

**Table D-1. 20 Year Corn/Soybean Rotation Study - Corn.
Arlington, WI Experiment 9990.**

Tillage	Rotation 17th Year	Row space	Yield bu/A	Moisture %	Test weight lbs/bu	Broken/ lodged %	Final population plants/A
		7.5	145	17.8	57.4	1.3	27768
		15	187	16.5	57.6	0.6	29750
		30	202	16.5	58.5	1.5	31357
	ccccccccccC		174	16.8	57.6	0.5	28625
	ccccsssccC		172	17.2	58.0	2.3	29042
	ccccsssccC		169	17.5	57.7	0.8	29625
	ccccsssccC		166	17.0	57.3	1.5	29792
	ccsssscccC		176	17.2	57.4	0.6	29625
	sccccssccC		193	16.1	58.4	1.4	30625
	scscscscscC		199	16.4	58.2	0.8	30042
	ccccccccccC	7.5	137	17.3	57.4	0.4	23875
	ccccccccccC	15	178	16.7	57.2	0.4	30750
	ccccccccccC	30	198	16.5	58.1	0.8	31250
	ccccsssccC	7.5	124	18.4	57.3	3.2	26375
	ccccsssccC	15	188	16.6	57.9	0.4	30750
	ccccsssccC	30	205	16.5	58.7	3.3	30000
	ccccsssccC	7.5	125	19.1	57.3	1.6	26875
	ccccsssccC	15	182	16.7	57.3	0.4	30000
	ccccsssccC	30	200	16.8	58.6	0.4	32000
	ccsssscccC	7.5	134	18.3	56.5	1.3	29625
	ccsssscccC	15	171	16.3	57.4	0.5	28000
	ccsssscccC	30	193	16.6	58.0	2.8	31750
	ccsssscccC	7.5	145	18.2	56.9	1.9	27375
	ccsssscccC	15	187	16.8	57.1	0.0	30500
	ccsssscccC	30	196	16.6	58.3	0.0	31000
	sccccssccC	7.5	170	16.5	58.2	0.5	30875
	sccccssccC	15	198	15.8	58.3	1.3	29500
	sccccssccC	30	212	16.0	58.8	2.4	31500
	scscscscscC	7.5	179	16.5	58.0	0.3	29375
	scscscscscC	15	205	16.4	58.1	0.8	28750
	scscscscscC	30	218	16.3	58.7	1.2	32000
Conventional			179	16.5	58.2	1.7	29369
No-Till			177	17.3	57.5	0.6	29881
Conventional		7.5	150	17.0	57.9	2.2	28321
Conventional		15	187	16.2	57.8	0.7	28643
Conventional		30	202	16.2	58.8	2.1	31143
No-Till		7.5	140	18.6	56.8	0.5	27214
No-Till		15	188	16.7	57.5	0.4	30857
No-Till		30	203	16.7	58.1	1.0	31571
Conventional	ccccccccccC		175	16.5	57.8	0.8	28917
Conventional	ccccsssccC		175	16.5	58.6	3.3	28750
Conventional	ccccsssccC		169	16.8	58.2	1.6	30667
Conventional	ccsssscccC		172	16.5	57.9	2.3	29250
Conventional	ccsssscccC		180	16.5	57.9	1.0	29583
Conventional	sccccssccC		191	16.4	58.3	1.7	30167
Conventional	scscscscscC		193	16.2	58.4	1.0	28250
No-Till	ccccccccccC		172	17.2	57.4	0.3	28333
No-Till	ccccsssccC		169	17.9	57.4	1.4	29333
No-Till	ccccsssccC		168	18.2	57.3	0.0	28583
No-Till	ccsssscccC		160	17.6	56.7	0.7	30333
No-Till	ccsssscccC		172	17.9	56.9	0.3	29667
No-Till	sccccssccC		195	15.9	58.6	1.1	31083
No-Till	scscscscscC		205	16.6	58.1	0.5	31833

continued

**Table D-1. 20 Year Corn/Soybean Rotation Study - Corn.
Arlington, WI Experiment 9990.**

Tillage	Rotation 17th Year	Row space	Yield	Moisture	Test weight	Broken/ lodged	Final population
			bu/A	%	lbs/bu	%	plants/A
Conventional	ccccccccccC	7.5	144	16.9	57.3	0.0	25750
Conventional	ccccccccccC	15	181	16.4	57.4	0.9	29500
Conventional	ccccccccccC	30	200	16.3	58.5	1.6	31500
Conventional	ccccssssscC	7.5	133	17.1	58.6	6.5	26750
Conventional	ccccssssscC	15	188	16.2	58.2	0.0	30000
Conventional	ccccssssscC	30	203	16.1	58.8	3.4	29500
Conventional	ccccssssccC	7.5	130	17.9	58.0	3.2	31000
Conventional	ccccssssccC	15	180	16.2	57.5	0.8	28000
Conventional	ccccssssccC	30	198	16.3	59.0	0.7	33000
Conventional	cccscssscccC	7.5	147	17.2	57.6	2.5	30250
Conventional	cccscssscccC	15	176	16.0	57.7	1.0	27500
Conventional	cccscssscccC	30	194	16.2	58.5	3.4	30000
Conventional	ccssssccccC	7.5	152	16.8	57.4	3.0	29250
Conventional	ccssssccccC	15	190	16.5	57.4	0.0	29000
Conventional	ccssssccccC	30	197	16.1	59.0	0.0	30500
Conventional	sccccsssssC	7.5	170	16.8	58.1	0.0	29000
Conventional	sccccsssssC	15	195	16.1	58.1	1.7	30000
Conventional	sccccsssssC	30	209	16.3	58.8	3.3	31500
Conventional	scscscscscC	7.5	171	16.2	58.2	0.0	26250
Conventional	scscscscscC	15	197	16.3	58.2	0.8	26500
Conventional	scscscscscC	30	216	16.1	59.0	2.3	32000
No-Till	ccccccccccC	7.5	122	18.1	57.6	0.8	22000
No-Till	ccccccccccC	15	175	17.1	57.0	0.0	32000
No-Till	ccccccccccC	30	196	16.8	57.7	0.0	31000
No-Till	ccccssssscC	7.5	114	19.7	56.0	0.0	26000
No-Till	ccccssssscC	15	188	17.0	57.7	0.8	31500
No-Till	ccccssssscC	30	207	16.9	58.5	3.2	30500
No-Till	ccccssssccC	7.5	120	20.3	56.6	0.0	22750
No-Till	ccccssssccC	15	183	17.2	57.1	0.0	32000
No-Till	ccccssssccC	30	201	17.3	58.2	0.0	31000
No-Till	cccscssscccC	7.5	121	19.4	55.5	0.0	29000
No-Till	cccscssscccC	15	167	16.6	57.0	0.0	28500
No-Till	cccscssscccC	30	192	16.9	57.6	2.2	33500
No-Till	ccssssccccC	7.5	138	19.5	56.4	0.9	25500
No-Till	ccssssccccC	15	185	17.2	56.8	0.0	32000
No-Till	ccssssccccC	30	194	17.1	57.7	0.0	31500
No-Till	sccccsssssC	7.5	169	16.3	58.3	1.0	32750
No-Till	sccccsssssC	15	202	15.5	58.5	0.9	29000
No-Till	sccccsssssC	30	215	15.8	58.8	1.5	31500
No-Till	scscscscscC	7.5	186	16.8	57.8	0.7	32500
No-Till	scscscscscC	15	213	16.5	58.0	0.8	31000
No-Till	scscscscscC	30	220	16.5	58.5	0.0	32000
Mean			178	16.9	57.8	1.1	29625
Probability%							
Tillage (T)			13.2	0.1	1.3	3.6	40.4
Rotation (R)			0.0	0.8	0.0	19.6	55.8
T x R			30.1	0.3	0.8	91.0	21.8
Row Spacing (S)			0.0	0.0	0.0	12.7	0.0
T x S			20.6	0.3	9.0	43.5	4.0
R x S			5.3	1.5	55.6	50.3	2.8
T x R x S			99.6	90.5	34.8	40.3	5.5
LSD 10%							
Tillage (T)			NS	0.1	0.3	0.7	NS
Rotation (R)			8	0.6	0.3	NS	NS
T x R			NS	0.6	0.6	NS	NS
Row Spacing (S)			10	0.3	0.2	NS	1072
T x S			NS	0.3	0.4	NS	1729
R x S			15	0.8	NS	NS	2879
T x R x S			NS	NS	NS	NS	3993
CV%			10	5	1	234	11

**Table D-3. 20 Year Corn/Soybean/Wheat Rotation Study - Corn.
Arlington, WI Experiment 9991.**

Tillage	Rotation	Yield bu/A	Moisture %	Test weight lbs/bu	Broken/ lodged %	Final population plants/A
	ccccccC	202	17.3	58.3	3.5	32000
	cscsccC	210	16.8	58.9	3.4	33750
	cscsccC	218	17.0	58.7	2.8	34500
	sccsccC	189	17.6	57.7	3.6	30500
	swccccC	203	16.9	58.5	1.0	32333
	wcscsccC	212	17.2	58.4	3.1	33250
	wcscsccC	206	16.8	58.6	1.4	31750
	wwccsccC	203	17.6	58.1	4.8	30500
Conventional		198	16.9	58.6	3.9	33742
No-Till		213	17.4	58.1	2.1	30903
Conventional	ccccccC	190	16.8	59.0	4.8	32500
Conventional	cscsccC	201	16.8	58.9	5.2	35000
Conventional	cscsccC	206	17.1	58.6	2.1	33500
Conventional	sccsccC	189	16.7	58.4	7.3	34000
Conventional	swccccC	189	16.9	58.6	2.0	34667
Conventional	wcscsccC	204	17.0	58.7	3.0	33500
Conventional	wcscsccC	205	16.5	59.0	1.3	34000
Conventional	wwccsccC	199	17.4	58.0	5.0	33000
No-Till	ccccccC	213	17.8	57.5	2.2	31500
No-Till	cscsccC	218	16.8	58.9	1.6	32500
No-Till	cscsccC	229	16.9	58.8	3.6	35500
No-Till	sccsccC	190	18.5	56.9	0.0	27000
No-Till	swccccC	218	16.8	58.5	0.0	30000
No-Till	wcscsccC	220	17.4	58.0	3.2	33000
No-Till	wcscsccC	208	17.1	58.1	1.5	29500
No-Till	wwccsccC	206	17.7	58.2	4.5	28000
Mean		205	17.1	58.4	3.0	32323
Probability%						
Tillage (T)		0.2	0.8	1.2	3.6	0.3
Rotation (R)		11.9	8.2	6.1	51.6	24.1
T x R		66.1	7.3	15.0	24.7	24.2
LSD 10%						
Tillage (T)		8	0.3	0.3	1.4	1494
Rotation (R)		NS	0.5	0.6	NS	NS
T x R		NS	0.7	NS	NS	NS
CV%						
		9	4	1	112	11

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01GD **Trial ID** 1411 **Year:** 1999
Personnel: J.G. Lauer, K.D. Kohn, P.J. Flannery
Location: Chippewa Falls, WI **County:** Chippewa
Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Sattre
Soil Test: **Date:** N/A **pH** 5.9 **OM (%)** 3.1 **P (ppm)** 140 **K (ppm)** 150

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivated 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	28-0-0	112 lbs/A	N/A
Starter :	6-24-24	150	4 /28/99
Post plant :	N/A	N/A	N/A
Manure:		none	

Herbicide: Harness @ 1.6pt/A **Insecticide:** none
Hornet @ 2.4 oz/A **Hybrid:** See Factors

Irrigation: none

Planting Date: 4/28/99 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter

Harvest Date: 9/28/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x5' **Experiment Size:** 0.12 A
Harvest Plot Size: 22'x 5' **Harvest Plant Density:** 28400 plants per acre

Factors/Treatments:

Hybrids:

Carhart's CX1080A	Kaltenberg K4606
Dekalb DK405	Pioneer 3751
Dekalb DK551BTY	Pioneer 39J69
DS Stealth1412	Renk RK232
Garst 8830	Renk RK599IMI
Gutwein 2400	Trelay 1001
Jung 2285	Wensman Max78

Results: Table E-17.

**Table E-17. Determining Corn Hybrid Maturity - Comparison of Hybrids
Chippewa Falls, WI -1999**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lbs/bu	Lodging %
Pioneer 39J69	80	123	18.1	61.5	1.0
Trelay 1001	80	170	18.3	60.7	0.0
Jung 2285	85	171	21.2	56.2	0.5
Renk RK232	85	174	17.7	57.5	0.5
Dekalb DK405	90	172	18.9	56.9	1.0
Wensman Max78	90	172	20.0	56.6	0.0
Garst 8830	95	195	25.4	52.3	0.0
Kaltenberg K4606	95	191	21.3	53.2	1.9
Pioneer 3751	100	191	22.2	53.7	0.5
Renk RK599IMI	100	191	25.1	52.7	0.0
Dekalb DK551BTY	105	203	30.1	52.5	0.0
Gutwein 2400	105	186	26.0	54.2	0.5
Carhart's CX1080A	110	202	31.2	52.7	1.9
DS Stealth1412	110	192	32.3	52.0	0.0
Mean		181	23.4	55.2	0.5
<u>Probability(%)</u>					
Hybrid (H)		0.1	0.0	0.0	13.6
<u>LSD(0.10)</u>					
Hybrid (H)		24	3.4	2.4	NS
<u>CV(%)</u>					
		9	10	3	166

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01GD **Trial ID** 1408 **Year:** 1999
Personnel: J.G. Lauer, K.D. Kohn, P.J. Flannery, D. Weiersma
Location: Marshfield, WI **County:** Wood
Supported By: HATCH

Site Information

Field: 3 **Previous Crop:** Alfalfa **Soil Type:** Loyal
Soil Test: **Date:** N/A **pH** 6.7 **OM (%)** 3.3 **P (ppm)** 53 **K (ppm)** 169

Plot Management

Tillage Operations: Moldboard Plow Field Cultivator 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	N/A	N/A	N/A
Starter :	6-24-24	150	5 /11/99
Post plant :	33-0-0	136	5 /1 /99
Manure:		30 Tons	

Herbicide: Harness @ 2pt/A
Hornet @ 4 oz/A **Insecticide:** none
Hybrid: See Factors

Irrigation: none

Planting Date: 5/11/99 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter

Harvest Date: 10/19/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x5' **Experiment Size:** 0.12 A
Harvest Plot Size: 22' x 5' **Harvest Plant Density:** 27000 plants per acre

Factors/Treatments:

Hybrids:

Carhart's CX1080A	Kaltenberg K4606
Dekalb DK405	Pioneer 3751
Dekalb DK551BTY	Pioneer 39J69
DS Stealth1412	Renk RK232
Garst 8830	Renk RK599IMI
Gutwein 2400	Trelay 1001
Jung 2285	Wensman Max78

Results: Table E-18.

**Table E-18. Determining Corn Hybrid Maturity - Comparison of Hybrids
Marshfield, WI - 1999**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lbs/bu	Lodging %
Pioneer 39J69	80	136	19.8	59.5	9.5
Trelay 1001	80	144	22.7	57.8	0.5
Jung 2285	85	157	25.4	55.0	1.9
Renk RK232	85	177	22.3	55.7	0.9
Dekalb DK405	90	198	23.3	53.2	0.9
Wensman Max78	90	162	27.2	54.4	0.0
Garst 8830	95	180	28.1	51.3	0.5
Kaltenberg K4606	95	183	24.3	52.2	0.5
Pioneer 3751	100	200	26.7	52.3	0.0
Renk RK599IMI	100	177	28.7	51.6	1.4
Dekalb DK551BTY	105	206	32.6	51.5	0.5
Gutwein 2400	105	208	33.5	51.0	4.3
Carhart's CX1080A	110	210	33.4	50.9	0.0
DS Stealth1412	110	180	35.8	50.9	3.3
Mean		180	27.4	53.4	1.7
<u>Probability(%)</u>					
Hybrid (H)		0.0	0.0	0.0	7.8
<u>LSD(0.10)</u>					
Hybrid (H)		18	0.6	0.6	1.7
<u>CV(%)</u>					
		7	2	1	186

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01GD **Trial ID** 1409 **Year:** 1999
Personnel: J.G. Lauer, K.D. Kohn, P.J. Flannery
Location: Seymour, WI **County:** Outagamie
Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:**
Soil Test: **Date:** N/A **pH** 7.3 **OM (%)** 3.5 **P (ppm)** 22 **K (ppm)** 125

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	N/A	N/A	N/A
Starter :	6-24-24	150	5 /4 /99
Post plant :	N/A	N/A	N/A
Manure:		9000 gal	

Herbicide: Northstar @ 4 oz/A **Insecticide:** none
Irrigation: none **Hybrid:** See Factors

Planting Date: 5/3/99 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/12/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x5' **Experiment Size:** 0.12 A
Harvest Plot Size: 22'x 5' **Harvest Plant Density:** 28400 plants per acre

Factors/Treatments:

Hybrids:

Carhart's CX1080A	Kaltenberg K4606
Dekalb DK405	Pioneer 3751
Dekalb DK551BTY	Pioneer 39J69
DS Stealth1412	Renk RK232
Garst 8830	Renk RK599IMI
Gutwein 2400	Trelay 1001
Jung 2285	Wensman Max78

Results: Table E-19.

**Table E-19. Determining Corn Hybrid Maturity - Comparison of Hybrids
Seymour, WI -1999**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lbs/bu	Lodging %
Pioneer 39J69	80	123	15.1	64.0	33.1
Trelay 1001	80	155	16.9	63.3	1.4
Jung 2285	85	175	19.6	61.2	3.3
Renk RK232	85	174	16.3	62.2	2.8
Dekalb DK405	90	188	15.6	59.9	5.2
Wensman Max78	90	172	18.6	60.2	0.9
Garst 8830	95	178	21.0	56.1	2.8
Kaltenberg K4606	95	171	15.3	59.7	12.3
Pioneer 3751	100	192	18.5	59.1	2.8
Renk RK599IMI	100	175	23.3	56.0	6.6
Dekalb DK551BTY	105	227	24.9	56.2	0.9
Gutwein 2400	105	207	23.9	54.4	9.0
Carhart's CX1080A	110	202	27.8	53.9	6.1
DS Stealth1412	110	188	30.2	54.2	2.8
Mean		180	20.5	58.6	6.5
<u>Probability(%)</u>					
Hybrid (H)		0.6	0.0	0.0	0.0
<u>LSD(0.10)</u>					
Hybrid (H)		33	2.1	0.9	7.5
<u>CV(%)</u>					
		13	8	1	85

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01GD **Trial ID** 1410 **Year:** 1999
Personnel: J.G. Lauer, K.D. Kohn, P.J. Flannery, S. Hendrickson
Location: Valders, WI **County:** Manitowoc
Supported By: HATCH

Site Information

Field: **Previous Crop:** Alfalfa **Soil Type:** Kewanee
Soil Test: **Date:** N/A **pH** 7.2 **OM (%)** 3.1 **P (ppm)** 49 **K (ppm)** 155

Plot Management

Tillage Operations: Moldboard Plow Field Cultivated 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	N/A	N/A	N/A
Starter :	6-24-24	150	5/3/99
Post plant :	N/A	N/A	N/A
Manure:		12000 gal	

Herbicide: Accent @ .33 oz/A **Insecticide:** none
Northstar @ 4 oz/A **Hybrid:** See Factors

Irrigation: none

Planting Date: 5/3/99 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/13/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x5' **Experiment Size:** 0.12 A
Harvest Plot Size: 22'x 5' **Harvest Plant Density:** 29300 plants per acre

Factors/Treatments:

Hybrids:

Carhart's CX1080A	Kaltenberg K4606
Dekalb DK405	Pioneer 3751
Dekalb DK551BTY	Pioneer 39J69
DS Stealth1412	Renk RK232
Garst 8830	Renk RK599IMI
Gutwein 2400	Trelay 1001
Jung 2285	Wensman Max78

Results: Table E-20.

**Table E-20. Determining Corn Hybrid Maturity - Comparison of Hybrids
Valders, WI -1999**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lbs/bu	Lodging %
Pioneer 39J69	80	107	15.9	61.1	35.5
Trelay 1001	80	154	17.4	61.3	0.0
Jung 2285	85	171	18.3	60.5	1.4
Renk RK232	85	177	18.2	60.3	0.5
Dekalb DK405	90	203	16.8	58.6	1.4
Wensman Max78	90	189	18.4	59.0	0.0
Garst 8830	95	204	19.4	54.4	6.1
Kaltenberg K4606	95	199	18.3	57.9	10.4
Pioneer 3751	100	202	18.1	57.4	1.9
Renk RK599IMI	100	224	21.8	54.9	0.9
Dekalb DK551BTY	105	234	24.5	55.1	0.5
Gutwein 2400	105	230	21.6	54.7	4.7
Carhart's CX1080A	110	237	20.8	54.4	3.8
DS Stealth1412	110	224	25.4	54.0	0.5
Mean		197	19.6	57.4	4.8
<u>Probability(%)</u>					
Hybrid (H)		0.0	0.0	0.0	0.0
<u>LSD(0.10)</u>					
Hybrid (H)		13	1.2	1.2	5.2
<u>CV(%)</u>					
		5	5	2	78

FIELD EXPERIMENT HISTORY

Title: Determining Corn Hybrid Maturity
Experiment: 01GD **Trial ID** 1407 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: 427 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.2 **OM (%)** 3.9 **P (ppm)** 50 **K (ppm)** 190

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	325	4 /23/99
Starter :	6-24-24	150	4 /29/99
Post plant :	N/A	N/A	N/A
Manure:		none	

Herbicide: Frontier @ 1.5 pt/A **Insecticide:** none
Bladex @ 2.2 lb/A **Hybrid:** See Factors
Buctril @ 1.5 pt/A

Irrigation: none

Planting Date: 4/26/99 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter

Harvest Date: 10/6/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x5' **Experiment Size:** 0.15 A
Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 28630 plants per acre

Factors/Treatments:

Hybrids:

Carhart's CX1080A	Kaltenberg K4606
Dekalb DK405	Pioneer 3751
Dekalb DK551BTY	Pioneer 39J69
DS Stealth1412	Renk RK232
Garst 8830	Renk RK599IMI
Gutwein 2400	Trelay 1001
Jung 2285	Wensman Max78

Results: Table E-21 and E-22.

**Table E-21. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI -1999**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Plant Height doy 243 inches	50% Silk day of year	Kernel Milk on Day of Year									
								232	236	239	243	246	250	256	260	264	267
Pioneer 39J69	80	157	17.0	64.4	2.3	85.3	163	70.0	36.7	35.0	18.3	8.3	1.7	0.0	0.0	0.0	0.0
Trelay 1001	80	165	16.7	64.7	0.0	83.0	167	86.7	53.3	48.3	26.7	15.0	0.0	0.0	0.0	0.0	0.0
Jung 2285	85	180	17.8	62.3	0.0	85.3	169	88.3	63.3	50.0	53.3	41.7	15.0	0.0	0.0	0.0	0.0
Renk RK232	85	206	16.3	61.5	0.5	91.0	171	100	60.0	63.3	48.3	48.3	16.7	0.0	0.0	0.0	0.0
Dekalb DK405	90	208	16.4	61.1	0.9	91.7	167	96.7	63.3	58.3	50.0	30.0	23.3	1.7	0.0	0.0	0.0
Wensman Max78	90	199	17.1	60.8	0.5	90.7	169	91.7	83.3	68.3	68.3	56.7	36.7	11.7	0.0	0.0	0.0
Garst 8830	95	224	18.2	59.2	0.5	92.7	171	100	76.7	63.3	61.7	50.0	35.0	8.3	5.0	1.7	0.0
Kaltenberg K4606	95	225	18.6	58.1	0.5	97.3	168	100	53.3	65.0	51.7	53.3	33.3	15.0	5.0	0.0	0.0
Pioneer 3751	100	226	18.6	57.5	0.0	93.7	169	96.7	76.7	66.7	65.0	56.7	35.0	5.0	0.0	0.0	0.0
Renk RK599IMI	100	223	18.8	59.8	0.9	94.3	171	100	80.0	58.3	53.3	53.3	36.7	5.0	0.0	0.0	0.0
Dekalb DK551BTY	105	274	25.4	57.3	0.0	103.3	171	100	80.0	71.7	68.3	56.7	50.0	28.3	20.0	8.3	1.7
Gutwein 2400	105	278	23.3	56.4	0.0	103.7	172	100	86.7	91.7	66.7	58.3	38.3	18.3	13.3	3.3	1.7
Carhart's CX1080A	110	271	23.5	56.9	1.4	105.3	172	100	100	100	65.0	60.0	36.7	16.7	10.0	3.3	0.0
DS Stealth1412	110	269	28.5	54.8	0.0	101.3	173	100	96.7	96.7	83.3	75.0	60.0	38.3	31.7	16.7	3.3
Mean	95	222	19.7	59.6	0.5	94.2	170	95.0	72.1	66.9	55.7	47.4	29.9	10.6	6.1	2.4	0.5
<u>Probability(%)</u>																	
Hybrid (H)		0.0	0.0	0.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0
<u>LSD(0.10)</u>																	
Hybrid (H)		27	0.8	1.5	NS	4.1	1	8.4	14.8	8.8	10.5	13.8	11.9	6.8	5.7	4.3	NS
<u>CV(%)</u>																	
		9	3	2	166	3	4	6	15	9	14	21	28	46	67	130	277

**Table E-22. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI - 1999**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters method	Total leaves	
Pioneer 39J69	80		8.3	10.5	17.2	58.8
Trelay 1001	80		9.3	11.0	16.4	60.0
Jung 2285	85		10.0	12.0	17.4	63.9
Renk RK232	85		9.8	11.6	16.8	66.9
Dekalb DK405	90		9.8	11.9	18.3	64.5
Wensman Max78	90		9.3	11.1	16.4	63.1
Garst 8830	95		10.0	11.8	17.5	65.1
Kaltenberg K4606	95		10.0	12.3	18.1	66.3
Pioneer 3751	100		10.1	11.9	17.7	65.7
Renk RK599IMI	100		10.1	12.3	18.3	66.7
Dekalb DK551BTY	105		10.2	12.0	17.5	66.3
Gutwein 2400	105		9.9	12.1	18.3	66.3
Carhart's CX1080A	110		10.0	12.3	18.3	68.7
DS Stealth1412	110		10.2	12.3	19.2	68.5
		147	2.3	4.6		10.4
		161	5.7	8.7		46.7
		176	9.1	12.0		103.1
		188	14.1	15.8	17.0	73.6
		203	18.5	18.4	18.5	94.1
Pioneer 39J69	80	147	2.2	4.8		8.7
Trelay 1001	80	147	2.5	4.5		10.0
Jung 2285	85	147	2.5	4.5		11.3
Renk RK232	85	147	2.5	4.8		11.7
Dekalb DK405	90	147	2.0	4.0		10.0
Wensman Max78	90	147	2.0	4.0		9.3
Garst 8830	95	147	2.7	4.5		10.0
Kaltenberg K4606	95	147	2.3	5.3		8.7
Pioneer 3751	100	147	2.7	4.7		11.7
Renk RK599IMI	100	147	2.3	4.8		11.7
Dekalb DK551BTY	105	147	2.5	4.7		10.0
Gutwein 2400	105	147	2.0	4.5		11.0
Carhart's CX1080A	110	147	2.5	4.8		11.3
DS Stealth1412	110	147	2.0	4.3		9.7

continued

**Table E-22. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI - 1999**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters method	Total leaves	
Pioneer 39J69	80	161	5.7	8.8		43.3
Trelay 1001	80	161	5.0	7.3		42.3
Jung 2285	85	161	5.5	8.8		44.0
Renk RK232	85	161	5.8	8.5		50.3
Dekalb DK405	90	161	5.2	8.3		44.3
Wensman Max78	90	161	5.3	8.2		43.0
Garst 8830	95	161	5.8	8.8		46.3
Kaltenberg K4606	95	161	6.0	9.3		48.0
Pioneer 3751	100	161	5.8	8.7		52.3
Renk RK599IMI	100	161	5.8	9.0		47.7
Dekalb DK551BTY	105	161	6.0	9.3		48.7
Gutwein 2400	105	161	5.8	8.8		45.7
Carhart's CX1080A	110	161	6.0	9.2		46.7
DS Stealth1412	110	161	5.8	8.8		50.7
Pioneer 39J69	80	176	9.3	12.0		104.7
Trelay 1001	80	176	8.2	11.2		98.0
Jung 2285	85	176	9.5	12.7		104.0
Renk RK232	85	176	9.2	12.2		104.7
Dekalb DK405	90	176	9.0	11.5		100.7
Wensman Max78	90	176	8.3	11.3		101.7
Garst 8830	95	176	9.3	12.0		105.0
Kaltenberg K4606	95	176	9.3	12.0		101.3
Pioneer 3751	100	176	9.5	12.2		100.0
Renk RK599IMI	100	176	9.7	12.3		105.0
Dekalb DK551BTY	105	176	9.7	12.3		105.0
Gutwein 2400	105	176	9.0	12.0		100.7
Carhart's CX1080A	110	176	9.2	12.2		106.7
DS Stealth1412	110	176	8.8	11.8		106.0
Pioneer 39J69	80	188	16.2	16.5	17.2	78.3
Trelay 1001	80	188	13.5	14.7	15.7	67.7
Jung 2285	85	188	15.0	16.2	17.2	72.7
Renk RK232	85	188	13.8	14.8	16.0	74.3
Dekalb DK405	90	188	13.3	16.0	17.0	71.7
Wensman Max78	90	188	13.8	15.0	16.0	71.7
Garst 8830	95	188	13.8	15.5	16.7	72.0
Kaltenberg K4606	95	188	13.8	16.2	17.5	75.7
Pioneer 3751	100	188	14.2	15.7	17.2	74.0
Renk RK599IMI	100	188	13.7	16.2	17.3	73.0
Dekalb DK551BTY	105	188	14.8	15.8	17.0	74.3
Gutwein 2400	105	188	13.3	15.8	17.3	73.3
Carhart's CX1080A	110	188	13.5	16.2	17.5	73.3
DS Stealth1412	110	188	14.0	16.2	18.0	78.0

continued

**Table E-22. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI - 1999**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters method	Total leaves	
Pioneer 39J69	80	203	16.2	16.5	17.2	78.3
Trelay 1001	80	203	17.2	17.2	17.2	82.0
Jung 2285	85	203	17.7	17.7	17.7	87.7
Renk RK232	85	203	17.7	17.5	17.7	93.3
Dekalb DK405	90	203	19.7	19.7	19.7	96.0
Wensman Max78	90	203	16.8	16.8	16.8	89.7
Garst 8830	95	203	18.3	18.3	18.3	92.0
Kaltenberg K4606	95	203	18.7	18.7	18.7	98.0
Pioneer 3751	100	203	18.2	18.2	18.2	90.7
Renk RK599IMI	100	203	19.2	19.2	19.2	96.0
Dekalb DK551BTY	105	203	18.0	18.0	18.0	93.7
Gutwein 2400	105	203	19.3	19.2	19.3	100.7
Carhart's CX1080A	110	203	19.0	19.0	19.0	105.3
DS Stealth1412	110	203	20.3	20.3	20.3	98.3
Mean			9.8	11.8	17.7	65.1
<u>Probability(%)</u>						
Hybrid (H)			0.0	0.0	0.0	0.0
Day Of Year (D)			0.0	0.0	0.1	0.0
H x D			0.0	2.8	12.7	0.0
<u>LSD(0.10)</u>						
Hybrid (H)			0.3	0.4	0.4	1.5
Day Of Year (D)			0.2	0.2	0.1	1.0
H x D			0.7	0.8	NS	3.4
<u>CV(%)</u>						
			5	5	3	4

FIELD EXPERIMENT HISTORY

Title: Plot Size Effects on Maize
Experiment: 01PlotSize **Trial ID** 1446 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: 358 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.8 **OM (%)** 3.1 **P (ppm)** 45 **K (ppm)** 240

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1
Fertilizer: **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 325 **Date:** 4 /23/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /10/99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Frontier @ 1.5 pt/A **Insecticide:** none
Bladex @ 2.2 lb/A **Hybrid:** See Factors
Irrigation: none
Planting Date: 5/10/99 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/18 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' and 22'x5' **Experiment Size:** .36 A
Harvest Plot Size: 20' x 5' **Harvest Plant Density:** 30400 plants per acre

Factors/Treatments:

Plot Size

2-30" rows
4-30" rows

Agripro AP9401
Croplan 562IMI
Dekalb DK525
Dekalb DK539

GH H8049IMI
Garst 8640
Garst 8707
Kaltenberg K5404

Results: Table E-23.

**Table E-23. Plot Size Effects on Maize.
Arlington, WI - 1999**

Plot size	Hybrid	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Plant height inches
2 row		220	20.6	56.3	1.7	100
4 row		238	20.3	57.1	1.6	103
	Agripro AP9401	222	19.9	56.5	1.7	96
	Croplan 562IMI	223	24.2	56.9	1.4	95
	Dekalb DK525	236	19.8	58.7	2.6	105
	Dekalb DK539	243	20.4	58.1	0.5	102
	GH H8049IMI	220	20.6	55.8	0.7	93
	Garst 8640	231	19.0	55.5	1.2	105
	Garst 8707	234	18.6	55.8	1.0	109
	Kaltenberg K5404	223	19.9	57.6	2.4	106
	Pioneer 35R57	239	21.5	56.1	1.9	105
	Pioneer 36D14	232	20.8	56.2	2.1	97
	Renk RK641	231	20.3	55.7	1.7	102
	Renk RK648	211	20.6	57.1	2.4	105
2 row	Agripro AP9401	215	19.6	56.7	2.9	95
4 row	Agripro AP9401	229	20.2	56.4	0.5	96
2 row	Croplan 562IMI	218	24.4	56.8	1.9	91
4 row	Croplan 562IMI	227	24.1	57.0	1.0	99
2 row	Dekalb DK525	220	19.9	58.2	1.4	102
4 row	Dekalb DK525	253	19.7	59.2	3.8	109
2 row	Dekalb DK539	244	20.5	58.0	1.0	104
4 row	Dekalb DK539	243	20.2	58.3	0.0	100
2 row	GH H8049IMI	202	20.4	55.1	1.4	92
4 row	GH H8049IMI	238	20.7	56.5	0.0	93
2 row	Garst 8640	223	19.6	55.2	0.5	103
4 row	Garst 8640	239	18.4	55.8	1.9	107
2 row	Garst 8707	221	18.8	55.3	1.0	107
4 row	Garst 8707	248	18.5	56.4	1.0	111
2 row	Kaltenberg K5404	218	19.9	57.3	2.4	104
4 row	Kaltenberg K5404	228	19.9	57.9	2.4	108
2 row	Pioneer 35R57	235	21.2	55.8	2.4	103
4 row	Pioneer 35R57	243	21.8	56.4	1.4	106
2 row	Pioneer 36D14	223	20.8	55.8	1.9	93
4 row	Pioneer 36D14	241	20.7	56.7	2.4	100
2 row	Renk RK641	222	20.7	55.4	1.0	101
4 row	Renk RK641	240	19.9	56.0	2.4	102
2 row	Renk RK648	198	21.1	56.1	2.9	104
4 row	Renk RK648	225	20.1	58.2	1.9	105
Mean		229	20.5	56.7	1.6	101
Probability (%)						
Size (S)		0.3	57.8	37.2	78.4	0.8
Hybrid (H)		0.0	0.0	0.0	75.6	0.0
S x H		1.6	60.2	30.7	76.2	0.3
LSD(0.10)						
Size (S)		6	NS	NS	NS	2
Hybrid (H)		8	0.8	0.7	NS	2
S x H		12	NS	NS	NS	3
CV(%)						
		4	4	2	128	2

FIELD EXPERIMENT HISTORY

Title: Plot Size Effects on Maize
Experiment: 01PlotSize **Trial ID** 1445 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Janesville, WI **County:** Rock
Supported By: Hatch

Site Information

Field: R-5D **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.6 **OM (%)** 3.4 **P (ppm)** 74 **K (ppm)** 215

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator 1 Cultivation
Fertilizer: **Preplant Analysis:** 28-0-0 **Rate lbs/A:** 160 A **Date:** 4 /25/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 4 /30/99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Harness @ 2.75pt/A **Insecticide:** none
Hornet @ 4.5 oz/A **Hybrid:** See Factors
Irrigation: none
Planting Date: 4/30/99 **Planting Depth:** 1.5" **Row Width** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/8/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' and 22'x5' **Experiment Size:** .36 A
Harvest Plot Size: 22' x 5' **Harvest Plant Density:** 28000 plants per acre

Factors/Treatments:

Plot Size

2-30" rows
4-30" rows

Hybrids

Agripro AP9401	GH H8049IMI	Pioneer 35R57
Croplan 562IMI	Garst 8640	Pioneer 36D14
Dekalb DK525	Garst 8707	Renk RK641
Dekalb DK539	Kaltenberg K5404	Renk RK648

Results: Table E-24.

**Table E-24. Plot Size Effects on Maize.
Janesville, WI - 1999**

Plot size	Hybrid	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Plant height inches
2 row		236	19.4	59.2	0.5	101
4 row		241	19.2	59.2	0.5	100
	Agripro AP9401	251	19.4	59.3	0.2	95
	Croplan 562IMI	246	20.6	59.1	0.5	95
	Dekalb DK525	233	18.8	61.8	0.3	103
	Dekalb DK539	245	19.4	61.1	0.2	103
	GH H8049IMI	204	20.1	58.9	0.5	91
	Garst 8640	236	17.9	57.9	0.7	105
	Garst 8707	239	18.3	58.4	0.3	105
	Kaltenberg K5404	232	18.1	59.9	1.0	105
	Pioneer 35R57	263	20.9	57.6	0.2	104
	Pioneer 36D14	247	20.1	59.0	0.7	98
	Renk RK641	242	18.7	58.1	0.7	100
	Renk RK648	228	18.9	60.2	0.5	105
2 row	Agripro AP9401	249	19.2	59.9	0.3	95
4 row	Agripro AP9401	252	19.6	58.9	0.0	95
2 row	Croplan 562IMI	232	20.7	59.4	0.7	96
4 row	Croplan 562IMI	260	20.6	58.9	0.3	94
2 row	Dekalb DK525	238	19.0	62.1	0.3	102
4 row	Dekalb DK525	231	18.7	61.7	0.3	103
2 row	Dekalb DK539	238	19.3	61.1	0.3	103
4 row	Dekalb DK539	250	19.5	61.1	0.0	102
2 row	GH H8049IMI	183	20.1	58.9	1.0	92
4 row	GH H8049IMI	224	20.0	59.0	0.0	90
2 row	Garst 8640	242	18.0	57.9	0.3	105
4 row	Garst 8640	231	17.9	57.9	1.0	105
2 row	Garst 8707	244	18.4	58.1	0.3	106
4 row	Garst 8707	234	18.1	58.6	0.3	104
2 row	Kaltenberg K5404	234	18.6	60.3	0.7	105
4 row	Kaltenberg K5404	230	17.8	59.7	1.3	105
2 row	Pioneer 35R57	270	21.2	57.6	0.0	104
4 row	Pioneer 35R57	258	20.8	57.6	0.3	103
2 row	Pioneer 36D14	247	20.3	59.0	0.3	99
4 row	Pioneer 36D14	248	19.9	59.0	1.0	96
2 row	Renk RK641	239	18.9	58.0	0.3	100
4 row	Renk RK641	245	18.6	58.3	1.0	100
2 row	Renk RK648	228	19.1	60.1	1.0	105
4 row	Renk RK648	228	18.8	60.2	0.0	105
Mean		238	19.3	59.2	0.5	101
Probability (%)						
Size (S)		40.9	35.0	54.0	100	48.7
Hybrid (H)		0.0	0.0	0.0	68.8	0.0
S x H		3.0	75.6	88.7	37.9	95.3
LSD(0.10)						
Size (S)		NS	NS	NS	NS	NS
Hybrid (H)		12	0.4	0.6	NS	2
S x H		22	NS	NS	NS	NS
CV(%)						
		6	2	1	153	2

FIELD EXPERIMENT HISTORY

Title: Plot Size Effects on Maize
Experiment: 01PlotSize **Trial ID** 1444 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Lancaster, WI **County:** Grant
Supported By: Hatch

Site Information

Field: R1-B **Previous Crop:** Corn **Soil Type:** Fayette
Soil Test: **Date:** N/A **pH** 7.0 **OM (%)** 2.7 **P (ppm)** 65 **K (ppm)** 165

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation
Fertilizer: **Preplant Analysis:** 82-0-0 **Rate lbs/A:** 180 A **Date:** 4 /28/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /3 /99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Aatrex 4L @ .5qt/A **Insecticide:** Lorsban 7lbs/A
Buctril @ 1.5 pt/A **Hybrid:** See Factors
Irrigation: none
Planting Date: 5/3/99 **Planting Depth:** 1.5" **Row Width** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/5/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' and 22'x5' **Experiment Size:** .36 A
Harvest Plot Size: 20' x 5' **Harvest Plant Density:** 30400 plants per acre

Factors/Treatments:

Plot Size

2-30" rows
4-30" rows

Hybrids

Agripro AP9401	GH H8049IMI	Pioneer 35R57
Croplan 562IMI	Garst 8640	Pioneer 36D14
Dekalb DK525	Garst 8707	Renk RK641
Dekalb DK539	Kaltenberg K5404	Renk RK648

Results: Table E-25.

**Table E-25. Plot Size Effects on Maize.
Lancaster, WI - 1999**

Plot size	Hybrid	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Plant height inches
2 row		201	21.0	57.4	2.9	89
4 row		207	21.2	57.4	3.3	90
	Agripro AP9401	210	21.7	57.1	2.1	84
	Croplan 562IMI	202	24.4	56.6	2.4	85
	Dekalb DK525	205	19.5	60.1	4.5	94
	Dekalb DK539	206	21.4	59.3	1.9	89
	GH H8049IMI	204	22.2	57.5	1.4	80
	Garst 8640	207	20.4	53.9	2.6	92
	Garst 8707	215	19.8	56.7	3.6	93
	Kaltenberg K5404	183	19.7	58.4	4.1	92
	Pioneer 35R57	210	22.3	56.9	2.6	89
	Pioneer 36D14	210	21.4	57.1	2.9	85
	Renk RK641	204	20.3	56.8	5.7	92
	Renk RK648	189	20.6	58.1	3.3	94
2 row	Agripro AP9401	211	21.7	57.2	1.9	84
4 row	Agripro AP9401	210	21.7	57.1	2.4	85
2 row	Croplan 562IMI	206	23.6	57.2	2.9	85
4 row	Croplan 562IMI	199	25.2	56.0	1.9	84
2 row	Dekalb DK525	201	19.5	60.1	4.3	95
4 row	Dekalb DK525	208	19.6	60.2	4.8	93
2 row	Dekalb DK539	207	21.1	59.8	1.4	88
4 row	Dekalb DK539	205	21.6	58.8	2.4	89
2 row	GH H8049IMI	202	21.9	58.3	1.0	80
4 row	GH H8049IMI	205	22.5	56.7	1.9	81
2 row	Garst 8640	194	19.9	52.1	1.4	90
4 row	Garst 8640	220	20.8	55.7	3.8	95
2 row	Garst 8707	211	20.1	56.6	3.3	90
4 row	Garst 8707	218	19.5	56.8	3.8	96
2 row	Kaltenberg K5404	175	19.4	58.4	2.9	91
4 row	Kaltenberg K5404	191	19.9	58.4	5.3	93
2 row	Pioneer 35R57	211	22.1	57.1	4.3	89
4 row	Pioneer 35R57	208	22.6	56.6	1.0	89
2 row	Pioneer 36D14	202	21.6	57.0	2.9	86
4 row	Pioneer 36D14	218	21.2	57.3	2.9	85
2 row	Renk RK641	209	19.9	56.9	5.3	92
4 row	Renk RK641	200	20.6	56.6	6.2	92
2 row	Renk RK648	181	21.8	57.5	3.3	95
4 row	Renk RK648	197	19.5	58.7	3.3	93
Mean		204	21.1	57.4	3.1	89
Probability (%)						
Size (S)		12.8	69.9	92.7	36.2	22.5
Hybrid (H)		0.0	0.0	0.0	7.8	0.0
S x H		14.6	15.6	33.8	73.1	35.7
LSD(0.10)						
Size (S)		NS	NS	NS	NS	NS
Hybrid (H)		10	0.9	1.5	1.5	1
S x H		NS	NS	NS	NS	NS
CV(%)						
		5	5	3	70	3

FIELD EXPERIMENT HISTORY

Title: Roundup Ready Hybrid Yield Comparison
Experiment: 01Roundup **Trial ID** 1425 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P. J. Flannery
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: 358 **Previous Crop:** Soybean **Soil Type:** Plano silt loam
Soil Test: **Date:** **pH** 6.8 **OM (%)** 3.1 **P (ppm)** 45 **K (ppm)** 240

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation
Fertilizer: **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 325 **Date:** 4 /23/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /10/99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure:
Herbicide: See Factors **Insecticide:** None
Irrigation: None **Hybrid:** See Factors
Planting Date: 5/10/99 **Planting Depth:** 1.5" **Row Width** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/18/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB-Split **Replications:** 4
Plot Size Seeded: 22'x10' **Experiment Size:** 0.005 A
Harvest Plot Size: 20' x 5' **Harvest Plant Density:** 29500 plants per acre

Factors/Treatments:

Herbicide Applied

Traditional: Frontier @1.5 pts/A, Bladex @ 2.2 lbs/A
Roundup: 32 oz/A on 6/9 and 32 oz/A on 6/18

Hybrids

Dekalb DK443, Dekalb DK448RR, Dekalb DK493, Dekalb DK493RR, Dekalb DK512, Dekalb DK512RR, Dekalb DK566, Dekalb DK566RR, Dekalb DK580, Dekalb DK580RR, Dekalb DK626, Dekalb DK626RR, NC+ 2019R, NC+ 4339R, NC+ 5029R,

Results: Table E-26 and E-27.

**Table E-26. Roundup Ready Hybrid Yield Comparison Trial
Arlington, WI 1999.**

Hybrid	Herbicide Applied	Yield bu/A	Moisture %	Test weight lbs/bu	Broken/ lodged %	Final population plants/A	Silking Date DOY	Plant Height inches
Dekalb DK443	Traditional	202	16.3	58.1	1.9	29403	202	99.5
Dekalb DK448RR	Traditional	199	16.4	58.9	0.4	29185	201	98.0
Dekalb DK493	Traditional	206	17.9	55.1	2.3	28967	202	94.8
Dekalb DK493RR	Traditional	209	17.9	55.5	0.7	29839	202	96.8
Dekalb DK512	Traditional	219	19.7	52.4	0.7	31145	203	98.8
Dekalb DK512RR	Traditional	225	19.7	52.2	1.4	30492	204	101.0
Dekalb DK566	Traditional	215	21.3	53.4	3.3	30056	205	101.5
Dekalb DK566RR	Traditional	220	20.9	53.9	1.5	29621	203	101.8
Dekalb DK580	Traditional	223	21.8	52.9	3.8	29185	206	96.5
Dekalb DK580RR	Traditional	230	21.7	53.1	1.9	28967	206	97.8
Dekalb DK626	Traditional	218	27.5	51.6	3.6	28096	206	108.0
Dekalb DK626RR	Traditional	206	30.4	52.0	1.4	28967	207	109.8
NC+ 2019R	Traditional	203	17.4	55.6	2.6	28096	202	92.3
NC+ 4339R	Traditional	248	23.9	51.3	0.7	30710	204	99.3
NC+ 5029R	Traditional	214	29.6	52.3	3.9	29185	207	103.0
Mean		216	21.5	53.9	2.0	29461	204	99.9
<u>Probability%</u>								
Hybrid (H)		1.3	0.0	0.0	85.0	67.1	0.6	0.1
<u>LSD 10%</u>								
Hybrid (H)		11	1.3	0.8	NS	NS	1	3.5
<u>CV%</u>								
		4	5	1	101	8	4	3

**Table E-27. Roundup Ready Hybrid Yield Comparison Trial
Arlington, WI 1999.**

Herbicide Applied	Hybrid	Yield bu/A	Moisture %	Test weight lbs/bu	Broken/ lodged %	Final population plants/A	Silking Date DOY	Plant Height inches
Traditional		217	22.0	53.9	1.6	29451	204	99.9
Roundup		215	21.7	53.9	2.0	29597	204	99.7
	Dekalb DK448RR	201	16.5	58.3	0.2	30274	201	98.1
	Dekalb DK493RR	206	17.7	55.4	1.5	28967	202	97.1
	Dekalb DK512RR	221	19.2	52.7	2.4	29403	204	101.4
	Dekalb DK566RR	218	20.8	53.9	1.5	29076	204	101.3
	Dekalb DK580RR	228	21.4	53.1	2.0	29403	206	97.3
	Dekalb DK626RR	204	30.9	52.1	2.2	29294	207	110.8
	NC+ 2019R	203	17.6	55.7	2.0	29076	202	92.4
	NC+ 4339R	243	23.3	51.2	1.4	30819	204	99.1
	NC+ 5029R	217	29.4	52.4	3.1	29403	206	101.0
Traditional	Dekalb DK448RR	199	16.4	58.9	0.4	29185	201	98.0
Roundup	Dekalb DK448RR	204	16.7	57.7	0.0	31363	202	98.3
Traditional	Dekalb DK493RR	209	17.9	55.5	0.7	29839	202	96.8
Roundup	Dekalb DK493RR	204	17.5	55.3	2.4	28096	201	97.5
Traditional	Dekalb DK512RR	225	19.7	52.2	1.4	30492	204	101.0
Roundup	Dekalb DK512RR	217	18.7	53.1	3.4	28314	203	101.8
Traditional	Dekalb DK566RR	220	20.9	53.9	1.5	29621	203	101.8
Roundup	Dekalb DK566RR	215	20.7	53.9	1.5	28532	205	100.8
Traditional	Dekalb DK580RR	230	21.7	53.1	1.9	28967	206	97.8
Roundup	Dekalb DK580RR	226	21.0	53.1	2.2	29839	206	96.8
Traditional	Dekalb DK626RR	206	30.4	52.0	1.4	28967	207	109.8
Roundup	Dekalb DK626RR	202	31.3	52.1	3.0	29621	207	111.8
Traditional	NC+ 2019R	203	17.4	55.6	2.6	28096	202	92.3
Roundup	NC+ 2019R	204	17.7	55.9	1.5	30056	202	92.5
Traditional	NC+ 4339R	248	23.9	51.3	0.7	30710	204	99.3
Roundup	NC+ 4339R	238	22.6	51.1	2.1	30928	204	99.0
Traditional	NC+ 5029R	214	29.6	52.3	3.9	29185	207	103.0
Roundup	NC+ 5029R	221	29.1	52.5	2.2	29621	206	99.0
Mean		216	21.8	53.9	1.8	29524	204	99.8
Probability%								
Herb (E)		74.7	63.9	95.6	38.3	80.8	88.8	78.3
Hybrid (H)		0.0	0.0	0.0	5.0	71.4	0.0	0.0
E x H		74.5	58.6	34.8	38.2	38.9	23.4	67.3
LSD 10%								
Herb (E)		NS	NS	NS	NS	NS	NS	NS
Hybrid (H)		9	0.9	0.6	1.5	NS	1	2.4
E x H		NS	NS	NS	NS	NS	NS	NS
CV%								
		6	5	1	90	7	5	3

FIELD EXPERIMENT HISTORY

Title: Plant Density and Hybrid Influence on Corn Grain and Silage Performance
Experiment: 02PD **Trial ID** 1414 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery and K. D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: 410 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.2 **OM (%)** 3.9 **P (ppm)** 50 **K (ppm)** 190

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation
Fertilizer: **Preplant :** 46-0-0 **Rate lbs/A:** 325 **Date:** 4 /23/99
Starter : 6-24-24 150 4 /29/99
Post plant : N/A N/A N/A
Manure: none
Herbicide: Frontier @ 1.5 pt/A **Insecticide:** none
Bladex @ 2.2 lb/A **Hybrid:** See Factors
Buctril @ 1.5 pt/A
Irrigation: none
Planting Date: 4/26/99 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter
Harvest Date: S:9/13/99, **Harvest Method:** New Holland Plot Chopper
G:10/6/99 Kincaid Plot Combine
Notes:

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x20' **Experiment Size:** 0.5 A
Harvest Plot Size: S: 2.5' x 22', **Harvest Plant Density:** N/A plants per acre
G: 5' x 22'

Factors/Treatments:

Plant Density

15000, 20000,
25000, 30000
35000, 40000, &
45000

Hybrids

Dekalb 493
Dekalb 493BT

Results: Tables E-28.

**Table E-28. Plant Density and Hybrid Influence on Corn Grain and Silage Performance.
Arlington, WI - 1999.**

Density	Hybrid	Grain				Harvest		Silk Date dayof year	Plants emerged plants/A
		Yield	Moisture	Test Wt	Lodged	plants	ears		
		bu/A	%	lbs/bu	%	plants/A	ears/A		
15000		152	19.6	56.0	0.4	16038	19140	195.3	18513
20000		171	18.8	57.4	1.0	19800	20064	195.5	25014
25000		198	18.8	57.2	0.8	25014	25278	195.0	30756
30000		219	18.7	58.2	1.1	29964	29964	195.5	35838
35000		206	18.3	58.0	1.3	34650	34650	195.7	42983
40000		208	18.4	58.2	1.0	39138	39006	195.7	48659
45000		215	19.4	57.4	7.7	45210	44682	195.7	54335
	Dekalb DK493	195	18.9	57.3	1.9	30209	30417	195.5	35928
	Dekalb DK493BT	194	18.7	57.6	1.9	29738	30379	195.5	37243
15000	Dekalb DK493	153	20.0	55.7	0.8	16632	18612	195.3	18018
20000	Dekalb DK493	166	18.7	57.1	0.6	19536	19668	195.7	24717
25000	Dekalb DK493	195	18.6	57.4	1.6	24816	24816	195.0	30558
30000	Dekalb DK493	218	18.9	58.0	1.8	29568	29568	195.3	34848
35000	Dekalb DK493	219	18.7	57.9	2.3	35640	35640	196.0	41844
40000	Dekalb DK493	206	18.5	57.7	1.0	39336	39336	195.3	47784
45000	Dekalb DK493	214	19.3	57.4	5.4	45936	45276	195.7	53724
15000	Dekalb DK493BT	151	19.2	56.2	0.0	15444	19668	195.3	19008
20000	Dekalb DK493BT	175	18.8	57.7	1.3	20064	20460	195.3	25311
25000	Dekalb DK493BT	201	18.9	57.1	0.0	25212	25740	195.0	30954
30000	Dekalb DK493BT	221	18.5	58.5	0.4	30360	30360	195.7	36828
35000	Dekalb DK493BT	193	17.9	58.1	0.4	33660	33660	195.3	44121
40000	Dekalb DK493BT	210	18.3	58.7	1.1	38940	38676	196.0	49533
45000	Dekalb DK493BT	217	19.5	57.4	10.0	44484	44088	195.7	54945
Mean		195	18.8	57.5	1.9	29973	30398	195.5	36585
Probability(%)									
Plant Density (D)		0.0	4.4	0.0	7.7	0.0	0.0	16.5	0.0
Hybrid (H)		84.7	45.5	42.8	96.0	1.1	92.6	100	1.5
D x H		31.3	72.9	64.6	86.1	21.9	29.8	28.6	78.0
LSD (0.10)									
Plant Density (D)		12	0.7	0.6	4.2	1076	1307	NS	1186
Hybrid (H)		NS	NS	NS	NS	146	NS	NS	479
D x H		NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		6	4	1	222	4	4	3	3

continued

Table E-28. Plant Density and Hybrid Influence on Corn Grain and Silage Performance.
Arlington, WI - 1999.

Density	Hybrid	Whole Plant											
		Dry Matter		Kernel milk	Harvest		Crude			<i>In Vitro</i> Cell Wal		Milk per	
		yield tons/A	Moisture %		plants/A	ears/A	protien %	ADF %	NDF %	Digest %	Digest %	Ton lbs/T	Acre lbs/A
15000		7.5	59.5	26.7	17160	19470	7.5	20.9	44.1	76.3	46.3	2005	15117
20000		8.2	60.2	24.2	19800	20988	7.4	21.5	44.6	75.7	45.5	1945	16034
25000		9.1	58.3	26.7	26664	26994	6.6	21.4	44.2	76.1	45.8	1984	18926
30000		9.1	55.6	24.2	31416	31548	6.5	21.8	44.8	75.5	45.3	1922	17638
35000		9.5	55.0	19.2	35376	35442	6.1	22.4	45.4	74.9	44.7	1865	17793
40000		9.6	56.7	21.7	40920	41052	6.4	23.0	46.6	74.5	45.2	1789	17305
45000		9.7	54.8	30.0	43428	43560	6.2	22.3	45.2	74.8	44.2	1868	18172
	Dekalb DK493	9.1	57.2	24.0	30435	31020	6.8	21.8	45.0	75.5	45.5	1913	17624
	Dekalb DK493BT	8.8	57.2	25.0	30926	31567	6.6	22.0	44.9	75.3	45.0	1910	16860
15000	Dekalb DK493	8.1	58.7	25.0	16632	19008	7.7	19.9	42.9	77.1	46.6	2103	16966
20000	Dekalb DK493	8.6	59.1	21.7	19536	20856	7.5	21.4	44.8	75.7	45.7	1939	16795
25000	Dekalb DK493	9.6	57.9	26.7	26664	26664	6.8	21.2	44.5	76.3	46.6	1985	20949
30000	Dekalb DK493	9.6	56.6	26.7	31944	31944	6.3	21.7	44.6	75.8	45.8	1955	18809
35000	Dekalb DK493	9.1	58.3	25.0	34848	34980	6.1	22.8	46.1	74.6	44.9	1816	16580
40000	Dekalb DK493	9.7	56.1	18.3	39864	39996	6.5	22.3	45.2	75.0	44.8	1879	18187
45000	Dekalb DK493	9.4	53.4	25.0	43560	43692	6.4	23.6	47.3	73.7	44.3	1711	16190
15000	Dekalb DK493BT	7.0	60.3	28.3	17688	19932	7.4	21.9	45.3	75.6	46.0	1906	13267
20000	Dekalb DK493BT	7.8	61.4	26.7	20064	21120	7.3	21.6	44.4	75.7	45.2	1950	15273
25000	Dekalb DK493BT	8.9	58.6	26.7	26664	27324	6.3	21.6	43.9	75.8	45.0	1983	17578
30000	Dekalb DK493BT	8.6	54.6	21.7	30888	31152	6.7	21.9	45.1	75.1	44.8	1890	16466
35000	Dekalb DK493BT	9.9	51.6	13.3	35904	35904	6.1	22.0	44.7	75.2	44.5	1914	19006
40000	Dekalb DK493BT	9.4	57.4	25.0	41976	42108	6.3	23.8	47.9	74.0	45.7	1700	15981
45000	Dekalb DK493BT	10.0	56.2	33.3	43296	43428	5.9	21.0	43.1	75.9	44.2	2025	20155
Mean		8.9	57.2	24.5	30681	31293	6.7	21.9	45.0	75.4	45.3	1911	17242
Probability(%)													
Plant Density (D)		0.0	0.3	31.1	0.0	0.0	0.0	41.3	79.0	28.3	1.6	59.5	26.8
Hybrid (H)		61.1	97.8	81.7	50.4	46.7	5.0	3.7	83.9	3.2	49.2	90.9	34.9
D x H		19.3	3.7	23.8	89.1	92.3	27.8	38.1	45.3	36.9	43.9	41.9	19.0
LSD (0.10)													
Plant Density (D)		0.7	2.5	NS	2073	2028	0.3	NS	NS	NS	0.9	NS	NS
Hybrid (H)		NS	NS	NS	NS	NS	0.1	NS	NS	0.1	NS	NS	NS
D x H		NS	3.6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		8	4	29	7	7	5	8	7	2	2	11	16

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Growth and Development
Experiment: 03DOP **Trial ID** 1440 **Year:** 1999
Personnel: H. Darby, J.G. Lauer, P.J. Flannery, K.D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: 410 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.2 **OM (%)** 3.1 **P (ppm)** 50 **K (ppm)** 190

Plot Management

Tillage Operations: Chisel Soil Finisher Cultivated

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	150	4 /19/99
Starter :	6-24-24	150	Each DOP
Post plant :	N/A	N/A	N/A
Manure:		none	

Herbicide: Frontier 1.5 pt/a, Bladex 90DF 2.2 lb/a, Buctril 1.5 lb/a, Cultivate **Insecticide:** none
Hybrid: Varies

Irrigation: none

Planting Date: Varies **Planting Depth:** **Row Width:** 30"

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

Harvest Date: S:9/6/99, 9/13/99, 10/4/99, G:10/23/99 **Harvest Method:** Hand

Notes: N/A

Experimental Design

Design: RCB split plot **Replications:** 4
Plot Size Seeded: 10' x 25' **Experiment Size:** 0.40 A
Harvest Plot Size: S:2.5' x 16', G:2.5' x 16' **Harvest Plant Density:** S:33895 plants per acre
G:31896

Factors/Treatments:

<u>Planting Date</u>	<u>Hybrid</u>	<u>Sample DOY</u>
4/20/99, 5/1/99, 5/15/99, 5/28/99, 6/12/99, 6/25/99	Golden Harvest H2497 RM110, Renk RK617 RM100	146, 158, 172, 188, 200, 215, 228, 238

Results: Tables E-29.

E-29 The Effects of Planting Date on Growth and Development of Corn.
Arlington, WI - 1999

Date of Planting	Hybrid	Day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters' method	Total leaves	
.	.	146	2.2	4.3	5.2	4
.	.	158	4.3	6.8	7.9	12
.	.	172	6.4	9.1	10.2	23
.	.	188	10.6	13.0	13.8	59
.	.	200	10.1	12.2	13.9	56
.	.	215	14.8	14.8	16.4	86
.	.	228	17.5	17.6	18.0	99
.	.	238	.	.	.	105
.	GH2497	.	8.3	10.4	11.6	58
.	RK617	.	8.6	10.8	11.9	52
.	GH2497	146	2.0	4.1	5.1	4
.	GH2497	158	4.1	6.5	7.8	12
.	GH2497	172	6.2	8.9	10.0	23
.	GH2497	188	10.6	12.9	13.8	63
.	GH2497	200	9.8	12.0	13.8	59
.	GH2497	215	14.5	14.3	16.3	90
.	GH2497	228	17.3	17.3	18.0	103
.	GH2497	238	.	.	.	111
.	RK617	146	2.4	4.4	5.3	4
.	RK617	158	4.4	7.1	8.1	12
.	RK617	172	6.5	9.4	10.5	23
.	RK617	188	10.6	13.0	13.9	55
.	RK617	200	10.4	12.4	14.1	53
.	RK617	215	15.1	15.3	16.5	82
.	RK617	228	17.8	17.9	18.0	95
.	RK617	238	.	.	.	98
109	.	.	8.27	10.82	11.78	51
120	.	.	8.00	10.48	11.34	49
134	.	.	8.02	10.65	11.92	54
147	.	.	7.95	10.03	11.11	54
162	.	.	8.42	10.31	11.55	58
175	.	.	10.06	11.32	12.77	64
109	.	146	2.33	4.25	5.08	4
109	.	158	5.50	8.25	9.43	17
109	.	172	8.6	12.0	13.1	35
109	.	188	15.1	17.1	17.5	87
109	.	200	.	.	.	.
109	.	215	.	.	.	.
109	.	228	.	.	.	.
109	.	238	.	.	.	100
120	.	146	2.0	4.3	5.3	4

continued

E-29 The Effects of Planting Date on Growth and Development of Corn.
Arlington, WI - 1999

Date of Planting	Hybrid	Day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters' method	Total leaves	
120	.	158	5.6	8.6	9.6	17
120	.	172	8.9	11.8	12.9	35
120	.	188	15.2	17.1	17.3	86
120	.	200	.	.	.	.
120	.	215	.	.	.	.
120	.	228	.	.	.	.
120	.	238	.	.	.	99
134	.	146	.	.	.	.
134	.	158	4.1	6.6	7.9	10
134	.	172	6.8	9.9	11.2	26
134	.	188	13.2	15.4	16.6	76
134	.	200	.	.	.	.
134	.	215	.	.	.	.
134	.	228	.	.	.	.
134	.	238	.	.	.	105
147	.	146	2.5	4.5	5.5	4
147	.	158	2.1	4.0	4.9	5
147	.	172	5.4	7.8	8.8	17
147	.	188	10.1	12.9	14.1	57
147	.	200	14.9	16.1	17.3	90
147	.	215	.	.	.	.
147	.	228	.	.	.	.
147	.	238	.	.	.	107
162	.	146	.	.	.	.
162	.	158	.	.	.	.
162	.	172	2.0	4.0	5.0	2
162	.	188	6.2	8.8	10.0	24
162	.	200	9.1	12.0	14.0	51
162	.	215	16.4	16.4	17.2	101
162	.	228	.	.	.	.
162	.	238	.	.	.	110
175	.	146	.	.	.	.
175	.	158	5.0	8.0	9.0	17
175	.	172	.	.	.	.
175	.	188	3.9	6.5	7.5	24
175	.	200	6.3	8.5	10.4	26
175	.	215	13.2	13.1	15.6	71
175	.	228	17.5	17.6	18.0	99
175	.	238	.	.	.	108
109	GH2497	.	7.9	10.4	11.3	51
109	RK617	.	8.6	11.3	12.3	51
120	GH2497	.	7.9	10.5	11.4	50

continued

E-29 The Effects of Planting Date on Growth and Development of Corn.
Arlington, WI - 1999

Date of Planting	Hybrid	Day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters' method	Total leaves	
120	RK617	.	8.1	10.5	11.3	47
134	GH2497	.	7.9	10.5	11.8	57
134	RK617	.	8.2	10.8	12.0	51
147	GH2497	.	7.9	10.0	11.1	58
147	RK617	.	8.0	10.1	11.1	50
162	GH2497	.	8.2	10.0	11.3	61
162	RK617	.	8.6	10.7	11.8	54
175	GH2497	.	10.0	11.1	12.7	71
175	RK617	.	10.1	11.5	12.8	58
109	GH2497	146	2.0	4.0	5.0	4
109	GH2497	158	5.4	8.0	9.4	17
109	GH2497	172	8.6	11.8	12.9	36
109	GH2497	188	15.8	17.8	18.0	91
109	GH2497	200	.	.	.	.
109	GH2497	215	.	.	.	.
109	GH2497	228	.	.	.	.
109	GH2497	238	.	.	.	106
109	RK617	146	3.0	4.8	5.3	4
109	RK617	158	5.6	8.5	9.5	17
109	RK617	172	8.6	12.3	13.4	34
109	RK617	188	14.5	16.5	17.0	83
109	RK617	200	.	.	.	.
109	RK617	215	.	.	.	.
109	RK617	228	.	.	.	.
109	RK617	238	.	.	.	94
120	GH2497	146	2.0	4.3	5.3	4
120	GH2497	158	5.5	8.2	9.3	17
120	GH2497	172	8.8	11.8	13.0	34
120	GH2497	188	14.9	17.1	17.4	86
120	GH2497	200	.	.	.	.
120	GH2497	215	.	.	.	.
120	GH2497	228	.	.	.	.
120	GH2497	238	.	.	.	103
120	RK617	146	2.0	4.3	5.3	4
120	RK617	158	5.8	8.9	9.9	16
120	RK617	172	9.0	11.9	12.9	35
120	RK617	188	15.5	17.0	17.3	85
120	RK617	200	.	.	.	.
120	RK617	215	.	.	.	.
120	RK617	228	.	.	.	.
120	RK617	238	.	.	.	96
134	GH2497	146	.	.	.	.

continued

E-29 The Effects of Planting Date on Growth and Development of Corn.
Arlington, WI - 1999

Date of Planting	Hybrid	Day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters' method	Total leaves	
134	GH2497	158	4.0	6.3	7.8	10
134	GH2497	172	6.6	9.6	10.6	27
134	GH2497	188	13.0	15.5	17.0	78
134	GH2497	200	.	.	.	.
134	GH2497	215	.	.	.	.
134	GH2497	228	.	.	.	.
134	GH2497	238	.	.	.	112
134	RK617	146	.	.	.	.
134	RK617	158	4.1	7.0	8.1	9
134	RK617	172	7.0	10.3	11.8	25
134	RK617	188	13.4	15.3	16.3	74
134	RK617	200	.	.	.	.
134	RK617	215	.	.	.	.
134	RK617	228	.	.	.	.
134	RK617	238	.	.	.	97
147	GH2497	146	.	.	.	.
147	GH2497	158	2.0	4.0	5.0	5
147	GH2497	172	5.1	7.3	8.3	17
147	GH2497	188	10.0	12.8	13.9	60
147	GH2497	200	14.5	16.0	17.3	93
147	GH2497	215	.	.	.	.
147	GH2497	228	.	.	.	.
147	GH2497	238	.	.	.	115
147	RK617	146	2.5	4.5	5.5	4
147	RK617	158	2.1	4.0	4.9	5
147	RK617	172	5.8	8.4	9.4	17
147	RK617	188	10.1	13.1	14.3	54
147	RK617	200	15.4	16.1	17.4	88
147	RK617	215	.	.	.	.
147	RK617	228	.	.	.	.
147	RK617	238	.	.	.	98
162	GH2497	146	.	.	.	.
162	GH2497	158	.	.	.	.
162	GH2497	172	2.0	4.0	5.0	2
162	GH2497	188	6.1	8.4	9.5	25
162	GH2497	200	8.8	11.5	13.5	56
162	GH2497	215	16.0	16.0	17.3	107
162	GH2497	228	.	.	.	.
162	GH2497	238	.	.	.	119
162	RK617	146	.	.	.	.
162	RK617	158	.	.	.	.
162	RK617	172	2.0	4.0	5.0	2
162	RK617	188	6.3	9.3	10.5	23

continued

E-29 The Effects of Planting Date on Growth and Development of Corn.
Arlington, WI - 1999

Date of Planting	Hybrid	Day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters' method	Total leaves	
162	RK617	200	9.5	12.5	14.5	47
162	RK617	215	16.8	16.9	17.1	96
162	RK617	228	.	.	.	.
162	RK617	238	.	.	.	102
175	GH2497	146	.	.	.	.
175	GH2497	158	.	.	.	.
175	GH2497	172	.	.	.	.
175	GH2497	188	3.8	6.0	7.0	36
175	GH2497	200	6.1	8.5	10.5	28
175	GH2497	215	13.0	12.6	15.4	74
175	GH2497	228	17.3	17.3	18.0	103
175	GH2497	238	.	.	.	114
175	RK617	146	.	.	.	.
175	RK617	158	5.0	8.0	9.0	17
175	RK617	172	.	.	.	.
175	RK617	188	4.1	7.0	8.0	11
175	RK617	200	6.4	8.5	10.4	24
175	RK617	215	13.4	13.6	15.9	68
175	RK617	228	17.8	17.9	18.0	95
175	RK617	238	.	.	.	102
Mean			8.5	10.6	11.7	55
<u>Probability (%)</u>						
DOP (D)			0.0	0.0	0.0	0.0
Hybrid (H)			0.1	0.0	2.0	0.0
H x D			66.7	30.2	6.8	62.3
Sample DOY (SD)			0.0	0.0	0.0	0.0
SD X D			0.0	0.0	0.0	0.0
SD X H			31.3	4.9	6.1	0.6
SD X D X H			2.3	0.0	0.0	43.0
<u>LSD (.10)</u>						
DOP (D)			0.2	0.2	0.2	3
Hybrid (H)			0.1	0.1	0.1	1
H x D			NS	NS	0.3	NS
Sample DOY (SD)			0.2	0.2	0.2	2
SD X D			0.4	0.4	0.4	6
SD X H			NS	0.2	0.2	3
SD X D X H			0.5	0.5	0.5	NS
<u>CV (%)</u>						
			5	4	4	12

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Experiment: 03DOP **Trial ID** 1422 **Year:** 1999
Personnel: H. Darby, J.G. Lauer, P.J. Flannery, K.D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: 410 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.2 **OM (%)** 3.9 **P (ppm)** 50 **K (ppm)** 190

Plot Management

Tillage Operations: Chisel Soil Finisher 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	325	4 /19/99
Starter :	6-24-24	150	Each DOP
Post plant :	N/A	N/A	N/A
Manure:		none	

Herbicide: Frontier 1.5 pt/a, Bladex 90DF 2.2 lb/a, Buctril 1.5 lb/a, Cultivate **Insecticide:** none
Hybrid: Varies

Irrigation: none

Planting Date: Varies **Planting Depth:** **Row Width:** 30"

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

Harvest Date: S:9/6/99, 9/13/99, 10/4/99, G:10/23/99 **Harvest Method:** Hand

Notes: N/A

Experimental Design

Design: RCB split plot **Replications:** 4
Plot Size Seeded: 10'x25' **Experiment Size:** 0.40 A
Harvest Plot Size: S:2.5' x 16', G: 2.5' x 16' **Harvest Plant Density:** S:33895 plants per acre
G:31896

Factors/Treatments:

<u>Planting Date</u>	<u>Hybrid</u>
4/20/99, 5/1/99, 5/15/99, 5/28/99, 6/12/99, 6/25/99	Golden Harvest H2497 RM110, Renk RK617 RM100

Results: Tables E-30.

Table E-30. Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Arlington, WI - 1999

Location	Date of planting	Hybrid	Grain					Silage							
			Final population plants/A	Broken stalks %	Yield bu/A	Moisture %	Test weight lbs/bu	Final population plants/A	Iowa State Reproductive stage @ harvest	Kernel milk %	Whole Plant		Stover		Ear:Stover ratio %
											Dry Matter yield tons/A	Moisture %	Dry Matter yield tons/A	Moisture %	
ARL		GH H2497	31977	2.8	152	29.4	50.9	33804	5.0	68	9.8	66.4	5.06	74.5	46.5
ARL		Renk RK617	31818	1.1	138	26.5	48.9	33986	5.0	58	9.2	60.5	4.58	69.6	48.7
ARL	110		32126	2.1	175	17.1	54.9	31445	5.0	55	10.4	61.1	4.56	72.7	56.0
ARL	121		34031	4.7	198	17.7	54.7	34304	5.0	54	10.0	61.2	4.26	72.3	57.4
ARL	135		31581	1.2	185	21.6	52.9	34712	5.0	56	10.7	60.2	4.51	72.1	57.6
ARL	148		30764	2.4	167	24.6	52.5	35937	5.0	18	10.2	57.0	4.70	68.3	53.9
ARL	163		29403	0.0	42	42.9	38.7	31853	5.0	94	7.5	68.9	5.42	71.9	28.5
ARL	176		32981	0.4	68	50.4	40.3	35120	5.0	100	8.1	72.3	5.47	74.8	32.2
ARL	110	GH H2497	33215	3.4	189	19.4	56.3	29948	5.0	63	10.5	65.7	4.67	76.0	55.7
ARL	110	Renk RK617	31037	0.8	160	14.7	53.6	32942	5.0	48	10.2	56.4	4.46	69.4	56.2
ARL	121	GH H2497	33215	5.5	200	19.0	55.0	34576	5.0	58	10.4	62.4	4.36	74.1	58.1
ARL	121	Renk RK617	34848	3.9	197	16.5	54.4	34031	5.0	51	9.7	59.9	4.17	70.4	56.8
ARL	135	GH H2497	30492	0.8	188	24.5	52.9	34031	5.0	66	10.5	65.4	4.59	76.3	56.0
ARL	135	Renk RK617	32670	1.6	181	18.7	52.9	35393	5.0	45	10.9	55.0	4.44	68.0	59.2
ARL	148	GH H2497	30492	4.8	172	27.8	54.6	35665	5.0	24	10.7	61.5	5.06	71.5	52.7
ARL	148	Renk RK617	31037	0.0	162	21.3	50.5	36209	5.0	11	9.8	52.5	4.33	65.0	55.1
ARL	163	GH H2497	30129	0.0	43	44.6	35.9	34576	5.0	99	7.9	71.2	6.40	71.9	19.3
ARL	163	Renk RK617	28677	0.0	42	41.2	41.4	29131	5.0	90	7.1	66.5	4.45	71.9	37.7
ARL	176	GH H2497	34485	1.0	70	50.4	43.5	34031	5.0	100	8.5	72.2	5.29	77.0	37.3
ARL	176	Renk RK617	31853	0.0	66	50.5	38.7	36209	5.0	100	7.8	72.4	5.66	72.7	27.0
Mean			31896	1.9	145	28.0	49.9	33895	5.0	63	9.5	63.4	4.82	72.0	47.6
Probability (%)															
DOP			3.7	17.5	0.0	0.0	0.0	11.0	-	0.0	0.0	0.0	0.1	0.4	0.0
Hybrid			55.2	25.7	17.2	0.0	7.3	82.8	-	0.0	3.6	0.0	0.4	0.0	18.5
DOP x Hybrid			28.9	82.7	77.1	22.9	0.3	9.5	-	9.3	57.1	4.1	0.5	2.2	0.2
LSD (0.10)															
DOP			2099	NS	19	2.5	1.5	NS	-	4	0.9	3.1	0.43	2.2	0.1
Hybrid			NS	NS	NS	1.2	1.0	NS	-	3	0.4	1.3	0.25	1.7	NS
DOP x Hybrid			NS	NS	NS	NS	2.3	3937	-	7	NS	3.8	0.62	3.6	0.1
CV (%)			8	726	14	9	4	8	0	11	8	6	10	5	11

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Experiment: 03DOP **Trial ID** 1423 **Year:** 1999
Personnel: H. Darby, J.G. Lauer, P.J. Flannery, K.D. Kohn
Location: Ashland, WI **County:** Bayfield
Supported By: Hatch

Site Information

Field: **Previous Crop:** Corn **Soil Type:** Superior
Soil Test: **Date:** N/A **pH** 6.8 **OM (%)** 3.1 **P (ppm)** 170 **K (ppm)** 103

Plot Management

Tillage Operations: Fall Moldboard Field Cultivator

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	150	N/A
Starter :	N/A	N/A	N/A
Post plant :	N/A	N/A	N/A
Manure:		none	

Herbicide: Lasso 2 qt/a, Bladex 2 qt/a, Cultivate **Insecticide:** none
Irrigation: none **Hybrid:** Varies

Planting Date: Varies **Planting Depth:** **Row Width:** 30"

Target Plant Density: plants per acre **Planting Method:** Hand
Harvest Date: 9/19/99, 9/25/99 **Harvest Method:** Hand
Notes: N/A

Experimental Design

Design: RCB split plot **Replications:** 4
Plot Size Seeded: 10'x25' **Experiment Size:** 0.40 A
Harvest Plot Size: 2.5' x 16' **Harvest Plant Density:** 36255 plants per acre

Factors/Treatments:

<u>Planting Date</u>	<u>Hybrid</u>
4/20/99, 4/30/99, 5/14/99, 5/28/99, 6/9/99, 6/25/99	Golden Harvest H2279 RM90, Pioneer 3936 RM80

Results: Tables E-31.

Table E-31. Date of Planting and Hybrid Influence on Corn Forage Yield
Ashland, WI - 1999

Location	Date of planting	Hybrid	Final population plants/A	Iowa State Reproductive stage @ harvest	Kernel milk %	Whole Plant		Stover		Ear:Stover ratio %
						Dry Matter yield tons/A	Moisture %	Dry Matter yield tons/A	Moisture %	
ASH		GH H2279	36482	4.50	68	7.99	65.3	3.77	73.5	50.3
ASH		Pioneer 3936	36028	4.69	30	7.00	59.3	3.06	68.0	55.1
ASH	110		37026	5.00	34	7.89	56.6	3.28	67.5	58.1
ASH	120		36754	5.00	38	7.94	58.3	3.42	66.9	56.8
ASH	134		36209	5.00	46	8.37	57.9	3.30	70.6	60.5
ASH	148		35801	5.00	49	8.18	56.7	3.32	68.2	59.7
ASH	158		35801	4.63	90	7.29	66.6	3.22	75.5	56.2
ASH	176		35937	2.94		5.30	77.8	3.94	75.8	24.8
ASH	110	GH H2279	36754	5.00	55	8.66	59.2	3.50	72.0	59.5
ASH	110	Pioneer 3936	37298	5.00	13	7.11	54.0	3.06	63.0	56.7
ASH	120	GH H2279	36754	5.00	64	8.35	61.3	3.72	70.6	55.7
ASH	120	Pioneer 3936	36754	5.00	11	7.52	55.2	3.12	63.2	58.0
ASH	134	GH H2279	36209	5.00	73	8.60	62.9	3.56	74.0	58.4
ASH	134	Pioneer 3936	36209	5.00	19	8.13	52.8	3.03	67.1	62.6
ASH	148	GH H2279	36482	5.00	80	8.81	61.1	3.56	73.2	59.6
ASH	148	Pioneer 3936	35120	5.00	19	7.55	52.2	3.07	63.2	59.8
ASH	158	GH H2279	36209	4.25	-	8.18	68.2	3.87	76.3	52.6
ASH	158	Pioneer 3936	35393	5.00	90	6.39	65.0	2.56	74.7	59.9
ASH	176	GH H2279	36482	2.75	-	5.31	78.9	4.39	75.0	16.1
ASH	176	Pioneer 3936	35393	3.13	-	5.29	76.7	3.49	76.7	33.6
ASH			36255	4.59	47	7.49	62.3	3.41	70.8	52.7
Probability (%)										
DOP			31.6	0.0	0.0	0.1	0.0	14.1	0.1	0.0
Hybrid			30.2	0.1	0.0	0.1	0.0	0.0	0.1	3.8
DOP x Hybrid			76.9	0.1	75.0	26.8	28.4	59.5	18.5	15.2
LSD (0.10)										
DOP			NS	0.17	8	1.0	3.8	NS	3.6	0.8
Hybrid			NS	0.08	9	0.4	1.9	0.3	2.5	0.4
DOP x Hybrid			NS	0.22	NS	NS	NS	NS	NS	NS
CV (%)										
			4	4	36	11	6	16	7	14

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Grain Yield
Experiment: 03DOP **Trial ID** 1424 **Year:** 1999
Personnel: H. Darby, J.G. Lauer, P.J. Flannery, K.D. Kohn
Location: Hancock, WI **County:** Waushara
Supported By: Hatch

Site Information

Field: V18 **Previous Crop:** Peas **Soil Type:** Plainfield
Soil Test: **Date:** N/A **pH** 6.2 **OM (%)** 0.7 **P (ppm)** 105 **K (ppm)** 83

Plot Management

Tillage Operations: Moldboard Plow

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	0-0-60	100	4 /6 /99
Starter :	5-10-30	200	Each DOP
Post plant :	34-0-0	300	Each DOP
Manure:		none	

Herbicide: Aatrex 4L .75 qt/a, Micro-Tech 2.0 qt/a, Lasso 2.0 qt/a **Insecticide:** none
Hybrid: Varies

Irrigation: Yes

Planting Date: Varies **Planting Depth:** **Row Width:** 30"

Target Plant Density: plants per acre **Planting Method:** John Deere 7200

Harvest Date: S:9/10/99, 9/22/99, 9/24/99 **Harvest Method:** Hand

Notes: N/A G:10/22/99

Experimental Design

Design: RCB split plot

Replications: 4

Plot Size Seeded: 25' x 10'

Experiment Size: 0.40 A

Harvest Plot Size: S:2.5' x 16', G:2.5' x 16'

Harvest Plant Density: S:34258 plants per acre
G:32942

Factors/Treatments:

<u>Planting Date</u>	<u>Hybrid</u>
4/26/99, 5/3/99, 5/14/99, 6/1/99, 6/14/99, 6/28/99	Dairyland H1203 RM105, NK N3030 RM95

Results: Tables E-32.

Table E-32. Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Hancock, WI - 1999

Location	Date of planting	Hybrid	Grain					Silage					Ear:Stover ratio		
			Final population plants/A	Broken stalks %	Yield bu/A	Moisture %	Test weight lbs/bu	Final population plants/A	Iowa State Reproductive stage @ harvest	Kernel milk %	Whole Plant			Stover	
											Dry Matter yield tons/A	Moisture %		Dry Matter yield tons/A	Moisture %
HAN		DL H1203	33441	2.2	123	32.5	47.0	34349	4.5	38	7.94	59.6	3.41	68.1	53.7
HAN		NK N3030	32343	2.3	104	31.5	49.7	34167	4.5	35	7.06	60.8	2.95	69.2	54.0
HAN	116		34440	0.4	159	16.1	51.5	35393	5.0	14	9.38	51.5	3.28	64.8	65.0
HAN	123		32670	4.2	150	16.5	51.7	33351	5.0	16	8.72	54.5	3.29	65.9	62.2
HAN	134		32806	2.1	146	17.2	51.5	34167	5.0	28	9.18	53.9	3.38	67.4	63.1
HAN	152		33351	4.7	140	22.5	47.2	34576	5.0	33	7.73	57.5	3.14	66.8	59.4
HAN	165		31581	1.3	78	37.2	40.8	33487	4.9	99	6.00	66.6	2.95	72.7	50.7
HAN	179		32670	1.7	33	74.9	-	34576	2.2	-	3.96	77.4	3.06	74.2	22.7
HAN	116	DL H1203	34031	0.0	161	17.8	48.7	34848	5.0	15	9.89	51.0	3.59	64.0	63.6
HAN	116	NK N3030	34848	0.7	156	14.4	54.2	35937	5.0	14	8.87	52.0	2.98	65.5	66.4
HAN	123	DL H1203	32670	4.2	150	16.5	51.7	33487	5.0	18	9.33	52.9	3.53	64.5	62.2
HAN	123	NK N3030	-	-	-	-	-	33215	5.0	15	8.11	56.1	3.05	67.3	62.2
HAN	134	DL H1203	33759	2.6	160	19.5	48.9	35393	5.0	25	9.78	52.8	3.65	66.8	62.6
HAN	134	NK N3030	31853	1.6	132	14.9	54.1	32942	5.0	30	8.58	55.0	3.11	68.0	63.6
HAN	152	DL H1203	32670	3.9	149	25.7	45.8	34848	5.0	30	7.86	57.9	3.26	67.0	58.4
HAN	152	NK N3030	34031	5.6	131	19.2	48.7	34304	5.0	36	7.60	57.1	3.02	66.6	60.3
HAN	165	DL H1203	32942	1.0	85	39.2	39.7	33487	5.0	100	6.41	66.1	3.21	71.1	49.8
HAN	165	NK N3030	30220	1.7	70	35.3	42.0	33487	4.9	97	5.59	67.2	2.70	74.4	51.6
HAN	179	DL H1203	34576	1.7	34	76.1	-	34031	2.3	-	4.35	77.1	3.25	75.2	25.6
HAN	179	NK N3030	30764	1.7	31	73.8	-	35120	2.1	-	3.57	77.7	2.86	73.2	19.8
Mean			32942	2.2	115	32.0	48.2	34258	4.5	36	7.50	60.2	3.18	68.6	53.8
Probability (%)															
DOP			48.3	3.5	0.0	0.0	0.0	44.6	0.0	0.0	0.0	0.0	5.8	0.0	0.0
Hybrid			15.2	69.0	1.2	0.0	0.3	80.4	36.7	81.3	0.0	11.9	0.0	25.7	79.7
DOP x Hybrid			26.0	94.6	48.5	50.2	63.0	73.6	88.0	85.0	66.5	72.2	88.0	56.4	25.1
LSD (0.10)															
DOP			NS	2.4	11	2.5	2.3	NS	0.1	9	0.60	1.7	0.24	2.0	0.2
Hybrid			NS	NS	8	1.3	1.8	NS	NS	NS	0.39	NS	0.15	NS	NS
DOP x Hybrid			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV (%)			8	147	13	8	6	7	3	29	8	4	10	5	7

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage Yield
Experiment: 03DOP **Trial ID** 1427 **Year:** 1999
Personnel: H. Darby, J.G. Lauer, P.J. Flannery, K.D. Kohn
Location: Lancaster, WI **County:** Grant
Supported By: Hatch

Site Information

Field: 300A **Previous Crop:** Corn **Soil Type:** Fayette
Soil Test: **Date:** N/A **pH** 7 **OM (%)** 2.7 **P (ppm)** 85 **K (ppm)** 238

Plot Management

Tillage Operations: Chisel Soil Finisher 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	200	4 /15/99
Starter :	9-23-30	145	Each DOP
Post plant :	N/A	N/A	N/A
Manure:		none	

Herbicide: Bladex 2 qt/a, Dual II 1 qt/a **Insecticide:** Lorsban 8.7 lb/a, Force 4.4 lb/a
Irrigation: none **Hybrid:** Varies

Planting Date: Varies **Planting Depth:** **Row Width:** 30"
Target Plant Density: plants per acre **Planting Method:** White 4row/30" no-till
Harvest Date: S:9/5/99, 9/13/99, 10/13/99 **Harvest Method:** Hand
Notes: N/A

Experimental Design

Design: RCB split plot **Replications:** 4
Plot Size Seeded: 10'x25' **Experiment Size:** 0.40 A
Harvest Plot Size: 2.5' x 16' **Harvest Plant Density:** 32307 plants per acre

Factors/Treatments:

<u>Planting Date</u>	<u>Hybrid</u>
4/20/99, 4/30/99, 5/14/99, 5/28/99, 6/14/99, 6/25/99	Golden Harvest H2497 RM110, Renk RK617 RM100

Results: Tables E-33.

Table E-33. Date of Planting and Hybrid Influence on Corn Forage Yield
Lancaster, WI - 1999

Location	Date of planting	Hybrid	Final population plants/A	Iowa State Reproductive stage @ harvest	Kernel milk %	Whole Plant		Stover		Ear:Stover ratio %
						Dry Matter yield tons/A	Moisture %	Dry Matter yield tons/A	Moisture %	
LAN		GH H2497	32126	5.0	66	8.45	61.9	4.20	71.2	49.7
LAN		Renk RK617	32489	5.0	44	7.19	53.8	3.64	59.6	49.4
LAN	110		32262	5.0	50	7.43	60.5	3.14	71.8	58.1
LAN	120		32126	5.0	43	7.31	58.8	3.28	67.0	55.0
LAN	134		29675	5.0	23	8.40	45.7	3.45	54.6	58.9
LAN	148		31173	5.0	27	8.35	44.4	3.44	55.3	58.7
LAN	165		34167	5.0	91	7.47	67.4	4.89	70.5	33.7
LAN	176		34440	5.0	98	7.96	70.2	5.33	73.3	32.9
LAN	110	GH H2497	32670	5.0	54	7.47	64.7	3.12	75.3	58.1
LAN	110	Renk RK617	31853	5.0	46	7.39	56.4	3.16	68.3	58.1
LAN	120	GH H2497	32942	5.0	56	8.42	62.2	3.76	72.7	55.2
LAN	120	Renk RK617	31309	5.0	29	6.20	55.4	2.80	61.3	54.9
LAN	134	GH H2497	29131	5.0	44	10.0	53.9	4.26	67.3	57.2
LAN	134	Renk RK617	30220	5.0	1	6.75	37.5	2.65	41.9	60.6
LAN	148	GH H2497	30220	5.0	51	8.89	51.0	3.89	64.2	56.4
LAN	148	Renk RK617	32126	5.0	3	7.82	37.8	2.98	46.3	61.0
LAN	165	GH H2497	34031	5.0	91	7.99	68.1	4.97	72.3	37.7
LAN	165	Renk RK617	34304	5.0	90	6.94	66.7	4.80	68.7	29.7
LAN	176	GH H2497	33759	5.0	99	7.88	71.3	5.22	75.3	33.8
LAN	176	Renk RK617	35120	5.0	96	8.03	69.1	5.45	71.2	32.1
Mean			32307	5.0	55	7.82	57.8	3.92	65.4	49.6
Probability (%)										
DOP			1.7	-	0.0	11.4	0.3	0.0	3.2	0.0
Hybrid			79.2	-	0.0	0.0	0.0	0.0	0.0	68.8
DOP x Hybrid			53.7	-	0.1	0.9	0.1	0.0	8.8	11.9
LSD (0.10)										
DOP			NS	-	15	NS	9.5	0.47	9.4	0.8
Hybrid			NS	-	6	0.47	2.1	0.19	4.2	NS
DOP x Hybrid			NS	-	19	1.09	10.2	0.57	11.9	NS
CV (%)			7	0	21	10	7	9	13	11

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Experiment: 03DOP **Trial ID** 1426 **Year:** 1999
Personnel: H. Darby, J.G. Lauer, P.J. Flannery, K.D. Kohn
Location: Marshfield, WI **County:** Wood
Supported By: Hatch

Site Information

Field: 14 **Previous Crop:** Corn **Soil Type:** Withee
Soil Test: **Date:** N/A **pH** 6.7 **OM (%)** 3.5 **P (ppm)** 73 **K (ppm)** 198

Plot Management

Tillage Operations: Fall Moldboard Disk 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	N/A	N/A	N/A
Starter :	19-19-19	200	Each DOP
Post plant :	N/A	N/A	N/A
Manure:		30	Fall applied

Herbicide: Harness 2 pt/a, Hornet 4oz/a **Insecticide:** none
Irrigation: none **Hybrid:** Varies

Planting Date: Varies **Planting Depth:** **Row Width:** 30'

Target Plant Density: plants per acre **Planting Method:** John Deere 7000
Harvest Date: S:9/22/99, 9/27/99 G:10/18/99 **Harvest Method:** Hand
Notes: N/A

Experimental Design

Design: RCB split plot **Replications:** 4
Plot Size Seeded: 25' x 10' **Experiment Size:** 0.40 A
Harvest Plot Size: S:2.5' x 16' G:2.5' x 16' **Harvest Plant Density:** S:30995, plants per acre
G:30066

Factors/Treatments:

<u>Planting Date</u>	<u>Hybrid</u>
4/27/99, 5/3/99, 5/15/99, 6/1/99, 6/11/99, 6/25/99	Dairyland H1203 RM105, NK N3030 RM95

Results: Tables E-34.

Table E-34. Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Marshfield, WI - 1999

Location	Date of planting	Hybrid	Grain					Silage								
			Final population plants/A	Broken stalks %	Yield bu/A	Moisture %	Test weight lbs/bu	Final population plants/A	Iowa State Reproductive stage @ harvest	Kernel milk %	Whole Plant		Stover		Ear:Stover ratio %	
											Dry Matter yield tons/A	Moisture %	Dry Matter yield tons/A	Moisture %		
MAR		DL H1203	31770	2.7	145	41.9	45.5	31354	4.4	60.3	8.62	66.8	4.34	73.4	46.6	
MAR		NK N3030	28361	2.6	123	39.0	47.3	30539	4.5	48.7	8.42	64.8	3.83	73.5	50.9	
MAR	117		30356	1.6	185	25.1	50.0	32942	5.0	36.9	10.8	55.4	4.17	68.9	61.0	
MAR	123		31853	2.3	182	28.0	46.9	29539	5.0	54.4	10.2	60.8	4.37	71.6	57.2	
MAR	135		28781	2.4	157	27.9	49.2	31425	5.0	45.0	9.10	60.5	3.76	71.8	58.6	
MAR	152		31445	0.9	140	37.4	42.9	31989	4.9	84.3	8.85	67.8	4.23	75.7	51.7	
MAR	162		27633	3.9	93	49.8	40.7	30084	4.2	-	7.47	71.4	4.15	76.0	44.3	
MAR	176		30181	5.2	31	78.6	-	29811	2.6	-	4.76	78.2	3.81	76.5	20.6	
MAR	117	DL H1203	32398	3.2	206	28.1	48.9	34576	5.0	46.3	11.0	58.2	4.65	69.1	57.4	
MAR	117	NK N3030	28314	0.0	163	22.2	51.1	31309	5.0	27.5	10.6	52.6	3.70	68.7	64.6	
MAR	123	DL H1203	31853	3.7	186	29.0	46.2	30220	5.0	52.5	9.70	60.4	4.20	70.3	56.6	
MAR	123	NK N3030	31853	0.8	178	27.0	47.7	28859	5.0	56.3	10.7	61.2	4.53	73.0	57.9	
MAR	135	DL H1203	30764	0.0	165	30.1	48.1	32398	5.0	53.8	9.30	61.1	4.05	71.6	56.2	
MAR	135	NK N3030	26136	5.6	147	25.0	50.7	30129	5.0	33.3	8.84	59.6	3.37	72.1	61.8	
MAR	152	DL H1203	32670	0.9	140	43.4	38.7	31309	4.9	98.3	8.89	69.7	4.56	75.5	47.8	
MAR	152	NK N3030	30220	1.0	139	31.5	47.1	32670	5.0	73.8	8.81	65.9	3.90	75.8	55.6	
MAR	162	DL H1203	29675	0.0	97	55.5	47.3	30492	3.9	-	7.65	72.0	4.12	77.6	46.2	
MAR	162	NK N3030	25592	7.9	89	45.5	38.5	29675	4.5	-	7.29	70.7	4.17	74.5	42.3	
MAR	176	DL H1203	33759	10.5	37	77.8	-	29131	2.5	-	5.20	79.0	4.42	76.3	15.3	
MAR	176	NK N3030	27497	1.2	27	79.2	-	30492	2.8	-	4.33	77.4	3.21	76.6	25.9	
Mean			30066	2.7	134	40.4	46.4	30955	4.4	54.5	8.52	65.8	4.09	73.4	48.7	
Probability (%)																
		DOP	2.9	44.5	0.0	0.0	0.0	6.4	0.0	0.1	0.0	0.0	46.8	0.0	0.0	
		Hybrid	1.3	74.9	10.2	3.0	1.3	38.3	2.0	2.8	62.5	8.5	2.2	81.5	0.2	
		DOP x Hybrid	84.0	4.4	57.0	49.2	21.8	61.3	7.4	30.7	81.7	24.6	18.0	32.3	1.5	
LSD (0.10)																
		DOP	2106	NS	17	3.2	2.1	2052	0.0	13.1	0.97	4.6	NS	2.1	0.7	
		Hybrid	1915	NS	NS	3.5	1.8	NS	0.1	7.3	NS	1.5	0.32	NS	0.2	
		DOP x Hybrid	NS	6.3	NS	NS	NS	NS	0.3	NS	NS	NS	NS	NS	0.7	
CV (%)																
			13	188	18	17	7	10	5	26	17	5	16	3	8	

FIELD EXPERIMENT HISTORY

Title: Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
Experiment: 03DOP **Trial ID** 1428 **Year:** 1999
Personnel: H. Darby, J.G. Lauer, P.J. Flannery, K.D. Kohn
Location: Spooner, WI **County:** Washburn
Supported By: Hatch

Site Information

Field: 7 **Previous Crop:** Alfalfa **Soil Type:** Cress
Soil Test: **Date:** N/A **pH** 6.9 **OM (%)** 1.6 **P (ppm)** 55 **K (ppm)** 118

Plot Management

Tillage Operations: Moldboard Plow Disk 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	300	4 /19/99
Starter :	5-10-30	300	Each Dop
Post plant :	N/A	N/A	N/A
Manure:		none	

Herbicide: Buctril 1.5 pt/a, Atrex 0.5 lb/a **Insecticide:** none
Irrigation: 1.4" in two applications **Hybrid:** Varies

Planting Date: Varies **Planting Depth:** **Row Width:** 30"
Target Plant Density: plants per acre **Planting Method:** Almaco Plot Planter
Harvest Date: S:9/11/99, 9/26/99 G:10/13/99 **Harvest Method:** Hand
Notes: N/A

Experimental Design

Design: RCB split plot **Replications:** 4
Plot Size Seeded: 10' x 25' **Experiment Size:** 0.40 A
Harvest Plot Size: S:2.5' x 16' G: 2.5' x 16' **Harvest Plant Density:** S:34462, plants per acre
G:27049

Factors/Treatments:

<u>Planting Date</u>	<u>Hybrid</u>
4/20/99, 5/3/99, 5/18/99, 6/1/99, 6/14/99, 6/25/99	Golden Harvest H2279 RM90, Pioneer 3936 RM80

Results: Tables E-35.

Table E-35. Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield
 Spooner, WI - 1999

Location	Date of planting	Hybrid	Grain		Final population plants/A	Iowa State Reproductive stage @ harvest	Kernel milk %	Silage				Ear:Stover ratio %
			Final population plants/A	Yield bu/A				Whole Plant		Stover		
								Dry Matter yield tons/A	Moisture %	Dry Matter yield tons/A	Moisture %	
SPO		GH H2279	26667	108	35120	4.5	56	8.14	67.1	3.77	75.8	51.0
SPO		Pioneer 3936	27447	114	33804	4.7	50	7.85	64.0	3.25	75.5	57.4
SPO	110		23539	149	32806	5.0	14	8.77	58.5	3.30	72.0	62.3
SPO	123		25466	163	31309	5.0	34	9.48	60.5	3.73	73.6	60.0
SPO	138		29403	134	34712	5.0	68	8.30	64.9	3.52	76.1	57.2
SPO	152		24987	103	38660	5.0	70	8.41	61.9	3.02	75.7	63.8
SPO	165		28314	75	35937	4.6	100	7.52	71.4	3.69	79.0	51.1
SPO	176		30324	40	33351	3.0	-	5.47	76.1	3.78	77.5	30.7
SPO	110	GH H2279	21780	145	33487	5.0	19	8.56	62.1	3.47	73.1	59.5
SPO	100	Pioneer 3936	25298	154	32126	5.0	9	8.98	55.0	3.13	71.0	65.1
SPO	123	GH H2279	25801	177	32126	5.0	41	10.1	58.5	3.50	74.6	64.9
SPO	123	Pioneer 3936	25131	149	30492	5.0	26	8.85	62.5	3.97	72.6	55.0
SPO	138	GH H2279	26471	125	36754	5.0	75	8.48	67.5	3.75	76.6	55.2
SPO	138	Pioneer 3936	32335	143	32670	5.0	61	8.11	62.3	3.28	75.6	59.1
SPO	152	GH H2279	26304	109	37843	5.0	88	8.69	64.7	3.43	76.6	60.4
SPO	152	Pioneer 3936	23232	95	39476	5.0	53	8.13	59.0	2.62	74.9	67.2
SPO	165	GH H2279	28482	67	36209	4.3	-	7.57	72.5	4.15	77.9	45.3
SPO	165	Pioneer 3936	28146	83	35665	5.0	100	7.48	70.4	3.23	80.0	56.8
SPO	176	GH H2279	31162	27	34304	2.9	-	5.42	77.5	4.31	76.2	20.5
SPO	176	Pioneer 3936	29487	53	32398	3.1	-	5.52	74.6	3.25	78.8	40.9
Mean			27049	111	34462	4.6	52	7.99	65.5	3.51	75.7	54.2
Probability (%)												
			3.8	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
			50.6	51.6	20.8	0.0	1.3	37.9	0.0	0.1	67.9	0.3
			10.9	3.9	72.0	0.0	52.2	73.1	0.2	6.0	9.8	0.6
LSD (0.10)												
			3750	19	2695	0.1	10	0.75	2.2	0.26	1.6	0.4
			NS	NS	NS	0.1	9	NS	1.2	0.24	NS	0.3
			NS	24	NS	0.2	NS	NS	3.0	0.49	NS	0.7
CV (%)												
			12	16	10	3	34	14	4	14	3	12

FIELD EXPERIMENT HISTORY

Title: Harvest Date and Hybrid Influence on Corn Forage Yield
Experiment: 03DOP **Trial ID** 1441 **Year:** 1999
Personnel: H.Darby, J.G. Lauer, P.J. Flannery, K.D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: 410 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.2 **OM (%)** 3.1 **P (ppm)** 50 **K (ppm)** 190

Plot Management

Tillage Operations: Chisel Soil Finisher 1 Cultivation

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	325	4 /19/99
Starter :	6-24-24	150	4 /27/99
Post plant :	N/A	N/A	N/A
Manure:		none	

Herbicide: Frontier 1.5 pt/a, Bladex 90DF 2.2 lb/a, Buctril 1.5 lb/a, Cultivate **Insecticide:** none
Hybrid: Varies

Irrigation: None

Planting Date: 4/27/99 **Planting Depth:** **Row Width:** 30"

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

Harvest Date: Varies **Harvest Method:** Hand

Notes: N/A

Experimental Design

Design: RCB split plot **Replications:** 4
Plot Size Seeded: 40' x 25' **Experiment Size:** 0.65 A
Harvest Plot Size: 2.5' x 16' **Harvest Plant Density:** 34448 plants per acre

Factors/Treatments:

<u>Hybrid</u>	<u>Harvest Date</u>
Golden Harvest H2497	7/12/99, 7/19/99, 7/28/99, 8/6/99,
RM110, Dekalb DK591	8/15/99, 8/25/99, 9/3/99, 9/13/99
RM 110, Golden	
Harvest H2387 RM100,	
Pioneer 36H36 RM100	

Results: Tables E-42.

Table E-42. Harvest Date and Hybrid Influence on Corn Forage Yield
Arlington, WI - 1999.

Hybrid	Harvest date	Final population plants/A	Iowa State	Iowa State	Kernel milk %	Whole Plant		Stover		Ear:Stover ratio %
			Reproductive stage @ harvest	Vegetative stage @ harvest		Dry Matter yield tons/A	Moisture %	Dry Matter yield tons/A	Moisture %	
.	193	35188	.	16.5	.	3.6	86.2	.	.	.
.	200	33555	1.0	18.0	.	4.1	85.8	.	.	.
.	209	34304	2.3	.	.	5.9	82.8	5.00	82.7	14.4
.	219	36141	3.3	.	.	7.7	79.2	5.60	80.9	27.4
.	228	33419	4.5	.	.	8.8	75.1	5.22	80.0	40.8
.	238	34099	4.9	.	83	9.6	73.3	4.92	80.7	49.1
.	247	34031	5.0	.	59	11.4	63.8	4.86	76.1	57.4
.	257	34848	5.0	.	23	11.2	58.2	4.65	69.4	58.6
DK591	.	35018	4.0	16.5	59	8.2	76.6	5.74	78.4	35.8
GH H2387	.	34440	3.8	18.0	46	7.8	74.1	4.70	77.2	45.2
GH H2497	.	34338	3.9	16.3	61	7.7	77.1	5.06	79.7	39.4
Pioneer 36H36	.	33997	3.9	18.0	45	7.6	74.5	4.66	77.9	44.6
DK591	193	37026	.	15.0	.	3.7	86.6	.	.	.
DK591	200	34848	.	18.0	.	4.2	86.2	.	.	.
DK591	209	33487	2.0	.	.	5.7	83.7	5.35	82.4	5.5
DK591	219	36754	3.0	.	.	8.3	80.1	6.42	81.0	22.3
DK591	228	35393	4.3	.	.	9.0	76.4	6.01	79.2	33.5
DK591	238	33487	4.6	.	100	10.0	75.2	5.52	81.1	44.5
DK591	247	33487	5.0	.	70	12.1	64.7	5.68	75.6	53.0
DK591	257	35665	5.0	.	39	12.6	59.8	5.50	70.9	56.0
GH H2387	193	33215	.	18.0	.	3.4	86.6	.	.	.
GH H2387	200	31309	1.0	.	.	3.9	85.4	.	.	.
GH H2387	209	34848	2.3	.	.	5.9	82.5	4.75	82.8	19.3
GH H2387	219	38660	3.6	.	.	7.9	78.9	5.43	81.0	30.8
GH H2387	228	32670	4.8	.	.	8.8	74.4	4.80	80.3	45.5
GH H2387	238	33487	5.0	.	79	9.4	72.2	4.38	81.0	53.3
GH H2387	247	34848	5.0	.	55	11.8	60.9	4.62	75.6	60.5
GH H2387	257	36482	5.0	.	4	11.0	51.8	4.23	62.8	62.0
GH H2497	193	35665	.	15.0	.	3.6	86.7	.	.	.
GH H2497	200	35120	1.0	18.0	.	4.1	86.6	.	.	.
GH H2497	209	34848	2.1	.	.	5.7	83.8	4.89	83.7	14.0
GH H2497	219	35937	2.9	.	.	7.1	80.6	5.44	81.4	23.3
GH H2497	228	32670	4.1	.	.	8.4	76.5	5.25	80.4	37.5
GH H2497	238	34304	4.9	.	92	9.5	74.6	5.14	81.2	46.3
GH H2497	247	34304	5.0	.	61	11.6	65.4	4.88	77.6	58.0
GH H2497	257	31853	5.0	.	38	11.2	62.4	4.76	74.0	57.5
Pioneer 36H36	193	34848	.	18.0	.	3.6	84.9	.	.	.
Pioneer 36H36	200	32942	1.0	.	.	4.2	84.9	.	.	.
Pioneer 36H36	209	34031	2.8	.	.	6.2	81.4	5.02	81.6	18.8
Pioneer 36H36	219	33215	3.9	.	.	7.6	77.2	5.10	80.1	33.3
Pioneer 36H36	228	32942	5.0	.	.	9.1	73.4	4.84	80.2	46.5
Pioneer 36H36	238	35120	5.0	.	75	9.7	71.2	4.63	79.7	52.3
Pioneer 36H36	247	33487	5.0	.	50	10.1	64.3	4.26	75.8	58.0
Pioneer 36H36	257	35393	5.0	.	10	10.0	58.7	4.13	69.9	59.0
Mean		34448	3.9	17.0	52	7.8	75.6	5.04	78.3	41.3
Probability (%)										
Hybrid		30.4	0.0	0.0	0	4.9	0.0	0.1	3.5	0.0
Harvest Date		13.5	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0
Hybrid x Harvest Date		27.1	0.0	0.0	4	0.2	0.0	50.4	0.2	74.8
LSD (0.10)										
Hybrid		NS	0.1	0.0	4	0.4	0.9	0.29	1.1	0.0
Harvest Date		NS	0.1	0.0	3	0.4	1.0	0.25	1.3	0.0
Hybrid x Harvest Date		NS	0.2	0.0	7	0.8	2.2	NS	2.7	NS
CV (%)										
		8	4	0	11	8	2	8	3	13

FIELD EXPERIMENT HISTORY

Title: Plant Density, Planting Date, and Hybrid Influence on Corn Grain and Silage
Experiment: 04PDxDOP **Trial ID** 1420 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Arlington, WI **County:** Columbia
Supported By: HATCH

Site Information

Field: 410 E **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.2 **OM (%)** 3.9 **P (ppm)** 50 **K (ppm)** 190

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivatio

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	325	4 /23/99
Starter :	6-24-24	150	4/29/99 & 5/20/99
Post plant :	N/A	N/A	N/A
Manure:		none	

Herbicide: Frontier @ 1.5 pt/a
Bladex @ 2.2 lb/A
Buctril @ 1.5 pt/A

Insecticide: none
Hybrid: See Factors

Irrigation: none

Planting Date: 4/29/99 & 5/20/99 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: See Factors **Planting Method:** Kinze Plot Planter

Harvest Date: S: 9/13/99 & 9/22/99; G:10/6/99 **Harvest Method:** New Holland Plot Chopper,
Kincaid Plot Combine

Experimental Design

Design: RCB split **Replications:** 3
Plot Size Seeded: 22'x20' **Experiment Size:** 0.4 A
Harvest Plot Size: S: 2.5' x 22', G: 5'x22' **Harvest Plant Density:** varies

Factors/Treatments:

<u>Planting Dates:</u>	<u>Plant Densities:</u>	<u>Hybrids:</u>
May 1 and May 20	20000,30000 & 40000 plants/A	Pioneer 3563 Pioneer 35N05

Results: Table E-44.

**Table E-44. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain
Arlington, WI - 1999**

Date of planting	Target plant density	Hybrid	Grain				Silk date day of year	Seeds planted seeds/A	Stand		Harvest ears ears/A
			Yield bu/A	Moisture %	Test Wt lbs/bu	Lodging %			Emerg seeds/A	Harvest plants/A	
May 1			215	22.1	60.0	7.1	198	38808	35789	29304	29304
May 20			181	32.9	56.9	4.4	207	38808	35195	29392	29414
	20000		182	27.6	58.0	0.5	202	26136	24395	19668	19800
	30000		206	27.0	58.6	6.4	203	38808	35467	29370	29370
	40000		207	27.9	58.8	10.3	203	51480	46613	39006	38907
May 1	20000		195	22.1	59.5	0.0	198	26136	24882	19602	19734
May 1	30000		227	21.5	60.3	6.7	199	38808	35591	29700	29700
May 1	40000		223	22.6	60.2	14.6	199	51480	46893	38610	38478
May 20	20000		168	33.0	56.5	1.0	207	26136	23909	19734	19866
May 20	30000		185	32.5	56.9	6.0	207	38808	35343	29040	29040
May 20	40000		191	33.1	57.3	6.1	207	51480	46332	39402	39336
	20000	Pioneer 3563	179	26.9	58.0	0.3	203	26136	23892	19536	19800
	30000	Pioneer 3563	201	26.4	59.1	5.7	203	38808	34865	29370	29370
	40000	Pioneer 3563	206	27.4	59.3	5.9	203	51480	44864	39204	39204
	20000	Pioneer 35N05	184	28.2	58.0	0.6	202	26136	24899	19800	19800
	30000	Pioneer 35N05	211	27.6	58.2	7.0	202	38808	36069	29370	29370
	40000	Pioneer 35N05	207	28.3	58.3	14.8	203	51480	48362	38808	38610
		Pioneer 3563	195	26.9	58.8	4.0	203	38808	34540	29370	29458
		Pioneer 35N05	201	28.0	58.2	7.5	202	38808	36443	29326	29260
May 1		Pioneer 3563	216	21.6	60.3	5.4	198	38808	34738	29348	29436
May 1		Pioneer 35N05	214	22.5	59.7	8.8	198	38808	36839	29260	29172
May 20		Pioneer 3563	174	32.2	57.3	2.5	207	38808	34342	29392	29480
May 20		Pioneer 35N05	188	33.5	56.6	6.2	206	38808	36047	29392	29348

continued

**Table E-44. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain
Arlington, WI - 1999**

Date of planting	Target plant density	Hybrid	Grain				Silk date DOY	Seeds planted seeds/A	Stand		Harvest ears ears/A
			Yield bu/A	Moisture %	Test Wt lbs/bu	Lodging %			Emerg'd seeds/A	Harvest plants/A	
May 1	20000	Pioneer 3563	193	21.8	59.4	0.0	198	26136	23727	19668	19932
May 1	30000	Pioneer 3563	227	20.9	60.8	6.2	199	38808	35277	29832	29832
May 1	40000	Pioneer 3563	228	22.0	60.7	10.1	198	51480	45210	38544	38544
May 1	20000	Pioneer 35N05	197	22.3	59.6	0.0	197	26136	26037	19536	19536
May 1	30000	Pioneer 35N05	227	22.0	59.9	7.2	198	38808	35904	29568	29568
May 1	40000	Pioneer 35N05	218	23.3	59.7	19.1	199	51480	48576	38676	38412
May 20	20000	Pioneer 3563	164	31.9	56.6	0.7	207	26136	24057	19404	19668
May 20	30000	Pioneer 3563	174	31.8	57.4	5.2	207	38808	34452	28908	28908
May 20	40000	Pioneer 3563	185	32.9	57.8	1.7	207	51480	44517	39864	39864
May 20	20000	Pioneer 35N05	171	34.1	56.4	1.3	206	26136	23760	20064	20064
May 20	30000	Pioneer 35N05	195	33.1	56.4	6.9	206	38808	36234	29172	29172
May 20	40000	Pioneer 35N05	196	33.3	56.9	10.5	206	51480	48147	38940	38808
Mean			198	27.5	58.5	5.7	202	38808	35492	29348	29359
Probability(%)											
Date of Planting (DOP)			7.1	2.2	1.0	23.8	0.1	0.0	49.1	97.3	68.3
Hybrid (H)			33.3	4.9	5.9	9.5	19.0	0.0	0.0	90.3	58.8
Plant Density (PD)			0.2	40.1	15.5	0.3	16.8	0.0	0.0	0.0	0.0
H x PD			78.0	93.1	37.5	18.7	36.8	0.0	6.2	75.3	74.2
DOP x H			17.9	70.9	85.3	93.1	19.0	0.0	66.3	90.3	85.6
DOP x PD			56.6	90.6	71.7	14.9	28.1	0.0	80.4	27.5	25.0
DOP x H x PD			73.6	64.2	93.5	99.5	16.8	0.0	22.4	53.2	58.5
LSD(0.10)											
Date of Planting (DOP)			28	4.8	0.9	NS	1	0.0	NS	NS	NS
Hybrid (H)			NS	0.9	0.5	3.7	NS	0.0	771	NS	NS
Plant Density (PD)			12	NS	NS	4.5	NS	0.0	944	755	759
H x PD			NS	NS	NS	NS	NS	0.0	2168	NS	NS
DOP x H			NS	NS	NS	NS	NS	0.0	NS	NS	NS
DOP x PD			NS	NS	NS	NS	NS	0.0	NS	NS	NS
DOP x H x PD			NS	NS	NS	NS	NS	0.0	NS	NS	NS
CV(%)			8	6	2	106	4	0	4	4	4

continued

**Table E-44. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain
Arlington, WI - 1999**

Date of planting	Density	Hybrid	Whole Plant											
			Dry Matter		Kernel milk stage	Harvest		Crude protien	ADF	NDF	<i>In Vitro</i> Digest	Cell Wall Digest	Milk per	
			yield tons/A	Moisture %		plants plants/A	ears ears/A						Ton lbs/T	Acre lbs/A
May 1			9.7	54.8	37	28688	28380	6.4	22.4	45.5	74.8	44.6	1855	17912
May 20			9.4	55.2	48	29876	29788	6.5	23.4	47.3	74.1	45.3	1740	16270
	20000		8.5	56.8	48	20295	19800	6.7	21.6	44.7	75.7	45.6	1941	16490
	30000		9.7	54.7	43	29931	29898	6.4	23.4	47.0	74.0	44.6	1739	16991
	40000		10.4	53.4	37	37620	37554	6.2	23.8	47.4	73.8	44.7	1712	17791
May 1	20000		8.5	56.9	45	20724	19932	6.6	21.4	44.2	75.8	45.2	1966	16830
May 1	30000		9.8	53.9	39	29238	29172	6.2	22.1	45.2	74.9	44.6	1874	18505
May 1	40000		10.7	53.6	26	36102	36036	6.3	23.7	47.0	73.7	44.0	1724	18401
May 20	20000		8.4	56.7	51	19866	19668	6.8	21.8	45.1	75.6	45.9	1916	16150
May 20	30000		9.6	55.6	47	30624	30624	6.6	24.6	48.8	73.0	44.6	1604	15477
May 20	40000		10.1	53.3	48	39138	39072	6.1	23.9	47.8	73.9	45.3	1701	17182
	20000	Pioneer 3563	8.4	56.9	48	19998	19932	6.7	22.3	45.6	75.1	45.2	1866	15654
	30000	Pioneer 3563	9.6	54.4	42	29964	29964	6.4	24.0	48.0	73.3	44.3	1656	15906
	40000	Pioneer 3563	10.1	53.5	38	35970	35904	6.0	24.1	47.9	73.6	45.0	1682	16992
	20000	Pioneer 35N05	8.6	56.8	48	20592	19668	6.8	21.0	43.8	76.3	45.9	2016	17326
	30000	Pioneer 35N05	9.9	55.0	44	29898	29832	6.5	22.8	46.0	74.6	44.9	1823	18075
	40000	Pioneer 35N05	10.7	53.4	36	39270	39204	6.4	23.5	46.9	73.9	44.4	1742	18591
		Pioneer 3563	9.4	54.9	42	28644	28600	6.4	23.4	47.2	74.0	44.9	1735	16184
		Pioneer 35N05	9.7	55.1	43	29920	29568	6.6	22.4	45.6	75.0	45.1	1860	17998
May 1		Pioneer 3563	9.7	55.1	37	27676	27632	6.4	22.8	46.1	74.2	44.1	1795	17344
May 1		Pioneer 35N05	9.7	54.4	37	29700	29128	6.4	22.0	44.9	75.4	45.1	1915	18480
May 20		Pioneer 3563	9.0	54.7	48	29612	29568	6.3	24.1	48.2	73.8	45.6	1675	15024
May 20		Pioneer 35N05	9.7	55.7	49	30140	30008	6.7	22.8	46.3	74.5	45.0	1806	17516

continued

**Table E-44. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain
Arlington, WI - 1999**

Date of planting	Density	Hybrid	Whole Plant											
			Dry Matter		Kernel milk	Harvest		Crude			<i>In Vitro</i>	Cell Wall	Milk per	
			yield	Moisture	stage	plants	ears	protien	ADF	NDF	Digest	Digest	Ton	Acre
tons/A	%	%	plants/A	ears/A	%	%	%	%	%	lbs/T	lbs/A			
May 1	20000	Pioneer 3563	8.6	57.1	43.3	20064	20064	6.6	21.9	44.7	75.2	44.5	1910	16552
May 1	30000	Pioneer 3563	9.8	54.3	36.7	29304	29304	6.4	22.3	45.3	74.5	43.7	1846	18144
May 1	40000	Pioneer 3563	10.6	54.1	30.0	33660	33528	6.3	24.3	48.3	73.0	44.2	1630	17335
May 1	20000	Pioneer 35N05	8.4	56.7	46.7	21384	19800	6.7	20.9	43.7	76.4	46.0	2023	17107
May 1	30000	Pioneer 35N05	9.8	53.5	41.7	29172	29040	6.1	22.0	45.2	75.4	45.6	1903	18865
May 1	40000	Pioneer 35N05	10.7	53.1	21.7	38544	38544	6.4	23.1	45.7	74.3	43.9	1818	19467
May 20	20000	Pioneer 3563	8.1	56.7	51.7	19932	19800	6.7	22.6	46.4	75.0	46.0	1823	14755
May 20	30000	Pioneer 3563	9.3	54.6	46.7	30624	30624	6.5	25.7	50.8	72.1	44.9	1466	13668
May 20	40000	Pioneer 3563	9.6	52.8	45.0	38280	38280	5.8	23.9	47.5	74.2	45.8	1735	16649
May 20	20000	Pioneer 35N05	8.7	56.8	50.0	19800	19536	6.9	21.0	43.8	76.2	45.8	2009	17546
May 20	30000	Pioneer 35N05	9.9	56.6	46.7	30624	30624	6.8	23.5	46.8	73.9	44.2	1742	17286
May 20	40000	Pioneer 35N05	10.6	53.8	50.0	39996	39864	6.5	23.9	48.1	73.5	44.9	1666	17715
Mean			9.5	55.0	42.5	29282	29084	6.5	22.9	46.4	74.5	45.0	1798	17091
Probability(%)														
Date of Planting (DOP)			34.7	88.2	0.7	15.7	0.2	20.4	5.0	1.6	22.2	36.2	6.7	6.0
Hybrid (H)			15.2	90.9	80.6	16.2	7.4	6.2	2.4	1.7	1.5	63.9	1.2	2.4
Plant Density (PD)			0.0	16.7	0.2	0.0	0.0	0.1	0.1	0.3	0.1	17.4	0.1	37.4
H x PD			82.2	97.4	74.9	6.9	12.4	38.2	77.5	77.8	41.6	43.2	59.2	94.4
DOP x H			12.6	54.0	80.6	43.8	28.2	4.3	60.8	56.3	63.6	8.4	90.0	37.4
DOP x PD			75.9	81.1	1.7	15.6	8.6	6.9	9.1	13.8	5.1	47.8	7.5	41.9
DOP x H x PD			94.9	94.3	18.1	46.5	61.6	58.2	33.4	7.9	26.2	61.3	11.7	52.0
LSD(0.10)														
Date of Planting (DOP)			NS	NS	2.8	1853	2060	NS	0.7	0.7	NS	NS	91	1232
Hybrid (H)			NS	NS	NS	NS	1163	0.2	0.7	1.1	0.6	NS	78	1286
Plant Density (PD)			0.5	NS	4.7	1409	1424	0.2	0.9	1.3	0.8	NS	96	NS
H x PD			NS	NS	NS	241	NS	NS	NS	NS	NS	NS	NS	NS
DOP x H			NS	NS	NS	NS	NS	0.3	NS	NS	NS	1.7	NS	NS
DOP x PD			NS	NS	6.0	2384	2200	0.3	1.2	NS	1.4	NS	116	NS
DOP x H x PD			NS	NS	NS	NS	NS	NS	NS	2.6	NS	NS	NS	NS
CV(%)			8	8	16	7	7	4	6	4	2	3	8	13

FIELD EXPERIMENT HISTORY

Title: Density, Row Spacing and Competition Effects on Corn Forage and Grain Yield
Experiment: 17 Competition **Trial ID** 1451 **Year:** 1999
Personnel: H. Darby, J.G. Lauer
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: 396 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.7 **OM (%)** 3.0 **P (ppm)** 55 **K (ppm)** 225

Plot Management

Tillage Operations: Fall Moldboard

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	300	4 /30/99
Starter :	6-24-24	150	5 /11/99
Post plant :	None	N/A	N/A
Manure:		none	

Herbicide: Frontier @ 8 oz/A, Bladex 2lb/A

Insecticide: None

Irrigation: None

Hybrid/Variety: Pioneer 3751

Planting Date: 5/11/99, 6/1/99

Row Width: Varies

Planting Method: Kinze Inter-Row Planter

Planting Depth: 1.5"

Harvest Date: S:9/3/99, 9/7/99
G:10/29/99, 10/30/99

Harvest Method: Hand

Experimental Design

Design: RCB split-split plot

Replications: 4

Plot Size Seeded: 10' x 25'

Experiment Size: 1.53 A

Harvest Plot Size: 8'8" x 2.5'

Factors/Treatments:

Plant Density

15,000, 32,000, 44,0000 plants/A

Row Spacing

15 and 30-in

Removal or Addition of Competition

S:Control, V2, V4, V6, V8, V10
G:Control, V2, V4

Results: Tables E-45.

Table E-45. Plant Density, Row Spacing and Reduced Competition Influence on Corn Forage and Corn Grain Yield
Arlington, WI - 1999

Date of planting	Plant density plants/A	Row spacing inches	Iowa State Vegetative stage @ removal	Grain					Silage			
				Final population plants/A	Broken stalks %	Yield bu/A	Moisture %	Test weight lbs/bu	Final population plants/A	Kernel milk %	Dry Matter yield tons/A	Moisture %
131			C	29494	4.9	138	13.2	53.6	50820	53	10.5	57.4
131			V2	16754	4.5	112	13.0	53.3	30918	57	8.1	59.4
131			V4	16731	8.9	100	12.9	53.0	28800	56	8.2	58.6
131			V6						30855	57	8.6	60.6
131			V8						31515	55	8.7	59.1
131			V10						29205	54	7.4	57.1
131		15		20026	8.5	118	13.0	53.4	33055	55	8.5	59.5
131		30		21962	3.5	116	13.1	53.3	34375	56	8.7	57.9
131		15	C	28133	4.7	146	13.5	53.7	49500	49	10.1	59.7
131		15	V10						27720	58	6.7	59.3
131		15	V2	15246	4.5	111	12.6	53.3	28851	53	7.7	58.1
131		15	V4	16988	18.7	95	13.0	53.1	26928	54	8.2	58.3
131		15	V6						33660	58	9.3	62.6
131		15	V8						31350	59	8.9	59.0
131		30	C	30855	5.1	131	12.9	53.6	52140	57	10.8	55.2
131		30	V2	18513	4.5	113	13.5	53.3	33330	62	8.6	61.3
131		30	V4	16517	0.7	105	12.8	53.0	30360	58	8.2	58.9
131		30	V6						28050	57	7.9	58.7
131		30	V8						31680	52	8.5	59.1
131		30	V10						30690	49	8.0	54.9
131	15000			12070	8.6	89	13.1	53.1	18893	59	7.0	60.9
131	32000			20147	2.7	123	12.9	53.6	34073	56	8.7	58.6
131	44000			30764	6.6	139	13.1	53.4	48180	52	9.9	56.8
131	15000		C	16880	3.3	114	12.7	53.0	28710	56	10.3	59.4
131	15000		V2	10618	3.1	76	13.4	53.0	17325	55	6.9	59.6
131	15000		V4	8712	19.4	77	13.2	53.2	15345	61	5.3	63.5
131	15000		V6						19305	59	8.0	60.1
131	15000		V8						17820	65	5.7	63.3
131	15000		V10						14850	56	5.8	58.8
131	32000		C	28859	3.0	157	13.7	54.1	49995	54	9.3	58.7
131	32000		V2	14810	2.9	111	12.4	53.2	29304	55	7.3	59.3
131	32000		V4	17424	2.1	98	12.8	53.6	31020	60	10.2	56.1
131	32000		V6						32175	55	9.1	59.6
131	32000		V8						31680	51	9.3	58.6
131	32000		V10						30690	60	7.7	58.3
131	44000		C	42743	8.3	144	13.3	53.8	73755	49	11.8	54.2
131	44000		V2	25319	8.0	149	13.4	53.7	46530	61	10.0	59.4
131	44000		V4	24230	3.4	125	12.7	52.5	40590	48	9.6	55.6
131	44000		V6						41085	58	8.6	62.2
131	44000		V8						45045	50	11.1	55.2
131	44000		V10						42075	45	8.5	54.2
131	15000	15		11979	16.2	95	13.1	53.1	17655	61	7.0	60.5
131	15000	30		12161	1.0	84	13.1	53.0	20130	56	7.0	61.2
131	32000	15		19058	4.1	123	12.9	53.5	34980	53	8.8	59.6
131	32000	30		21236	1.3	123	12.9	53.7	33165	58	8.6	57.6
131	44000	15		29040	5.1	136	13.0	53.6	46530	51	9.6	58.3
131	44000	30		32489	8.0	142	13.2	53.2	49830	53	10.2	55.3
131	15000	15	C	16335	3.6	127	13.3	53.0	27720	58	10.2	61.9
131	15000	15	V2	9801	6.3	81	13.2	53.0	14850	55	7.8	56.7
131	15000	15	V4	9801	38.9	77	12.8	53.3	13860	58	4.8	60.7

continued

Table E-45. Plant Density, Row Spacing and Reduced Competition Influence on Corn Forage and Corn Grain Yield
Arlington, WI - 1999

Date of planting	Plant density plants/A	Row spacing inches	Iowa State Vegetative stage @ removal	Grain					Silage					
				Final population plants/A	Broken stalks %	Yield bu/A	Moisture %	Test weight lbs/bu	Final population plants/A	Kernel milk %	Dry Matter yield tons/A	Moisture %		
131	15000	15	V6							20790	63	8.5	59.7	
131	15000	15	V8							15840	68	5.9	60.8	
131	15000	15	V10							12870	68	4.6	63.3	
131	15000	30	C	17424	3.1	102	12.0	53.1		29700	55	10.4	56.9	
131	15000	30	V2	11435	0.0	72	13.6	52.9		19800	55	4.9	65.5	
131	15000	30	V4	7623	0.0	77	13.7	53.2		16830	65	5.8	66.3	
131	15000	30	V6							17820	55	7.6	60.6	
131	15000	30	V8							19800	63	5.5	65.9	
131	15000	30	V10							16830	45	7.0	54.4	
131	32000	15	C	28314	2.1	155	13.8	54.1		58410	45	10.1	61.0	
131	32000	15	V2	13431	4.8	114	12.3	53.1		28380	50	7.2	58.0	
131	32000	15	V4	17424	6.3	89	13.1	53.4		31680	60	11.1	57.8	
131	32000	15	V6							31680	55	9.5	61.3	
131	32000	15	V8							32670	55	9.2	60.1	
131	32000	15	V10							28710	60	7.4	59.1	
131	32000	30	C	29403	3.8	159	13.6	54.1		41580	63	8.5	56.3	
131	32000	30	V2	16880	0.0	107	12.5	53.3		30690	63	7.3	61.4	
131	32000	30	V4	17424	0.0	103	12.7	53.7		30690	60	9.7	55.3	
131	32000	30	V6							32670	55	8.8	57.9	
131	32000	30	V8							30690	48	9.3	57.2	
131	32000	30	V10							32670	60	8.0	57.5	
131	44000	15	C	39749	8.3	157	13.4	54.0		62370	45	10.1	56.0	
131	44000	15	V2	23414	2.4	137	12.4	53.8		43560	55	8.2	59.6	
131	44000	15	V4	23958	4.6	116	13.3	52.9		37620	48	10.2	56.1	
131	44000	15	V6							48510	55	9.8	66.7	
131	44000	15	V8							45540	55	11.5	56.2	
131	44000	15	V10							41580	48	8.0	55.5	
131	44000	30	C	45738	8.3	132	13.2	53.7		85140	53	13.5	52.4	
131	44000	30	V2	27225	13.6	160	14.3	53.7		49500	68	11.9	59.3	
131	44000	30	V4	24503	2.2	135	12.2	52.1		43560	48	9.0	55.1	
131	44000	30	V6							33660	60	7.4	57.7	
131	44000	30	V8							44550	45	10.6	54.2	
131	44000	30	V10							42570	43	9.1	52.9	
Mean				20994	6.0	117	13.0	53.3		33715	55	8.6	58.7	
Probability (%)														
Density (D)				0.0	62.6	1.7	81.5	17.9		0.0	11.1	3.1	16.7	
Row Spacing (RS)				37.8	37.8	90.5	96.8	38.4		50.2	69.7	88.4	47.6	
D x RS				25.8	34.8	56.5	89.2	82.9		29.8	23.2	53.8	19.3	
Stage of Removal (SOR)				0.0	78.2	0.0	75.2	48.6		0.0	78.6	0.2	16.3	
D x SOR				0.2	60.6	16.2	18.7	44.5		11.2	39.5	2.7	23.7	
RS x SOR				35.2	38.5	34.7	15.8	95.9		47.6	15.0	37.1	6.5	
D x RS x SOR				76.9	73.0	73.6	25.6	99.6		5.6	92.4	35.4	56.1	
LSD (0.10)														
Density (D)				1851	NS	13.6	NS	NS		3391	NS	1.1	NS	
Row Spacing (RS)				NS	NS	NS	NS	NS		NS	NS	NS	NS	
D x RS				NS	NS	NS	NS	NS		NS	NS	NS	NS	
Stage of Removal (SOR)				1664	NS	15.3	NS	NS		4495	NS	1.1	NS	
D x SOR				2920	NS	NS	NS	NS		NS	NS	2.0	NS	
RS x SOR				NS	NS	NS	NS	NS		NS	NS	NS	6.1	
D x RS x SOR				NS	NS	NS	NS	NS		10981	NS	NS	NS	
CV (%)				11	250	18	7	2.0		19	0	19	7	

Table E-45. Plant Density, Row Spacing and Reduced Competition Influence on Corn Forage and Corn Grain Yield
Arlington, WI - 1999

Date of planting	Plant density plants/A	Row spacing inches	Iowa State Vegetative stage @ removal	Grain					Silage			
				Final population plants/A	Broken stalks %	Yield bu/A	Moisture %	Test weight lbs/bu	Final population plants/A	Kernel milk %	Dry Matter yield tons/A	Moisture %
151			C	30789	15.6	139	14.5	53.5	54180	23	7.20	54.0
151			V2	17787	2.6	107	15.4	54.2	28710	26	6.14	52.4
151			V4	16607	5.7	111	15.4	54.3	28050	22	5.83	54.4
151			V6						28545	26	5.94	53.4
151			V8						26654	26	5.57	53.4
151			V10						27390	24	5.36	52.4
151		15		20389	8.0	118	14.6	54.0	30690	25	5.94	53.6
151		30		22385	9.0	117	15.6	54.1	33055	24	6.02	53.1
151		15	C	28496	17.0	141	14.7	52.9	47520	23	6.63	56.9
151		15	V2	17061	1.5	106	13.7	54.1	29370	23	6.07	53.8
151		15	V4	15609	5.6	107	15.4	55.2	27720	23	5.99	53.3
151		15	V6						29040	30	6.08	53.3
151		15	V8						24750	27	5.45	52.8
151		15	V10						25740	25	5.43	51.3
151		30	C	33541	13.9	136	14.3	54.3	62172	22	7.88	50.6
151		30	V2	18513	3.8	108	17.1	54.4	28050	29	6.20	50.9
151		30	V4	17606	5.9	115	15.4	53.5	28380	22	5.66	55.5
151		30	V6						28050	22	5.81	53.5
151		30	V8						28286	26	5.67	54.0
151		30	V10						29040	23	5.28	53.5
151	15000			13794	3.9	94	15.0	54.0	16500	25	4.60	54.0
151	32000			20419	6.3	125	15.0	54.6	31845	22	6.31	52.6
151	44000			29948	15.4	134	15.3	53.7	47273	26	7.04	53.4
151	15000		C	19239	3.8	129	14.2	53.5	24420	25	5.64	57.5
151	15000		V2	12251	0.0	82	16.8	53.8	16335	26	4.93	52.9
151	15000		V4	10073	0.0	75	14.0	54.1	15345	21	4.94	51.7
151	15000		V6						15345	30	4.05	57.6
151	15000		V8						15048	25	4.34	53.2
151	15000		V10						14850	23	3.99	52.3
151	32000		C	27497	11.3	144	15.6	54.8	49995	25	7.99	52.1
151	32000		V2	16607	0.0	106	14.8	54.4	29205	23	5.76	54.1
151	32000		V4	17152	7.6	130	14.7	54.5	28215	20	6.04	56.4
151	32000		V6						29205	15	6.10	50.6
151	32000		V8						27225	28	6.19	50.2
151	32000		V10						27225	24	5.80	51.9
151	44000		C	42743	28.7	142	13.7	52.3	80685	19	7.59	53.4
151	44000		V2	24503	7.8	134	14.7	54.6	40590	29	7.72	50.1
151	44000		V4	22597	9.7	127	17.5	54.3	40590	25	6.50	55.1
151	44000		V6						41085	33	7.67	52.0
151	44000		V8						40590	26	6.49	56.9
151	44000		V10						40095	25	6.27	52.9
151	15000	15		13250	1.9	94	14.7	53.9	14850	26	4.36	54.3
151	15000	30		14339	5.9	94	15.3	54.0	18150	24	4.83	53.7
151	32000	15		18332	6.1	121	14.4	54.6	30690	23	6.11	53.1
151	32000	30		22506	6.5	129	15.7	54.5	33000	22	6.52	52.0
151	44000	15		29585	16.0	138	14.8	53.7	46530	26	7.36	53.2
151	44000	30		30311	14.8	131	15.8	53.7	48015	26	6.71	53.6
151	15000	15	C	19602	5.6	129	14.2	52.4	20790	25	4.94	55.8
151	15000	15	V2	10346	0.0	82	15.7	54.0	16830	25	4.30	56.5
151	15000	15	V4	9801	0.0	73	14.2	55.4	14850	20	5.08	48.0

continued

Table E-45. Plant Density, Row Spacing and Reduced Competition Influence on Corn Forage and Corn Grain Yield
Arlington, WI - 1999

Date of planting	Plant density plants/A	Row spacing inches	Iowa State Vegetative stage @ removal	Grain					Silage					
				Final population plants/A	Broken stalks %	Yield bu/A	Moisture %	Test weight lbs/bu	Final population plants/A	Kernel milk %	Dry Matter yield tons/A	Moisture %		
151	15000	15	V6							14850	38	3.73	59.0	
151	15000	15	V8							7920	25	3.85	55.4	
151	15000	15	V10							13860	25	4.24	51.3	
151	15000	30	C	18513	0.0	130	14.2	55.8		31680	25	7.03	61.0	
151	15000	30	V2	14157	0.0	83	17.9	53.6		15840	28	5.56	49.3	
151	15000	30	V4	10346	0.0	77	13.8	52.9		15840	23	4.80	55.4	
151	15000	30	V6							15840	23	4.38	56.1	
151	15000	30	V8	18513	35.3	116	14.2			19800	25	4.67	51.8	
151	15000	30	V10							15840	20	3.74	53.3	
151	32000	15	C	23958	11.6	145	16.0	54.4		47520	28	7.50	57.1	
151	32000	15	V2	15791	0.0	98	12.4	53.9		28710	18	5.26	54.6	
151	32000	15	V4	15246	6.7	121	14.9	55.4		27720	23	5.52	57.4	
151	32000	15	V6							29700	15	6.44	52.6	
151	32000	15	V8							25740	28	6.26	47.0	
151	32000	15	V10							24750	25	5.66	50.1	
151	32000	30	C	31037	10.9	141	15.2	55.2		52470	23	8.48	47.1	
151	32000	30	V2	17424	0.0	114	17.3	54.8		29700	28	6.27	53.7	
151	32000	30	V4	19058	8.5	139	14.6	53.7		28710	18	6.55	55.4	
151	32000	30	V6							28710	15	5.75	48.6	
151	32000	30	V8							28710	28	6.12	53.4	
151	32000	30	V10							29700	23	5.94	53.8	
151	44000	15	C	41927	33.7	149	14.0	51.9		74250	18	7.47	57.8	
151	44000	15	V2	25047	4.4	139	13.2	54.4		42570	25	8.66	50.3	
151	44000	15	V4	21780	10.0	126	17.3	54.7		40590	25	7.37	54.5	
151	44000	15	V6							42570	38	8.05	48.4	
151	44000	15	V8							40590	28	6.24	55.8	
151	44000	15	V10							38610	25	6.39	52.4	
151	44000	30	C	43560	23.8	136	13.5	52.7		87120	20	7.71	49.0	
151	44000	30	V2	23958	11.3	128	16.3	54.7		38610	33	6.78	49.8	
151	44000	30	V4	23414	9.3	128	17.8	53.8		40590	25	5.62	55.7	
151	44000	30	V6							39600	28	7.29	55.7	
151	44000	30	V8							40590	25	6.73	58.0	
151	44000	30	V10							41580	25	6.15	53.4	
Mean				21387	8.5	118	15.1	54.1		31873	24	5.98	53.3	
Probability (%)														
Density (D)				2.0	2.5	1.6	72.4	24.3		0.0	71.4	7.1	21.8	
Row Spacing (RS)				37.5	14.5	56.4	42.1	98.7		11.8	41.3	2.2	3.8	
D x RS				48.8	78.0	54.2	98.8	99.0		50.0	77.6	8.7	87.6	
Stage of Removal (SOR)				0.0	0.0	0.9	64.8	28.1		0.0	39.9	0.9	88.5	
D x SOR				4.9	0.3	10.7	15.2	24.3		0.0	4.4	42.9	44.1	
RS x SOR				85.7	9.4	71.7	16.9	3.1		3.4	11.8	67.2	56.8	
D x RS x SOR				79.6	37.0	96.1	90.9	66.4		75.1	83.2	69.2	48.0	
LSD (0.10)														
Density (D)				4494	4.6	10	NS	NS		1901	NS	1.37	NS	
Row Spacing (RS)				NS	NS	NS	NS	NS		NS	NS	0.03	0.1	
D x RS				NS	NS	NS	NS	NS		NS	NS	1.37	NS	
Stage of Removal (SOR)				2551	2.8	13	NS	NS		9160	NS	0.70	NS	
D x SOR				NS	5.9	NS	NS	NS		14585	14	NS	NS	
RS x SOR				NS	3.4	NS	NS	3.8		12020	NS	NS	NS	
D x RS x SOR				NS	NS	NS	NS	NS		NS	NS	NS	NS	
CV (%)				16	46	15	16	2.0		13	24	17.00	10	

FIELD EXPERIMENT HISTORY

Title: Row Spacing Influence on Grain Yield
Experiment: 05RS **Trial ID** 1419 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: 358 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.8 **OM (%)** 3.1 **P (ppm)** 45 **K (ppm)** 240

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :** 46-0-0 325 N/A
Starter : N/A N/A N/A
Post plant : N/A N/A N/A
Manure: None
Herbicide: Frontier @ 1.5 pt/a **Insecticide:** none
Bladex @ 2.2 lb/a **Hybrid:** Pioneer 3751
Irrigation: none
Planting Date: 5/10/99 **Planting Depth:** 1.5" **Row Width:** N/A
Target Plant Density: 30000 plants per acre **Planting Method:** Kinze Inter-Row Planter
Harvest Date: 10/18 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 4
Plot Size Seeded: 10' x 75' **Experiment Size:** 0.34 A
Harvest Plot Size: 75' x 5' **Harvest Plant Density:** 26933 plants per acre
Factors/Treatments:

7.5 plantback w/15 planter
7.5 plantback w/30 planter
15 inch
15 plantback w/30 planter
30 inch

Results: Table E-46.

**Table E-46. Row Spacing Influence on Grain Yield
Arlington, WI - 1999**

Row spacing	Yield bu/A	Moisture %	Test weight lbs/bu	Population plants/A	Lodging %
7.5 plantback w/15 planter	169	17.5	57.4	24891	2.0
7.5 plantback w/30 planter	193	16.9	57.8	26136	1.8
15 inch	176	17.0	57.6	27132	1.9
15 plantback w/30 planter	177	17.0	57.3	27132	2.7
30 inch	197	17.4	57.5	29372	2.4
Mean	182	17.1	57.5	26933	2.2
<u>Probability(%)</u>					
Row Space(R)	5.5	34.8	86.3	25.1	96.4
<u>LSD(0.10)</u>					
Row Space(R)	6	NS	NS	NS	NS
<u>CV(%)</u>					
	6	2	1	11	130

FIELD EXPERIMENT HISTORY

Title: Plant Density and Row Spacing Effects on Corn Grain and Silage
Experiment: 06RSxPD **Trial ID** 1416 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: 358 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.8 **OM (%)** 3.1 **P (ppm)** 45 **K (ppm)** 240

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	46-0-0	325	4 /23/99
Starter :	N/A	N/A	N/A
Post plant :	N/A	N/A	N/A
Manure:		None	

Herbicide: Frontier @ 1.5 pt/A **Insecticide:** none
Bladex @ 2.2 lb/A **Hybrid:** Pioneer 3751

Irrigation: none

Planting Date: 5/10/99 **Planting Depth:** 1.5" **Row Width:** See Factor
Target Plant Density: See Factors **Planting Method:** Kinze inter-row planter
Harvest Date: S: 9/17; G:10/18 **Harvest Method:** New Holland Plot Chopper
Kincaid Plot Combine

Notes

Experimental Design

Design: RCB **Replications:** 4
Plot Size Seeded: 20' x 75' **Experiment Size:** 0.56 A
Harvest Plot Size: 75' x 5' **Harvest Plant Density:**

Factors/Treatments:

Row Spacing

15 inch
30 inch

Plant Density

25000, 30000, 35000
& 40000 plants/A

Results: Table E-47.

**Table E-47. Plant Density and Row Spacing Effects on Corn Grain And Silage Yield and Quality
Arlington, WI - 1999**

Row spacing inches	Density plants/A	Grain					Whole Plant										
		Harvest pop	Broken stalks	Yield	Moist	Test weight	Harvest pop	Yield	Moist	Kernel milk	Crude protien	ADF	NDF	<i>In Vitro</i> Digest	Cell Wall Digest	Milk per	
		plants/A	%	bu/A	%	lbs/bu	plants/A	tons/A	%	%	%	%	%	%	%	Ton	Acre
	25000	22000	1.3	176	17.2	57.8	22875	7.8	54.9	28.1	6.7	19.6	41.8	78.2	47.9	2212	17342
	30000	30375	1.4	188	16.8	58.6	30500	7.8	55.4	24.4	6.4	21.8	45.5	76.4	48.1	1947	15206
	35000	32875	1.5	192	16.8	58.4	31625	8.4	51.4	21.9	6.4	19.7	42.0	78.2	48.1	2203	18543
	40000	38375	2.4	195	16.8	58.6	38000	8.1	53.4	19.4	6.0	22.7	46.6	75.4	47.1	1841	14903
15		28500	1.8	182	17.0	58.3	27813	8.0	54.8	24.7	6.5	20.4	43.2	77.5	47.9	2106	16889
30		33313	1.6	194	16.8	58.4	33688	8.0	52.8	22.2	6.3	21.5	44.7	76.6	47.7	1996	16108
15	25000	18750	1.5	168	17.3	57.8	20500	6.9	57.4	26.3	6.7	20.5	43.0	77.3	47.2	2105	14688
15	30000	30750	1.7	177	16.9	58.5	28250	7.9	55.6	23.8	6.6	21.2	44.5	77.0	48.2	2021	15941
15	35000	28750	1.0	190	16.9	58.4	27250	8.8	52.2	25.0	6.7	18.2	40.2	79.8	49.7	2372	20866
15	40000	35750	2.5	195	16.9	58.5	35250	8.4	54.0	23.8	6.0	21.8	45.3	75.9	46.7	1926	16060
30	25000	25250	1.0	186	17.1	57.7	25250	8.6	52.3	30.0	6.7	18.7	40.6	79.2	48.7	2319	19996
30	30000	30000	1.0	198	16.7	58.8	32750	7.6	55.3	25.0	6.3	22.5	46.4	75.8	47.9	1873	14470
30	35000	37000	2.0	195	16.6	58.5	36000	8.0	50.7	18.8	6.1	21.1	43.8	76.6	46.5	2034	16219
30	40000	41000	2.0	195	16.7	58.6	40750	7.8	52.9	15.0	6.0	23.7	47.9	74.9	47.6	1756	13745
Mean		30906	1.7	188	16.9	58.4	30750	8.0	53.8	23.4	6.4	21.0	44.0	77.0	47.8	2051	16498
Probability(%)																	
	Plant Density (D)	0.0	57.0	7.3	46.4	8.1	0.0	13.4	10.3	25.1	1.6	0.8	0.6	0.8	59.3	0.5	1.6
	Row Space (S)	0.1	93.2	3.2	4.4	47.7	0.0	94.7	10.2	42.6	11.4	13.4	17.8	18.8	64.0	17.4	36.1
	D x S	11.6	54.8	20.2	96.1	98.3	68.8	0.1	51.0	44.1	49.4	12.5	20.3	6.3	4.0	11.9	0.3
LSD(0.10)																	
	Plant Density (D)	3190	NS	9	NS	0.5	3386	NS	NS	NS	0.3	1.7	2.5	1.5	NS	191	2035
	Row Space (S)	2256	NS	6	0.3	NS	2395	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	D x S	NS	NS	NS	NS	NS	NS	0.7	NS	NS	NS	NS	NS	2.1	1.9	NS	3879
CV(%)																	
		12	56	6	2	1	13	7	3	9	6	9	7	2	3	11	14

FIELD EXPERIMENT HISTORY

Title: Plant Density and Row Spacing Effects on Corn Grain and Silage
Experiment: 06RSxPD **Trial ID** 1418 **Year:** 1999
Personnel: J.G. Lauer, K.D. Kohn, P.J. Flannery
Location: Fond du Lac, WI **County:** Fond du Lac
Supported By: Hatch

Site Information

Field: **Previous Crop:** Soybeans **Soil Type:** Virgil
Soil Test: **Date:** N/A **pH** 6.5 **OM (%)** 3.2 **P (ppm)** 33 **K (ppm)** 100

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	82-0-0	220	N/A
Starter :	N/A	N/A	N/A
Post plant :	N/A	N/A	N/A
Manure:		None	

Herbicide: Accent Gold 2.9 oz/A **Insecticide:** None
Irrigation: none **Hybrid:** Pioneer 3751

Planting Date: 5/4/99 **Planting Depth:** 1.5" **Row Width:** See Factor
Target Plant Density: See Factors **Planting Method:** Kinze inter-row planter
Harvest Date: S: 9/14/99; G:10/15 **Harvest Method:** New Holland Plot Chopper
Kincaid Plot Combine

Notes

Experimental Design

Design: RCB **Replications:** 4
Plot Size Seeded: 20' x 100' **Experiment Size:** 1.1 A
Harvest Plot Size: 100' x 5' **Harvest Plant Density:**

Factors/Treatments:

Row Spacing

15 inch
30 inch

Plant Density

25000, 30000, 35000
& 40000 plants/A

Results: Table E-48.

**Table E-48. Plant Density and Row Spacing Effects on Corn Grain And Silage Yield and Quality
Fond du Lac, WI - 1999**

Row spacing inches	Grain						Whole Plant										
	Density	Harvest pop	Broken stalks	Yield	Moist	Test weight	Harvest pop	Yield	Moist	Kernel milk	Crude protien	ADF	NDF	<i>In Vitro</i> Digest	Cell Wall Digest	Milk per	
	plants/A	plants/A	%	bu/A	%	lbs/bu	plants/A	tons/A	%	%	%	%	%	%	%	Ton	Acre
	25000	24500	1.7	189	22.5	53.8	24875	8.6	62.5	59.4	6.6	22.9	46.2	77.4	51.1	1974	17049
	30000	28875	3.0	197	22.2	53.8	27625	8.9	61.6	60.6	6.3	21.4	44.1	78.4	51.0	2125	19004
	35000	33000	3.0	209	22.5	54.7	31625	9.1	61.9	58.1	6.3	23.6	47.4	75.9	49.3	1836	16759
	40000	39500	1.5	216	21.9	55.2	35375	9.2	60.7	56	6.2	22.9	46.2	76.4	49.0	1919	17716
15		30063	1.7	202	22.4	54.2	29625	9.0	61.9	58.8	6.4	22.5	45.7	77.3	50.3	1985	17831
30		32875	2.7	203	22.2	54.5	30125	8.9	61.4	58.1	6.3	23.0	46.2	76.8	49.9	1942	17432
15	25000	24000	2.0	185	22.8	53.5	24000	8.7	62.6	60	6.5	22.8	46.4	77.9	52.3	1994	17290
15	30000	27750	3.0	196	22.0	53.7	26250	8.6	63.4	62.5	6.5	22.1	44.9	77.6	50.1	2042	17624
15	35000	31000	1.0	209	22.5	54.7	33250	9.5	60.5	55.0	6.4	22.0	45.4	77.2	49.8	1997	18956
15	40000	37500	1.0	218	22.2	55.0	35000	9.1	61.2	57.5	6.3	22.9	46.3	76.3	48.9	1908	17456
30	25000	25000	1.0	193	22.2	54.1	25750	8.6	62.4	58.8	6.8	23.0	46.0	76.9	49.9	1955	16807
30	30000	30000	3.0	198	22.3	53.8	29000	9.2	59.8	58.8	6.1	20.8	43.2	79.2	52.0	2208	20384
30	35000	35000	4.0	208	22.6	54.7	30000	8.6	63.2	61.3	6.3	25.1	49.4	74.6	48.8	1674	14562
30	40000	41500	2.0	213	21.7	55.4	35750	9.3	60.2	53.8	6.1	23.0	46.1	76.6	49.2	1931	17976
Mean		31469	2.2	202	22.3	54.4	29875	8.9	61.7	58.4	6.4	22.7	46.0	77.0	50.1	1964	17632
Probability(%)																	
Plant Density (D)		0.0	23.0	0.0	60.1	0.0	0.0	41.6	63.5	37.2	27.7	31.4	23.8	15.0	9.8	19.0	54.5
Row Space (S)		2.2	31.0	73.8	61.3	14.9	67.8	87.1	63.1	76.2	44.2	53.0	70.8	59.3	64.4	64.5	73.6
D x S		74.6	41.3	46.6	75.1	65.4	32.6	24.4	17.5	28.5	34.3	28.8	34.3	29.6	21.9	32.2	21.1
LSD(0.10)																	
Plant Density (D)		2773	NS	6	NS	0.5	2894	NS	NS	NS	NS	NS	NS	NS	1.8	NS	NS
Row Space(S)		1961	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
D x S		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)																	
		10	46	7	5	1	11	8	4	10	6	10	7	3	4	13	19

FIELD EXPERIMENT HISTORY

Title: Plant Density and Row Spacing Effects on Corn Grain and Silage
Experiment: 06RSxPD **Trial ID** 1415 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Janesville, WI **County:** Rock
Supported By: Hatch

Site Information

Field: R-5D **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.6 **OM (%)** 3.4 **P (ppm)** 74 **K (ppm)** 215

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	28-0-0	160 A	4 /25/99
Starter :	N/A	N/A	N/A
Post plant :	N/A	N/A	N/A
Manure:		None	

Herbicide: Harness @ 2.75pt/A
Hornet @ 4.5 oz/A **Insecticide:** none
Hybrid: Pioneer 3751

Irrigation: none

Planting Date: 4/30/99 **Planting Depth:** 1.5" **Row Width:** See Factor
Target Plant Density: See Factors **Planting Method:** Kinze inter-row planter
Harvest Date: 10/15/99 **Harvest Method:** 6 Row Combine

Notes

Experimental Design

Design: RCB **Replications:** 4
Plot Size Seeded: 20' x 200' **Experiment Size:** 3.5 A
Harvest Plot Size: 200' x 15' **Harvest Plant Density:**

Factors/Treatments:

Row Spacing

15 inch
30 inch

Plant Density

25000, 30000, 35000
& 40000 plants/A

Results: Table E-49.

**Table E-49. Plant Density and Row Spacing Effects on Corn Grain
And Silage Yield and Quality.
Janesville, WI - 1999**

Row spacing inches	Density plants/A	Harvest population plants/A	Broken stalks %	Yield bu/A	Moisture %
	25000	27563	0.8	204	14.9
	30000	32563	1.2	223	15.1
	35000	37250	1.1	228	15.8
	40000	43125	1.5	230	15.8
15		34688	0.9	217	15.4
30		35563	1.4	226	15.4
15	25000	27250	0.5	192	14.9
15	30000	32500	1.0	218	15.0
15	35000	36250	1.3	227	15.6
15	40000	42750	0.8	232	16.0
30	25000	27875	1.1	217	14.9
30	30000	32625	1.4	228	15.1
30	35000	38250	1.0	230	16.0
30	40000	43500	2.3	227	15.5
Mean		35125	1.2	221	15.4
Probability(%)					
Plant Density (D)		0.0	37.4	0.0	7.1
Row Space (S)		10.0	4.9	1.1	100
D x S		61.4	17.7	1.1	75.1
LSD(0.10)					
Plant Density (D)		1238	NS	7	0.7
Row Space(S)		NS	0.5	5	NS
D x S		NS	NS	10	1.0
CV(%)					
		4	66	4	5

FIELD EXPERIMENT HISTORY

Title: Plant Density and Row Spacing Effects on Corn Grain and Silage
Experiment: 06RSxPD **Trial ID** 1417 **Year:** 1999
Personnel: J.G. Lauer, K.D. Kohn, P.J. Flannery, S. Hendrickson
Location: Valders, WI **County:** Manitowoc
Supported By: Hatch

Site Information

Field: **Previous Crop:** Alfalfa **Soil Type:** Kewanee
Soil Test: **Date:** N/A **pH** 7.2 **OM (%)** 3 **P (ppm)** 49 **K (ppm)** 155

Plot Management

Tillage Operations: Moldboard Plow Field Cultivated

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
Fertilizer:			
Preplant :	N/A	N/A	N/A
Starter :	N/A	N/A	N/A
Post plant :	N/A	N/A	N/A
Manure:		12000 gal	

Herbicide: Accent @ .33 oz/A **Insecticide:** none
Northstar @ 4 oz/A **Hybrid:** Pioneer 3751

Irrigation: none

Planting Date: 5/3/99 **Planting Depth:** 1.5" **Row Width:** See Factor
Target Plant Density: See Factors **Planting Method:** Kinze inter-row planter
Harvest Date: S: 9/10; G:10/13/99 **Harvest Method:** New Holland Plot Chopper
Kincaid Plot Combine

Notes

Experimental Design

Design: RCB **Replications:** 4
Plot Size Seeded: 20' x 100' **Experiment Size:** 1.1 A
Harvest Plot Size: 100' x 5' **Harvest Plant Density:**

Factors/Treatments:

Row Spacing

15 inch
30 inch

Plant Density

25000, 30000, 35000
& 40000 plants/A

Results: Table E-50.

**Table E-50. Plant Density and Row Spacing Effects on Corn Grain And Silage Yield and Quality
Valders, WI - 1999**

Row spacing inches	Density plants/A	Grain					Whole Plant										
		Harvest pop	Broken stalks	Yield	Moist	Test weight	Harvest pop	Yield	Moist	Kernel milk	Crude protien	ADF	NDF	<i>In Vitro</i> Digest	Cell Wall Digest	Milk per	
		plants/A	%	bu/A	%	lbs/bu	plants/A	tons/A	%	%	%	%	%	%	%	Ton	Acre
	25000	23375	2.0	178	23.4	53.2	21750	7.0	63.5	64.4	7.7	22.3	46.9	76.2	49.2	1875	13337
	30000	28000	1.4	189	23.3	53.6	27375	7.2	63.6	65.6	7.6	23.3	47.7	75.2	48.1	1782	13009
	35000	33000	1.6	198	22.4	53.9	30375	8.0	62.3	67.5	7.2	22.7	46.7	76.0	48.6	1870	15208
	40000	37750	1.4	201	22.5	54.1	34875	8.1	60.0	61.3	7.3	21.6	45.2	76.5	48.2	1965	15919
15		30250	1.6	190	22.8	53.7	27750	7.4	63.0	65.6	7.6	22.5	46.9	76.0	48.9	1865	13995
30		30813	1.4	193	22.8	53.8	29438	7.8	61.7	63.8	7.3	22.4	46.4	75.9	48.2	1881	14741
15	25000	22500	2.0	174	23.4	53.1	19500	6.6	64.9	63.8	7.9	23.1	48.5	75.6	49.8	1771	11742
15	30000	27500	1.3	190	23.6	53.3	25250	6.2	65.1	68.8	7.8	23.8	48.7	74.5	47.6	1698	10818
15	35000	34000	2.0	195	22.6	53.7	31000	8.3	62.3	68.8	7.1	22.4	46.4	76.6	49.7	1918	15975
15	40000	37000	1.3	202	22.0	54.4	35250	8.4	59.7	61.3	7.4	20.7	43.9	77.4	48.7	2074	17447
30	25000	24250	2.0	182	23.3	53.2	24000	7.5	62.1	65.0	7.5	21.4	45.3	76.8	48.7	1978	14931
30	30000	28500	1.5	189	23.1	53.8	29500	8.2	62.1	62.5	7.3	22.8	46.7	75.9	48.6	1866	15200
30	35000	32000	1.0	200	22.1	54.1	29750	7.8	62.4	66.3	7.3	23.0	46.9	75.3	47.6	1822	14442
30	40000	38500	1.7	199	22.9	53.9	34500	7.8	60.3	61.3	7.3	22.5	46.6	75.7	47.7	1857	14392
Mean		30531	1.5	192	22.8	53.7	28594	7.6	62.4	65	7.4	22.5	46.6	76.0	48.5	1873	14368
Probability(%)																	
	Plant Density (D)	0.0	74.8	0.0	5.3	0.1	0.0	3.9	2.9	6.3	10.7	63.4	66.5	73.4	59.5	70.7	25.9
	Row Space (S)	38.8	54.5	31.5	73.3	39.6	5.2	15.6	16.1	24.3	10.9	93.5	73.1	90.4	24.9	89.0	53.4
	D x S	16.9	37.9	29.5	28.8	8.5	3.0	1.8	35.6	36.3	29.8	56.4	47.8	45.1	42.5	46.6	10.5
LSD(0.10)																	
	Plant Density (D)	1553	NS	5.0	1	0.3	1991	0.7	3.8	2.3	NS	NS	NS	NS	NS	NS	NS
	Row Space (S)	NS	NS	NS	NS	NS	1408	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	D x S	NS	NS	NS	NS	0.5	2815	0.9	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)																	
		6	43	3	4	1	8	11	4	7	5	12	9	3	4	17	23

FIELD EXPERIMENT HISTORY

Title: Corn Seed Decay and Seedling Blight in Reduced Tillage Systems
Experiment: 08SeedFungicide **Trial ID** 1449 **Year:** 1999
Personnel: J.G. Lauer, K.D. Kohn, P.J. Flannery, D. Weiersma
Location: Marshfield, WI **County:** Wood
Supported By: Gustufson

Site Information

Field: 3 **Previous Crop:** Alfalfa **Soil Type:** Loyal
Soil Test: **Date:** N/A **pH** 6.7 **OM (%)** 3.0 **P (ppm)** 53 **K (ppm)** 169

Plot Management

Tillage Operations: Moldboard Plow Field Cultivator 1 Cultivation

Fertilizer:	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	6-24-24	150	5 /11/99
Post plant	33-0-0	136	5 /1 /99
Manure:	Dairy	30 Tons	

Herbicide: Harness @ 2pt/A **Insecticide:** none
Hornet @ 4 oz/A

Irrigation: none **Hybrid:** See Factors

Planting Date: 5/11/99 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter

Harvest Date: 10/19/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22' x 10' **Experiment Size:** 0.1 A
Harvest Plot Size: 22' x 5' **Harvest Plant Density:** 26200 plants per acre

Factors/Treatments:

Seed Treatments

Captan 400C + Allegiance + CTS @ 1.75 + 0.1 + 1.0 oz/cwt
LS 274 @ 0.25 oz/cwt
Maxim + Allegiance @ 0.08 + 0.1 oz/cwt
Maxim + Apron XL @ 0.08 + 0.0425 oz/cwt
Maxim + Apron XL + CTS + Assault @ 0.08 + .0425 + 2.5 + 2.0 oz /cwt
Control

Hybrids

Pioneer 3905
Pioneer 3921

Results: Table E-51.

**Table: E-51. Corn Seed Decay and Seedling Blight in Difficult Emergence Environments
Marshfield, WI - 1999**

Seed treatment	Hybrid	Stand population at V6 plants/A	Harvest population plants/A	Lodging %	Grain yield bu/A	Grain moisture %	Test weight lb/bu
Captan 400C+Allegiance+CTS		25806	25344	1.8	160	23.5	57.3
Control		22902	22572	2.1	146	24.0	57.0
LS 274		28578	26334	0.9	166	23.5	57.8
Maxim+Allegiance		29238	28380	1.8	170	23.3	57.9
Maxim+Apron XL		25674	25278	0.3	160	23.5	57.8
Maxim+Apron XL+Assault+CTS		30162	29370	1.9	175	23.6	57.7
	P3905	24398	23276	1.1	152	23.6	57.0
	P3921	29722	29150	1.8	173	23.6	58.2
Captan 400C+Allegiance+CTS	P3905	22704	22572	1.2	150	23.4	56.9
Control	P3905	17688	17820	2.2	123	24.3	56.1
LS 274	P3905	28248	24420	0.5	163	23.3	57.4
Maxim+Allegiance	P3905	27456	25872	0.9	166	22.8	57.7
Maxim+Apron XL	P3905	22572	21912	0.6	144	24.1	57.1
Maxim+Apron XL+Assault + CTS	P3905	27720	27060	1.4	168	23.4	57.1
Captan 400C+Allegiance+CTS	P3921	28908	28116	2.3	170	23.6	57.8
Control	P3921	28116	27324	1.9	168	23.7	58.0
LS 274	P3921	28908	28248	1.3	168	23.6	58.2
Maxim+Allegiance	P3921	31020	30888	2.7	175	23.8	58.2
Maxim+Apron XL	P3921	28776	28644	0.0	177	22.9	58.6
Maxim+Apron XL+Assault+CTS	P3921	32604	31680	2.5	182	23.7	58.2
Mean		27060	26213	1.5	163	23.6	57.6
Probability (%)							
Seed treatment (S)		0.0	0.1	46.8	4.3	81.7	32.1
Hybrid (H)		0.0	0.0	29.2	0.0	98.5	0.0
S x H		3.4	39.1	84.3	19.8	34.8	63.3
LSD (0.10)							
Seed treatment (S)		2286	2348	NS	15	NS	NS
Hybrid (H)		1320	1356	NS	9	NS	0.4
S x H		3233	NS	NS	NS	NS	NS
CV (%)							
		9	9	121	9	4	1

FIELD EXPERIMENT HISTORY

Title: Corn Seed Decay and Seedling Blight in Reduced Tillage Systems
Experiment: 08 Seed Fungicide **Trial ID** 1448 **Year:** 1999
Personnel: J.G. Lauer, K.D. Kohn, P.J. Flannery
Location: Seymour, WI **County:** Outagamie
Supported By: Gustufson

Site Information

Field: **Previous Crop:** Soybean **Soil Type:**
Soil Test: **Date:** N/A **pH** 7.3 **OM (%)** 4.0 **P (ppm)** 22 **K (ppm)** 125

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation
Fertilizer:

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
Preplant	N/A	N/A	N/A
Starter	6-24-24	150	5 /4 /99
Post plant	N/A	N/A	N/A
Manure:	Dairy	9000 gal	

Herbicide: Northstar @ 4 oz/A **Insecticide:** none
Irrigation: none **Hybrid:** See Factors
Planting Date: 5/3/99 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/12/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22' x 10' **Experiment Size:** 0.1 A
Harvest Plot Size: 22'x 5' **Harvest Plant Density:** 23870 plants per acre

Factors/Treatments:

Seed Treatments

Captan 400C + Allegiance + CTS @ 1.75 + 0.1 + 1.0 oz/cwt
LS 274 @ 0.25 oz/cwt
Maxim + Allegiance @ 0.08 + 0.1 oz/cwt
Maxim + Apron XL @ 0.08 + 0.0425 oz/cwt
Maxim + Apron XL + CTS + Assault @ 0.08 + .0425 + 2.5 + 2.0 oz /cwt
Control

Hybrids

Pioneer 3905
Pioneer 3921

Results: Table E-52.

**Table: E-52. Corn Seed Decay and Seedling Blight in Difficult Emergence Environments
Seymour, WI - 1999**

Seed treatment	Hybrid	Stand population at V6 plants/A	Harvest population plants/A	Lodging %	Grain yield bu/A	Grain moisture %	Test weight lb/bu
Captan 400C+Allegiance+CTS		24816	23826	6.3	156	17.7	62.4
Control		24222	22902	5.5	162	18.0	62.1
LS 274		22770	20922	5.6	148	17.7	62.8
Maxim+Allegiance		25344	24816	6.9	162	17.5	62.6
Maxim+Apron XL		27654	24618	8.1	163	17.4	62.6
Maxim+Apron XL+ Assault+CTS		27918	26136	7.2	169	17.4	62.6
	P3905	23518	22132	3.9	158	17.5	62.1
	P3921	27390	25608	9.3	162	17.7	62.9
Captan 400C+Allegiance+CTS	P3905	22572	21384	5.5	150	17.5	61.9
Control	P3905	21912	21516	3.1	154	17.9	62.0
LS 274	P3905	19668	17160	2.4	137	17.6	62.2
Maxim+Allegiance	P3905	23364	22704	3.9	158	17.2	62.1
Maxim+Apron XL	P3905	27060	24420	4.4	173	17.2	62.6
Maxim+Apron XL+Assault+CTS	P3905	26532	25608	4.2	177	17.4	61.7
Captan 400C+Allegiance + CTS	P3921	27060	26268	7.0	162	17.9	63.0
Control	P3921	26532	24288	7.9	169	18.2	62.2
LS 274	P3921	25872	24684	8.8	158	17.8	63.4
Maxim+Allegiance	P3921	27324	26928	9.8	166	17.7	63.0
Maxim+Apron XL	P3921	28248	24816	11.8	152	17.5	62.6
Maxim+Apron XL+Assault+CTS	P3921	29304	26664	10.3	162	17.3	63.4
Mean		25454	23870	6.6	160	17.6	62.5
Probability (%)							
Seed treatment (S)		0.0	0.9	87.3	5.9	28.2	22.3
Hybrid (H)		0.0	0.0	0.1	37.8	21.3	0.0
S x H		28.1	9.2	86.5	2.3	95.3	4.5
LSD (0.10)							
Seed treatment (S)		1798	2161	NS	11	NS	NS
Hybrid (H)		1038	1248	2.4	NS	NS	0.3
S x H		NS	3057	NS	16	NS	0.7
CV (%)							
		7	9	63	7	3	1

FIELD EXPERIMENT HISTORY

Title: Corn Seed Decay and Seedling Blight in Reduced Tillage Systems
Experiment: 08 Seed Fungicide **Trial ID** 1447 **Year:** 1999
Personnel: J.G. Lauer, K.D. Kohn, P.J. Flannery, S. Hendrickson
Location: Valders, WI **County:** Manitowoc
Supported By: Gustufson

Site Information

Field: **Previous Crop:** Alfalfa **Soil Type:** Kewanee
Soil Test: **Date:** N/A **pH** 7.2 **OM (%)** 3.0 **P (ppm)** 49 **K (ppm)** 155

Plot Management

Tillage Operations: Moldboard Plow Field Cultivated 1 Cultivation

Fertilizer:

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
Preplant	N/A	N/A	N/A
Starter	6-24-24	150	5 /3 /99
Post plant	N/A	N/A	N/A
Manure:	Dairy	12000 gal	

Herbicide: Accent @ .33 oz/A **Insecticide:** none
Northstar @ 4 oz/A

Irrigation: none **Hybrid:** See Factors

Planting Date: 5/3/99 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: 29000 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: 10/13/99 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22' x 10' **Experiment Size:** 0.1 A
Harvest Plot Size: 22'x 5' **Harvest Plant Density:** 30800 plants per acre

Factors/Treatments:

Seed Treatments

Captan 400C + Allegiance + CTS @ 1.75 + 0.1 + 1.0 oz/cwt
LS 274 @ 0.25 oz/cwt
Maxim + Allegiance @ 0.08 + 0.1 oz/cwt
Maxim + Apron XL @ 0.08 + 0.0425 oz/cwt
Maxim + Apron XL + CTS + Assault @ 0.08 + .0425 + 2.5 + 2.0 oz /cwt
Control

Hybrids

Pioneer 3905
Pioneer 3921

Results: Table E-53.

**Table: E-53. Corn Seed Decay and Seedling Blight in Difficult Emergence Environments
Valders, WI - 1999**

Seed treatment	Hybrid	Stand population at V6 plants/A	Harvest population plants/A	Lodging %	Grain yield bu/A	Grain moisture %	Test weight lb/bu
Captan 400C+Allegiance+CTS		31812	31350	5.5	182	17.2	60.8
Control		29502	29568	6.7	189	17.1	60.4
LS 274		31284	30294	10.2	175	17.0	60.8
Maxim+Allegiance		31746	30624	8.1	183	16.7	61.2
Maxim+Apron XL		32406	32076	7.2	182	16.9	60.7
Maxim+Apron XL+Assault+CTS		31614	30888	6.4	187	17.0	60.8
	P3905	30008	29194	4.9	190	17.0	60.1
	P3921	32780	32406	9.8	176	17.0	61.5
Captan 400C+Allegiance+CTS	P3905	30492	29964	1.7	195	17.2	60.8
Control	P3905	26532	27456	7.0	194	17.0	59.6
LS 274	P3905	29568	28512	5.1	185	16.9	59.9
Maxim+Allegiance	P3905	31020	29304	6.2	190	16.8	60.3
Maxim+Apron XL	P3905	31812	30756	6.9	189	16.6	60.1
Maxim+Apron XL+Assault+CTS	P3905	30624	29172	2.3	191	17.3	59.8
Captan 400C+Allegiance+CTS	P3921	33132	32736	9.3	170	17.3	60.8
Control	P3921	32472	31680	6.3	184	17.1	61.1
LS 274	P3921	33000	32076	15.2	165	17.1	61.7
Maxim+Allegiance	P3921	32472	31944	9.9	177	16.6	62.0
Maxim+Apron XL	P3921	33000	33396	7.5	176	17.2	61.4
Maxim+Apron XL+Assault+CTS	P3921	32604	32604	10.5	183	16.7	61.7
Mean		31394	30800	7.3	183	17.0	60.8
Probability (%)							
Seed treatment (S)		25.6	14.0	2.8	48.9	61.3	54.5
Hybrid (H)		0.1	0.0	0.0	0.2	97.3	0.0
S x H		38.9	93.2	0.2	84.0	45.6	19.3
LSD (0.10)							
Seed treatment (S)		NS	NS	2.3	NS	NS	NS
Hybrid (H)		1172	886	1.3	7	NS	0.4
S x H		NS	NS	3.2	NS	NS	NS
CV (%)		7	5	31	7	3	1

FIELD EXPERIMENT HISTORY

Title: Novartis Fungicide Trial
Experiment: 10 Control of Foliar Diseases in Corn **Trial ID** 1450 **Year:** 1999
Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery
Location: Arlington, WI **County:** Columbia
Supported By: Novartis

Site Information

Field: 410 E **Previous Crop:** Soybean **Soil Type:** Plano silt loam
Soil Test: **Date:** N/A **pH** 6.2 **OM (%)** 4.0 **P (ppm)** 50 **K (ppm)** 190

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation

Fertilizer:	Analysis	Rate	Date
Preplant	46-0-0	325	4 /23/99
Starter	6-24-24	150	4 /29/99
Post plant	N/A	N/A	N/A
Manure:		none	

Herbicide: Frontier @ 1.5 pt/A
Bladex @ 2.2 lb/A
Buctril @ 1.5 pt/A **Insecticide:** none

Irrigation: none

Planting Date: 4/26/99 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32000 plants per acre **Planting Method:** Kinze Plot Planter

Harvest Date: 9/13/99 **Harvest Method:** New Holland Plot Chopper

Application Dates:

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.1 A
Harvest Plot Size: 2.5' x 22' **Harvest Plant Density:** 30932 plants per acre

Factors/Treatments:

Product/Rate

Tilt @ 2 oz/A on 7/14
Tilt @ 4 oz/A on 7/14
Tilt @ 2 oz/A on 7/14 and 2 oz/A on 7/22
Control

Results: Table E-54.

**Table: E-54. Control of Foliar Diseases in Corn
Arlington, WI - 1999**

Treatment	Harvest	Stay	Yield	Kernel							MILK PER	
	Population plants/A	Green † %		Moist %	Milk %	CP %	ADF %	NDF %	IVD %	CWD %	TON lb/T	ACRE lb/A
Tilt @ 2 OZ/A on 7/14	30536	2.2	8.8	50.5	37	6.3	22.3	45.6	75.0	45.2	1865	16335
Tilt @ 4 OZ/A on 7/14	31152	2.3	9.2	51.0	35	6.2	23.1	46.5	74.7	45.6	1805	16758
Tilt @ 2 OZ/A on 7/14 and 2 OZ/A on 7/22	31152	3.0	9.2	52.5	40	6.4	24.6	48.8	73.2	45.0	1618	14950
check	30888	2.3	7.9	50.0	22	5.6	25.0	49.9	72.9	45.6	1556	12200
Mean	30932	2.5	8.8	51.0	33	6.1	23.8	47.7	73.9	45.4	1711	15061
<u>Probability (%)</u>												
Treatment	89.0	50.1	14.6	41.7	13.1	31.9	10.3	9.2	17.6	94.9	10.2	2.1
<u>LSD (0.10)</u>												
Treatment	NS	NS	NS	NS	NS	NS	NS	2.6	NS	NS	NS	1953
<u>CV (%)</u>												
	3	25	8	3	24	8	4	3	1	3	7	8

† Stay Green rating based on a scale 1 through 5. 1 = brown plants and 5 = green plants.

FIELD EXPERIMENT HISTORY

Title: Planter Speed Effects on Stand Variability
Experiment: 11 Planter Speed **Trial ID** 1429 **Year:** 1999
Personnel: J. G. Lauer and K.D. Kohn
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: 358 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.8 **OM (%)** 3.1 **P (ppm)** 45 **K (ppm)** 240

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher
Analysis: **Rate lbs/A:** **Date:**
Fertilizer: **Preplant :** 46-0-0 325 4 /23/99
Starter : N/A N/A N/A
Post plant : N/A N/A N/A
Manure: None
Herbicide: Frontier @ 1.5 pt/A **Insecticide:** none
Bladex @ 2.2 lb/A **Hybrid:** Pioneer 3751
Irrigation: none
Planting Date: 5/10/99 **Planting Depth:** 1.5" **Row Width:** 30"
Target Plant Density: Pioneer 3751 **Planting Method:** Kinze inter-row planter
Harvest Date: 10/18 **Harvest Method:** Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 4
Plot Size Seeded: 20' x 75' **Experiment Size:** 0.5 A
Harvest Plot Size: 75' x 5' **Harvest Plant Density:** 30899 plants per acre

Factors/Treatments:

Planter Speed

4 mph
6 mph
8 mph

Results: Table E-55.

**Table E-55. Planter Speed Effects on Stand Variability
Arlington, WI - 1999**

Planter speed	Test					Spacing		Percent of	Percent of
	Yield bu/A	Moisture %	weight lbs/bu	Lodging %	Population plants/A	Average inches	Standard deviation inches	doubles (≤ 2" spacing) %	skips (≥ 12" spacing) %
4 mph	204	17.6	56.9	2.5	29447	7.1	3.2	3.1	9.5
6 mph	205	17.8	56.9	3.4	30492	6.8	3.1	5.3	7.6
8 mph	203	17.7	57.5	1.9	32757	6.4	3.6	12.7	8.3
Mean	204	17.7	57.1	2.6	30899	6.8	3.3	7.1	8.5
<u>Probability(%)</u>									
Planter Speed (S)	###	32.9	22.1	45.0	9.3	12.2	44.3	1.3	65.8
<u>LSD(0.10)</u>									
Planter Speed (S)	NS	NS	NS	NS	2594	NS	NS	4.7	NS
<u>CV(%)</u>									
	3	1	1	63	6	6	18	45	33

FIELD EXPERIMENT HISTORY

Title: The Interaction of Planting Date, Hybrid Maturity, and Nitrogen
Experiment: 12 DOP x N Rate **Trial ID** 1421 **Year:** 1999
Personnel: J. G. Lauer, L.G. Bundy, K.D. Kohn, and T.W. Andraski
Location: Arlington, WI **County:** Columbia
Supported By: HATCH and WI Fertilizer Council

Site Information

Field: 25 **Previous Crop:** Corn **Soil Type:** silt loam
Soil Test: **Date:** **pH** 6.8 **OM (%)** 4 **P (ppm)** 98 **K (ppm)** 170
Soil Type: Plano

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 day prior to planting 1 Cultivation
Fertilizer: **Preplant Analysis:** See Factors **Rate lbs/A:** N/A **Date:** Approximately 1 week prior to planting
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** N/A
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure:
Herbicide: Dual II @1.5 pt/A **Insecticide:** Lorsban 7lbs/A
Bladex @ 2.2 lb/A
Irrigation: None
Planting Date: See Factors **Planting Depth:** 1.5" **Row Width** 30"
Target Plant Density: 27500 plants per acre **Planting Method:** Kinze Plot Planter
Harvest Date: S:9/9, 9/9, 9/20, and 9/30 for planting dates 5/1, 6/1, 6/10, and 6/20
G:10/12 first 2 and 11/19 last 2 plantings dates

Experimental Design

Design: RCB-Split **Replications:** 4
Plot Size Seeded: 22'x10' **Experiment Size:** 3.0 A
Harvest Plot Size: S:2.5' x 22'; G: 5' x 22' **Harvest Plant Density:** 27580 plants per acre
Factors/Treatments:
Planting Dates **Hybrids**
Apr-29, Jun-1, Jun-10, Jun-18 Pioneer 3394, Pioneer 3751, Pioneer 3905
N Rate
0, 40, 80, 120, 160, and 200 lbs/A

Results: Table E-56.

**Table E-56. The Interaction of Planting Date, Hybrid Maturity and Nitrogen, and Their Effect on Corn
Arlington, WI - 1999**

Day Of year	Hybrid	Nitrogen rate	Grain			Whole Plant	
			Yield	Moisture	Test Wt	Yield	Moisture
		lbs/A	bu/A	%	lbs/bu	T/A	%
	Pioneer 3394		203	20.3	58.1	9.1	61.7
	Pioneer 3751		119	21.7	53.1	6.9	66.6
	Pioneer 3941		130	16.0	57.2	6.8	61.7
		0	114	19.2	55.3	6.1	63.7
		40	130	19.0	55.1	6.9	64.1
		80	136	18.8	55.5	7.4	62.7
		120	137	18.9	55.4	7.3	64.6
		160	143	18.7	55.8	7.5	63.7
		200	144	18.4	56.5	7.4	64.5
	Pioneer 3394	0	157	20.9	57.2	6.9	62.7
	Pioneer 3751	0	106	22.3	53.1	6.3	66.8
	Pioneer 3941	0	110	16.2	56.8	5.7	60.7
	Pioneer 3394	40	194	19.8	57.9	8.9	62.7
	Pioneer 3751	40	113	21.8	52.6	6.8	66.2
	Pioneer 3941	40	128	16.2	56.6	6.5	62.4
	Pioneer 3394	80	205	20.4	57.7	10.0	59.6
	Pioneer 3751	80	116	21.8	52.9	6.9	66.0
	Pioneer 3941	80	137	15.7	57.3	7.2	60.2
	Pioneer 3394	120	214	20.7	58.4	9.0	62.2
	Pioneer 3751	120	116	21.6	52.6	7.1	66.7
	Pioneer 3941	120	137	16.1	57.3	7.2	63.0
	Pioneer 3394	160	230	19.2	58.7	9.3	61.0
	Pioneer 3751	160	124	21.7	53.0	7.3	66.9
	Pioneer 3941	160	140	15.7	57.7	7.3	61.2
	Pioneer 3394	200	218	20.8	58.4	10.1	62.2
	Pioneer 3751	200	142	20.7	54.7	7.2	67.1
	Pioneer 3941	200	126	16.2	57.4	6.9	62.4
120			184	16.8	58.3	8.4	55.2
152			147	25.3	56.5	6.7	65.2
161			91	15.3	55.1	6.5	69.9
169			76	18.4	50.7	6.2	69.7

continued

**Table E-56. The Interaction of Planting Date, Hybrid Maturity and Nitrogen, and Their Effect on Corn
Arlington, WI - 1999**

Day Of year	Hybrid	Nitrogen rate lbs/A	Grain			Whole Plant	
			Yield bu/A	Moisture %	Test Wt lbs/bu	Yield T/A	Moisture %
120	Pioneer 3394		203	20.3	58.1	9.1	61.7
120	Pioneer 3751		193	16.6	57.2	8.5	54.6
120	Pioneer 3941		158	13.7	59.5	7.5	49.2
152	Pioneer 3751		144	28.6	55.2	6.7	67.8
152	Pioneer 3941		150	22.0	57.9	6.6	62.6
161	Pioneer 3751		59	17.7	52.3	6.4	72.4
161	Pioneer 3941		113	13.6	57.0	6.6	67.4
169	Pioneer 3751		47	22.9	46.0	6.0	71.9
169	Pioneer 3941		99	14.8	54.4	6.4	67.5
120		0	156	17.7	57.7	6.8	55.3
120		40	173	16.7	58.2	7.8	56.4
120		80	187	16.7	57.9	8.9	52.5
120		120	192	17.1	58.4	8.9	56.4
120		160	203	16.2	58.8	8.8	54.4
120		200	195	16.7	58.5	9.1	56.1
152		0	120	25.9	56.2	5.2	65.4
152		40	146	25.6	56.2	6.9	65.2
152		80	147	25.1	56.7	7.2	64.5
152		120	160	24.7	56.8	7.0	65.0
152		160	158	25.3	56.5	7.0	65.5
152		200	151	25.1	56.6	6.9	65.6
161		0	78	15.4	54.8	6.0	68.9
161		40	103	13.7	55.7	6.4	69.6
161		80	95	15.5	55.1	6.6	69.6
161		120	95	15.7	54.6	6.4	70.3
161		160	92	15.6	55.1	7.2	70.1
161		200	85	15.7	55.2	6.5	70.6
169		0	73	18.1	50.8	5.9	69.2
169		40	68	19.6	49.0	6.2	69.3
169		80	79	18.2	50.7	6.1	69.4
169		120	68	18.8	50.3	6.3	70.6
169		160	83	18.6	51.1	6.4	69.5
169		200	90	15.8	53.2	6.2	69.9

continued

**Table E-56. The Interaction of Planting Date, Hybrid Maturity and Nitrogen, and Their Effect on Corn
Arlington, WI - 1999**

Day Of year	Hybrid	Nitrogen rate lbs/A	Grain		Whole Plant		
			Yield bu/A	Moisture %	Test Wt lbs/bu	Yield T/A	Moisture %
120	Pioneer 3394	0	157	20.9	57.2	6.9	62.7
120	Pioneer 3751	0	175	18.8	56.6	7.5	57.1
120	Pioneer 3941	0	135	13.5	59.2	6.1	46.0
120	Pioneer 3394	40	194	19.8	57.9	8.9	62.7
120	Pioneer 3751	40	171	16.8	57.0	8.2	54.0
120	Pioneer 3941	40	154	13.4	59.7	6.2	52.4
120	Pioneer 3394	80	205	20.4	57.7	10.0	59.6
120	Pioneer 3751	80	189	16.4	57.3	8.2	52.1
120	Pioneer 3941	80	168	13.5	58.6	8.4	45.8
120	Pioneer 3394	120	214	20.7	58.4	9.0	62.2
120	Pioneer 3751	120	200	16.2	57.2	9.1	53.5
120	Pioneer 3941	120	164	14.4	59.6	8.6	53.4
120	Pioneer 3394	160	230	19.2	58.7	9.3	61.0
120	Pioneer 3751	160	212	16.3	57.5	8.7	55.8
120	Pioneer 3941	160	167	12.9	60.3	8.3	46.3
120	Pioneer 3394	200	218	20.8	58.4	10.1	62.2
120	Pioneer 3751	200	210	15.1	57.8	9.4	54.8
120	Pioneer 3941	200	158	14.2	59.4	7.7	51.3
152	Pioneer 3751	0	116	29.5	54.8	5.4	67.3
152	Pioneer 3941	0	124	22.2	57.6	4.9	63.6
152	Pioneer 3751	40	141	28.7	55.2	7.0	67.9
152	Pioneer 3941	40	151	22.6	57.2	6.8	62.5
152	Pioneer 3751	80	144	28.6	55.3	7.1	67.0
152	Pioneer 3941	80	150	21.7	58.1	7.3	61.9
152	Pioneer 3751	120	153	28.0	55.5	6.5	68.2
152	Pioneer 3941	120	167	21.5	58.1	7.5	61.9
152	Pioneer 3751	160	157	28.7	55.3	7.1	68.2
152	Pioneer 3941	160	159	21.8	57.8	6.8	62.8
152	Pioneer 3751	200	154	28.3	54.8	7.4	68.2
152	Pioneer 3941	200	148	21.9	58.4	6.5	62.9
161	Pioneer 3751	0	52	17.6	52.5	5.8	72.0
161	Pioneer 3941	0	97	13.7	56.5	6.2	65.9
161	Pioneer 3751	40	81	15.7	53.7	6.5	72.0
161	Pioneer 3941	40	114	12.7	56.7	6.4	67.2
161	Pioneer 3751	80	50	18.3	51.7	6.5	72.4
161	Pioneer 3941	80	129	13.4	57.6	6.6	66.9
161	Pioneer 3751	120	61	18.2	51.2	6.7	72.5
161	Pioneer 3941	120	120	13.8	57.2	6.1	68.1

continued

**Table E-56. The Interaction of Planting Date, Hybrid Maturity and Nitrogen, and Their Effect on Corn
Arlington, WI - 1999**

Day Of year	Hybrid	Nitrogen rate lbs/A	Grain			Whole Plant	
			Yield bu/A	Moisture %	Test Wt lbs/bu	Yield T/A	Moisture %
161	Pioneer 3751	160	62	17.8	52.5	7.0	72.6
161	Pioneer 3941	160	114	13.9	57.2	7.4	67.5
161	Pioneer 3751	200	58	17.9	52.9	6.1	72.7
161	Pioneer 3941	200	104	14.0	57.0	6.8	68.5
169	Pioneer 3751	0	57	21.9	46.7	6.2	71.0
169	Pioneer 3941	0	86	15.3	53.9	5.5	67.5
169	Pioneer 3751	40	41	23.1	45.1	5.7	71.1
169	Pioneer 3941	40	95	16.2	52.8	6.6	67.6
169	Pioneer 3751	80	48	23.7	45.1	5.6	72.7
169	Pioneer 3941	80	102	14.2	54.9	6.6	66.2
169	Pioneer 3751	120	37	23.0	46.0	6.0	72.8
169	Pioneer 3941	120	99	14.6	54.5	6.5	68.5
169	Pioneer 3751	160	49	23.2	46.7	6.3	71.0
169	Pioneer 3941	160	117	14.0	55.6	6.6	68.0
169	Pioneer 3751	200	72	20.8	47.6	6.0	72.7
169	Pioneer 3941	200	95	14.6	54.6	6.4	67.1
Mean			134	18.8	55.6	7.1	63.9
Probability(%)							
Date Of Planting (PD)			0.0	0.0	0.0	0.2	0.0
Hybrid (H)			0.0	0.0	0.0	0.1	0.0
PD x H			0.0	0.0	0.0	1.3	88.9
Nitrogen Rate (N)			0.0	66.6	0.9	0.0	15.8
PD x N			2.8	22.0	2.8	31.8	48.4
H x N			11.5	59.1	55.9	38.9	82.8
PD x H x N			69.6	31.7	13.4	78.2	24.5
LSD(0.10)							
Date Of Planting (PD)			13.9	0.8	0.6	0.5	1.0
Hybrid (H)			4.3	0.3	0.2	0.3	0.7
PD x H			15.6	0.9	0.7	0.7	NS
Nitrogen Rate (N)			5.4	NS	0.3	0.4	NS
PD x N			17.0	NS	0.8	NS	NS
H x N			NS	NS	NS	NS	NS
PD x H x N			NS	NS	NS	NS	NS
CV (%)							
			13	7	2	15	5

FIELD EXPERIMENT HISTORY

Title: Population and Stand Variability Effects on Corn Yield
Experiment: 16Variability **Trial ID** 1443 **Year:** 1999
Personnel: J.Lauer, P. Flannery, K. Kohn, R.G. Hermann and H. Darby
Location: Arlington, WI **County:** Columbia
Supported By: Hatch

Site Information

Field: 358 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.8 **OM (%)** 3.1 **P (ppm)** 45 **K (ppm)** 240

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation
Fertilizer: **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 325 **Date:** 4 /23/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /10/99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Frontier @ 1.5 pt/A **Insecticide:** none
Bladex @ 2.2 lb/A **Hybrid:** Cargill 4111
Irrigation: none
Planting Date: 5/10/99 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 10/18 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.37 A
Harvest Plot Size: 20' x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Plant Spacing</u>	<u>Standard Deviation</u>
10000	5.5"	0.0"
20000	7.0"	1.0"
30000	11.0"	2.0"
40000	22.0"	3.0"

Results: Table E-57.

**Table E-57. The Effects of Plant Density by Variability on Corn Yield
Arlington, WI - 1999**

Population plants/A	Target		Actual		Yield bu/A	Moisture %	Lodging %	Test Weight lbs/bu	Grower Return † \$/A
	Standard Deviation inches	Target Spacing inches	Standard Deviation inches	Actual Spacing inches					
	0.0	7.0	3.0	11.4	169	23.5	0.9	54.4	\$419
	1.0	7.0	2.7	11.3	167	23.8	1.1	54.4	\$413
	2.0	7.0	3.2	11.2	172	23.7	1.2	54.1	\$425
	3.0	7.0	3.4	11.1	172	23.6	1.0	54.3	\$425
10000		22.0	3.9	21.4	128	26.4	0.4	53.4	\$311
20000		11.0	3.1	10.8	164	25.3	0.6	53.5	\$402
30000		7.0	2.8	7.0	190	21.9	1.3	54.5	\$476
40000		5.5	2.5	5.8	197	21.1	1.8	55.8	\$494
10000	0.0	22.0	4.0	21.4	128	25.5	0.4	54.1	\$313
10000	1.0	22.0	3.6	21.9	130	26.8	0.0	53.1	\$314
10000	2.0	22.0	4.2	21.3	122	27.6	0.4	52.8	\$294
10000	3.0	22.0	3.9	21.0	132	25.6	0.8	53.5	\$322
20000	0.0	11.0	2.9	11.1	164	25.1	0.0	53.1	\$403
20000	1.0	11.0	2.6	10.8	160	26.0	0.6	53.9	\$389
20000	2.0	11.0	3.4	10.7	172	24.8	0.6	53.4	\$423
20000	3.0	11.0	3.5	10.6	160	25.1	1.2	53.7	\$391
30000	0.0	7.0	2.5	7.2	191	22.3	0.8	54.6	\$475
30000	1.0	7.0	2.3	6.8	187	21.3	2.0	54.6	\$467
30000	2.0	7.0	2.9	7.1	189	21.2	1.1	54.4	\$474
30000	3.0	7.0	3.4	7.0	196	22.8	1.3	54.4	\$486
40000	0.0	5.5	2.7	5.9	193	21.2	2.4	55.6	\$485
40000	1.0	5.5	2.2	5.8	191	21.0	1.6	56.0	\$480
40000	2.0	5.5	2.5	5.8	204	21.4	2.6	55.9	\$511
40000	3.0	5.5	2.6	5.9	199	20.9	0.8	55.5	\$501
Mean			3.1	11.3	170	23.7	1.0	54.3	\$421
Probability(%)									
Population (P)			0.0	0.0	0.0	0.0	0.0	0.2	0.0
Standard Deviation (S)			5.7	32.4	18.5	85.1	69.8	91.5	19.1
P x S			91.2	41.6	6.1	4.8	17.0	21.7	7.0
LSD(0.10)									
Population (P)			0.4	0.3	4.3	0.7	0.4	0.7	11.0
Standard Deviation (S)			0.4	NS	NS	NS	NS	NS	NS
P x S			NS	NS	8.6	1.3	NS	NS	22.0
CV(%)									
			24	4	4	5	1	107	4

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).

FIELD EXPERIMENT HISTORY

Title: Stand Variability Effects on Corn Yield
Experiment: 16Variability **Trial ID** 1434 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, R.G. Hermann and H. Darby
Location: Arlington, WI **County:** Columbia
Supported By: WI Corn Growers

Site Information

Field: 358 **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.8 **OM (%)** 3.1 **P (ppm)** 45 **K (ppm)** 240

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation
Fertilizer: **Preplant Analysis:** 46-0-0 **Rate lbs/A:** 325 **Date:** 4 /23/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /10/99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Frontier @ 1.5 pt/A **Insecticide:** None
Bladex @ 2.2 lb/A **Hybrid:** Pioneer 35R57
Irrigation: none
Planting Date: 5/10/99 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 10/18/99 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.17 A
Harvest Plot Size: 22'x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Deviation</u>	<u>Population</u>	<u>Standard Deviation</u>
30000	0.0"	15000	0.0"
30000	1.0"	15000	4.0"
30000	2.0"	15000	8.0"
30000	3.0"	15000	12.0"
30000	4.0"		
30000	5.0"		

Results: Table E-58.

**Table E-58. Plant Spacing Effects on Corn Yield
Arlington, WI - 1999**

Treatment	Target		Actual		Yield	Moisture	Test		Grower Return †	
	Population	Target Spacing	Standard Deviation	Actual Spacing			Standard Deviation	Weight		Lodging
	plants/A	inches	inches	inches	inches	bu/A	%	lbs/bu	%	\$/A
1	30000	7.0	0.0	7.0	2.2	238	26.5	54.3	0.0	\$578
2	30000	7.0	1.0	7.0	2.4	240	26.9	54.0	0.0	\$582
3	30000	7.0	2.0	6.9	3.0	243	26.4	54.7	0.0	\$591
4	30000	7.0	3.0	7.0	2.9	239	26.7	54.5	0.0	\$580
5	30000	7.0	4.0	7.0	3.4	245	26.3	54.0	0.0	\$595
6	30000	7.0	5.0	6.9	3.7	245	25.6	54.1	0.0	\$597
7	15000	14.0	0.0	14.0	2.2	164	26.7	53.3	0.0	\$399
8	15000	14.0	4.0	13.8	5.3	167	26.5	53.0	0.0	\$405
9	15000	14.0	8.0	13.6	6.8	170	25.6	53.9	0.0	\$415
10	15000	14.0	12.0	13.7	10.4	174	26.6	52.8	0.0	\$421
Mean				9.7	4.2	212	26.4	53.9	0.0	\$516
<u>Probability(%)</u>										
Treatment (T)				0.0	0.0	0.0	32.7	0.0	.	0.0
<u>LSD(0.10)</u>										
Treatment (T)				0.2	1.4	11	NS	0.5	.	26
<u>CV(%)</u>										
				1	24	4	3	1	.	4

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).

FIELD EXPERIMENT HISTORY

Title: Stand Variability Effects on Corn Yield
Experiment: 16 Variability **Trial ID** 1436 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, R.G. Hermann and H. Darby
Location: Chippewa Falls, WI **County:** Chippewa
Supported By: WI Corn Growers

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Sattre
Soil Test: **Date:** N/A **pH** 5.9 **OM (%)** 3.1 **P (ppm)** 140 **K (ppm)** 150

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivated 1 Cultivation
Fertilizer: **Preplant Analysis:** 28-0-0 **Rate lbs/A:** 112 lbs/A **Date:**
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 4 /28/99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Harness @ 1.6pt/A **Insecticide:** None
Hornet @ 2.4 oz/A **Hybrid:** Novartis N3030BT
Irrigation: none
Planting Date: 4/28/99 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 9/28/99 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.17 A
Harvest Plot Size: 22'x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Deviation</u>	<u>Population</u>	<u>Standard Deviation</u>
30000	0.0"	15000	0.0"
30000	1.0"	15000	4.0"
30000	2.0"	15000	8.0"
30000	3.0"	15000	12.0"
30000	4.0"		
30000	5.0"		

Results: Table E-59.

**Table E-59. Plant Spacing Effects on Corn Yield
Chippewa Falls, WI - 1999**

Treatment	Target		Actual		Yield	Moisture	Test		Grower Return †	
	Population	Spacing	Standard Deviation	Spacing			Standard Deviation	Weight		Lodging
	plants/A	inches	inches	inches	inches	bu/A	%	lbs/bu	%	\$/A
1	30000	7.0	0.0	7.3	2.5	180	20.3	55.1	0.4	\$454
2	30000	7.0	1.0	7.0	2.4	185	21.2	55.9	0.0	\$463
3	30000	7.0	2.0	7.2	2.7	183	20.8	55.0	0.0	\$461
4	30000	7.0	3.0	7.1	3.3	188	21.7	54.8	0.0	\$469
5	30000	7.0	4.0	6.9	3.5	188	20.3	56.2	0.4	\$473
6	30000	7.0	5.0	7.0	3.9	187	21.1	55.3	0.0	\$469
7	15000	14.0	0.0	13.4	3.6	147	23.4	54.1	0.0	\$364
8	15000	14.0	4.0	13.7	4.3	152	24.0	54.4	0.0	\$374
9	15000	14.0	8.0	13.1	7.8	158	23.1	54.6	0.0	\$391
10	15000	14.0	12.0	12.8	10.0	154	22.5	54.2	0.0	\$384
Mean				9.6	4.4	172	21.8	55.0	0.1	\$430
<u>Probability(%)</u>										
Treatment (T)				0.0	0.0	0.1	4.3	13.0	58.9	0.0
<u>LSD(0.10)</u>										
Treatment (T)				0.5	0.8	18	2.0	NS	NS	43
<u>CV(%)</u>										
				4	12	7	7	2	379	7

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).

FIELD EXPERIMENT HISTORY

Title: Stand Variability Effects on Corn Yield
Experiment: 16 Variability **Trial ID** 1438 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, R.G. Hermann and H. Darby
Location: Fond du Lac, WI **County:** Fond du Lac
Supported By: WI Corn Growers

Site Information

Field: Cooperator **Previous Crop:** Soybean **Soil Type:** Virgil silt loam
Soil Test: **Date:** N/A **pH** 6.5 **OM (%)** 3.2 **P (ppm)** 33 **K (ppm)** 100

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator 1 Cultivation
Fertilizer: **Preplant Analysis:** 82-0-0 **Rate lbs/A:** 220 **Date:** N/A
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /4 /99
Post plant Analysis: None **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Accent Gold 2.9 oz/A **Insecticide:** None
Irrigation: None **Hybrid:** Cargill 4111
Planting Date: 5/4/99 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 10/16/99 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.17 A
Harvest Plot Size: 22'x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Deviation</u>	<u>Population</u>	<u>Standard Deviation</u>
30000	0.0"	15000	0.0"
30000	1.0"	15000	4.0"
30000	2.0"	15000	8.0"
30000	3.0"	15000	12.0"
30000	4.0"		
30000	5.0"		

Results: Table E-60.

**Table E-60. Plant Spacing Effects on Corn Yield
Fond du Lac, WI - 1999**

Treatment	Target		Actual		Yield	Moisture	Test		Grower Return †	
	Population	Spacing	Standard Deviation	Spacing			Standard Deviation	Weight		Lodging
	plants/A	inches	inches	inches	inches	bu/A	%	lbs/bu	%	\$/A
1	30000	7.0	0.0	7.8	3.1	217	22.2	56.6	0.0	\$540
2	30000	7.0	1.0	7.5	3.1	223	21.9	57.2	1.0	\$558
3	30000	7.0	2.0	7.0	2.7	237	20.3	58.6	0.9	\$599
4	30000	7.0	3.0	7.5	3.7	231	21.5	57.8	0.0	\$578
5	30000	7.0	4.0	7.4	4.3	229	21.9	57.6	0.0	\$571
6	30000	7.0	5.0	6.9	3.8	233	21.5	57.5	0.4	\$582
7	15000	14.0	0.0	13.4	4.4	171	22.9	56.7	0.0	\$424
8	15000	14.0	4.0	13.0	4.9	183	22.6	57.0	1.6	\$454
9	15000	14.0	8.0	12.7	8.2	179	23.8	56.1	0.0	\$441
10	15000	14.0	12.0	13.0	9.6	180	23.0	56.8	0.0	\$445
Mean				9.6	4.8	207	22.2	57.1	0.4	\$516
<u>Probability(%)</u>										
Treatment (T)				0.0	0.0	0.0	16.3	8.2	4.9	0.0
<u>LSD(0.10)</u>										
Treatment (T)				0.8	0.8	8	NS	1.1	0.9	21
<u>CV(%)</u>										
				6	12	3	6	1	164	3

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).

FIELD EXPERIMENT HISTORY

Title: Stand Variability Effects on Corn Yield
Experiment: 16Variability **Trial ID** 1439 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, R.G. Hermann and H. Darby
Location: Galesville, WI **County:** Trempealeau
Supported By: WI Corn Growers

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Downs
Soil Test: **Date:** N/A **pH** 6.3 **OM (%)** 3.8 **P (ppm)** 49 **K (ppm)** 310

Plot Management

Tillage Operations: Fall Zone

Fertilizer: **Preplant Analysis:** 28-0-0 **Rate lbs/A:** 160 **Date:**
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 4 /28/99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None

Herbicide: Dual @ 3 pt/A **Insecticide:** None
Clarity @ 1 pt/A **Hybrid:** Cargill 4111

Irrigation: No

Planting Date: 4/26/97 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 10/16/97 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.17 A
Harvest Plot Size: 22'x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Deviation</u>	<u>Population</u>	<u>Standard Deviation</u>
30000	0.0"	15000	0.0"
30000	1.0"	15000	4.0"
30000	2.0"	15000	8.0"
30000	3.0"	15000	12.0"
30000	4.0"		
30000	5.0"		

Results: Table E-61.

**Table E-61. Plant Spacing Effects on Corn Yield
Galesville, WI - 1999**

Treatment	Target		Actual		Yield	Moisture	Test		Grower Return †	
	Population	Spacing	Standard Deviation	Spacing			Standard Deviation	Weight		Lodging
	plants/A	inches	inches	inches	inches	bu/A	%	lbs/bu	%	\$/A
1	30000	7.0	0.0	7.0	2.5	187	18.0	59.1	17.2	\$477
2	30000	7.0	1.0	7.0	3.7	186	17.6	59.2	7.9	\$478
3	30000	7.0	2.0	7.0	3.5	186	18.0	58.9	9.3	\$475
4	30000	7.0	3.0	7.0	3.5	182	17.6	59.2	14.5	\$467
5	30000	7.0	4.0	7.0	3.6	191	18.3	59.1	10.5	\$487
6	30000	7.0	5.0	6.9	4.1	189	17.6	58.9	15.2	\$483
7	15000	14.0	0.0	13.7	3.7	129	18.0	58.9	5.3	\$329
8	15000	14.0	4.0	13.1	5.2	143	17.9	58.5	0.9	\$366
9	15000	14.0	8.0	13.4	8.2	130	17.7	58.3	1.7	\$333
10	15000	14.0	12.0	12.8	10.3	124	17.7	58.3	4.9	\$317
Mean				9.5	4.8	165	17.8	58.8	8.7	\$421
<u>Probability(%)</u>										
Treatment (T)				0.0	0.0	0.0	75.8	11.3	2.0	0.0
<u>LSD(0.10)</u>										
Treatment (T)				0.6	0.7	13	NS	NS	8.0	35
<u>CV(%)</u>										
				5	10	6	3	1	64	6

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).

FIELD EXPERIMENT HISTORY

Title: Stand Variability Effects on Corn Yield
Experiment: 16Variability **Trial ID** 1437 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, R.G. Hermann and H. Darby
Location: Hancock, WI **County:** Waushara
Supported By: WI Corn Growers

Site Information

Field: V-18 **Previous Crop:** Peas **Soil Type:** Plainfield
Soil Test: **Date:** N/A **pH** 6.2 **OM (%)** 0.7 **P (ppm)** 105 **K (ppm)** 83

Plot Management

Tillage Operations: Moldboard

Fertilizer: **Preplant Analysis:** 0-0-60 **Rate lbs/A:** 100 **Date:** 4 /6 /99
Starter Analysis: 5-10-30 **Rate lbs/A:** 200 **Date:** 4 /27/99
Post plant Analysis: 34-0-0 **Rate lbs/A:** 300 **Date:**
Manure: None

Herbicide: Aatrex 4L .75qt/a, Micro-Tech 2.0qt/a, **Insecticide:** None
Lasso 2.0qt/a **Hybrid:** Cargill 4111

Irrigation: Yes

Planting Date: 4/27/99 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 10/30/99 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.17 A
Harvest Plot Size: 22'x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Deviation</u>	<u>Population</u>	<u>Standard Deviation</u>
30000	0.0"	15000	0.0"
30000	1.0"	15000	4.0"
30000	2.0"	15000	8.0"
30000	3.0"	15000	12.0"
30000	4.0"		
30000	5.0"		

Results: Table E-62.

**Table E-62. Plant Spacing Effects on Corn Yield
Hancock, WI - 1999**

Treatment	Target		Actual		Yield	Moisture	Test		Grower Return †	
	Population	Spacing	Standard Deviation	Spacing			Standard Deviation	Weight		Lodging
	plants/A	inches	inches	inches	inches	bu/A	%	lbs/bu	%	\$/A
1	30000	7.0	0.0	7.1	2.3	211	22.9	56.5	0.9	\$524
2	30000	7.0	1.0	6.9	2.7	209	21.6	57.4	0.0	\$523
3	30000	7.0	2.0	6.9	2.5	211	22.3	57.4	0.0	\$527
4	30000	7.0	3.0	7.1	3.6	212	21.8	57.8	0.4	\$529
5	30000	7.0	4.0	7.2	3.4	210	22.3	57.2	0.4	\$523
6	30000	7.0	5.0	6.9	3.3	220	22.1	57.5	0.9	\$548
7	15000	14.0	0.0	13.4	3.3	160	26.1	55.5	0.0	\$388
8	15000	14.0	4.0	13.6	5.0	160	26.9	55.0	0.0	\$387
9	15000	14.0	8.0	13.6	8.5	156	25.6	56.1	1.7	\$380
10	15000	14.0	12.0	13.3	10.3	157	25.7	56.2	0.0	\$383
Mean				9.6	4.5	190	23.8	56.7	0.4	\$470
<u>Probability(%)</u>										
Treatment (T)				0.0	0.0	0.0	0.0	0.0	66.7	0.0
<u>LSD(0.10)</u>										
Treatment (T)				0.3	0.5	10	1.4	0.8	1.6	24
<u>CV(%)</u>										
				2	8	4	4	1	264	4

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).

FIELD EXPERIMENT HISTORY

Title: Stand Variability Effects on Corn Yield
Experiment: 16Variability **Trial ID** 1435 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, R.G. Hermann and H. Darby
Location: Janesville, WI **County:** Rock
Supported By: WI Corn Growers

Site Information

Field: R-5D **Previous Crop:** Soybean **Soil Type:** Plano
Soil Test: **Date:** N/A **pH** 6.6 **OM (%)** 3.4 **P (ppm)** 74 **K (ppm)** 215

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator 1 Cultivation
Fertilizer: **Preplant Analysis:** 28-0-0 **Rate lbs/A:** 160 A **Date:** 4 /25/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 4 /30/99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Harness @ 2.75pt/A **Insecticide:** None
Hornet @ 4.5 oz/A **Hybrid:** Pioneer 35R57
Irrigation: none
Planting Date: 4/30/99 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 10/8/99 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.17 A
Harvest Plot Size: 22'x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Deviation</u>	<u>Population</u>	<u>Standard Deviation</u>
30000	0.0"	15000	0.0"
30000	1.0"	15000	4.0"
30000	2.0"	15000	8.0"
30000	3.0"	15000	12.0"
30000	4.0"		
30000	5.0"		

Results: Table E-63.

**Table E-63. Plant Spacing Effects on Corn Yield
Janesville, WI - 1999**

Treatment	Target		Actual		Yield	Moisture	Test		Grower Return †	
	Population	Spacing	Standard Deviation	Spacing			Standard Deviation	Weight		Lodging
	plants/A	inches	inches	inches	inches	bu/A	%	lbs/bu	%	\$/A
1	30000	7.0	0.0	7.1	2.4	235	20.8	58.5	0.0	\$591
2	30000	7.0	1.0	7.0	2.5	236	21.0	58.7	0.9	\$593
3	30000	7.0	2.0	6.9	2.7	245	20.9	58.5	0.4	\$616
4	30000	7.0	3.0	7.0	3.5	228	21.0	58.2	0.9	\$573
5	30000	7.0	4.0	7.0	3.3	240	21.1	58.1	0.9	\$601
6	30000	7.0	5.0	6.9	3.8	247	20.9	58.2	0.0	\$621
7	15000	14.0	0.0	14.0	3.0	170	21.8	56.8	0.9	\$425
8	15000	14.0	4.0	13.3	5.0	166	21.4	56.9	0.0	\$416
9	15000	14.0	8.0	13.5	7.9	180	22.5	56.4	0.0	\$449
10	15000	14.0	12.0	13.5	12.3	170	21.2	56.9	0.0	\$427
Mean				9.6	4.7	212	21.3	57.7	0.4	\$531
<u>Probability(%)</u>										
Treatment (T)				0.0	0.0	0.0	16.3	0.0	72.0	0.0
<u>LSD(0.10)</u>										
Treatment (T)				0.5	1.5	15	NS	0.7	NS	39
<u>CV(%)</u>										
				1	22	5	3	1	233	5

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).

FIELD EXPERIMENT HISTORY

Title: Stand Variability Effects on Corn Yield
Experiment: 16Variability **Trial ID** 1433 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, R.G. Hermann and H. Darby
Location: Lancaster, WI **County:** Grant
Supported By: WI Corn Growers

Site Information

Field: R1-B **Previous Crop:** Corn **Soil Type:** Fayette silt loam
Soil Test: **Date:** N/A **pH** 7.0 **OM (%)** 2.7 **P (ppm)** 65 **K (ppm)** 165

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation
Fertilizer: **Preplant Analysis:** 82-0-0 **Rate lbs/A:** 180 A **Date:** 4 /28/99
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /3 /99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: None
Herbicide: Aatrex 4L @ .5qt/A **Insecticide:** Lorsban 7lbs/A
Buctril @ 1.5 pt/A **Hybrid:** Pioneer 35R57
Irrigation: none
Planting Date: 5/3/99 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 10/5/99 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.17 A
Harvest Plot Size: 22'x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Deviation</u>	<u>Population</u>	<u>Standard Deviation</u>
30000	0.0"	15000	0.0"
30000	1.0"	15000	4.0"
30000	2.0"	15000	8.0"
30000	3.0"	15000	12.0"
30000	4.0"		
30000	5.0"		

Results: Table E-64.

**Table E-64. Plant Spacing Effects on Corn Yield
Lancaster, WI - 1999**

Treatment	Target		Actual		Yield	Moisture	Test		Grower Return †	
	Population	Spacing	Standard Deviation	Spacing			Standard Deviation	Weight		Lodging
	plants/A	inches	inches	inches	inches	bu/A	%	lbs/bu	%	\$/A
1	30000	7.0	0.0	7.2	3.1	177	21.1	55.1	3.2	\$445
2	30000	7.0	1.0	7.1	2.9	196	21.8	54.8	3.1	\$489
3	30000	7.0	2.0	7.1	3.5	199	20.8	55.3	1.4	\$501
4	30000	7.0	3.0	7.1	3.5	198	20.8	54.9	3.6	\$498
5	30000	7.0	4.0	7.1	4.0	187	21.2	55.3	1.8	\$470
6	30000	7.0	5.0	6.9	4.2	202	21.4	55.2	0.4	\$506
7	15000	14.0	0.0	14.6	4.3	143	22.0	53.8	0.9	\$356
8	15000	14.0	4.0	14.0	5.1	144	21.4	54.0	0.9	\$360
9	15000	14.0	8.0	13.3	8.1	144	21.6	54.0	0.8	\$359
10	15000	14.0	12.0	13.3	10.2	141	21.0	54.6	0.0	\$354
Mean				9.8	4.9	171	21.3	54.7	1.6	\$429
<u>Probability(%)</u>										
Treatment (T)				0.0	0.0	0.0	78.3	22.8	39.4	0.0
<u>LSD(0.10)</u>										
Treatment (T)				0.4	1.1	14	NS	NS	NS	37
<u>CV(%)</u>										
				3	4	6	4	1	129	6

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).

FIELD EXPERIMENT HISTORY

Title: Stand Variability Effects on Corn Yield
Experiment: 16Variability **Trial ID** 1431 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, R.G. Hermann and H. Darby
Location: Marshfield, WI **County:** Wood
Supported By: WI Corn Growers

Site Information

Field: 3 **Previous Crop:** Alfalfa **Soil Type:** Loyal silt loam
Soil Test: **Date:** N/A **pH** 6.7 **OM (%)** 3 **P (ppm)** 53 **K (ppm)** 169

Plot Management

Tillage Operations: Moldboard Plow Field Cultivator 1 Cultivation
Fertilizer: **Preplant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /11/99
Post plant Analysis: 33-0-0 **Rate lbs/A:** 136 **Date:** 5 /1 /99
Manure: 30 Tons
Herbicide: Harness @ 2pt/A **Insecticide:** None
Hornet @ 4 oz/A **Hybrid:** Novartis N3030BT
Irrigation: none
Planting Date: 5/11/99 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 10/19/99 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.17 A
Harvest Plot Size: 22'x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Deviation</u>	<u>Population</u>	<u>Standard Deviation</u>
30000	0.0"	15000	0.0"
30000	1.0"	15000	4.0"
30000	2.0"	15000	8.0"
30000	3.0"	15000	12.0"
30000	4.0"		
30000	5.0"		

Results: Table E-65.

**Table E-65. Plant Spacing Effects on Corn Yield
Marshfield, WI - 1999**

Treatment	Target		Actual		Yield	Moisture	Test		Grower Return †	
	Population	Spacing	Standard Deviation	Spacing			Standard Deviation	Weight		Lodging
	plants/A	inches	inches	inches	inches	bu/A	%	lbs/bu	%	\$/A
1	30000	7.0	0.0	7.3	2.7	193	25.8	54.5	0.0	\$472
2	30000	7.0	1.0	7.0	3.2	189	26.1	54.4	0.0	\$459
3	30000	7.0	2.0	7.0	3.2	191	26.3	54.7	0.0	\$465
4	30000	7.0	3.0	7.0	3.1	199	25.7	55.0	0.0	\$484
5	30000	7.0	4.0	7.1	4.5	190	25.8	54.5	0.0	\$463
6	30000	7.0	5.0	6.9	4.5	193	25.8	54.5	0.0	\$471
7	15000	14.0	0.0	13.9	3.6	145	25.9	54.4	0.0	\$354
8	15000	14.0	4.0	13.4	5.1	148	25.6	54.5	0.0	\$360
9	15000	14.0	8.0	13.4	8.4	144	25.8	54.5	0.0	\$351
10	15000	14.0	12.0	13.7	10.4	132	27.1	53.7	0.0	\$318
Mean				9.7	4.9	172	26.0	54.5	0.0	\$420
<u>Probability(%)</u>										
Treatment (T)				0.0	0.0	0.0	36.7	21.7	.	0.0
<u>LSD(0.10)</u>										
Treatment (T)				0.5	0.8	12	NS	NS	.	30
<u>CV(%)</u>										
				4	12	5	3	1	.	5

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).

FIELD EXPERIMENT HISTORY

Title: Stand Variability Effects on Corn Yield
Experiment: 16Variability **Trial ID** 1430 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, R.G. Hermann and H. Darby
Location: Seymour, WI **County:** Outagamie
Supported By: WI Corn Growers

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** clay loam
Soil Test: **Date:** N/A **pH** 7.3 **OM (%)** 4 **P (ppm)** 22 **K (ppm)** 125

Plot Management

Tillage Operations: Fall Chisel Plow Soil Finisher 1 Cultivation
Fertilizer: **Preplant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /4 /99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: 9000 gal
Herbicide: Northstar @ 4 oz/A **Insecticide:** None
Irrigation: none **Hybrid:** Novartis N3030BT
Planting Date: 5/3/99 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 10/12/99 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.17 A
Harvest Plot Size: 22'x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Deviation</u>	<u>Population</u>	<u>Standard Deviation</u>
30000	0.0"	15000	0.0"
30000	1.0"	15000	4.0"
30000	2.0"	15000	8.0"
30000	3.0"	15000	12.0"
30000	4.0"		
30000	5.0"		

Results: Table E-66.

**Table E-66. Plant Spacing Effects on Corn Yield
Seymour, WI - 1999**

Treatment	Target		Actual		Yield	Moisture	Test		Grower Return †	
	Population	Spacing	Standard Deviation	Spacing			Standard Deviation	Weight		Lodging
	plants/A	inches	inches	inches	inches	bu/A	%	lbs/bu	%	\$/A
1	30000	7.0	0.0	7.1	3.3	216	19.7	59.4	0.0	\$545
2	30000	7.0	1.0	7.0	2.6	222	20.0	59.4	0.0	\$561
3	30000	7.0	2.0	7.1	2.9	221	20.4	59.0	0.9	\$557
4	30000	7.0	3.0	7.3	3.8	217	20.8	58.8	0.0	\$544
5	30000	7.0	4.0	7.0	3.6	217	19.6	59.3	0.9	\$549
6	30000	7.0	5.0	6.8	3.8	211	19.2	59.9	0.8	\$536
7	15000	14.0	0.0	13.0	4.0	163	20.2	59.3	0.0	\$412
8	15000	14.0	4.0	13.2	5.5	157	19.9	59.2	0.0	\$396
9	15000	14.0	8.0	12.5	7.5	179	20.2	59.4	0.0	\$450
10	15000	14.0	12.0	12.8	9.6	158	20.6	58.3	0.0	\$398
Mean				9.4	4.7	196	20.1	59.2	0.3	\$495
<u>Probability(%)</u>										
Treatment (T)				0.0	0.0	0.0	42.6	58.7	51.2	0.0
<u>LSD(0.10)</u>										
Treatment (T)				0.3	0.6	11	NS	NS	NS	25
<u>CV(%)</u>										
				2	9	4	4	1	286	4

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).

FIELD EXPERIMENT HISTORY

Title: Stand Variability Effects on Corn Yield
Experiment: 16Variability **Trial ID** 1432 **Year:** 1999
Personnel: J.G. Lauer, P. J. Flannery, K. D. Kohn, R.G. Hermann and H. Darby
Location: Valders, WI **County:** Manitowoc
Supported By: WI Corn Growers

Site Information

Field: **Previous Crop:** Alfalfa **Soil Type:** Kewanee clay loam
Soil Test: **Date:** N/A **pH** 7.2 **OM (%)** 3 **P (ppm)** 49 **K (ppm)** 155

Plot Management

Tillage Operations: Moldboard Plow Field Cultivated 1 Cultivation
Fertilizer: **Preplant Analysis:** N/A **Rate lbs/A:** N/A **Date:** N/A
Starter Analysis: 6-24-24 **Rate lbs/A:** 150 **Date:** 5 /3 /99
Post plant Analysis: N/A **Rate lbs/A:** N/A **Date:** N/A
Manure: 12000 gal
Herbicide: Accent @ .33 oz/A **Insecticide:** None
Northstar @ 4 oz/A **Hybrid:** Novartis N3030BT
Irrigation: none
Planting Date: 5/3/99 **Planting Depth:** 1.5" **Row Width** 30"
Harvest Date: 10/13/99 **Planting Method:** Kinze Plot Planter
Harvest Method: Kincaid Plot Combine

Experimental Design

Design: RCB **Replications:** 3
Plot Size Seeded: 22'x10' **Experiment Size:** 0.17 A
Harvest Plot Size: 22'x 5'

Factors/Treatments:

<u>Population</u>	<u>Standard Deviation</u>	<u>Population</u>	<u>Standard Deviation</u>
30000	0.0"	15000	0.0"
30000	1.0"	15000	4.0"
30000	2.0"	15000	8.0"
30000	3.0"	15000	12.0"
30000	4.0"		
30000	5.0"		

Results: Table E-67.

**Table E-67. Plant Spacing Effects on Corn Yield
Valders, WI - 1999**

Treatment	Target		Actual		Yield	Moisture	Test		Grower Return †	
	Population	Spacing	Standard Deviation	Spacing			Standard Deviation	Weight		Lodging
	plants/A	inches	inches	inches	inches	bu/A	%	lbs/bu	%	\$/A
1	30000	7.0	0.0	7.1	2.5	219	18.9	57.9	0.0	\$558
2	30000	7.0	1.0	6.9	2.5	219	19.2	57.2	0.4	\$554
3	30000	7.0	2.0	6.9	2.9	216	19.7	57.1	0.0	\$547
4	30000	7.0	3.0	7.0	3.1	221	19.3	56.9	0.0	\$561
5	30000	7.0	4.0	7.0	3.7	221	18.8	57.6	0.0	\$561
6	30000	7.0	5.0	6.9	4.2	227	19.1	58.1	0.0	\$577
7	15000	14.0	0.0	13.9	3.1	165	19.0	57.7	0.0	\$420
8	15000	14.0	4.0	13.6	5.0	169	18.5	57.9	0.0	\$432
9	15000	14.0	8.0	13.1	8.6	165	18.9	58.3	0.0	\$418
10	15000	14.0	12.0	13.0	10.0	164	18.6	58.1	0.0	\$417
Mean				9.5	4.6	199	19.0	57.7	0.0	\$504
<u>Probability(%)</u>										
Treatment (T)				0.0	0.0	0.0	25.5	47.4	51.1	0.0
<u>LSD(0.10)</u>										
Treatment (T)				0.4	0.6	11	NS	NS	NS	29
<u>CV(%)</u>										
				3	9	4	3	547	2	4

† Grower Return = (\$2.65 x yield) - (yield x handling x hauling) - (yield x \$ 0.15 (mst - 15.5)).