				25.4	13.0	> 50	> 50	36.6	> 50	39.6	> 50	36.9	1.4	> 50	1.9	8.3
Spring Tillage (S)				34.7	> 50	24.7	36.5	> 50	> 50	> 50	6.8	> 50	> 50	> 50	< 0.1	9.8
F x S				> 50	35.4	29.5	39.7	> 50	8.3	12.2	39.1	> 50	> 50	> 50	8.5	36.7
Nitrogen (N)				-	48.8	27.3	> 50	48.2	9.1	12.0	0.7	> 50	37.4	44.3	0.6	> 50
F x N				-	> 50	27.7	1.8	7.5	> 50	> 50	> 50	7.2	49.4	> 50	> 50	> 50
S x N				-	> 50	24.2	40.2	8.9	> 50	39.1	43.9	9.1	27.0	31.6	> 50	> 50
F x S x N				-	> 50	17.8	19.8	21.8	> 50	> 50	> 50	24.2	> 50	35.6	7.5	> 50
P & K Treatment (P)				> 50	9.5	3.3	40.1	40.3	1.4	9.8	22.6	44.9	> 50	26.1	2.9	> 50
F x P				0.8	6.1	> 50	44.4	> 50	6.0	21.9	> 50	> 50	49.5	> 50	> 50	> 50
S x P				> 50	> 50	29.1	35.7	48.3	> 50	6.7	10.7	> 50	37.2	40.1	> 50	> 50
F x S x P				29.8	30.8	> 50	> 50	> 50	10.7	> 50	24.7	> 50	> 50	36.4	> 50	> 50
N x P				-	19.9	> 50	20.0	19.9	> 50	> 50	4.9	18.6	> 50	> 50	> 50	19.6
F x N x P				-	35.6	> 50	> 50	> 50	8.4	2.4	9.7	39.9	42.4	> 50	> 50	> 50
S x N x P				-	42.4	> 50	> 50	31.8	> 50	16.2	> 50	20.2	29.8	> 50	10.7	28.5
F x S x N x P				-	> 50	27.6	> 50	> 50	> 50	23.6	> 50	> 50	24.7	40.4	> 50	> 50
<b>LSD (0.10)</b>																
Fall Tillage (F)				NS	NS	NS	NS	NS	NS	NS	NS	NS	450	NS	0.2	18.6
Spring Tillage (S)				NS	NS	NS	NS	NS	NS	NS	0.3	NS	NS	NS	0.2	12.1
Nitrogen (N)				-	NS	NS	NS	NS	0.1	NS	0.2	NS	NS	NS	0.3	NS
P & K Treatment (P)				NS	2.0	0.5	NS	NS	0.1	0.1	NS	NS	NS	NS	0.3	NS
<b>CV (%)</b>																
				22.2	7.0	9.2	7.9	6.6	10.9	4.7	4.5	6.8	6.0	118.0	4.5	16.2

**Table E-45. Fertilizer Placement in Corn Under Zone Tillage.  
Arlington, WI - 1995**

Fall Tillage	Spring Tillage	Residue Cover		In Row						Between Row						Root and Plant Ratings 30 days after planting									
				Soil Moisture			Soil Bulk Density			Soil Moisture			Soil Bulk Density			Root	Primary Root		Seminal Root		Nodal Root		Leaf		
		Pre-plant	Post-Plant	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"	Discolor.	Length	Longevity	Number	Length	Number	Length
None		67.3	58.3	25.4	27.3	28.3	1.1	1.3	1.3	25.0	27.5	28.0	1.2	1.3	1.4	1.1	8.8	2.7	4.6	31.7	4.1	19.0	1.7	3.3	
Zone Builder		62.2	46.0	26.0	28.2	30.1	1.0	1.2	1.2	25.9	28.4	30.7	1.2	1.3	1.3	1.1	9.7	2.9	5.3	40.2	4.1	25.3	1.8	3.4	
	Chisel Plow	33.0	27.1	25.9	28.6	29.1	1.1	1.2	1.3	26.3	28.3	30.0	1.1	1.4	1.3	1.1	9.5	2.6	4.8	36.0	4.1	25.4	1.8	3.4	
	One Coulter	81.1	64.8	25.4	28.5	30.1	1.0	1.2	1.2	24.6	27.7	29.0	1.2	1.3	1.3	1.1	10.1	2.9	4.8	35.4	4.0	20.2	1.8	3.3	
	Three Coulters	80.0	64.6	25.7	26.2	28.5	1.0	1.2	1.3	.	.	.	.	.	.	1.1	8.2	2.9	5.3	36.5	4.1	20.8	1.8	3.3	
None	Chisel Plow	31.3	29.0	25.0	26.9	28.2	1.1	1.3	1.3	25.6	27.7	29.0	1.1	1.4	1.4	1.0	10.4	2.5	4.5	30.5	4.4	24.5	1.8	3.4	
None	One Coulter	84.4	73.5	25.2	27.7	29.8	1.0	1.3	1.2	24.4	27.2	27.3	1.2	1.3	1.4	1.3	7.8	2.8	4.3	31.0	3.5	14.5	1.6	3.1	
None	Three Coulters	86.1	72.4	26.0	27.3	26.8	1.1	1.3	1.3	.	.	.	.	.	.	1.0	8.3	2.8	5.0	33.6	4.1	18.0	1.8	3.3	
Zone Builder	Chisel Plow	34.8	25.3	26.9	30.4	29.9	1.1	1.2	1.3	27.0	28.8	30.7	1.1	1.3	1.3	1.3	8.6	2.8	5.0	41.5	3.8	26.4	1.8	3.4	
Zone Builder	One Coulter	77.9	56.0	25.7	29.3	30.4	0.9	1.2	1.2	24.9	28.0	30.8	1.2	1.3	1.3	1.0	12.4	3.0	5.3	39.9	4.4	25.9	1.9	3.5	
Zone Builder	Three Coulters	73.9	56.8	25.5	25.0	30.1	0.9	1.2	1.2	.	.	.	.	.	.	1.1	8.0	3.0	5.5	39.3	4.1	23.5	1.8	3.3	
Mean		64.7	52.2	25.7	27.8	29.2	1.0	1.2	1.3	25.5	28.0	29.5	1.2	1.3	1.3	1.1	9.2	2.8	4.9	36.0	4.1	22.1	1.8	3.3	

**Probability %**  
 Fall Tillage (F) 16.8 3.2 45.3 > 50 30.6 8.8 1.8 13.8 > 50 > 50 16.4 > 50 > 50 27.5 > 50 40.5 5.8 22.8 7.8 > 50 7.0 > 50 35.4  
 Spring Tillage (S) < 0.1 < 0.1 > 50 33.7 17.6 1.7 > 50 3.8 1.9 > 50 > 50 15.1 27.6 > 50 > 50 > 50 44.9 47.7 > 50 > 50 49.9 > 50 > 50  
 F x S 10.5 20.2 10.3 28.4 27.1 24.3 > 50 32.2 42.5 45.3 > 50 > 50 > 50 > 50 19.8 16.1 > 50 > 50 > 50 13.6 > 50 > 50 22.6

**LSD (0.10)**

Fall Tillage (F)	NS	7.6	NS	NS	NS	0.1	< 0.1	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.2	NS	7.6	NS	5.3	NS	NS
Spring Tillage (S)	6.1	6.9	NS	NS	NS	< 0.1	NS	< 0.1	1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

**CV (%)**

		10.5	14.9	3.9	12.8	5.6	7.7	6.6	4.7	4.1	4.9	15.7	7.8	5.2	6.1	22.6	34.4	23.1	25.3	29.0	19.5	34.4	26.1	8.4
--	--	------	------	-----	------	-----	-----	-----	-----	-----	-----	------	-----	-----	-----	------	------	------	------	------	------	------	------	-----

\1\ Root discoloration with 1=none, 2=trace, 3=light, 4=moderate, and 5=severe

\2\ Longevity of primary root with 1=living, 2=blighted, 3=dead or pruned

## FIELD EXPERIMENT HISTORY

**Title:** Fertilizer Placement in Corn Under Zone Tillage **Year:** 1995  
**Expt No.:** 9595  
**Personnel:** J.G. Lauer, N.C. Wollenhaupt, T.M Wood, K.D. Hudelson, A.H. Bosworth, K.G. Silveira  
**Location:** Lancaster Research Station, Lancaster, WI  
**Supported by:**

---

---

### FIELD INFORMATION

Field: 603  
Soil Type: Rozetta Silt Loam  
Soil Test Results: Date: 1993 pH: 7.0 P(ppm): 26 K(ppm): 120 OM(%): 2.4  
Previous Crop: Corn

---

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split-Split-Split Plot

Replicates: 4

Factors:

Fall Tillage	No-Till Zone Builder (Oct. 94)
Spring Tillage	Chisel Plow One Coulter Three Coulters
Nitrogen Placement	2" x 2" 50 gpa of 28-0-0 2" x 15" 50 gpa of 28-0-0
P & K Application	Fall 25 gpa of 4-10-10 (Oct. 94) Starter 25 gpa of 4-10-10 None

Plot Size: Planted: 10' x 25'  
Harvested: 5' x 21'

Planting: Date: May 3  
Row Spacing: 30"  
Equipment: John Deere Max-Emerge  
Depth: 2"  
Rate: 32,000/a  
Hybrid: Pioneer 3769

Harvesting: Date: October 14  
Equipment: Gleaner Plot Combine

Herbicides:

<u>Material</u>	<u>Rate</u>	<u>Method</u>
Roundup	2 qts/a	pre-plant on May 1
2,4-D	1 pt/a	pre-plant on May 1
Dual	2.5 pts/a	pre-plant on April 25
Banvel	1 pt/a	post on May 26
Roundup	2 qts/a	post on July 3 w/rope wick

Insecticides: Lorsban 8 oz/1000' planting

---

Results: Table E-46,47.

**Table E-46. Fertilizer Placement in Corn Under Zone Tillage.  
Lancaster, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement		Emergence Day of Year		Plant Height Day of Year			Leaf Collars Day of Year			Leaf No. (Hahn) Day of Year			Final Population	Broken Stalks	Grain Moist	Yield
		P & K		140	153	153	167	181	153	167	181	153	167	181				
None				64.2	59.6	17.8	51.3	119.5	2.0	4.9	8.6	3.6	7.4	12.8	23105	9.3	16.2	113.8
Zone Builder				59.9	60.1	17.1	48.2	115.6	2.0	4.8	8.6	3.6	7.3	12.5	22598	8.5	16.0	112.1
	Chisel Plow			60.3	58.1	17.6	49.8	119.5	2.0	5.0	8.8	3.7	7.5	12.8	22342	10.1	16.1	110.5
	One Coulter			60.0	59.8	17.3	50.2	116.9	1.9	4.8	8.6	3.6	7.3	12.6	23059	7.9	16.1	116.3
	Three Coulters			65.9	61.8	17.3	49.4	116.3	1.9	4.8	8.5	3.5	7.3	12.5	23154	8.9	16.2	112.1
None	Chisel Plow			61.3	57.2	18.0	50.8	119.6	2.0	4.9	8.8	3.7	7.5	12.8	22575	10.8	16.1	107.1
None	One Coulter			61.1	60.3	17.5	52.5	120.2	1.9	4.8	8.7	3.5	7.3	12.8	23007	7.5	16.2	120.6
None	Three Coulters			70.2	61.4	17.8	50.8	118.9	1.9	4.9	8.5	3.5	7.3	12.6	23733	9.6	16.2	113.6
Zone Builder	Chisel Plow			59.3	59.0	17.3	48.8	119.4	2.0	5.0	8.8	3.6	7.4	12.8	22109	9.4	16.0	113.9
Zone Builder	One Coulter			58.8	59.3	17.2	47.9	113.7	1.9	4.8	8.4	3.6	7.2	12.3	23111	8.2	16.0	111.9
Zone Builder	Three Coulters			61.5	62.1	16.8	48.0	113.8	1.9	4.8	8.5	3.6	7.3	12.4	22575	8.1	16.1	110.6
		2 x 2		62.2	59.8	17.9	50.8	122.8	2.0	4.9	8.7	3.6	7.4	12.9	23209	9.8	16.0	116.7
		2 x 15		58.1	60.0	16.9	48.8	112.4	1.9	4.9	8.4	3.5	7.3	12.3	22495	8.0	16.3	109.2
None		2 x 2		64.7	58.5	18.0	51.7	124.1	2.0	4.9	8.8	3.6	7.4	13.0	23463	9.7	16.0	117.1
None		2 x 15		58.1	60.8	17.5	51.0	115.0	1.9	4.9	8.5	3.5	7.3	12.6	22748	8.9	16.4	110.4
Zone Builder		2 x 2		59.9	61.0	17.8	49.9	121.6	2.0	4.9	8.7	3.7	7.4	12.8	22956	10.0	15.9	116.3
Zone Builder		2 x 15		. 59.3	61.0	16.4	46.5	109.7	1.9	4.8	8.4	3.6	7.2	12.1	22241	7.1	16.1	108.0
	Chisel Plow	2 x 2		60.3	58.8	18.3	50.8	124.3	2.0	5.0	9.0	3.8	7.6	13.1	22800	11.2	15.9	114.6
	Chisel Plow	2 x 15		. 57.5	57.5	17.0	48.7	114.6	2.0	5.0	8.6	3.6	7.4	12.5	21884	9.0	16.2	106.4
	One Coulter	2 x 2		60.2	57.9	17.5	50.3	120.3	1.9	4.7	8.6	3.5	7.3	12.7	23284	8.5	16.0	117.7
	One Coulter	2 x 15		58.1	61.7	17.2	50.2	113.6	2.0	4.9	8.5	3.6	7.3	12.5	22835	7.3	16.2	114.8
	Three Coulters	2 x 2		65.9	62.6	17.9	51.3	123.8	2.0	4.9	8.7	3.6	7.5	12.9	23543	9.9	16.0	117.7
	Three Coulters	2 x 15		. 61.0	61.0	16.7	47.4	108.9	1.9	4.8	8.2	3.5	7.1	12.1	22765	7.8	16.4	106.5
None	Chisel Plow	2 x 2		61.3	55.0	18.5	51.8	125.5	2.0	5.0	9.0	3.9	7.6	13.2	23301	10.6	15.9	111.4
None	Chisel Plow	2 x 15		. 59.5	59.5	17.5	49.8	113.6	2.0	4.9	8.5	3.6	7.5	12.5	21849	11.0	16.3	102.8
None	One Coulter	2 x 2		62.1	57.9	17.5	51.1	121.5	1.9	4.7	8.6	3.5	7.2	12.8	22990	8.4	16.1	121.3
None	One Coulter	2 x 15		58.1	62.7	17.5	53.9	118.8	1.9	4.9	8.8	3.6	7.4	12.9	23025	6.7	16.3	119.9
None	Three Coulters	2 x 2		70.2	62.7	18.0	52.1	125.1	2.0	4.9	8.7	3.5	7.5	13.0	24097	10.2	15.9	118.7
None	Three Coulters	2 x 15		. 60.2	60.2	17.5	49.4	112.7	1.9	4.9	8.3	3.5	7.1	12.3	23370	9.1	16.5	108.5
Zone Builder	Chisel Plow	2 x 2		59.3	62.7	18.1	49.8	123.1	2.0	5.0	8.9	3.7	7.5	13.1	22299	11.8	15.9	117.9
Zone Builder	Chisel Plow	2 x 15		. 55.4	55.4	16.5	47.7	115.7	2.0	5.0	8.6	3.6	7.3	12.5	21919	7.0	16.0	110.0
Zone Builder	One Coulter	2 x 2		58.8	57.9	17.5	49.5	119.1	1.9	4.8	8.5	3.6	7.4	12.6	23578	8.5	15.9	114.2
Zone Builder	One Coulter	2 x 15		. 60.6	60.6	16.8	46.4	108.3	2.0	4.8	8.3	3.6	7.1	12.0	22645	7.8	16.1	109.6
Zone Builder	Three Coulters	2 x 2		61.5	62.4	17.8	50.5	122.5	2.0	4.9	8.8	3.7	7.5	12.9	22990	9.6	16.0	116.7
Zone Builder	Three Coulters	2 x 15		. 61.8	61.8	15.8	45.5	105.0	1.9	4.6	8.2	3.5	7.0	11.8	22160	6.6	16.3	104.4
			Fall	65.1	60.1	17.4	49.7	116.2	2.0	4.9	8.5	3.6	7.3	12.5	23025	9.4	16.1	114.7
			None	60.6	62.2	17.0	47.6	114.8	2.0	4.8	8.5	3.6	7.3	12.5	22990	9.1	16.2	111.4
			Starter	60.4	57.5	17.8	52.1	121.8	2.0	4.9	8.8	3.6	7.5	12.9	22541	8.2	16.0	112.8
None			Fall	67.9	61.3	17.8	50.9	119.8	2.0	4.9	8.6	3.6	7.4	12.6	23215	10.0	16.2	119.3
None			None	62.7	61.3	17.3	49.3	114.8	1.9	4.8	8.5	3.5	7.2	12.5	23509	9.7	16.3	110.6
None			Starter	62.0	56.3	18.2	53.8	124.1	2.0	4.9	8.9	3.6	7.6	13.1	22593	8.2	16.0	111.4
Zone Builder			Fall	62.2	58.8	17.1	48.5	112.6	1.9	4.8	8.5	3.6	7.2	12.3	22835	8.9	16.1	110.0
Zone Builder			None	58.6	63.0	16.7	45.9	114.7	2.0	4.9	8.5	3.6	7.3	12.4	22472	8.5	16.1	112.1
Zone Builder			Starter	58.8	58.6	17.5	50.4	119.6	2.0	4.8	8.7	3.6	7.4	12.8	22489	8.3	16.0	114.3



**Table E-46. Fertilizer Placement in Corn Under Zone Tillage.  
Lancaster, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement	P & K	Emergence		Plant Height			Leaf Collars			Leaf No. (Hahn)			Final Population	Broken Stalks	Grain Moist	Yield
				Day of Year	Day of Year	153	167	181	Day of Year	Day of Year	Day of Year	Day of Year	Day of Year	Day of Year				
				%	cm									plants/a	%	%	bu/a	
	Chisel Plow	Fall		61.3	58.6	17.6	50.3	118.5	2.0	5.0	8.8	3.7	7.5	12.8	22558	11.3	16.1	113.3
	Chisel Plow	None		62.3	59.6	17.0	47.3	116.0	2.0	4.9	8.5	3.7	7.4	12.5	22921	9.5	16.1	109.5
	Chisel Plow	Starter		57.2	56.2	18.3	51.7	123.9	2.0	5.0	9.0	3.7	7.6	13.2	21547	9.5	16.0	108.8
	One Coulter	Fall		63.4	60.1	17.7	50.6	117.4	1.9	4.8	8.5	3.6	7.3	12.5	23336	8.2	16.1	116.6
	One Coulter	None		56.2	61.7	16.7	47.5	114.3	1.8	4.7	8.5	3.5	7.1	12.4	22973	7.7	16.2	116.3
	One Coulter	Starter		60.3	57.6	17.7	52.6	119.0	2.0	4.8	8.6	3.6	7.4	12.8	22869	7.8	16.0	115.9
	Three Coulters	Fall		70.5	61.5	17.0	48.2	112.5	1.9	4.8	8.3	3.5	7.1	12.1	23180	8.9	16.2	114.1
	Three Coulters	None		63.4	65.2	17.2	48.0	113.9	2.0	4.9	8.4	3.5	7.3	12.5	23077	10.2	16.3	108.4
	Three Coulters	Starter		63.7	58.6	17.6	52.0	122.5	1.9	4.8	8.7	3.6	7.5	12.9	23206	7.5	16.0	113.7
None	Chisel Plow	Fall		62.0	60.3	17.9	50.7	121.6	2.0	5.0	8.8	3.7	7.6	12.9	22714	12.2	16.1	113.6
None	Chisel Plow	None		66.1	57.9	17.4	48.8	113.8	2.1	4.9	8.4	3.7	7.5	12.5	23699	9.4	16.2	109.2
None	Chisel Plow	Starter		55.9	53.5	18.6	52.8	123.3	1.9	4.9	9.0	3.7	7.6	13.1	21314	10.8	16.0	98.5
None	One Coulter	Fall		61.3	61.3	18.2	53.7	122.3	1.9	4.9	8.7	3.6	7.4	12.8	23388	7.0	16.2	126.8
None	One Coulter	None		58.6	61.7	16.4	48.9	114.3	1.8	4.6	8.5	3.4	7.0	12.5	23543	7.5	16.3	122.0
None	One Coulter	Starter		63.4	57.9	18.0	54.9	123.9	2.0	4.9	8.9	3.5	7.6	13.2	22091	8.1	16.1	113.0
None	Three Coulters	Fall		80.4	62.3	17.2	48.3	115.4	1.9	4.9	8.3	3.4	7.2	12.2	23543	10.8	16.2	117.6
None	Three Coulters	None		63.4	64.4	18.1	50.1	116.3	1.9	4.9	8.4	3.4	7.2	12.6	23284	12.3	16.4	100.7
None	Three Coulters	Starter		66.8	57.6	18.0	53.9	125.0	1.9	4.9	8.7	3.6	7.5	13.0	24373	5.8	16.0	122.5
Zone Builder	Chisel Plow	Fall		60.6	56.9	17.3	49.8	115.4	2.0	4.9	8.7	3.6	7.4	12.6	22402	10.3	16.1	113.0
Zone Builder	Chisel Plow	None		58.6	61.3	16.6	45.8	118.3	2.0	5.0	8.6	3.7	7.3	12.6	22143	9.7	15.9	109.8
Zone Builder	Chisel Plow	Starter		58.6	58.9	17.9	50.7	124.5	2.0	5.0	9.0	3.7	7.6	13.2	21780	8.1	15.9	119.1
Zone Builder	One Coulter	Fall		65.4	58.9	17.1	47.5	112.6	1.9	4.8	8.4	3.5	7.2	12.3	23284	9.3	16.0	106.5
Zone Builder	One Coulter	None		53.8	61.7	17.0	46.1	114.4	1.9	4.8	8.5	3.6	7.3	12.3	22403	7.8	16.0	110.5
Zone Builder	One Coulter	Starter		57.2	57.2	17.4	50.3	114.2	2.0	4.8	8.4	3.6	7.2	12.4	23647	7.5	16.0	118.8
Zone Builder	Three Coulters	Fall		60.6	60.6	16.9	48.1	109.7	1.9	4.7	8.3	3.5	7.1	12.0	22817	7.1	16.2	110.6
Zone Builder	Three Coulters	None		63.4	66.1	16.3	45.8	111.6	2.0	4.9	8.4	3.6	7.3	12.4	22869	8.1	16.2	116.2
Zone Builder	Three Coulters	Starter		60.6	59.6	17.1	50.2	120.0	1.9	4.7	8.7	3.6	7.4	12.7	22039	9.2	16.0	105.0
		2 x 2	Fall	64.9	60.9	17.9	49.9	119.9	2.0	4.8	8.6	3.6	7.3	12.6	23785	9.8	16.0	118.8
		2 x 2	None	60.9	62.1	17.6	49.3	122.5	2.0	4.9	8.7	3.6	7.4	12.9	23612	10.1	16.0	116.6
		2 x 2	Starter	60.8	56.3	18.2	53.2	126.0	2.0	4.9	8.9	3.7	7.6	13.2	22230	9.7	15.9	114.7
		2 x 15	Fall	68.1	59.3	16.9	49.4	112.5	1.9	4.9	8.5	3.5	7.3	12.3	22264	9.1	16.3	110.5
		2 x 15	None	54.5	62.2	16.4	45.8	107.0	1.9	4.8	8.2	3.5	7.1	12.0	22368	8.1	16.4	106.2
		2 x 15	Starter	51.8	58.6	17.5	51.0	117.6	2.0	4.9	8.6	3.6	7.4	12.7	22852	6.8	16.1	110.9
None		2 x 2	Fall	67.9	60.4	18.0	50.1	121.4	2.0	4.8	8.6	3.6	7.3	12.6	23820	9.1	16.0	123.3
None		2 x 2	None	63.4	62.0	17.8	51.5	124.1	2.0	4.8	8.8	3.6	7.4	13.1	24546	11.0	16.0	114.8
None		2 x 2	Starter	62.9	53.1	18.3	53.3	126.7	2.0	4.9	9.0	3.6	7.6	13.2	22022	9.1	16.0	113.3
None		2 x 15	Fall	68.1	62.2	17.6	51.6	118.2	1.9	5.0	8.6	3.6	7.4	12.7	22610	10.9	16.4	115.3
None		2 x 15	None	54.5	60.6	16.8	47.0	105.5	1.9	4.8	8.2	3.4	7.0	12.0	22472	8.5	16.6	106.5
None		2 x 15	Starter	51.8	59.5	18.2	54.3	121.5	2.0	4.9	8.8	3.6	7.5	13.0	23163	7.4	16.1	109.4
Zone Builder		2 x 2	Fall	62.2	61.3	17.9	49.7	118.3	2.0	4.8	8.6	3.6	7.4	12.6	23751	10.4	16.0	114.3
Zone Builder		2 x 2	None	58.6	62.2	17.4	47.1	121.0	2.0	4.9	8.7	3.7	7.4	12.8	22679	9.2	15.9	118.4
Zone Builder		2 x 2	Starter	58.8	59.5	18.1	53.0	125.4	2.0	4.8	8.9	3.7	7.6	13.2	22437	10.2	15.8	116.1
Zone Builder		2 x 15	Fall	.	56.3	16.3	47.3	106.8	1.9	4.8	8.3	3.5	7.1	12.0	21918	7.3	16.1	105.7
Zone Builder		2 x 15	None	.	63.8	15.9	44.6	108.5	2.0	4.8	8.3	3.6	7.2	12.0	22264	7.8	16.2	105.9
Zone Builder		2 x 15	Starter	.	57.7	16.9	47.8	113.7	2.0	4.8	8.5	3.6	7.2	12.4	22541	6.3	16.1	112.4
	Chisel Plow	2 x 2	Fall	61.3	57.9	18.1	50.3	121.1	2.0	4.9	8.8	3.8	7.5	12.8	23388	12.1	16.0	117.5
	Chisel Plow	2 x 2	None	62.3	63.4	18.1	50.4	126.4	2.1	5.1	8.9	3.9	7.6	13.2	23751	11.4	15.8	115.0
	Chisel Plow	2 x 2	Starter	57.2	55.2	18.8	51.7	125.5	2.0	4.9	9.1	3.7	7.6	13.3	21262	10.0	15.9	111.4
	Chisel Plow	2 x 15	Fall	.	59.3	17.1	50.3	115.9	2.0	5.1	8.7	3.6	7.5	12.7	21728	10.4	16.2	109.0
	Chisel Plow	2 x 15	None	.	55.9	16.0	44.2	105.6	1.9	4.8	8.1	3.5	7.2	11.9	22092	7.6	16.3	103.9
	Chisel Plow	2 x 15	Starter	.	57.2	17.8	51.8	122.3	1.9	5.0	8.9	3.7	7.5	13.0	21832	9.0	16.0	106.3

**Table E-46. Fertilizer Placement in Corn Under Zone Tillage.  
Lancaster, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement		Emergence Day of Year		Plant Height Day of Year			Leaf Collars Day of Year			Leaf No. (Hahn) Day of Year			Final Population	Broken Stalks	Grain Moist	Yield
		P & K		140	153	153	167	181	153	167	181	153	167	181				
	One Coulter	2 x 2	Fall	62.7	59.3	17.9	50.3	119.8	1.9	4.8	8.6	3.6	7.3	12.7	23647	9.5	16.0	115.9
	One Coulter	2 x 2	None	56.4	58.9	16.8	47.4	117.9	1.8	4.6	8.5	3.5	7.1	12.5	23388	6.8	16.1	118.8
	One Coulter	2 x 2	Starter	61.5	55.5	17.8	53.2	123.3	2.0	4.9	8.6	3.6	7.5	12.9	22817	9.2	15.9	118.6
	One Coulter	2 x 15	Fall	68.1	61.0	17.4	50.9	115.1	1.9	4.9	8.5	3.6	7.3	12.4	23025	6.9	16.2	117.4
	One Coulter	2 x 15	None	54.5	64.4	16.6	47.6	110.8	1.9	4.8	8.5	3.5	7.2	12.3	22558	8.5	16.3	113.7
	One Coulter	2 x 15	Starter	51.8	59.6	17.6	51.9	114.8	2.0	4.8	8.6	3.6	7.3	12.6	22921	6.4	16.1	113.1
	Three Coulters	2 x 2	Fall	70.5	65.4	17.8	49.1	118.7	2.0	4.8	8.4	3.5	7.3	12.3	24321	7.8	16.1	123.0
	Three Coulters	2 x 2	None	63.4	64.0	17.9	50.3	123.3	2.0	5.0	8.8	3.6	7.5	13.1	23699	12.1	16.0	115.9
	Three Coulters	2 x 2	Starter	63.7	58.2	18.0	54.6	129.4	1.9	4.8	9.0	3.7	7.7	13.4	22610	9.8	15.7	114.1
	Three Coulters	2 x 15	Fall	.	57.6	16.3	47.2	106.4	1.8	4.8	8.2	3.4	7.0	11.9	22039	10.0	16.3	105.2
	Three Coulters	2 x 15	None	.	66.4	16.5	45.7	104.6	1.9	4.8	8.1	3.5	7.0	11.9	22454	8.3	16.6	100.9
	Three Coulters	2 x 15	Starter	.	58.9	17.1	49.4	115.6	1.9	4.8	8.4	3.5	7.3	12.4	23803	5.1	16.3	113.4
None	Chisel Plow	2 x 2	Fall	62.0	56.5	18.0	49.8	123.0	2.0	4.9	8.9	3.9	7.5	12.8	24269	10.2	15.9	120.3
None	Chisel Plow	2 x 2	None	66.1	59.3	18.5	53.3	127.1	2.1	5.0	8.9	3.9	7.7	13.3	24995	11.4	15.9	115.9
None	Chisel Plow	2 x 2	Starter	55.9	49.1	19.1	52.3	126.5	2.0	5.0	9.3	3.9	7.7	13.4	20639	10.1	16.0	98.0
None	Chisel Plow	2 x 15	Fall	.	64.0	17.9	51.6	120.3	2.0	5.1	8.8	3.6	7.7	13.0	21158	14.2	16.3	106.8
None	Chisel Plow	2 x 15	None	.	56.5	16.4	44.4	100.4	2.0	4.8	8.0	3.5	7.2	11.7	22403	7.3	16.6	102.5
None	Chisel Plow	2 x 15	Starter	.	57.9	18.1	53.3	120.1	1.9	4.9	8.8	3.6	7.5	12.8	21988	11.5	16.1	99.1
None	One Coulter	2 x 2	Fall	59.0	57.2	18.6	52.9	124.5	2.0	4.8	8.6	3.6	7.4	12.9	22402	9.0	16.1	126.6
None	One Coulter	2 x 2	None	60.0	62.0	16.1	47.8	118.1	1.8	4.5	8.5	3.4	6.9	12.5	25099	6.9	16.1	123.6
None	One Coulter	2 x 2	Starter	67.2	54.5	17.8	52.8	121.9	2.0	4.9	8.8	3.5	7.5	12.9	21469	9.4	16.1	113.6
None	One Coulter	2 x 15	Fall	68.1	65.4	17.8	54.5	120.1	1.9	5.0	8.8	3.7	7.4	12.7	24373	5.1	16.3	126.9
None	One Coulter	2 x 15	None	54.5	61.3	16.6	50.1	110.5	1.9	4.8	8.5	3.4	7.1	12.6	21988	8.2	16.6	120.5
None	One Coulter	2 x 15	Starter	51.8	61.3	18.3	57.0	125.9	2.0	5.0	9.0	3.6	7.6	13.4	22714	6.8	16.1	112.3
None	Three Coulters	2 x 2	Fall	80.4	67.4	17.3	47.8	116.6	2.0	4.8	8.3	3.4	7.2	12.1	24788	8.2	16.0	123.0
None	Three Coulters	2 x 2	None	63.4	64.7	18.9	53.6	127.1	2.0	5.0	8.9	3.5	7.6	13.4	23544	14.6	16.1	104.9
None	Three Coulters	2 x 2	Starter	66.8	55.9	17.9	55.0	131.6	1.9	4.9	8.9	3.5	7.6	13.3	23958	7.7	15.8	128.3
None	Three Coulters	2 x 15	Fall	.	57.2	17.1	48.8	114.1	1.9	5.0	8.3	3.5	7.2	12.3	22299	13.4	16.5	112.2
None	Three Coulters	2 x 15	None	.	64.0	17.4	46.6	105.5	1.9	4.8	8.0	3.4	6.8	11.9	23025	10.0	16.7	96.5
None	Three Coulters	2 x 15	Starter	.	59.3	18.1	52.8	118.4	2.0	4.9	8.5	3.6	7.4	12.6	24788	3.8	16.3	116.8
Zone Builder	Chisel Plow	2 x 2	Fall	60.6	59.3	18.3	50.8	119.3	2.0	4.9	8.8	3.7	7.4	12.9	22506	13.9	16.1	114.7
Zone Builder	Chisel Plow	2 x 2	None	58.6	67.4	17.6	47.5	125.6	2.1	5.1	9.0	3.8	7.5	13.1	22506	11.5	15.8	114.1
Zone Builder	Chisel Plow	2 x 2	Starter	58.6	61.3	18.4	51.1	124.5	2.0	4.9	9.0	3.6	7.6	13.3	21884	9.9	15.9	124.8
Zone Builder	Chisel Plow	2 x 15	Fall	.	54.5	16.3	48.9	111.6	2.0	5.0	8.6	3.5	7.3	12.3	22299	6.6	16.1	111.2
Zone Builder	Chisel Plow	2 x 15	None	.	55.2	15.6	44.0	110.9	1.9	4.9	8.3	3.5	7.2	12.1	21780	7.9	16.0	105.4
Zone Builder	Chisel Plow	2 x 15	Starter	.	56.5	17.5	50.3	124.5	2.0	5.1	9.0	3.7	7.5	13.2	21677	6.4	16.0	113.4
Zone Builder	One Coulter	2 x 2	Fall	65.4	61.3	17.3	47.8	115.0	1.9	4.8	8.5	3.6	7.3	12.4	24892	9.9	15.9	105.1
Zone Builder	One Coulter	2 x 2	None	53.8	55.9	17.5	47.0	117.8	1.8	4.6	8.5	3.6	7.3	12.5	21677	6.6	16.1	114.0
Zone Builder	One Coulter	2 x 2	Starter	57.2	56.5	17.8	53.6	124.6	2.0	4.9	8.5	3.6	7.5	12.9	24166	9.0	15.8	123.6
Zone Builder	One Coulter	2 x 15	Fall	.	56.5	17.0	47.3	110.1	2.0	4.9	8.3	3.5	7.2	12.1	21677	8.6	16.1	107.9
Zone Builder	One Coulter	2 x 15	None	.	67.4	16.5	45.1	111.0	2.0	4.9	8.5	3.7	7.3	12.1	23129	8.9	16.0	107.0
Zone Builder	One Coulter	2 x 15	Starter	.	57.9	17.0	46.9	103.8	2.0	4.6	8.3	3.6	7.0	11.9	23129	6.0	16.2	113.9
Zone Builder	Three Coulters	2 x 2	Fall	60.6	63.4	18.3	50.5	120.8	2.0	4.9	8.5	3.6	7.4	12.5	23855	7.4	16.2	123.1
Zone Builder	Three Coulters	2 x 2	None	63.4	63.4	17.0	46.9	119.5	2.0	5.0	8.6	3.7	7.4	12.7	23855	9.5	16.0	127.0
Zone Builder	Three Coulters	2 x 2	Starter	60.6	60.6	18.1	54.3	127.1	1.9	4.8	9.1	3.8	7.7	13.4	21262	11.9	15.7	100.0
Zone Builder	Three Coulters	2 x 15	Fall	.	57.9	15.5	45.6	98.6	1.8	4.5	8.1	3.4	6.8	11.5	21780	6.7	16.1	98.1
Zone Builder	Three Coulters	2 x 15	None	.	68.8	15.6	44.8	103.6	2.0	4.8	8.1	3.6	7.2	12.0	21884	6.6	16.4	105.4
Zone Builder	Three Coulters	2 x 15	Starter	.	58.6	16.1	46.1	112.9	1.9	4.6	8.3	3.5	7.1	12.1	22817	6.4	16.2	109.9
Mean				62.0	59.9	17.4	49.8	117.6	2.0	4.9	8.6	3.6	7.3	12.6	22852	8.9	16.1	113.0

**Table E-46. Fertilizer Placement in Corn Under Zone Tillage.  
Lancaster, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement	P & K	Emergence		Plant Height			Leaf Collars			Leaf No. (Hahn)			Final Population	Broken Stalks	Grain Moist	Yield
				Day of Year	Day of Year	153	167	181	Day of Year	Day of Year	Day of Year	Day of Year	Day of Year	Day of Year				
				%		cm												
<b>Probability %</b>																		
Fall Tillage (F)				39.7	> 50	40.8	15.5	30.1	> 50	> 50	40.2	> 50	> 50	19.0	29.7	> 50	48.0	> 50
Spring Tillage (S)				26.5	3.9	25.6	> 50	7.8	< 0.1	0.5	0.8	0.2	9.6	4.2	27.0	35.6	28.3	22.4
F x S				> 50	> 50	37.4	> 50	8.1	43.2	21.4	17.4	2.8	> 50	17.3	49.8	> 50	> 50	8.9
Nitrogen (N)				-	> 50	0.1	3.9	< 0.1	29.9	> 50	< 0.1	1.2	0.6	< 0.1	2.1	0.4	1.3	0.2
F x N				-	16.0	8.0	15.2	24.0	> 50	27.6	> 50	44.0	23.4	4.3	> 50	8.3	42.4	> 50
S x N				-	22.6	21.2	26.8	3.4	7.1	14.8	2.2	3.0	9.2	0.4	> 50	> 50	> 50	25.9
F x S x N				-	14.1	> 50	45.0	10.4	41.3	37.8	30.7	6.2	> 50	10.4	35.8	9.6	> 50	> 50
P & K Treatment (P)				14.2	0.6	1.6	< 0.1	< 0.1	> 50	> 50	0.2	38.2	2.2	< 0.1	38.4	> 50	3.4	49.6
F x P				> 50	19.2	> 50	> 50	6.6	> 50	15.5	43.4	7.5	21.5	> 50	46.9	> 50	43.3	6.0
S x P				> 50	> 50	47.4	> 50	26.1	4.9	34.8	28.1	44.7	> 50	12.0	> 50	> 50	> 50	> 50
F x S x P				14.1	> 50	27.1	> 50	> 50	> 50	> 50	> 50	> 50	47.4	> 50	13.6	19.2	> 50	0.1
N x P				33.9	39.9	> 50	28.8	1.7	> 50	23.3	9.3	> 50	45.8	3.7	1.4	> 50	41.0	47.9
F x N x P				-	10.8	> 50	9.2	3.9	> 50	36.7	43.4	23.1	13.6	9.3	18.0	38.8	13.7	> 50
S x N x P				-	9.0	> 50	47.1	14.9	4.9	15.9	31.7	30.2	48.2	16.0	> 50	23.8	> 50	> 50
F x S x N x P				-	38.8	39.0	> 50	5.6	44.3	44.3	> 50	> 50	32.9	13.2	1.1	> 50	> 50	19.8
<b>LSD (0.10)</b>																		
Fall Tillage (F)				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Spring Tillage (S)				NS	2.2	NS	NS	2.4	< 0.1	0.1	0.1	0.1	0.2	0.2	NS	NS	NS	NS
Nitrogen (N)				-	NS	0.4	1.6	2.1	NS	NS	0.1	0.1	0.1	0.1	491	1.0	0.2	3.5
P & K Treatment (P)				NS	2.4	0.5	1.6	2.5	NS	NS	0.1	NS	0.1	0.2	NS	NS	0.1	NS
<b>CV (%)</b>																		
				16.3	11.6	8.2	9.4	6.3	8.4	56.0	4.8	5.6	5.3	4.5	8.3	58.5	2.2	12.0

**Table E-47. Fertilizer Placement in Corn Under Zone Tillage.  
Lancaster, WI - 1995**

Fall Tillage	Spring Tillage	Residue Cover		In Row						Between Row					
				Soil Moisture			Soil Bulk Density			Soil Moisture			Soil Bulk Density		
		Pre-plant	Post-Plant	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"
		%		%			grams/cc			%			grams/cc		
None		68.4	64.4	26.5	25.5	24.5	1.2	1.4	1.6	27.3	25.1	24.6	1.3	1.5	1.6
Zone Builder		62.3	53.4	27.0	26.0	25.3	1.2	1.4	1.5	28.0	26.2	25.3	1.2	1.3	1.5
	Chisel Plow	28.0	28.6	26.4	25.8	24.9	1.2	1.3	1.5	-	-	-	-	-	-
	One Coulter	86.4	80.3	26.7	25.2	24.7	1.2	1.4	1.5	-	-	-	-	-	-
	Three Coulters	83.6	68.3	27.2	26.2	25.0	1.2	1.4	1.5	27.7	25.7	25.0	1.3	1.4	1.5
None	Chisel Plow	30.5	35.0	26.8	24.9	24.5	1.2	1.4	1.5	-	-	-	-	-	-
None	One Coulter	90.0	88.0	26.3	25.1	24.3	1.3	1.4	1.5	-	-	-	-	-	-
None	Three Coulters	90.2	72.2	26.5	26.5	24.7	1.2	1.5	1.6	27.3	25.1	24.6	1.3	1.5	1.6
Zone Builder	Chisel Plow	25.5	22.3	25.9	26.7	25.2	1.2	1.3	1.5	-	-	-	-	-	-
Zone Builder	One Coulter	82.8	72.6	27.1	25.3	25.1	1.2	1.4	1.5	-	-	-	-	-	-
Zone Builder	Three Coulters	78.6	65.4	27.9	25.9	25.4	1.2	1.4	1.5	28.0	26.2	25.3	1.2	1.3	1.5
Mean		65.2	58.7	26.7	25.7	24.9	1.2	1.4	1.5	27.7	25.7	25.0	1.3	1.4	1.5
<b>Probability %</b>															
Fall Tillage (F)		12.9	2.3	> 50	35.9	17.6	> 50	0.2	49.9	32.6	9.1	29.0	17.0	2.4	21.5
Spring Tillage (S)		< 0.1	< 0.1	41.4	> 50	> 50	38.6	16.6	> 50	-	-	-	-	-	-
F x S		> 50	> 50	21.6	45.5	> 50	> 50	> 50	> 50	-	-	-	-	-	-
<b>LSD (0.10)</b>															
Fall Tillage (F)		NS	6.2	NS	NS	NS	NS	< 0.1	NS	NS	1.1	NS	NS	0.1	NS
Spring Tillage (S)		5.9	7.0	NS	NS	NS	NS	NS	NS	-	-	-	-	-	-
<b>CV (%)</b>		9.8	12.8	4.7	7.5	4.1	5.2	4.8	4.4	3.1	2.5	3.1	5.7	3.5	5.2

## FIELD EXPERIMENT HISTORY

**Title:** Fertilizer Placement in Corn Under Zone Tillage **Year:** 1995  
**Expt No.:** 9596  
**Personnel:** J.G. Lauer, N.C. Wollenhaupt, M.C. Rankin, K.D. Hudelson, A.H. Bosworth, K.G. Silveira  
**Location:** Bertram Farm, Fond du Lac, WI  
**Supported by:**

---

### FIELD INFORMATION

Soil Type: Kewaunee Red Clay  
Soil Test Results: Date: Oct. 1994 pH: 7.1 P(ppm): 28 K(ppm): 150 OM(%): 3.2  
Previous Crop: Corn

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split-Split-Split Plot

Replicates: 4

Factors:

Fall Tillage	No-Till Zone Builder (Oct. 94)
Spring Tillage	Chisel Plow (w/Soil Finisher) One Coulter Three Coulters
Nitrogen Placement	2" x 2" 50 gpa of 28-0-0 2" x 15" 50 gpa of 28-0-0
P & K Application	Fall 50 gpa of 4-10-10 (Oct. 94) Starter 50 gpa of 4-10-10 None

Plot Size: Planted: 10' x 25'  
Harvested: 5' x 21'

Planting: Date: May 19  
Row Spacing: 30"  
Equipment: John Deere Max-Emerge  
Depth: 2"  
Rate: 32,000/a  
Hybrid: Pioneer 3861

Harvesting: Date: October 18  
Equipment: Gleaner Plot Combine

Herbicides:

<u>Material</u>	<u>Rate</u>	<u>Method</u>
Roundup	2 qts/a	preemerge
Dual	1 qts/a	preemerge
Bladex 4L	1.2 qts/a	preemerge
Crop Oil	1 qt/a	preemerge

Insecticides: Lorsban 8 oz/1000' planting

---

Results: Table E-48, 49.

**Table E-48. Fertilizer Placement in Corn Under Zone Tillage.  
Fond du Lac, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement		Emergence Day of Year		Plant Height Day of Year			Leaf Collars Day of Year			Leaf No. (Hahn) Day of Year			Final Population plants/a	Broken Stalks %	Grain Moist %	Yield bu/a
		P	K	154	164	164	178	191	164	178	191	164	178	191				
				%	%	cm												
None				66.4	74.1	19.4	75.3	119.2	2.1	6.3	9.3	3.9	9.8	13.6	22910	4.5	19.8	141.2
Zone Builder				66.8	76.4	19.8	76.2	123.4	2.1	6.3	9.3	3.9	9.9	13.5	23720	4.5	19.6	145.8
	Chisel Plow			70.7	76.2	20.2	75.9	124.3	2.2	6.4	9.5	4.0	10.0	13.7	23881	5.2	19.6	148.1
	One Coulter			60.7	70.8	18.8	73.9	118.2	2.0	6.2	9.2	3.8	9.6	13.5	22050	4.4	19.8	139.7
	Three Coulters			68.4	78.6	19.7	77.5	121.5	2.1	6.3	9.3	3.9	9.9	13.5	23983	4.0	19.7	142.6
None	Chisel Plow			75.4	77.4	20.5	77.2	125.0	2.2	6.4	9.6	4.0	10.1	13.9	23791	5.3	19.6	150.4
None	One Coulter			56.7	67.8	18.6	73.3	115.6	2.0	6.2	9.3	3.8	9.7	13.5	21241	4.2	19.8	134.4
None	Three Coulters			67.0	77.0	19.1	75.4	117.0	2.1	6.2	9.2	3.9	9.7	13.4	23660	4.0	19.8	138.7
Zone Builder	Chisel Plow			65.9	75.1	20.0	74.6	123.5	2.2	6.4	9.4	3.9	9.9	13.6	23972	5.0	19.5	145.7
Zone Builder	One Coulter			64.7	73.9	19.0	74.5	120.8	2.0	6.2	9.2	3.8	9.6	13.4	22858	4.6	19.7	145.1
Zone Builder	Three Coulters			69.8	80.2	20.3	79.7	125.9	2.2	6.4	9.4	4.0	10.1	13.6	24293	3.9	19.6	146.5
		2 x 2		67.4	75.9	19.8	76.9	123.5	2.1	6.4	9.4	3.9	9.9	13.7	23329	4.2	19.7	148.9
		2 x 15		63.4	74.6	19.3	74.7	119.2	2.1	6.2	9.2	3.9	9.8	13.4	23307	4.9	19.7	138.0
None		2 x 2		66.6	74.6	19.3	74.6	119.2	2.1	6.3	9.3	3.8	9.8	13.6	23140	4.2	19.8	141.6
None		2 x 15		65.4	73.5	19.5	76.0	119.3	2.1	6.3	9.4	4.0	9.9	13.6	22692	4.9	19.7	140.7
Zone Builder		2 x 2		68.1	77.1	20.3	79.1	127.7	2.1	6.5	9.6	3.9	10.1	13.8	23513	4.1	19.6	156.2
Zone Builder		2 x 15		61.5	75.6	19.2	73.4	119.1	2.2	6.2	9.1	3.8	9.6	13.2	23921	4.9	19.6	135.3
	Chisel Plow	2 x 2		71.0	77.5	20.0	75.8	125.4	2.2	6.4	9.6	3.9	10.0	13.8	23791	4.4	19.5	156.0
	Chisel Plow	2 x 15		69.5	74.9	20.5	76.0	123.1	2.2	6.3	9.4	4.0	10.0	13.6	23972	5.9	19.6	140.1
	One Coulter	2 x 2		60.4	70.3	18.9	74.6	119.5	1.9	6.2	9.3	3.7	9.7	13.6	22176	4.1	19.8	143.0
	One Coulter	2 x 15		61.8	71.4	18.7	73.2	116.9	2.1	6.2	9.2	3.8	9.6	13.4	21934	4.7	19.7	136.5
	Three Coulters	2 x 2		70.7	79.8	20.5	80.2	125.5	2.2	6.4	9.5	4.0	10.1	13.8	23951	3.9	19.7	147.8
	Three Coulters	2 x 15		59.0	77.3	18.9	74.9	117.5	2.1	6.2	9.1	3.9	9.7	13.2	24014	4.0	19.8	137.5
None	Chisel Plow	2 x 2		76.5	79.7	19.9	75.2	124.3	2.2	6.3	9.5	3.9	9.9	13.8	24237	5.1	19.6	154.2
None	Chisel Plow	2 x 15		70.8	75.2	21.0	79.2	125.7	2.2	6.5	9.7	4.1	10.3	13.9	23344	5.6	19.6	146.7
None	One Coulter	2 x 2		56.5	66.5	18.5	72.7	115.3	2.0	6.2	9.2	3.7	9.7	13.5	21354	3.2	19.9	132.0
None	One Coulter	2 x 15		57.2	69.0	18.8	74.0	115.9	2.0	6.3	9.3	3.9	9.7	13.5	21138	5.1	19.8	136.8
None	Three Coulters	2 x 2		66.8	77.7	19.6	76.0	117.9	2.2	6.3	9.3	3.8	9.8	13.5	23730	4.2	19.8	138.8
None	Three Coulters	2 x 15		68.1	76.3	18.6	74.9	116.2	2.0	6.1	9.1	3.9	9.7	13.3	23595	3.9	19.8	138.7
Zone Builder	Chisel Plow	2 x 2		65.4	75.4	20.1	76.5	126.5	2.2	6.5	9.7	4.0	10.0	13.8	23344	3.8	19.5	157.8
Zone Builder	Chisel Plow	2 x 15		68.1	74.7	19.9	72.7	120.5	2.2	6.2	9.2	3.9	9.7	13.4	24600	6.2	19.6	133.5
Zone Builder	One Coulter	2 x 2		64.3	74.0	19.3	76.5	123.6	1.9	6.3	9.3	3.8	9.7	13.6	22999	4.9	19.7	154.0
Zone Builder	One Coulter	2 x 15		66.3	73.8	18.6	72.4	117.9	2.1	6.2	9.0	3.7	9.5	13.3	22730	4.2	19.6	136.2
Zone Builder	Three Coulters	2 x 2		74.7	82.0	21.5	84.3	133.0	2.1	6.6	9.7	4.1	10.5	14.1	24154	3.7	19.6	156.8
Zone Builder	Three Coulters	2 x 15		50.0	78.3	19.2	75.0	118.8	2.2	6.2	9.0	3.9	9.7	13.1	24433	4.1	19.7	136.2
			Fall	67.7	77.3	19.4	75.8	121.6	2.1	6.3	9.3	3.9	9.8	13.5	23605	3.9	19.7	142.4
			None	66.6	73.7	19.4	75.0	120.5	2.1	6.3	9.3	3.9	9.8	13.5	23106	5.1	19.7	142.1
			Starter	65.5	74.7	20.0	76.5	121.8	2.1	6.3	9.4	3.9	9.9	13.7	23242	4.5	19.6	146.0
None			Fall	69.4	76.5	19.1	75.0	119.1	2.1	6.2	9.3	3.9	9.7	13.6	23368	3.2	19.8	142.4
None			None	64.5	72.6	19.4	75.5	119.4	2.1	6.3	9.4	3.9	9.9	13.6	22683	5.9	19.7	138.5
None			Starter	65.2	73.1	19.6	75.5	119.1	2.0	6.3	9.4	3.9	9.9	13.7	22688	4.5	19.7	142.7
Zone Builder			Fall	65.9	78.0	19.7	76.7	124.1	2.2	6.4	9.3	3.9	9.9	13.5	23833	4.6	19.7	142.3
Zone Builder			None	68.7	74.8	19.3	74.6	121.6	2.1	6.3	9.3	3.9	9.8	13.5	23511	4.3	19.6	145.7
Zone Builder			Starter	65.8	76.3	20.3	77.5	124.5	2.2	6.4	9.4	3.9	9.9	13.7	23820	4.6	19.5	149.3

**Table E-48. Fertilizer Placement in Corn Under Zone Tillage.  
Fond du Lac, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement		Emergence Day of Year		Plant Height Day of Year			Leaf Collars Day of Year			Leaf No. (Hahn) Day of Year			Final Population	Broken Stalks	Grain Moist	Yield
		P & K		154	164	164	178	191	164	178	191	164	178	191				
	Chisel Plow	Fall		73.0	79.0	20.6	78.0	127.2	2.2	6.5	9.5	4.0	10.1	13.9	24901	4.0	19.7	154.9
	Chisel Plow	None		73.3	76.0	20.1	75.0	122.6	2.2	6.3	9.5	3.9	9.9	13.6	23351	6.1	19.4	143.1
	Chisel Plow	Starter		65.7	73.7	20.0	74.7	123.1	2.2	6.3	9.5	3.9	9.9	13.7	23393	5.3	19.5	146.2
	One Coulter	Fall		60.0	70.8	18.4	72.0	116.4	2.0	6.1	9.1	3.7	9.4	13.3	22011	3.9	19.7	137.1
	One Coulter	None		59.1	70.2	18.4	73.2	117.9	1.9	6.2	9.1	3.7	9.6	13.4	22026	5.6	19.8	140.2
	One Coulter	Starter		62.9	71.5	19.6	76.5	120.3	2.1	6.3	9.4	3.8	9.9	13.8	22115	3.7	19.7	141.9
	Three Coulters	Fall		70.0	81.9	19.2	77.5	121.3	2.2	6.3	9.2	3.9	9.8	13.4	23925	3.8	19.8	135.0
	Three Coulters	None		67.3	74.9	19.6	76.8	121.0	2.2	6.3	9.4	4.0	9.9	13.6	23874	3.6	19.8	143.1
	Three Coulters	Starter		67.9	78.9	20.4	78.3	122.2	2.1	6.4	9.3	4.0	10.0	13.5	24147	4.6	19.6	149.8
None	Chisel Plow	Fall		78.5	80.4	20.8	80.3	130.0	2.1	6.5	9.8	4.1	10.3	14.2	24586	3.3	19.7	161.9
None	Chisel Plow	None		74.7	76.6	20.5	76.2	122.8	2.3	6.3	9.4	3.9	10.0	13.6	23079	8.5	19.5	139.9
None	Chisel Plow	Starter		73.0	75.3	20.1	75.1	122.3	2.2	6.4	9.6	4.0	10.0	13.8	23707	4.2	19.6	149.5
None	One Coulter	Fall		60.5	68.8	18.3	71.2	113.5	2.1	6.1	9.1	3.7	9.3	13.3	21487	3.2	19.8	135.2
None	One Coulter	None		49.6	65.1	18.4	74.9	116.6	2.0	6.3	9.3	3.8	9.9	13.5	21062	5.1	19.8	133.3
None	One Coulter	Starter		60.0	69.5	19.3	73.9	116.7	1.9	6.3	9.4	3.9	9.8	13.8	21152	4.4	19.9	134.6
None	Three Coulters	Fall		69.2	80.4	18.3	73.6	113.8	2.1	6.1	9.0	3.8	9.6	13.2	24126	3.0	19.9	130.1
None	Three Coulters	None		69.2	76.0	19.4	75.3	118.9	2.1	6.3	9.4	4.0	9.8	13.6	23707	4.1	19.9	142.2
None	Three Coulters	Starter		62.7	74.6	19.6	77.4	118.4	2.0	6.2	9.2	3.9	9.9	13.5	23204	4.9	19.7	143.9
Zone Builder	Chisel Plow	Fall		67.6	77.7	20.3	75.8	124.3	2.3	6.5	9.3	4.0	10.0	13.5	25215	4.7	19.7	147.9
Zone Builder	Chisel Plow	None		71.9	75.3	19.8	73.8	122.4	2.2	6.3	9.6	4.0	9.8	13.6	23623	3.8	19.4	146.2
Zone Builder	Chisel Plow	Starter		58.3	72.2	19.9	74.3	123.9	2.1	6.3	9.4	3.8	9.7	13.7	23079	6.5	19.5	143.0
Zone Builder	One Coulter	Fall		59.4	72.9	18.6	72.8	119.3	2.0	6.2	9.1	3.8	9.5	13.3	22534	4.6	19.6	139.1
Zone Builder	One Coulter	None		68.7	75.3	18.4	71.6	119.2	1.9	6.2	9.0	3.7	9.4	13.3	22869	6.1	19.8	147.1
Zone Builder	One Coulter	Starter		65.9	73.6	19.9	79.0	123.8	2.2	6.3	9.4	3.8	10.0	13.7	23216	2.8	19.6	149.2
Zone Builder	Three Coulters	Fall		70.8	83.5	20.1	81.4	128.8	2.2	6.4	9.4	4.0	10.1	13.6	23749	4.5	19.7	140.0
Zone Builder	Three Coulters	None		65.4	73.9	19.8	78.4	123.1	2.2	6.3	9.4	4.0	10.1	13.6	24042	3.0	19.7	144.0
Zone Builder	Three Coulters	Starter		73.0	83.1	21.2	79.2	125.9	2.1	6.6	9.4	4.0	10.1	13.6	25089	4.2	19.5	155.6
		2 x 2	Fall	68.0	76.8	19.7	77.9	125.2	2.2	6.4	9.5	3.9	10.0	13.8	23572	3.8	19.7	149.0
		2 x 2	None	67.8	74.9	19.3	75.7	122.5	2.1	6.3	9.4	3.9	9.9	13.7	23033	4.9	19.6	144.3
		2 x 2	Starter	66.3	76.0	20.4	77.0	122.7	2.0	6.4	9.4	3.9	10.0	13.8	23383	3.8	19.7	153.4
		2 x 15	Fall	66.3	77.8	19.0	73.8	118.0	2.1	6.2	9.1	3.9	9.6	13.3	23637	4.0	19.8	135.7
		2 x 15	None	61.8	72.4	19.4	74.4	118.5	2.2	6.2	9.3	3.9	9.8	13.4	23176	5.3	19.7	139.9
		2 x 15	Starter	62.2	73.5	19.6	75.9	120.9	2.2	6.3	9.4	3.9	9.9	13.6	23107	5.3	19.5	138.5
None		2 x 2	Fall	68.8	76.3	19.4	75.4	120.1	2.2	6.3	9.3	3.9	9.8	13.7	23395	3.7	19.8	145.5
None		2 x 2	None	64.9	73.6	18.9	73.8	118.8	2.1	6.2	9.3	3.8	9.8	13.5	22816	5.5	19.7	131.9
None		2 x 2	Starter	66.1	74.0	19.6	74.7	118.7	2.0	6.3	9.3	3.8	9.8	13.7	23204	3.5	19.8	147.5
None		2 x 15	Fall	71.8	76.8	18.8	74.6	118.1	2.0	6.2	9.3	3.9	9.7	13.5	23344	2.8	19.8	139.3
None		2 x 15	None	62.7	71.5	20.0	77.1	120.1	2.1	6.3	9.4	4.0	10.0	13.6	22562	6.3	19.8	145.0
None		2 x 15	Starter	61.8	72.2	19.6	76.3	119.6	2.1	6.3	9.5	4.0	10.0	13.7	22171	5.5	19.6	137.8
Zone Builder		2 x 2	Fall	67.2	77.2	20.0	80.3	130.3	2.2	6.5	9.7	3.9	10.2	13.9	23735	3.9	19.6	152.5
Zone Builder		2 x 2	None	70.6	76.3	19.8	77.5	126.2	2.0	6.5	9.5	3.9	9.9	13.8	23232	4.3	19.6	156.8
Zone Builder		2 x 2	Starter	66.5	77.9	21.1	79.4	126.8	2.0	6.5	9.5	3.9	10.1	13.8	23578	4.1	19.6	159.3
Zone Builder		2 x 15	Fall	60.9	78.8	19.3	73.0	118.0	2.1	6.2	8.9	3.9	9.5	13.1	23930	5.3	19.8	132.1
Zone Builder		2 x 15	None	60.9	73.3	18.8	71.6	117.0	2.2	6.1	9.1	3.8	9.6	13.2	23791	4.3	19.7	134.7
Zone Builder		2 x 15	Starter	62.7	74.7	19.5	75.5	122.3	2.3	6.3	9.3	3.8	9.8	13.5	24042	5.0	19.5	139.2
	Chisel Plow	2 x 2	Fall	71.2	77.0	20.9	79.6	130.9	2.3	6.6	9.8	4.0	10.3	14.1	24545	3.5	19.7	162.3
	Chisel Plow	2 x 2	None	74.9	77.7	19.4	75.5	124.9	2.3	6.4	9.6	3.9	10.0	13.7	23204	5.4	19.3	144.1
	Chisel Plow	2 x 2	Starter	66.8	78.0	19.6	72.4	120.5	2.1	6.3	9.4	3.8	9.7	13.7	23623	4.3	19.5	161.6
	Chisel Plow	2 x 15	Fall	80.4	81.1	20.2	76.5	123.4	2.1	6.4	9.3	4.1	10.0	13.6	25257	4.5	19.7	147.5
	Chisel Plow	2 x 15	None	66.8	74.3	20.8	74.4	120.3	2.2	6.3	9.4	4.0	9.9	13.5	23497	6.8	19.6	142.0
	Chisel Plow	2 x 15	Starter	61.3	69.5	20.4	76.9	125.6	2.3	6.4	9.6	3.9	10.0	13.8	23162	6.3	19.5	130.9

**Table E-48. Fertilizer Placement in Corn Under Zone Tillage.  
Fond du Lac, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement		Emergence Day of Year		Plant Height Day of Year			Leaf Collars Day of Year			Leaf No. (Hahn) Day of Year			Final Population	Broken Stalks	Grain Moist	Yield
		P & K		154	164	164	178	191	164	178	191	164	178	191				
	One Coulter	2 x 2	Fall	58.9	70.5	18.1	73.5	119.3	2.1	6.2	9.3	3.7	9.6	13.5	22241	3.7	19.7	145.2
	One Coulter	2 x 2	None	60.0	69.1	18.5	72.9	117.6	1.8	6.2	9.0	3.7	9.5	13.3	22498	5.8	19.9	141.8
	One Coulter	2 x 2	Starter	62.3	71.2	20.1	77.4	121.5	2.0	6.3	9.5	3.8	10.0	13.9	21780	2.8	19.9	141.9
	One Coulter	2 x 15	Fall	64.0	71.2	18.8	70.5	113.4	2.0	6.1	8.9	3.8	9.2	13.1	21780	4.1	19.8	129.0
	One Coulter	2 x 15	None	55.9	71.2	18.3	73.5	118.2	2.1	6.3	9.3	3.8	9.7	13.5	21613	5.5	19.7	138.6
	One Coulter	2 x 15	Starter	65.4	71.9	19.0	75.6	119.0	2.1	6.3	9.3	3.9	9.8	13.7	22409	4.5	19.6	141.9
	Three Coulters	2 x 2	Fall	73.9	82.8	20.1	80.5	125.3	2.3	6.4	9.4	3.9	10.1	13.7	23982	4.1	19.7	139.5
	Three Coulters	2 x 2	None	68.5	78.0	20.1	78.6	124.9	2.2	6.4	9.7	3.9	10.1	13.9	23330	3.6	19.7	147.1
	Three Coulters	2 x 2	Starter	69.8	78.7	21.4	81.4	126.2	2.0	6.5	9.4	4.0	10.2	13.7	24545	4.1	19.7	156.8
	Three Coulters	2 x 15	Fall	54.5	81.1	18.2	74.4	117.3	2.1	6.1	9.0	3.8	9.6	13.1	23875	3.5	19.9	130.6
	Three Coulters	2 x 15	None	62.7	71.9	19.1	75.1	117.1	2.1	6.1	9.1	4.0	9.8	13.2	24419	3.5	19.9	139.1
	Three Coulters	2 x 15	Starter	60.0	79.0	19.4	75.3	118.1	2.1	6.3	9.2	3.9	9.7	13.3	23749	5.0	19.5	142.7
None	Chisel Plow	2 x 2	Fall	79.0	79.0	21.1	80.0	132.0	2.1	6.5	9.8	4.1	10.2	14.1	24293	5.0	19.7	159.8
None	Chisel Plow	2 x 2	None	75.6	79.0	18.6	72.6	120.6	2.3	6.1	9.4	3.7	9.7	13.5	23875	7.7	19.4	136.8
None	Chisel Plow	2 x 2	Starter	74.9	81.1	19.9	72.9	120.4	2.1	6.4	9.4	3.9	9.9	13.9	24545	2.6	19.7	165.9
None	Chisel Plow	2 x 15	Fall	76.3	81.7	20.5	80.6	128.0	2.1	6.5	9.8	4.1	10.4	14.2	24880	1.7	19.7	164.0
None	Chisel Plow	2 x 15	None	70.8	74.3	22.4	79.8	125.0	2.3	6.5	9.5	4.1	10.2	13.7	22283	9.3	19.6	143.0
None	Chisel Plow	2 x 15	Starter	65.4	69.5	20.3	77.3	124.1	2.3	6.4	9.8	4.0	10.1	13.7	22869	5.8	19.5	133.1
None	One Coulter	2 x 2	Fall	58.6	69.5	17.8	71.5	114.6	2.1	6.1	9.3	3.6	9.5	13.5	21613	2.5	19.8	145.1
None	One Coulter	2 x 2	None	52.5	63.4	18.3	72.3	113.9	1.9	6.1	9.0	3.8	9.7	13.4	21333	4.6	19.8	123.0
None	One Coulter	2 x 2	Starter	58.6	66.8	19.5	74.4	117.4	1.9	6.3	9.4	3.8	9.8	13.8	21110	2.9	20.0	127.8
None	One Coulter	2 x 15	Fall	68.1	68.1	18.8	70.9	112.4	2.0	6.0	9.0	3.8	9.1	13.1	21362	4.0	19.8	125.3
None	One Coulter	2 x 15	None	38.2	66.8	18.5	77.5	119.3	2.1	6.4	9.5	3.9	10.1	13.7	20859	5.5	19.9	143.7
None	One Coulter	2 x 15	Starter	65.4	72.2	19.0	73.5	116.0	2.0	6.4	9.4	4.0	9.8	13.8	21194	5.9	19.8	141.4
None	Three Coulters	2 x 2	Fall	68.8	80.4	19.4	74.8	113.6	2.3	6.1	9.0	3.8	9.6	13.3	24572	3.5	19.8	131.5
None	Three Coulters	2 x 2	None	66.8	78.3	19.9	76.5	121.8	2.3	6.4	9.6	3.8	9.9	13.8	22869	4.1	19.9	136.0
None	Three Coulters	2 x 2	Starter	64.7	74.3	19.5	76.8	118.3	2.0	6.3	9.1	3.8	9.9	13.4	23958	4.9	19.8	148.9
None	Three Coulters	2 x 15	Fall	70.8	80.4	17.1	72.4	113.9	2.0	6.1	9.0	3.7	9.5	13.1	23791	2.6	20.0	128.7
None	Three Coulters	2 x 15	None	79.0	73.6	19.0	74.1	116.0	2.0	6.1	9.1	4.1	9.7	13.3	24545	4.0	19.8	148.4
None	Three Coulters	2 x 15	Starter	54.5	74.9	19.6	78.1	118.6	2.0	6.1	9.3	4.0	9.9	13.5	22450	5.0	19.6	138.9
Zone Builder	Chisel Plow	2 x 2	Fall	63.4	74.9	20.8	79.1	129.9	2.4	6.8	9.9	4.0	10.3	14.1	24796	2.1	19.7	164.7
Zone Builder	Chisel Plow	2 x 2	None	74.3	76.3	20.3	78.4	129.1	2.3	6.6	9.8	4.1	10.2	14.0	22534	3.2	19.3	151.5
Zone Builder	Chisel Plow	2 x 2	Starter	58.6	74.9	19.4	71.9	120.6	2.0	6.3	9.4	3.8	9.5	13.5	22702	6.0	19.4	157.3
Zone Builder	Chisel Plow	2 x 15	Fall	84.5	80.4	19.9	72.4	118.8	2.1	6.3	8.8	4.0	9.6	13.0	25634	7.2	19.7	131.0
Zone Builder	Chisel Plow	2 x 15	None	62.7	74.3	19.3	69.1	115.6	2.1	6.0	9.4	3.8	9.5	13.2	24712	4.4	19.5	140.9
Zone Builder	Chisel Plow	2 x 15	Starter	57.2	69.5	20.5	76.6	127.1	2.3	6.4	9.5	3.9	10.0	13.9	23456	6.9	19.5	128.7
Zone Builder	One Coulter	2 x 2	Fall	59.3	71.5	18.5	75.5	124.0	2.0	6.3	9.4	3.8	9.7	13.5	22870	5.0	19.5	145.3
Zone Builder	One Coulter	2 x 2	None	67.4	74.9	18.8	73.6	121.3	1.6	6.3	9.0	3.6	9.4	13.3	23372	6.7	19.9	160.6
Zone Builder	One Coulter	2 x 2	Starter	66.1	75.6	20.8	80.4	125.6	2.1	6.4	9.6	3.9	10.1	14.0	22674	2.5	19.8	156.0
Zone Builder	One Coulter	2 x 15	Fall	60.0	74.3	18.8	70.1	114.5	2.0	6.1	8.9	3.8	9.3	13.0	22199	4.1	19.8	132.8
Zone Builder	One Coulter	2 x 15	None	73.6	75.6	18.0	69.5	117.1	2.1	6.1	9.0	3.7	9.4	13.2	22367	5.5	19.6	133.5
Zone Builder	One Coulter	2 x 15	Starter	65.4	71.5	19.0	77.6	122.0	2.3	6.3	9.3	3.7	9.8	13.5	23623	3.1	19.4	142.4
Zone Builder	Three Coulters	2 x 2	Fall	79.0	85.2	20.9	86.3	136.9	2.3	6.6	9.8	4.1	10.6	14.1	23539	4.5	19.5	147.6
Zone Builder	Three Coulters	2 x 2	None	70.2	77.7	20.3	80.6	128.1	2.1	6.5	9.8	4.0	10.3	14.1	23791	3.1	19.6	158.2
Zone Builder	Three Coulters	2 x 2	Starter	74.9	83.1	23.3	86.0	134.1	2.0	6.8	9.6	4.2	10.6	14.1	25131	3.4	19.6	164.7
Zone Builder	Three Coulters	2 x 15	Fall	38.2	81.7	19.3	76.5	120.6	2.1	6.1	9.0	3.9	9.7	13.1	23958	4.4	19.9	132.4
Zone Builder	Three Coulters	2 x 15	None	46.3	70.2	19.3	76.1	118.1	2.3	6.1	9.0	3.9	9.8	13.1	24293	3.0	19.9	129.8
Zone Builder	Three Coulters	2 x 15	Starter	65.4	83.1	19.1	72.4	117.6	2.3	6.4	9.1	3.9	9.6	13.1	25047	5.0	19.4	146.4
Mean				66.6	75.2	19.6	75.8	121.3	2.1	6.3	9.3	3.9	9.8	13.6	23318	4.5	19.7	143.5



**Table E-48. Fertilizer Placement in Corn Under Zone Tillage.  
Fond du Lac, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement		Emergence Day of Year		Plant Height Day of Year			Leaf Collars Day of Year			Leaf No. (Hahn) Day of Year			Final Population plants/a	Broken Stalks %	Grain Moist %	Yield bu/a
		P & K		154	164	164	178	191	164	178	191	164	178	191				
<b>Probability %</b>																		
Fall Tillage (F)				36.7	5.6	>50	>50	46.5	>50	>50	>50	>50	>50	>50	16.0	>50	16.8	>50
Spring Tillage (S)				17.9	0.4	14.3	16.7	10.7	11.3	35.5	22.5	4.2	3.3	36.5	0.6	27.6	10.8	12.8
F x S				18.1	11.2	47.4	20.4	17.6	>50	>50	>50	45.2	6.8	>50	41.0	>50	>50	14.1
Nitrogen (N)				-	22.7	27.4	6.7	2.6	45.6	7.6	2.8	>50	7.4	0.7	>50	26.6	>50	1.0
F x N				-	>50	16.2	0.5	2.3	30.0	3.5	1.0	4.8	1.6	2.1	15.2	>50	35.5	1.6
S x N				-	28.4	14.7	15.7	35.6	23.8	35.4	37.7	>50	17.8	25.8	>50	>50	11.0	>50
F x S x N				-	38.6	>50	>50	>50	34.2	>50	>50	>50	>50	>50	25.3	48.0	27.9	>50
P & K Treatment (P)				>50	7.0	31.5	>50	>50	>50	>50	>50	>50	>50	46.2	26.5	16.9	17.5	>50
F x P				41.9	>50	>50	>50	>50	49.7	>50	>50	>50	>50	>50	>50	7.3	>50	>50
S x P				35.4	27.9	47.9	29.6	>50	>50	47.6	>50	33.9	26.3	38.8	9.9	24.0	9.1	12.6
F x S x P				3.6	26.3	>50	42.8	>50	>50	>50	>50	>50	>50	>50	23.4	2.4	>50	>50
N x P				-	43.6	>50	>50	42.6	7.7	>50	32.1	>50	43.4	>50	>50	44.2	4.2	35.0
F x N x P				-	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	>50	33.7	>50	23.4
S x N x P				-	26.6	>50	>50	>50	48.1	>50	46.3	>50	>50	>50	32.4	>50	37.1	37.3
F x S x N x P				-	>50	28.7	33.4	>50	>50	>50	>50	>50	>50	46.3	48.4	26.6	29.5	24.2
<b>LSD (0.10)</b>																		
Fall Tillage (F)				NS	1.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Spring Tillage (S)				NS	3.4	NS	NS	NS	NS	NS	NS	0.1	0.2	NS	918	NS	NS	NS
Nitrogen (N)				-	NS	NS	1.9	3.1	NS	0.1	0.2	NS	0.2	0.2	NS	NS	NS	6.5
P & K Treatment (P)				NS	2.6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
<b>CV (%)</b>																		
				15.3	10.2	11.4	9.2	8.3	14.3	6.5	7.0	7.6	6.6	5.1	6.6	65.3	1.4	13.2

**Table E-49. Fertilizer Placement in Corn Under Zone Tillage.  
Fond du Lac, WI - 1995**

Fall Tillage	Spring Tillage	Residue Cover		In Row						Between Row					
				Soil Moisture			Soil Bulk Density			Soil Moisture			Soil Bulk Density		
		Pre-plant	Post-Plant	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"
		%		%			grams/cc			%			grams/cc		
None		67.3	47.2	19.5	25.1	29.0	1.1	1.5	1.5	19.4	25.0	26.8	1.1	1.6	1.5
Zone Builder		62.5	52.2	18.4	25.7	29.9	1.0	1.5	1.5	20.6	24.6	27.6	1.2	1.6	1.5
	Chisel Plow	36.6	28.1	20.1	26.1	29.5	1.0	1.5	1.5	.	.	.	.	.	.
	One Coulter	75.2	62.0	19.1	24.8	29.0	1.1	1.5	1.5	19.6	25.1	27.3	1.2	1.6	1.5
	Three Coulters	79.6	55.9	17.7	25.3	29.8	0.9	1.5	1.5	22.5	22.9	26.9	1.0	1.6	1.5
None	Chisel Plow	38.9	25.6	20.2	25.5	27.4	1.1	1.5	1.6	.	.	.	.	.	.
None	One Coulter	80.8	62.4	19.3	24.6	29.5	1.1	1.6	1.5	19.4	25.0	26.8	1.1	1.6	1.5
None	Three Coulters	82.3	53.5	19.0	25.1	30.1	1.0	1.6	1.5	.	.	.	.	.	.
Zone Builder	Chisel Plow	33.7	31.5	19.9	26.8	31.7	1.0	1.5	1.5	.	.	.	.	.	.
Zone Builder	One Coulter	69.6	61.6	18.9	25.0	28.5	1.1	1.5	1.5	20.0	25.2	27.8	1.2	1.6	1.5
Zone Builder	Three Coulters	77.0	58.3	16.3	25.4	29.4	0.8	1.5	1.5	22.5	22.9	26.9	1.0	1.6	1.5
Mean		65.0	49.6	18.9	25.4	29.4	1.0	1.5	1.5	20.0	24.8	27.2	1.1	1.6	1.5
<b>Probability %</b>															
Fall Tillage (F)		23.6	> 50	15.6	31.4	4.5	21.1	25.8	16.4	> 50	> 50	32.3	> 50	> 50	> 50
Spring Tillage (S)		< 0.1	< 0.1	6.0	19.2	> 50	26.7	16.8	28.0	-	-	-	-	-	-
F x S		> 50	> 50	38.0	> 50	27.4	> 50	26.5	36.4	-	-	-	-	-	-
<b>LSD (0.10)</b>															
Fall Tillage (F)		NS	NS	NS	NS	0.6	NS	NS	NS	NS	NS	NS	NS	NS	NS
Spring Tillage (S)		6.7	9.2	1.6	NS	NS	NS	NS	NS	-	-	-	-	-	-
<b>CV (%)</b>		11.5	20.7	9.5	5.5	11.8	17.1	2.4	4.8	12.6	4.8	2.8	7.0	3.6	3.0

# FIELD EXPERIMENT HISTORY

**Title:** Fertilizer Placement in Corn Under Zone Tillage **Year:** 1995  
**Expt. No.:** 9597  
**Personnel:** J.G. Lauer, N.C. Wollenhaupt, F.D. Thompson, K.D. Hudelson, A.H. Bosworth, K.G. Silveira  
**Location:** Darrow Farm, Chippewa Falls, WI  
**Supported by:**

---

---

## FIELD INFORMATION

Soil Type: Burkhardt Sandy Loam  
Soil Test Results: Date: 1993 pH: 6.3 P(ppm): 45 K(ppm): 127 OM(%): 2.5  
Previous Crop: Corn

---

---

## EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split-Split-Split Plot

Replicates: 4

Factors:

Fall Tillage	No-Till Zone Builder (Oct. 94)
Spring Tillage	Chisel Plow (and Disk) One Coulter Three Coulters
Nitrogen Placement	2" x 2" 50 gpa of 28-0-0 2" x 15" 50 gpa of 28-0-0
P & K Application	Fall 25 gpa of 4-10-10 (Oct. 94) Starter 25 gpa of 4-10-10 None

Plot Size: Planted: 10' x 30'  
Harvested: 5' x 26'

Planting: Date: April 28  
Row Spacing: 30"  
Equipment: John Deere Max-Emerge  
Depth: 2"  
Rate: 32,000/a  
Hybrid: Pioneer 3861

Harvesting: Date: Oct. 11  
Equipment: Gleaner Plot Combine

Herbicides:

<u>Material</u>	<u>Rate</u>	<u>Method</u>
Roundup	2 qts/a	planting
Dual	2.5 pts/a	Pre-emerge
Bladex 4L	2.25 pts/a	Pre-emerge

Insecticides: Lorsban 8 oz/1000' planting

---

---

Results: Table E-50, 51.

**Table E-50. Fertilizer Placement in Corn Under Zone Tillage.  
Chippewa Falls, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement	P & K	Emergence		Plant Height			Leaf Collars			Leaf No. (Hahn)			Final Population	Broken Stalks	Grain Moist	Yield
				Day of Year	Day of Year	152	166	180	Day of Year	Day of Year	Day of Year	Day of Year	Day of Year	Day of Year				
				%	%	cm								plants/a	%	%	bu/a	
None				26.3	79.8	12.8	37.9	84.7	1.8	4.2	8.7	3.3	6.7	12.6	24676	0.7	23.5	109.9
Zone Builder				31.3	80.5	13.5	39.8	92.3	1.8	4.4	9.0	3.4	7.0	13.2	24913	1.0	23.3	111.7
	Chisel Plow			42.1	79.2	14.8	43.2	101.1	2.0	4.7	9.2	3.6	7.4	13.6	24604	0.9	22.8	115.4
	One Coulter			19.2	79.6	12.1	36.8	83.1	1.6	4.1	8.5	3.2	6.6	12.5	24938	1.0	23.7	109.1
	Three Coulters			25.1	81.6	12.7	36.7	80.9	1.7	4.2	8.7	3.3	6.6	12.6	24836	0.8	23.7	107.9
None	Chisel Plow			39.5	78.7	14.3	42.8	98.3	2.0	4.7	9.2	3.6	7.3	13.6	24293	0.8	22.6	114.0
None	One Coulter			16.6	79.0	11.8	36.0	79.8	1.6	3.9	8.3	3.1	6.4	12.2	25165	0.8	24.0	108.8
None	Three Coulters			22.7	81.7	12.3	35.0	75.6	1.7	4.2	8.5	3.2	6.5	12.1	24613	0.6	23.9	106.9
Zone Builder	Chisel Plow			44.7	79.7	15.2	43.6	104.0	2.0	4.8	9.3	3.6	7.4	13.6	24947	0.9	22.9	116.7
Zone Builder	One Coulter			21.8	80.2	12.4	37.6	86.5	1.7	4.3	8.8	3.3	6.8	12.9	24712	1.2	23.5	109.4
Zone Builder	Three Coulters			27.5	81.5	13.0	38.3	86.2	1.7	4.3	8.9	3.3	6.7	13.1	25081	0.9	23.5	108.9
		2 x 2		28.8	80.0	13.3	38.1	85.7	1.8	4.3	8.8	3.4	6.8	12.8	24899	0.7	23.9	113.8
		2 x 15		-	80.2	13.1	39.7	91.4	1.8	4.4	8.8	3.3	6.9	13.0	24682	1.1	22.8	107.7
None		2 x 2		26.3	80.2	13.1	38.0	84.0	1.8	4.3	8.7	3.4	6.8	12.6	24838	0.6	24.0	113.3
None		2 x 15		-	79.5	12.5	37.8	85.3	1.8	4.2	8.7	3.3	6.7	12.6	24513	0.9	23.0	106.6
Zone Builder		2 x 2		31.3	79.9	13.4	38.2	87.3	1.8	4.3	8.9	3.4	6.9	13.0	24963	0.8	23.9	114.4
Zone Builder		2 x 15		-	81.0	13.6	41.5	97.5	1.8	4.6	9.0	3.4	7.1	13.4	24863	1.3	22.7	108.9
	Chisel Plow	2 x 2		42.1	80.7	14.8	42.8	98.0	2.0	4.8	9.3	3.6	7.4	13.5	24732	0.5	23.2	116.9
	Chisel Plow	2 x 15		-	77.7	14.7	43.5	104.3	2.0	4.7	9.2	3.5	7.3	13.7	24477	1.2	22.3	113.9
	One Coulter	2 x 2		19.2	77.7	12.3	36.2	80.1	1.7	4.0	8.5	3.2	6.6	12.4	24863	1.1	24.5	110.9
	One Coulter	2 x 15		-	81.5	11.8	37.4	86.5	1.5	4.2	8.6	3.1	6.6	12.7	25014	1.0	23.0	107.3
	Three Coulters	2 x 2		25.1	81.7	12.7	35.2	78.9	1.7	4.0	8.6	3.2	6.5	12.6	25099	0.6	24.1	113.7
	Three Coulters	2 x 15		-	81.5	12.7	38.1	82.9	1.8	4.4	8.8	3.3	6.8	12.6	24573	1.0	23.3	102.1
None	Chisel Plow	2 x 2		39.5	80.4	14.8	43.7	98.4	2.0	4.8	9.3	3.6	7.5	13.7	24735	0.5	23.0	115.2
None	Chisel Plow	2 x 15		-	77.0	13.9	41.8	98.2	2.0	4.6	9.1	3.5	7.1	13.5	23852	1.1	22.2	112.8
None	One Coulter	2 x 2		16.6	77.2	12.0	35.4	78.2	1.6	3.8	8.2	3.2	6.3	12.0	24896	1.0	24.8	114.5
None	One Coulter	2 x 15		-	80.8	11.6	36.5	81.7	1.5	4.0	8.4	3.0	6.4	12.4	25433	0.6	23.1	103.2
None	Three Coulters	2 x 2		22.7	82.9	12.6	34.9	75.6	1.6	4.1	8.5	3.3	6.5	12.2	24887	0.4	24.1	110.1
None	Three Coulters	2 x 15		-	80.6	12.0	35.1	75.7	1.8	4.2	8.5	3.2	6.5	12.1	24339	0.9	23.7	103.7
Zone Builder	Chisel Plow	2 x 2		44.7	81.1	14.8	41.9	97.6	2.0	4.7	9.3	3.6	7.3	13.4	24729	0.5	23.4	118.6
Zone Builder	Chisel Plow	2 x 15		-	78.3	15.5	45.3	110.4	2.0	4.9	9.3	3.6	7.6	13.9	25165	1.3	22.4	114.9
Zone Builder	One Coulter	2 x 2		21.8	78.1	12.7	37.0	82.1	1.7	4.2	8.8	3.3	6.8	12.7	24829	1.1	24.2	107.4
Zone Builder	One Coulter	2 x 15		-	82.2	12.0	38.2	91.3	1.6	4.4	8.7	3.2	6.8	13.1	24595	1.3	22.8	111.4
Zone Builder	Three Coulters	2 x 2		27.5	80.6	12.7	35.5	82.2	1.7	4.0	8.7	3.2	6.5	12.9	25332	0.8	24.1	117.3
Zone Builder	Three Coulters	2 x 15		-	82.4	13.3	41.0	90.2	1.8	4.5	9.1	3.4	7.0	13.2	24830	1.1	22.9	100.5
			Fall	30.2	80.0	13.4	39.3	88.4	1.8	4.4	8.9	3.3	6.9	12.8	24896	0.8	23.5	110.9
			None	29.6	80.0	12.9	37.8	84.7	1.8	4.3	8.7	3.3	6.8	12.7	25057	0.9	23.3	107.6
			Starter	26.6	80.3	13.2	39.5	92.1	1.8	4.4	8.9	3.3	6.9	13.2	24438	0.9	23.4	113.9
None			Fall	26.3	78.7	12.8	38.0	82.7	1.8	4.3	8.6	3.3	6.7	12.4	24857	0.8	23.5	110.8
None			None	29.3	81.3	12.7	37.3	80.4	1.8	4.3	8.5	3.3	6.7	12.4	24896	0.7	23.3	105.4
None			Starter	23.2	79.5	13.0	38.5	90.6	1.8	4.2	8.8	3.3	6.7	13.0	24293	0.7	23.6	113.6
Zone Builder			Fall	34.1	81.4	14.0	40.7	95.5	1.8	4.5	9.1	3.4	7.1	13.3	24945	0.9	23.5	110.9
Zone Builder			None	30.0	78.8	13.2	38.3	88.5	1.8	4.3	8.8	3.4	6.8	13.0	25211	1.1	23.4	109.8
Zone Builder			Starter	30.0	81.2	13.4	40.6	93.5	1.8	4.5	9.0	3.4	7.0	13.3	24589	1.1	23.1	114.2

**Table E-50. Fertilizer Placement in Corn Under Zone Tillage.  
Chippewa Falls, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement		Emergence Day of Year		Plant Height Day of Year			Leaf Collars Day of Year			Leaf No. (Hahn) Day of Year			Final Population	Broken Stalks	Grain Moist	Yield
		P & K		138	152	152	166	180	152	166	180	152	166	180				
	Chisel Plow	Fall	44.6	79.7	14.8	43.7	100.6	2.0	4.7	9.2	3.6	7.4	13.5	24868	1.2	22.9	119.9	
	Chisel Plow	None	41.6	78.9	14.7	42.7	100.0	2.0	4.8	9.3	3.6	7.3	13.7	24652	0.8	22.6	107.4	
	Chisel Plow	Starter	40.2	79.0	14.8	43.2	102.6	2.0	4.7	9.2	3.6	7.4	13.6	24293	0.7	22.8	118.9	
	One Coulter	Fall	20.4	77.2	12.3	36.6	82.0	1.6	4.2	8.5	3.1	6.6	12.4	24987	0.3	23.8	110.2	
	One Coulter	None	19.4	81.9	12.0	36.4	78.6	1.6	4.1	8.4	3.2	6.6	12.3	25710	1.4	23.6	105.0	
	One Coulter	Starter	17.7	79.7	11.9	37.4	87.8	1.6	4.0	8.6	3.2	6.5	12.9	24327	1.4	23.8	112.1	
	Three Coulters	Fall	25.5	83.3	13.0	37.8	80.5	1.7	4.3	8.8	3.3	6.7	12.5	24824	1.1	23.7	102.5	
	Three Coulters	None	27.9	79.4	12.1	34.3	77.5	1.7	4.0	8.5	3.2	6.4	12.3	24963	0.7	23.8	110.4	
	Three Coulters	Starter	21.8	82.3	12.9	38.0	85.4	1.7	4.3	8.9	3.3	6.8	13.0	24700	0.7	23.6	110.8	
None	Chisel Plow	Fall	34.7	77.3	13.9	42.2	93.9	2.0	4.6	9.1	3.5	7.3	13.2	24604	1.4	22.8	116.9	
None	Chisel Plow	None	42.9	80.0	14.4	42.6	98.8	2.0	4.8	9.2	3.6	7.3	13.6	24126	0.2	22.2	100.0	
None	Chisel Plow	Starter	40.9	78.7	14.8	43.5	101.9	2.0	4.7	9.3	3.6	7.4	13.8	24168	0.8	22.8	125.1	
None	One Coulter	Fall	20.4	77.3	11.9	36.3	78.9	1.6	4.0	8.4	3.1	6.5	12.2	24922	0.2	23.9	112.0	
None	One Coulter	None	19.1	83.5	11.9	35.8	72.9	1.6	3.9	8.1	3.2	6.4	11.8	26471	1.2	24.0	108.8	
None	One Coulter	Starter	10.2	76.3	11.4	35.8	86.8	1.5	3.8	8.3	3.0	6.2	12.6	24509	1.2	24.1	105.6	
None	Three Coulters	Fall	23.8	81.4	12.4	35.5	74.8	1.7	4.2	8.4	3.2	6.5	11.8	25035	0.8	23.8	103.4	
None	Three Coulters	None	25.9	80.4	11.6	33.4	73.5	1.6	4.1	8.4	3.2	6.3	12.1	24587	0.9	23.8	107.3	
None	Three Coulters	Starter	18.4	83.5	12.9	36.1	79.2	1.8	4.2	8.7	3.3	6.7	12.4	24221	0.2	24.0	110.1	
Zone Builder	Chisel Plow	Fall	54.5	82.1	15.8	45.3	107.4	2.0	4.8	9.4	3.7	7.5	13.7	25131	1.0	23.0	122.8	
Zone Builder	Chisel Plow	None	40.2	77.7	15.0	42.7	100.9	2.0	4.8	9.3	3.6	7.4	13.8	25179	1.3	23.0	114.8	
Zone Builder	Chisel Plow	Starter	39.5	79.4	14.8	42.8	103.5	2.0	4.8	9.2	3.5	7.4	13.4	24461	0.5	22.7	112.6	
Zone Builder	One Coulter	Fall	20.4	77.0	12.6	36.8	86.9	1.7	4.4	8.7	3.2	6.7	12.6	25075	0.4	23.8	108.3	
Zone Builder	One Coulter	None	19.8	80.4	12.0	37.0	83.4	1.6	4.2	8.7	3.2	6.8	12.7	25075	1.6	23.3	101.2	
Zone Builder	One Coulter	Starter	25.2	83.1	12.4	39.1	88.4	1.7	4.3	8.9	3.3	6.9	13.2	24168	1.6	23.5	118.6	
Zone Builder	Three Coulters	Fall	27.3	85.2	13.5	40.0	87.3	1.8	4.4	9.2	3.3	6.9	13.4	24528	1.4	23.6	101.6	
Zone Builder	Three Coulters	None	30.0	78.3	12.6	35.1	81.4	1.8	3.9	8.6	3.2	6.4	12.5	25340	0.5	23.8	113.5	
Zone Builder	Three Coulters	Starter	25.2	81.1	12.9	39.8	90.8	1.6	4.4	9.0	3.3	6.9	13.5	25179	1.1	23.1	111.5	
		2 x 2	Fall	30.2	81.3	13.4	38.6	87.0	1.8	4.3	8.8	3.3	6.8	12.8	24584	0.5	24.1	110.6
		2 x 2	None	29.6	79.3	13.0	37.2	82.6	1.8	4.3	8.7	3.4	6.8	12.7	25291	0.6	24.0	113.7
		2 x 2	Starter	26.6	79.6	13.3	38.5	87.8	1.7	4.2	8.8	3.4	6.8	13.0	24746	1.1	23.8	117.2
		2 x 15	Fall	-	78.8	13.3	40.1	89.7	1.8	4.5	8.9	3.3	7.0	12.8	25179	1.2	22.9	111.1
		2 x 15	None	-	80.8	12.8	38.3	87.5	1.7	4.3	8.7	3.3	6.7	12.8	24759	1.3	22.7	101.5
		2 x 15	Starter	-	81.1	13.1	40.6	96.1	1.8	4.5	9.0	3.3	6.9	13.4	24170	0.8	23.0	110.7
None		2 x 2	Fall	26.3	78.1	13.0	37.8	81.6	1.8	4.3	8.6	3.3	6.7	12.4	24092	0.5	24.0	108.2
None		2 x 2	None	29.3	82.7	12.9	37.8	81.0	1.8	4.3	8.6	3.4	6.8	12.5	25649	0.5	23.9	112.4
None		2 x 2	Starter	23.2	79.7	13.4	38.5	88.8	1.7	4.2	8.8	3.3	6.8	13.0	24705	0.9	24.0	119.2
None		2 x 15	Fall	-	79.3	12.5	38.2	83.5	1.8	4.3	8.7	3.2	6.8	12.5	25494	1.0	23.0	113.4
None		2 x 15	None	-	79.9	12.4	36.8	79.6	1.7	4.2	8.5	3.2	6.5	12.4	23977	1.0	22.7	98.3
None		2 x 15	Starter	-	79.3	12.7	38.5	92.7	1.8	4.3	8.8	3.3	6.7	13.0	23882	0.6	23.2	108.0
Zone Builder		2 x 2	Fall	34.1	84.5	13.8	39.4	92.4	1.8	4.4	9.1	3.3	6.9	13.2	25131	0.5	24.2	113.0
Zone Builder		2 x 2	None	30.0	75.8	13.1	36.7	84.0	1.8	4.2	8.9	3.3	6.7	12.9	24963	0.7	24.1	115.1
Zone Builder		2 x 2	Starter	30.0	79.5	13.2	38.5	86.6	1.8	4.3	8.9	3.4	6.9	12.9	24796	1.4	23.5	115.1
Zone Builder		2 x 15	Fall	-	78.3	14.1	42.0	98.9	1.8	4.7	9.2	3.4	7.2	13.4	24759	1.3	22.7	108.8
Zone Builder		2 x 15	None	-	81.7	13.3	39.8	94.5	1.8	4.4	8.8	3.4	7.0	13.1	25541	1.6	22.7	104.6
Zone Builder		2 x 15	Starter	-	82.9	13.5	42.7	98.7	1.8	4.7	9.1	3.4	7.2	13.6	24433	0.9	22.7	113.4
	Chisel Plow	2 x 2	Fall	44.6	82.4	15.4	44.6	98.4	2.0	4.8	9.2	3.6	7.5	13.4	24652	0.2	23.3	120.3
	Chisel Plow	2 x 2	None	41.6	77.0	14.6	42.6	97.6	2.0	4.8	9.4	3.6	7.4	13.8	24628	0.5	23.2	116.6
	Chisel Plow	2 x 2	Starter	40.2	82.8	14.4	41.3	97.9	2.0	4.6	9.2	3.6	7.3	13.5	24964	0.9	23.1	113.8
	Chisel Plow	2 x 15	Fall	-	77.0	14.3	42.9	102.9	2.0	4.6	9.2	3.5	7.3	13.6	25083	2.1	22.5	119.4
	Chisel Plow	2 x 15	None	-	80.7	14.8	42.8	103.4	2.0	4.8	9.0	3.5	7.2	13.6	24684	1.1	21.9	98.2
	Chisel Plow	2 x 15	Starter	-	75.3	15.1	45.0	106.1	2.0	4.8	9.3	3.6	7.4	13.8	23791	0.6	22.5	123.9

**Table E-50. Fertilizer Placement in Corn Under Zone Tillage.  
Chippewa Falls, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement		Emergence Day of Year		Plant Height Day of Year			Leaf Collars Day of Year			Leaf No. (Hahn) Day of Year			Final Population	Broken Stalks	Grain Moist	Yield
		P & K		138	152	152	166	180	152	166	180	152	166	180				
	One Coulter	2 x 2	Fall	20.4	76.3	12.3	34.9	78.5	1.7	4.1	8.5	3.2	6.5	12.3	24796	0.2	24.8	107.3
	One Coulter	2 x 2	None	19.4	82.4	12.2	36.8	77.4	1.8	4.1	8.4	3.3	6.7	12.1	25322	0.8	24.5	107.4
	One Coulter	2 x 2	Starter	17.7	74.3	12.4	37.0	84.3	1.6	3.9	8.6	3.2	6.5	12.7	24461	2.0	24.3	118.1
	One Coulter	2 x 15	Fall	-	78.0	12.3	38.3	84.9	1.6	4.3	8.6	3.1	6.7	12.4	25131	0.3	22.9	113.1
	One Coulter	2 x 15	None	-	81.4	11.8	36.0	80.9	1.4	4.0	8.5	3.1	6.5	12.7	26388	2.5	22.8	102.6
	One Coulter	2 x 15	Starter	-	85.2	11.4	37.9	91.2	1.6	4.2	8.6	3.2	6.6	13.1	24210	0.9	23.3	106.1
	Three Coulters	2 x 2	Fall	25.5	85.2	12.6	36.3	81.2	1.6	4.1	8.7	3.2	6.5	12.6	24293	1.0	24.2	104.3
	Three Coulters	2 x 2	None	27.9	78.3	12.3	32.3	74.1	1.7	3.8	8.4	3.2	6.1	12.3	25927	0.5	24.2	117.2
	Three Coulters	2 x 2	Starter	21.8	81.7	13.1	37.1	82.6	1.6	4.2	8.7	3.3	6.7	12.9	24844	0.4	23.9	119.6
	Three Coulters	2 x 15	Fall	-	81.4	13.3	39.2	79.9	1.8	4.5	8.8	3.4	6.9	12.5	25355	1.1	23.2	100.7
	Three Coulters	2 x 15	None	-	80.4	11.9	36.2	80.8	1.8	4.1	8.5	3.2	6.6	12.3	24000	0.9	23.4	103.5
	Three Coulters	2 x 15	Starter	-	82.8	12.8	38.9	88.7	1.7	4.4	9.0	3.3	6.8	13.2	24557	0.9	23.2	102.0
None	Chisel Plow	2 x 2	Fall	34.7	77.0	14.4	42.9	92.5	2.0	4.8	9.0	3.5	7.4	13.1	24238	0.5	23.1	110.6
None	Chisel Plow	2 x 2	None	42.9	81.7	15.0	45.0	102.0	2.0	4.9	9.5	3.7	7.7	13.9	24963	0.0	22.7	111.6
None	Chisel Plow	2 x 2	Starter	40.9	82.4	15.0	43.3	100.1	2.0	4.8	9.3	3.7	7.5	14.0	24880	1.0	23.2	123.4
None	Chisel Plow	2 x 15	Fall	-	77.7	13.4	41.5	94.9	2.0	4.5	9.1	3.5	7.2	13.4	24880	2.0	22.4	123.2
None	Chisel Plow	2 x 15	None	-	78.3	13.8	40.3	94.0	2.0	4.6	8.8	3.5	6.8	13.2	23009	0.5	21.7	88.4
None	Chisel Plow	2 x 15	Starter	-	74.9	14.5	43.8	103.6	2.0	4.6	9.3	3.5	7.2	13.7	23456	0.7	22.4	126.8
None	One Coulter	2 x 2	Fall	20.4	73.6	12.4	35.8	78.5	1.8	3.9	8.5	3.4	6.5	12.3	24377	0.4	24.9	116.1
None	One Coulter	2 x 2	None	19.1	84.5	11.9	35.3	71.8	1.8	4.0	7.8	3.3	6.4	11.4	26024	0.9	24.9	113.8
None	One Coulter	2 x 2	Starter	10.2	73.6	11.6	35.1	84.0	1.4	3.6	8.2	2.9	6.1	12.3	24461	1.9	24.7	113.5
None	One Coulter	2 x 15	Fall	-	81.1	11.5	36.9	79.3	1.4	4.1	8.4	2.9	6.4	12.1	25466	0.0	22.9	108.0
None	One Coulter	2 x 15	None	-	82.4	12.0	36.3	74.5	1.5	3.9	8.5	3.1	6.4	12.2	27142	1.7	23.0	103.8
None	One Coulter	2 x 15	Starter	-	79.0	11.3	36.5	89.7	1.6	3.9	8.5	3.1	6.3	12.8	24545	0.7	23.5	97.6
None	Three Coulters	2 x 2	Fall	23.8	83.8	12.4	34.8	71.5	1.5	4.1	8.3	3.2	6.3	11.4	23567	0.6	24.0	97.9
None	Three Coulters	2 x 2	None	25.9	81.7	11.9	33.0	72.1	1.6	4.1	8.4	3.3	6.4	12.2	26053	0.6	24.2	111.8
None	Three Coulters	2 x 2	Starter	18.4	83.1	13.6	37.0	81.0	1.8	4.1	8.8	3.4	6.8	12.6	24712	0.0	24.2	120.7
None	Three Coulters	2 x 15	Fall	-	79.0	12.5	36.3	76.5	1.9	4.3	8.5	3.3	6.7	12.0	26136	1.0	23.6	108.9
None	Three Coulters	2 x 15	None	-	79.0	11.4	33.9	74.9	1.6	4.0	8.4	3.1	6.3	12.1	23121	1.1	23.5	102.8
None	Three Coulters	2 x 15	Starter	-	83.8	12.3	35.3	75.5	1.8	4.3	8.5	3.2	6.6	12.1	23567	0.5	23.9	99.4
Zone Builder	Chisel Plow	2 x 2	Fall	54.5	87.9	16.4	46.3	102.9	2.0	4.9	9.4	3.7	7.5	13.6	24964	0.0	23.5	130.0
Zone Builder	Chisel Plow	2 x 2	None	40.2	72.2	14.1	40.1	94.4	2.0	4.8	9.4	3.6	7.2	13.7	24293	1.0	23.8	121.6
Zone Builder	Chisel Plow	2 x 2	Starter	39.5	83.1	13.9	39.4	93.5	2.0	4.5	9.0	3.5	7.1	12.3	25131	0.6	23.0	104.2
Zone Builder	Chisel Plow	2 x 15	Fall	-	76.3	15.1	44.3	113.5	2.0	4.8	9.3	3.6	7.5	13.9	25354	2.2	22.6	115.7
Zone Builder	Chisel Plow	2 x 15	None	-	83.1	15.9	45.3	109.7	2.0	4.9	9.2	3.6	7.6	13.8	26360	1.7	22.2	108.1
Zone Builder	Chisel Plow	2 x 15	Starter	-	75.6	15.6	46.3	108.5	2.0	5.0	9.3	3.6	7.6	13.9	24126	0.4	22.5	121.0
Zone Builder	One Coulter	2 x 2	Fall	20.4	79.0	12.3	34.0	78.5	1.6	4.3	8.5	3.1	6.5	12.4	25634	0.0	24.7	98.5
Zone Builder	One Coulter	2 x 2	None	19.8	80.4	12.5	38.3	81.5	1.8	4.3	8.8	3.4	7.0	12.5	24796	0.8	24.1	101.0
Zone Builder	One Coulter	2 x 2	Starter	25.2	74.9	13.3	38.9	84.5	1.8	4.1	9.0	3.5	7.0	13.0	24461	2.1	23.8	122.6
Zone Builder	One Coulter	2 x 15	Fall	-	74.9	13.0	39.6	92.5	1.8	4.5	8.8	3.2	6.9	12.8	24796	0.7	22.8	118.2
Zone Builder	One Coulter	2 x 15	None	-	80.4	11.5	35.8	87.3	1.4	4.1	8.5	3.1	6.5	13.1	25634	3.3	22.6	101.4
Zone Builder	One Coulter	2 x 15	Starter	-	91.3	11.6	39.3	92.4	1.6	4.5	8.8	3.2	6.8	13.4	23874	1.1	23.1	114.5
Zone Builder	Three Coulters	2 x 2	Fall	27.3	86.5	12.9	37.9	87.7	1.8	4.1	9.0	3.2	6.8	13.3	25019	1.3	24.4	110.7
Zone Builder	Three Coulters	2 x 2	None	30.0	74.9	12.6	31.6	76.1	1.8	3.5	8.5	3.1	5.9	12.4	25801	0.3	24.3	122.7
Zone Builder	Three Coulters	2 x 2	Starter	25.2	80.4	12.5	37.1	84.8	1.5	4.3	8.7	3.3	6.7	13.2	25019	0.9	23.7	118.4
Zone Builder	Three Coulters	2 x 15	Fall	-	83.8	14.1	42.1	86.8	1.8	4.8	9.5	3.4	7.1	13.6	23791	1.4	22.9	92.6
Zone Builder	Three Coulters	2 x 15	None	-	81.7	12.5	38.5	86.8	1.9	4.3	8.6	3.4	6.8	12.6	24880	0.7	23.2	104.3
Zone Builder	Three Coulters	2 x 15	Starter	-	81.7	13.4	42.5	95.3	1.6	4.6	9.3	3.3	7.1	13.7	25299	1.3	22.6	104.5
Mean				28.8	80.1	13.2	38.9	88.5	1.8	4.3	8.8	3.3	6.9	12.9	24791	0.9	23.4	110.8

**Table E-50. Fertilizer Placement in Corn Under Zone Tillage.  
Chippewa Falls, WI - 1995**

Fall Tillage	Spring Tillage	Nitrogen Placement	P & K	Emergence		Plant Height			Leaf Collars			Leaf No. (Hahn)			Final Population	Broken Stalks	Grain Moist	Yield
				Day of Year	%	138	152	152	166	180	Day of Year	152	166	180				
<b>Probability %</b>																		
Fall Tillage (F)				31.4	> 50	40.5	36.8	5.0	> 50	27.9	0.8	> 50	21.9	5.9	> 50	33.8	40.7	> 50
Spring Tillage (S)				< 0.1	30.5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.3	43.8	> 50	3.2	29.9
F x S				> 50	> 50	> 50	> 50	> 50	> 50	7.0	35.4	46.1	47.5	21.0	> 50	> 50	> 50	> 50
Nitrogen (N)				-	> 50	48.6	9.4	12.0	> 50	5.6	> 50	48.8	49.0	39.9	> 50	2.7	< 0.1	15.3
F x N				-	> 50	9.7	6.7	3.8	> 50	3.8	34.4	22.8	7.4	21.4	> 50	26.8	> 50	> 50
S x N				-	24.7	> 50	> 50	> 50	43.9	19.1	> 50	40.3	27.5	> 50	> 50	> 50	20.4	> 50
F x S x N				-	> 50	29.3	40.5	> 50	> 50	36.7	> 50	> 50	20.0	> 50	48.0	44.8	40.6	44.5
P & K Treatment (P)				> 50	> 50	29.8	3.0	0.7	> 50	20.0	13.7	> 50	22.6	6.8	1.0	> 50	> 50	24.6
F x P				> 50	22.8	28.0	48.1	37.2	> 50	19.0	49.7	> 50	> 50	30.7	> 50	> 50	3.6	> 50
S x P				> 50	27.7	> 50	24.1	> 50	> 50	10.8	43.4	> 50	30.3	18.4	34.1	5.9	> 50	28.9
F x S x P				31.2	46.2	48.2	43.0	13.2	31.1	> 50	> 50	28.6	48.0	9.1	> 50	31.6	34.9	12.5
N x P				-	35.0	> 50	> 50	> 50	> 50	38.9	> 50	> 50	> 50	> 50	30.5	12.5	7.3	24.0
F x N x P				-	4.4	> 50	> 50	49.4	> 50	> 50	> 50	> 50	> 50	> 50	2.3	> 50	> 50	43.7
S x N x P				-	7.4	23.3	10.8	38.2	> 50	44.7	> 50	> 50	48.0	> 50	8.0	25.9	> 50	28.1
F x S x N x P				-	38.7	17.5	11.7	> 50	16.9	> 50	> 50	3.3	19.9	> 50	> 50	> 50	> 50	41.4
<b>LSD (0.10)</b>																		
Fall Tillage (F)				NS	NS	NS	NS	5.1	NS	NS	0.1	NS	NS	0.4	NS	NS	NS	NS
Spring Tillage (S)				6.5	NS	0.7	1.8	5.0	0.1	0.1	0.2	0.1	0.2	0.4	NS	NS	0.7	NS
Nitrogen (N)				-	NS	NS	1.6	NS	NS	0.1	NS	NS	NS	NS	NS	0.3	0.3	NS
P & K Treatment (P)				NS	NS	NS	1.2	2.7	NS	NS	NS	NS	NS	0.2	510	NS	NS	NS
<b>CV (%)</b>																		
				43.0	9.7	10.6	9.0	7.9	16.3	8.5	5.4	7.5	6.8	4.8	5.6	147.4	2.5	16.5

**Table E-51. Fertilizer Placement in Corn Under Zone Tillage.  
Chippewa Falls, WI - 1995**

Fall Tillage	Spring Tillage	Residue Cover		In Row						Between Row					
				Soil Moisture			Soil Bulk Density			Soil Moisture			Soil Bulk Density		
		Pre-plant	Post-Plant	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"	0-3"	3-6"	6-9"
%		%			grams/cc			%			grams/cc				
None		63.0	54.6	17.3	19.3	18.8	1.2	1.4	1.5	17.8	17.3	18.1	1.3	1.3	1.6
Zone Builder		70.8	58.0	17.8	18.9	18.5	1.2	1.4	1.5	18.6	18.6	17.5	1.1	1.3	1.6
	Chisel Plow	32.1	37.1	16.9	19.5	18.6	1.2	1.4	1.5	16.3	16.4	17.3	1.1	1.1	1.5
	One Coulter	83.6	66.6	18.4	19.4	19.3	1.2	1.4	1.5	19.8	19.1	18.3	1.3	1.5	1.6
	Three Coulters	84.9	65.1	17.4	18.4	18.0	1.2	1.5	1.5	.	.	.	.	.	.
None	Chisel Plow	31.5	40.8	17.0	19.5	19.0	1.2	1.4	1.5	15.8	14.4	17.9	1.2	1.1	1.5
None	One Coulter	76.1	60.1	17.8	19.2	19.3	1.2	1.4	1.5	19.7	19.5	18.3	1.3	1.5	1.6
None	Three Coulters	81.4	62.9	17.2	19.0	18.1	1.2	1.4	1.5	.	.	.	.	.	.
Zone Builder	Chisel Plow	32.8	33.5	16.8	19.4	18.2	1.2	1.4	1.6	17.0	18.5	16.6	0.9	1.0	1.5
Zone Builder	One Coulter	91.1	73.1	18.9	19.6	19.3	1.2	1.4	1.5	19.8	18.6	18.4	1.4	1.5	1.6
Zone Builder	Three Coulters	88.4	67.4	17.6	17.7	17.9	1.2	1.5	1.5	.	.	.	.	.	.
Mean		66.9	56.3	17.5	19.1	18.6	1.2	1.4	1.5	18.2	17.9	17.8	1.2	1.3	1.6
<b>Probability %</b>															
Fall Tillage (F)		28.1	> 50	2.8	> 50	> 50	44.5	12.5	47.3	> 50	33.2	> 50	> 50	> 50	45.5
Spring Tillage (S)		< 0.1	< 0.1	7.6	2.2	5.7	> 50	2.4	7.9	1.0	33.1	19.6	11.2	15.9	2.1
F x S		13.8	2.3	> 50	10.6	> 50	> 50	42.6	> 50	49.6	27.9	36.7	26.4	> 50	49.5
<b>LSD (0.10)</b>															
Fall Tillage (F)		NS	NS	0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Spring Tillage (S)		5.7	5.6	1.1	0.7	0.8	NS	< 0.1	< 0.1	1.6	NS	NS	NS	NS	< 0.1
<b>CV (%)</b>															
		9.5	11.2	6.8	3.9	5.0	8.1	3.7	3.9	8.4	21.7	8.1	24.4	37.6	3.7



## FIELD EXPERIMENT HISTORY

**Title:** Arlington Band Spray/Zone Tillage Trial **Year:** 1995  
**Personnel:** N.C. Wollenhaupt, J.G. Lauer, A.H. Bosworth, K.D. Hudelson, K.G. Silveira  
**Location:** Arlington Research Station, Arlington, WI  
**Supported by:** Wisconsin Non-Point Project

---

---

### FIELD INFORMATION

**Field:** 220  
**Soil Type:** Plano Silt Loam  
**Soil Test Results:** Date: Nov 93                      pH: 6.4                      P(ppm): 21                      K(ppm): 110                      OM(%): 4.2  
**Fertilizer Applied:** 100 lbs/a of 6-24-24 at planting  
**Previous Crop:** Alfalfa

---

---

### EXPERIMENTAL PROCEDURE

**Exp. Design:** Two Factor RCB

**Variables:** Factor A: Two Tillage Operations  
1-Zone Tillage (Oct. 19, 1994)  
2-No Tillage

Factor B: Three Herbicide applications  
1-Fall 15 " Band Spray                      Roundup(2qt/a), Banvel(1pt/a), 2,4-D(1pt/a) on Oct 5  
-w/ spring burndown                      Bladex 90DF(2lbs/a) and Prowl(1.5qt/a) on May 12  
2-Fall Broadcast Spray                      Roundup(2qt/a), Banvel(1pt/a), 2,4-D(1pt/a) on Oct 5  
-w/ spring burndown                      Bladex 90DF(2lbs/a) and Prowl(1.5qt/a) on May 12  
3-Spring Broadcast Spray                      Roundup(1qt/a) and 2,4-D(1pt/a) on April 29  
Bladex 90DF(2lbs/a) and Prowl(1.5qt/a) on May 12

**Plot Size:** Planted: 20' x 40'  
Harvested: 15' x 36'

**Planting:** Date: May 1  
Row Spacing: 30"  
Equipment: John Deere Max-Emerge  
Depth: 2"  
Rate: 32,000/a  
Hybrid: Pioneer 3769

**Harvesting:** Date: October 1  
Equipment: Gleaner Plot Combine

---

---

Results: Table E-52.

**Table E-52. 1995 Band Spray/Zone Tillage Trial.  
Arlington, WI**

Tillage	Herbicide Treatment	Soil Loss		Soil Moisture		Soil Bulk Density	Grain	
		Residue (%)	50yr Storm (72mm/hr) (g/sq.m.)	Gravimetric (%)	Volumetric (%)		Moisture (%)	Yield (bu/a)
Notill		51.6	252.6	23.0	32.0	1.4	20.5	141.6
Zone Till		47.4	174.8	23.4	32.0	1.4	20.6	144.2
	Fall Band	49.8	127.8	23.4	32.1	1.4	20.5	145.2
	Fall Broadcast	21.0	500.8	21.9	29.8	1.4	20.5	148.0
	Spring Broadcast	77.7	12.5	24.3	34.1	1.4	20.6	135.4
Notill	Fall Band	55.8	127.4	22.8	32.0	1.4	20.3	144.4
Notill	Fall Broadcast	18.8	614.1	21.9	30.4	1.4	20.6	144.0
Notill	Spring Broadcast	80.2	16.3	24.3	33.6	1.4	20.6	136.2
Zone Till	Fall Band	43.8	128.2	24.0	32.3	1.4	20.8	145.9
Zone Till	Fall Broadcast	23.2	387.6	21.8	29.3	1.4	20.5	152.1
Zone Till	Spring Broadcast	75.2	8.6	24.3	34.6	1.4	20.7	134.6
Mean		49.5	213.7	23.2	32.0	1.4	20.6	142.9
<b><u>Probability(%)</u></b>								
Tillage (T)		15.7	24.7	> 50	> 50	> 50	34.3	> 50
Herbicide (H)		< 0.1	< 0.1	< 0.1	< 0.1	40.4	> 50	< 0.1
T x H		37.2	12.4	42.2	47.5	15.1	23.8	24.6
<b><u>LSD(0.10)</u></b>								
Tillage (T)		NS	NS	NS	NS	NS	NS	NS
Herbicide (H)		9.9	103.0	0.9	1.5	NS	NS	5.0
<b><u>CV(%)</u></b>								
		25.6	61.7	4.8	6.1	4.0	1.9	4.9

## FIELD EXPERIMENT HISTORY

**Title:** Lancaster Band Spray/Zone Tillage Trial **Year:** 1995  
**Personnel:** N.C. Wollenhaupt, J.G. Lauer, A.H. Bosworth, T.M. Wood,  
K.D. Hudelson, K.G. Silveira  
**Location:** Lancaster Research Station, Lancaster, WI  
**Supported by:** Wisconsin Non-Point Project

---

---

### FIELD INFORMATION

Field no.: 112W 912  
Soil Type: Rozetta Silt Loam Rozetta Silt loam  
Soil Test Results: Date: NA pH: NA P(ppm): NA K(ppm): NA OM(%): NA  
Fertilizer Applied: 100 lbs/a of 6-24-24 at planting  
Previous Crop: Alfalfa

---

---

### EXPERIMENTAL PROCEDURE

**Exp. Design:** Two Factor Randomized Complete Block

**Variables:** Factor A: Two Tillage Operations  
1-Zone Tillage on Oct. 27, 1994  
2-No Tillage

Factor B: Three Herbicide applications

1-Fall 15 " Band Spray -w/ spring burndown	Roundup(2qt/a), Banvel(1pt/a), 2,4-D(1pt/a) Roundup(2qt/a) on 5/1, Dual(2.5pt/a) on 4/25 Banvel(1pt/a) on 5/26
2-Fall Broadcast Spray -w/ spring burndown	Roundup(2qt/a), Banvel(1pt/a), 2,4-D(1pt/a) Roundup(2qt/a) on 5/1, Dual(2.5pt/a) on 4/25 Banvel(1pt/a) on 5/26
3-Spring Broadcast Spray	Roundup(2qt/a) on 5/1, Dual(2.5pt/a) on 4/25 Banvel(1pt/a) on 5/26

**Plot Size:** Planted: 20' x 40'  
Harvested: 15' x 36'

**Planting:** Date: May 2  
Row Spacing: 30"  
Equipment: John Deere Max-Emerge  
Depth: 2"  
Rate: 32,000/a  
Hybrid: Pioneer 3769

**Harvesting:** Date: October 13  
Equipment: Gleaner Plot Combine

---

Results: Table E-53.

**Table E-53. 1995 Band Spray/Zone Tillage Trial.  
Lancaster, WI**

Tillage	Herbicide Treatment	Residue %	Soil Loss g/sq.m.	Soil Moisture		Soil Bulk Density g/cc	Grain	
				Gravimetric %	Volumetric %		Moisture %	Yield bu/a
Notill		45.5	456.1	22.5	32.3	1.4	15.2	132.1
Zone Till		41.9	443.2	21.9	31.4	1.4	15.3	137.5
	Fall Band	40.4	329.1	22.3	31.5	1.4	15.3	140.4
	Fall Broadcast	22.7	886.1	22.2	31.7	1.4	15.2	139.6
	Spring Broadcast	68.0	133.8	22.2	32.3	1.5	15.2	124.5
Notill	Fall Band	42.6	333.9	22.4	31.7	1.4	15.3	142.2
Notill	Fall Broadcast	23.6	858.7	23.1	33.3	1.4	15.2	136.5
Notill	Spring Broadcast	70.2	175.6	22.1	32.0	1.5	15.2	117.6
Zone Till	Fall Band	38.2	324.2	22.2	31.3	1.4	15.4	138.5
Zone Till	Fall Broadcast	21.8	913.4	21.3	30.1	1.4	15.3	142.6
Zone Till	Spring Broadcast	65.8	92.0	22.3	32.7	1.5	15.2	131.3
Mean		43.7	449.6	22.2	31.8	1.4	15.3	134.8
<b><u>Probability(%)</u></b>								
Tillage (T)		18.0	> 50	23.0	21.3	> 50	40.3	40.2
Herbicide (H)		< 0.1	< 0.1	> 50	> 50	14.6	> 50	< 0.1
T x H		> 50	> 50	18.3	21.4	> 50	> 50	6.4
<b><u>LSD(0.10)</u></b>								
Tillage (T)		NS	NS	NS	NS	NS	NS	NS
Herbicide (H)		3.6	150.9	NS	NS	NS	NS	6.0
<b><u>CV(%)</u></b>								
		10.6	43.0	5.4	7.5	3.4	1.4	5.7

## FIELD EXPERIMENT HISTORY

**Title:** Fond Du Lac Band Spray/Zone Tillage Trial **Year:** 1995  
**Personnel:** N.C. Wollenhaupt, J.G. Lauer, A.H. Bosworth, M.C. Rankin, K.D. Hudelson, K.G. Silveira  
**Location:** Francis & Oscar Guelig Farm - Malone, WI  
**Supported by:** Wisconsin Non-Point Project

---

---

### FIELD INFORMATION

Soil Type: Dodge Silt Loam  
Soil Test Results: Date: NA pH: NA P(ppm): NA K(ppm): NA OM(%): NA  
Fertilizer Applied: 100 lbs/a of 6-24-24 at planting  
Previous Crop: Alfalfa

---

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB

Variables:

- Factor A: Two Tillage Operations
  - 1-Zone Tillage on Oct. 20, 1994
  - 2-No Tillage
- Factor B: Three Herbicide applications
  - 1-Fall 15 " Band Spray Roundup(2qt/a), Banvel(1pt/a), 2,4-D(1pt/a)  
-w/ spring burndown Roundup(2qt/a), Banvel(2pt/a) and  
Crop Oil(1pt/a) on May 6, 1994
  - 2-Fall Broadcast Spray Roundup(2qt/a), Banvel(1pt/a), 2,4-D(1pt/a)  
-w/ spring burndown Roundup(2qt/a), Banvel(2pt/a) and  
Crop Oil(1pt/a) on May 6, 1994
  - 3-Spring Broadcast Spray Roundup(2qt/a), Banvel(2pt/a) and  
Crop Oil(1pt/a) on May 6, 1994

Plot Size: Planted: 10' x 40'  
Harvested: 5' x 36'

Planting: Date: May 19  
Row Spacing: 30"  
Equipment: John Deere Max-Emerge  
Depth: 2"  
Rate: 32,000/a  
Hybrid: Pioneer 3861

Harvesting: Date: October 18  
Equipment: Gleaner Plot Combine

---

Results: Table E-54.

**Table E-54. 1995 Band Spray/Zone Tillage Trial.  
Fond du Lac, WI**

Tillage	Herbicide Treatment	Residue	Grain	
			Moisture	Yield
		%	%	bu/a
Notill		87.1	20.3	128.2
Zone Till		59.6	20.1	128.7
	Fall Band	71.4	20.3	127.6
	Fall Broadcast	64.6	19.9	137.5
	Spring Broadcast	84.0	20.3	120.3
Notill	Fall Band	84.9	20.4	129.0
Notill	Fall Broadcast	80.5	20.0	139.3
Notill	Spring Broadcast	95.8	20.4	116.3
Zone Till	Fall Band	57.9	20.2	126.1
Zone Till	Fall Broadcast	48.8	19.8	135.7
Zone Till	Spring Broadcast	72.2	20.3	124.2
Mean		73.4	20.2	128.4
<b><u>Probability(%)</u></b>				
	Tillage (T)	< 0.1	17.2	> 50
	Herbicide (H)	< 0.1	0.2	1.7
	T x H	34.3	> 50	> 50
<b><u>LSD(0.10)</u></b>				
	Tillage (T)	3.6	NS	NS
	Herbicide (H)	4.7	0.2	9.4
<b><u>CV(%)</u></b>				
		9.1	1.3	10.4

## FIELD EXPERIMENT HISTORY

**Title:** Chippewa Band Spray/Zone Tillage Trial **Year:** 1995  
**Personnel:** N.C. Wollenhaupt, J.G. Lauer, F.D. Thompson, K.D. hudelson, K.G. Silveira  
**Location:** Chippewa County Farm, Chippewa Falls, WI  
**Supported by:** Wisconsin Non-Point Project

---

---

### FIELD INFORMATION

Soil Type: Sattre Loam  
Soil Test Results: Date: October 1993 pH: 6.2 P(ppm): 18 K(ppm): 90 OM(%): 2.2  
Fertilizer Applied: Fertilizer Applied: 100 lbs/a of 6-24-24 at planting  
Previous Crop: Alfalfa

---

---

### EXPERIMENTAL PROCEDURE

Exp. Design: Two Factor RCB

Variables: Factor A: Two Tillage Operations  
1-Zone Tillage on Oct. 21, 1994  
2-No Tillage

Factor B: Three Herbicide applications

1-Fall 15 " Band Spray -w/ spring burndown	Roundup(2qt/a), Banvel(1pt/a), 2,4-D(1pt/a) Roundup(2qt/a), Banvel(1pt/a), LV400(1pt/a), and 1% Aquagene on May 3
2-Fall Broadcast Spray -w/ spring burndown	Roundup(2qt/a), Banvel(1pt/a), 2,4-D(1pt/a) Roundup(2qt/a), Banvel(1pt/a), LV400(1pt/a), and 1% Aquagene on May 3
3-Spring Broadcast Spray	Roundup(2qt/a), Banvel(1pt/a), LV400(1pt/a), and 1% Aquagene on May 3

Plot Size: Planted: 10' x 40'  
Harvested: 5' x 36'

Planting: Date: April 28  
Row Spacing: 30"  
Equipment: John Deere Max-Emerge  
Depth: 2"  
Rate: 32,000/a  
Hybrid: Pioneer 3861

Harvesting: Date: Oct. 11  
Equipment: Gleaner Plot Combine

---

Results: Table E-55.

**Table E-55. 1995 Band Spray/Zone Tillage Trial.  
Chippewa Falls, WI**

Tillage	Herbicide Treatment	Residue	Grain	
			Moisture	Yield
		%	%	bu/a
Notill		74.5	23.9	111.2
Zone Till		65.7	23.5	107.0
	Fall Band	62.4	23.6	103.8
	Fall Broadcast	65.8	23.2	107.8
	Spring Broadcast	81.9	24.2	115.7
Notill	Fall Band	66.6	24.0	108.5
Notill	Fall Broadcast	68.2	23.2	111.9
Notill	Spring Broadcast	88.6	24.6	113.2
Zone Till	Fall Band	58.2	23.3	99.0
Zone Till	Fall Broadcast	63.5	23.2	103.8
Zone Till	Spring Broadcast	75.3	23.9	118.2
Mean		70.1	23.7	109.1
<b><u>Probability(%)</u></b>				
	Tillage (T)	2.1	11.3	> 50
	Herbicide (H)	< 0.1	5.2	32.9
	T x H	> 50	> 50	> 50
<b><u>LSD(0.10)</u></b>				
	Tillage (T)	5.4	NS	NS
	Herbicide (H)	7.0	0.7	NS
<b><u>CV(%)</u></b>				
		14.1	4.1	17.8



## FIELD EXPERIMENT HISTORY

**Title:** Corn Hybrid Interaction with Postemergence Herbicides. **Year:** 1995  
**Personnel:** C.M. Boerboom, J.G. Lauer  
**Location:** Arlington Research Station, Arlington, WI

---

### FIELD INFORMATION

Field: 406  
Soil Type: Plano Silt Loam  
Soil Test Results: Test Date: 10/95      pH: 6.4      P (ppm): 47      K (ppm): 185      OM (%): 3.4  
Fertilizer: May 15 - 150 lbs/a 6-24-24 starter  
April 28 - 150 lbs N/a 46-0-0 preplant  
Tillage Operations: Chisel Plow, Field Cultivate(2x)  
Previous Crop: Soybean  
Irrigation: None

---

### EXPERIMENTAL PROCEDURE

Exp. Design: RCB Split Plot  
Replicates: 3  
Variables: Hybrids: NK PX9060      Pioneer 3769  
Payco 151      Dekalb DK512  
Pioneer 3902      NK 4242  
Pioneer 3921      Golden 2441  
Carhart's CX92A      Pioneer 3578  
NK 2409      Pioneer 3417  
Cargill 3427      Pioneer 3475  
Herbicide Treatment: Untreated  
(Postemergence) at 6 inches - Banvel (0.5 lbs ai/a) + 28% (2.5% v/v)  
at 14 inches - Banvel (0.5 lbs ai/a) + 28% (2.5% v/v)  
at V2 - Basis (0.25 oz ai/a) + 28% (2.5% v/v) + NIS (0.25% v/v)  
at V4 - Basis (0.25 oz ai/a) + 28% (2.5% v/v) + NIS (0.25% v/v)  
at V5 - Accent (0.5 oz ai/a) + 28% (2.5% v/v) + NIS (0.25% v/v)  
at V9 - Accent (0.5 oz ai/a) + 28% (2.5% v/v) + NIS (0.25% v/v)  
Area Planted: 5' x 25'  
Area Harvested: 5.0' x 22'  
Row Spacing: 30"  
Planting Date: May 15  
Planting Equip: Kinze Plot Planter w/seed cones  
Planting Rate: 40,000 thinned to 28,000 plants/a  
Harvesting Date: Oct. 19  
Harvesting Equip: Almaco Plot Combine  
  

	<u>Material</u>	<u>Rate</u>	<u>Method</u>
Herbicides:	Bladex	2 qts/a	preemerge
	Lasso	2 qts/a	preemerge

---

Results: Tables E-56.

**Table E-56. Corn Hybrid Interaction with Postemergence Herbicides. Arlington, WI - 1995**

Hybrid	Relative Maturity	Herbicide Treatment	Plant	Broken	Moist	Yield
			Height at day 181 cm	Stalks %		
Pioneer 3578	105 day	Untreated	82.0	3.7	19.1	170.1
Pioneer 3578	105 day	Banvel 6in	84.7	6.9	19.4	172.7
Pioneer 3578	105 day	Banvel 14in	82.3	5.6	19.3	156.7
Pioneer 3578	105 day	Basis V2	78.7	6.9	19.4	160.2
Pioneer 3578	105 day	Basis V4	71.0	6.0	18.7	148.4
Pioneer 3578	105 day	Accent V5	86.0	4.6	19.2	164.1
Pioneer 3578	105 day	Accent V9	-	6.0	18.7	148.5
Pioneer 3417	110 day	Untreated	73.7	5.6	21.7	168.9
Pioneer 3417	110 day	Banvel 6in	79.3	3.2	21.4	178.2
Pioneer 3417	110 day	Banvel 14in	73.0	4.6	21.2	154.1
Pioneer 3417	110 day	Basis V2	63.0	5.1	21.6	142.5
Pioneer 3417	110 day	Basis V4	70.0	4.2	20.8	176.3
Pioneer 3417	110 day	Accent V5	72.3	5.1	21.3	167.5
Pioneer 3417	110 day	Accent V9	-	4.2	20.1	165.5
Pioneer 3475	110 day	Untreated	72.7	4.6	21.3	152.2
Pioneer 3475	110 day	Banvel 6in	75.7	4.2	21.1	155.1
Pioneer 3475	110 day	Banvel 14in	77.3	5.6	20.9	162.4
Pioneer 3475	110 day	Basis V2	70.7	3.2	20.9	156.2
Pioneer 3475	110 day	Basis V4	65.3	3.7	20.4	162.7
Pioneer 3475	110 day	Accent V5	74.3	1.4	21.3	158.1
Pioneer 3475	110 day	Accent V9	-	3.2	20.8	161.5
Mean	110 day		78.0	5.9	17.5	138.8
<b><u>Probability(%)</u></b>						
Hybrid (H)			< 0.1	< 0.1	< 0.1	< 0.1
Herbicide (S)			< 0.1	0.3	0.4	< 0.1
H x S			41.3	2.6	21.4	35.2
<b><u>LSD(0.10)</u></b>						
Hybrid (H)			6.2	1.8	0.6	8.7
Herbicide (S)			2.0	0.9	0.2	5.8
<b><u>CV(%)</u></b>						
			7.3	40.7	2.9	11.5

**Table E-56. Corn Hybrid Interaction with Postemergence Herbicides. Arlington, WI - 1995**

Hybrid	Relative Maturity	Herbicide Treatment	Plant	Broken	Moist	Yield
			Height at day 181	Stalks		
			cm	%	%	bu/a
NK PX9060	80 day		82.8	7.7	14.7	101.5
Payco 151	80 day		70.8	11.4	14.4	91.5
Pioneer 3902	85 day		91.7	2.7	16.5	133.7
Pioneer 3921	85 day		91.6	4.6	16.6	131.2
Carhart's CX92A	90 day		76.6	6.1	15.6	137.6
NK 2409	90 day		79.6	5.6	16.5	130.0
Cargill 3427	95 day		77.0	6.8	17.4	139.4
Pioneer 3769	95 day		81.8	5.1	17.4	144.5
Dekalb DK512	100 day		71.7	4.9	17.7	166.1
NK 4242	100 day		67.8	4.2	16.9	147.7
Golden 2441	105 day		74.7	9.9	19.6	137.1
Pioneer 3578	105 day		80.8	5.7	19.1	160.1
Pioneer 3417	110 day		71.9	4.6	21.2	164.7
Pioneer 3475	110 day		72.7	3.7	21.0	158.3
		Untreated	81.6	5.4	17.7	141.7
		Banvel 6in	80.4	6.2	17.5	139.3
		Banvel 14in	79.6	6.2	17.5	137.8
		Basis V2	76.9	5.6	17.4	140.2
		Basis V4	67.4	7.3	17.3	128.3
		Accent V5	82.0	5.5	17.5	146.2
		Accent V9	-	5.4	17.2	138.2
NK PX9060	80 day	Untreated	85.0	7.9	14.5	101.1
NK PX9060	80 day	Banvel 6in	87.0	6.5	14.3	103.0
NK PX9060	80 day	Banvel 14in	84.7	7.4	14.7	100.4
NK PX9060	80 day	Basis V2	80.7	7.4	14.5	111.1
NK PX9060	80 day	Basis V4	74.3	8.8	15.5	93.2
NK PX9060	80 day	Accent V5	85.3	8.3	14.7	108.8
NK PX9060	80 day	Accent V9	-	7.9	14.8	92.8
Payco 151	80 day	Untreated	78.3	9.7	14.7	96.9
Payco 151	80 day	Banvel 6in	73.7	11.6	14.1	88.4
Payco 151	80 day	Banvel 14in	74.0	13.9	14.3	90.9
Payco 151	80 day	Basis V2	68.0	9.7	15.2	92.0
Payco 151	80 day	Basis V4	54.7	19.4	14.0	72.9
Payco 151	80 day	Accent V5	76.3	6.9	14.3	111.1
Payco 151	80 day	Accent V9	-	8.8	13.9	88.6
Pioneer 3902	85 day	Untreated	100.0	1.9	16.5	134.1
Pioneer 3902	85 day	Banvel 6in	94.7	2.3	16.5	130.2
Pioneer 3902	85 day	Banvel 14in	97.0	3.7	16.5	138.4
Pioneer 3902	85 day	Basis V2	90.0	2.8	16.2	143.3
Pioneer 3902	85 day	Basis V4	75.3	2.3	16.8	118.1
Pioneer 3902	85 day	Accent V5	93.3	2.8	16.5	136.3
Pioneer 3902	85 day	Accent V9	-	2.8	16.5	135.6
Pioneer 3921	85 day	Untreated	94.0	4.6	16.6	139.4
Pioneer 3921	85 day	Banvel 6in	94.3	5.6	16.7	132.5
Pioneer 3921	85 day	Banvel 14in	97.7	5.1	16.7	116.5
Pioneer 3921	85 day	Basis V2	91.7	4.6	16.2	136.3
Pioneer 3921	85 day	Basis V4	80.3	6.9	16.3	108.9
Pioneer 3921	85 day	Accent V5	91.3	3.7	16.8	139.0
Pioneer 3921	85 day	Accent V9	-	1.9	16.5	145.5

**Table E-56. Corn Hybrid Interaction with Postemergence Herbicides.  
Arlington, WI - 1995**

Hybrid	Relative Maturity	Herbicide Treatment	Plant	Broken	Moist	Yield
			Height at day 181 cm	Stalks %		
Carhart's CX92A	90 day	Untreated	85.0	4.6	15.9	140.5
Carhart's CX92A	90 day	Banvel 6in	78.0	7.4	15.7	131.5
Carhart's CX92A	90 day	Banvel 14in	78.0	7.4	15.6	145.2
Carhart's CX92A	90 day	Basis V2	74.3	6.5	15.3	146.3
Carhart's CX92A	90 day	Basis V4	65.0	7.9	15.3	132.1
Carhart's CX92A	90 day	Accent V5	79.3	4.2	15.6	126.2
Carhart's CX92A	90 day	Accent V9	-	4.6	15.9	141.4
NK 2409	90 day	Untreated	86.0	6.0	16.4	133.8
NK 2409	90 day	Banvel 6in	79.0	6.5	16.5	126.7
NK 2409	90 day	Banvel 14in	80.7	5.1	16.6	126.5
NK 2409	90 day	Basis V2	81.3	3.7	16.5	137.0
NK 2409	90 day	Basis V4	66.0	6.5	16.6	109.3
NK 2409	90 day	Accent V5	84.3	5.1	16.4	139.1
NK 2409	90 day	Accent V9	-	6.5	16.4	137.8
Cargill 3427	95 day	Untreated	84.3	6.9	17.4	141.9
Cargill 3427	95 day	Banvel 6in	75.3	5.6	17.5	134.6
Cargill 3427	95 day	Banvel 14in	76.0	6.9	17.5	152.2
Cargill 3427	95 day	Basis V2	79.0	4.6	17.2	144.6
Cargill 3427	95 day	Basis V4	62.7	7.4	17.4	120.1
Cargill 3427	95 day	Accent V5	84.7	7.9	17.3	155.4
Cargill 3427	95 day	Accent V9	-	8.3	17.4	127.2
Pioneer 3769	95 day	Untreated	83.0	3.7	17.7	164.7
Pioneer 3769	95 day	Banvel 6in	80.7	5.1	17.6	141.6
Pioneer 3769	95 day	Banvel 14in	81.3	5.1	17.6	128.5
Pioneer 3769	95 day	Basis V2	84.3	5.6	16.8	153.6
Pioneer 3769	95 day	Basis V4	70.0	6.0	17.5	128.5
Pioneer 3769	95 day	Accent V5	91.7	5.1	17.3	151.5
Pioneer 3769	95 day	Accent V9	-	5.1	17.2	143.2
Dekalb DK512	100 day	Untreated	72.0	4.6	18.8	170.3
Dekalb DK512	100 day	Banvel 6in	75.3	4.6	17.6	160.9
Dekalb DK512	100 day	Banvel 14in	71.7	6.5	17.3	164.7
Dekalb DK512	100 day	Basis V2	72.0	2.3	17.8	153.9
Dekalb DK512	100 day	Basis V4	63.7	4.6	17.1	167.8
Dekalb DK512	100 day	Accent V5	75.3	5.6	17.7	172.4
Dekalb DK512	100 day	Accent V9	-	6.0	17.7	172.6
NK 4242	100 day	Untreated	70.3	2.3	16.9	139.9
NK 4242	100 day	Banvel 6in	66.7	6.5	17.3	137.8
NK 4242	100 day	Banvel 14in	66.0	5.1	17.0	151.4
NK 4242	100 day	Basis V2	68.7	3.7	16.6	153.5
NK 4242	100 day	Basis V4	61.0	4.6	16.8	126.6
NK 4242	100 day	Accent V5	74.0	4.2	17.0	174.6
NK 4242	100 day	Accent V9	-	2.8	16.7	150.0
Golden 2441	105 day	Untreated	75.7	8.8	20.2	129.7
Golden 2441	105 day	Banvel 6in	81.0	10.7	19.8	157.3
Golden 2441	105 day	Banvel 14in	74.0	5.1	19.4	140.9
Golden 2441	105 day	Basis V2	74.0	12.0	19.7	132.1
Golden 2441	105 day	Basis V4	64.7	13.4	19.5	131.9
Golden 2441	105 day	Accent V5	79.0	12.0	19.8	143.1
Golden 2441	105 day	Accent V9	-	6.9	18.8	124.8