

**2002**  
**Wisconsin Research Report of**

**STUDIES ON  
CULTURAL PRACTICES AND  
MANAGEMENT SYSTEMS FOR  
CORN**

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College of Agriculture and Life Sciences  
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# 2002 Wisconsin Research Report of Studies on Cultural Practices and Management Systems for Corn

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The information presented in this report is for the purpose of informing cooperators in industry of the results of research conducted during 2002. The cooperation of other faculty and staff and the support of funding agencies and industry are gratefully acknowledged. The information presented in this report does not constitute recommendation or endorsement. This information is **NOT FOR PUBLICATION** unless prior approval is received.

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## 2002 Wisconsin Growing Conditions (Derived from USDA Reports)

### WEATHER

It was an unusual spring with good soil moisture, but colder than normal temperatures through May. Crops were planted late, and emergence was slow, due to the cold ground. Warm summer weather allowed crops to catch up, but precipitation became Nature's next villain. Crops in the southeast experienced drought conditions, while the north and west had late season surpluses of moisture. Overall, Wisconsin experienced a better than average growing season. December 2002 was characterized with above normal temperatures and below normal snowfall. The warm temperatures allowed for later than usual outdoor farm activities to be completed in mild conditions. January continued to have warm and dry conditions. Accumulated snow from December melted with the mild temperatures. Bare fields were common in southern Wisconsin. Average temperatures for the month were over 10 degrees above normal. A snowfall late in January brought slight snow cover across the state. February weather patterns were again warmer than normal. Statewide, precipitation was slightly above normal for the month, but the warm temperatures kept snow cover at a minimum. March began with the coldest temperatures of the winter and significant snowfall. By the second week of the month, above freezing temperatures had returned, and snow cover was quickly reduced. The warm winter temperatures and lack of snow cover allowed field activities to continue throughout the winter across most of Wisconsin. April began with snow covering the ground across the northern tier of counties. Early-month temperatures were 8-11 degrees below normal. The ground remained frozen, except for scattered areas in the south. Spring tillage was started, but most activities consisted of manure hauling and preparing equipment for the upcoming season. Maple syrup production was slow to start, due to cold daytime temperatures. Temperatures varied throughout the month, from unseasonably warm in the mid 70's, followed by freezing temperatures 7 to 9 degrees colder than normal. Precipitation in the form of rain and snow continued to delay fieldwork. Soil moisture levels were adequate to surplus in all parts of the state. The first half of the month had very few days suitable for fieldwork. The second half was slightly better with 7 days suitable during the last two weeks. As fields dried

out, oat planting began in southern areas. By the end of April, oats planted were at 34 percent complete, compared to 26 percent the spring weather was beneficial to pasture, winter wheat, and alfalfa. Central Wisconsin reported potato and green pea planting in sandy soils later in the month. The month of May began with soil moisture ratings at 98 percent adequate to surplus. Below normal temperatures continued, and caused delays for corn and oat planting and spring tillage. Farmers were getting anxious to get crops in the ground, but below normal soil temperatures continued to restrict emergence of oats and corn. Lack of warm weather slowed field drying in the north. The first three weeks of the month had enough scattered precipitation to keep days suitable for fieldwork around 4 days per week. The last week of the month finally allowed farmers 6.5 days suitable for fieldwork, and a flurry of activity commenced across the state. Temperatures remained 8-12 degrees below normal. Corn and soybeans planted rose rapidly to nearly match the 5-year averages. Southern Wisconsin farmers began to worry about soil moisture levels. Cold temperatures remained the largest concern for producers. Alfalfa first crop was short, due to cool conditions, with occasional frost reports through the end of the month. Following five weeks of below normal temperatures, the first week of June was 4 to 7 degrees above normal. Warm weather, coupled with favorable soil moisture conditions, allowed producers to finish corn and soybean planting and catch up to 5-year averages. Some farmers in southern counties were replanting early-planted fields that failed to emerge in the cool spring. Sunshine and warm temperatures helped improve crop conditions. The good weather saw producers working around the clock to catch up with fieldwork. Cooler weather returned for the second week of the month, but the largest concern was heavy rainfall across the state. Rains of 2 to 3 inches were reported, with some areas receiving up to 5.5 inches. Wet weather continued for the next three weeks across the northern two-thirds of Wisconsin. Days suitable for fieldwork were under 4 days per week for this period and caused many delays in hay harvest. Soybean and corn crops on low-lying fields and heavy soils were stressed, due to excessive moisture. The month ended with above normal temperatures that provided needed

heat units to delayed crops. Soil moisture levels at the end of the month were at 69 percent adequate and 25 percent surplus. However, southern, and especially southeastern counties, began to experience short soil moisture conditions, and crops were beginning to show stress. The first week of July was mostly dry, with temperatures 6-8 degrees above normal. Growing degree days for corn surpassed normal levels. The dry, hot weather bolstered corn and soybeans across the state. Southeastern areas of Wisconsin had drought stressed cornfields, with leaves beginning to roll during the heat of the day. Near normal temperatures returned for the next three weeks, but precipitation was light and scattered. Soil moisture conditions on July 19 were at 25 percent very short, 43 percent short, and 32 percent adequate. Days suitable for fieldwork were above 5.5 days per week for the month. Conditions for harvest of second crop alfalfa were very good, but yields suffered, due to lack of moisture. Winter wheat and small grain harvest advanced with the dry weather. Crop condition for corn and soybeans began to drop. Farmers were asking for rain as the corn crop neared pollination stage. The last week of July brought relief, with timely rainfall amounts of 0.5-1.5 inches of rain. Producers were thankful, but hoped for more precipitation to catch up to normal rainfall patterns. The first week of August brought more much-needed moisture to most of the state. The timely rains improved crop conditions for corn and soybeans at a critical development stage. Unfortunately, rainfall in the southeast was sporadic in an area that needed moisture badly. Soil moisture conditions for August 9, in the southeastern district, were rated as 63 percent very short and 37 percent short. Statewide, conditions were 17 percent very short, 34 percent short, 48 percent adequate, and 1 percent surplus. Mid-August brought the return of rain, statewide. The moisture helped corn and soybean conditions to improve, but may have been too late to save some of the drought-stressed crops in the southeast. The last week of August proved to be warm and dry. Corn and soybean phenological progress jumped ahead of the 5-year average. Harvest of third and fourth crop hay advanced with the cooperative weather. September continued with above normal temperatures for the first three weeks. Rains returned statewide during the first week of the month. Northern areas received locally heavy

rains. Topsoil moisture conditions for the first week were 15 percent very short to short, 73 percent adequate, and 12 percent surplus. With adequate moisture and warm temperatures, corn and soybeans progressed rapidly towards harvest. Soybeans turned color and dropped leaves swiftly. Corn silage harvest was in full swing, where farmers could get equipment into fields. Days suitable for fieldwork for the month ranged from 4.7 to 6.0 days per week. Machinery maintenance for the upcoming harvest season occupied any spare time. The final week of September turned cooler, with light precipitation reported in most areas of the state. The exception was in the already wet areas of the northwest. Additional rains there added to worries about upcoming harvest conditions. Most crops appeared to be safe from severe frost damage. Soybean harvest began in the southern counties on early-planted varieties. October proved to be a wet month in Wisconsin. The first week had precipitation ranging between 1.25 and 2.50 inches. Topsoil moisture levels were significantly higher at 31 percent surplus and 67 percent adequate for the week. Temperatures 4 to 7 degrees above normal pushed crop progress forward for any late planted fields. Temperatures returned to normal in the second week. A killing frost was reported across the northern tier of counties, with a light frost reported statewide. Farmers welcomed the end of vegetative growth and cooler temperatures in hopes of reducing moisture levels in grains. Unfortunately, rain and snow continued sporadically throughout the rest of the month. The last two weeks of October turned 6 to 9 degrees cooler than normal. Days suitable for fieldwork for the month ranged from 3.2 to 4.5 days per week, and were the lowest weekly figures since early May. Corn harvested for grain at the end of October was at 36 percent complete, compared to the 5-year average of 51 percent. Soybeans were at 69 percent complete, compared to the 5-year average of 87 percent. Fall tillage was delayed, due to the late harvest and wet conditions. November began with temperatures 5 to 8 degrees below normal. Because of dry weather across the state, producers were able to progress with the fall harvest. The late harvest prompted many farmers to harvest dry, higher ground and go around wet spots. Farmers were switching from corn and soybean harvest to fall tillage, depending on local conditions. Normal temperatures returned for the

remainder of the month. Precipitation remained very light across the state, except for the southeast, where most fall work was completed. Days suitable for fieldwork for the month ranged from 5.2 to 5.9 days per week. Producers were able to advance corn harvest to 88 percent by November 24. Moisture levels for corn remained above 20 percent in many instances, but farmers felt that crops could be dried in the bins, rather than risk not being able to harvest them. Yields for corn and soybeans were reported to be normal to above normal for much of the state. The mild and relatively dry weather allowed for harvest, tillage, and manure spreading to continue throughout the state.

### **CORN**

April is the time for the early birds to get the corn planting season started. Unseasonably warm temperatures for mid-April allowed some planters to get into the fields. Temperatures 14 to 17 degrees above normal, coupled with southerly winds, created good conditions for testing the soil temperature and planting early corn. During the last week of April, cooler temperatures returned, and planting progress slowed to 8 percent complete, compared to 10 percent last year, and 9 percent for the 5-year average. In the first week of May, corn planting progressed rapidly in the south, but overall planting was slower than normal, due to cold temperatures. Farmers in most of the state were waiting for warmer soil conditions to begin the 2002 planting season. Cooler than normal temperatures remained for the month of May. Planting progress by the end of the month was at 79 percent complete, compared to 76 percent last year, and a 5-year average of 89 percent. Farmers were anxious to get fields planted in anticipation of warmer temperatures. Continued colder than normal temperatures caused the emergence of corn plants to be delayed. Some farmers in the southern two-thirds of the state were rotary hoeing early-planted fields in hopes of helping emergence. Replanting of some early fields was being considered. The continued colder than normal temperatures, coupled with wet field conditions, caused some emerged corn to yellow. In July, the first signs of drought stress began to show across southern Wisconsin. In the rest of the state, temperatures were normal, and height of corn plants approached normal levels. Warm

temperatures caused growing degree days to surpass normal levels and compensated for the cool spring weather. Late July rains came just in time for silking and tasseling, except in some southern and southeastern counties. Early August saw ample supplies of rain over most of the state, which contributed to improved crop conditions. Drought stress in the southeastern counties was the exception to the rule. Rains that arrived in the second half of August helped relieve drought conditions in the south during ear-filling stages. Heavy rains in the north and northwest pushed soil moisture levels to surplus levels. Corn borer and rootworm problems were reported in scattered locations. September marked the beginning of corn silage harvest. Above normal temperatures for most of the month contributed to advancing maturity levels for the crop. At month's end, corn in the dent stage was at 93 percent, statewide, equal to the 5-year average. In October, continued wet weather, slowed silage harvest. Farmers were ready to begin high moisture corn harvest, but field conditions would not cooperate. Southern counties had much better field conditions. The first frost of the season was reported in mid-October, but most of the crop was safe from damage. Early November weather was colder than normal, but dry, which helped harvest progress. Corn harvested for grain reached 88 percent complete by November 24. This compared to 98 percent complete in 2002, and 95 percent complete for the 5-year average. Some corn was harvested for grain with moisture levels in the 20's, but producers were anxious to get corn out of the field before winter snows. Producer estimates for yield were at normal to above normal for most of the state. The exception was in the drought-stressed southeast.

### **SOYBEANS**

The soybean planting season started in early May. Cool weather during May caused some delays in planting, but by June 2, soybeans planted were at 81 percent complete, ahead of the previous year and equal to the 5-year average. Soil temperatures were at low levels early in May; many later-planted soybeans emerged in better condition than early-planted fields. Heavy rains in early June caused some damage, due to ponding in lowlying fields. Many fields were weedy, with producers waiting for drier conditions to begin spraying herbicides. July brought warmer temperatures,



which helped the growth of soybeans. Lack of rainfall in the south and southeast began to stress soybean plants. The warm weather helped soybeans mature, and by mid-July, 23 percent of the crop was blooming, compared to 13 percent for the 5-year average. Soybean aphids were reported in some fields. Late July brought rains to the dry southeast in time for soybean blooming and pod setting. Rains across the state were helpful in replenishing the crop at a crucial time in plant development. August saw scattered rains and warm temperatures that, by mid-month helped raise soybeans setting pods to 86 percent complete, compared to 72 percent for the 5- year average. Crop condition for August 23 put soybeans at 68 percent good to excellent. The crop in the southeast continued to show drought stress. By early September, soybeans were beginning to turn color and showed, generally, good pod development. Many producers in the north and west reported soybeans to be the best looking crop in years. Warm temperatures in September pushed soybean maturity rapidly. The crop turned color and dropped leaves in quick succession. Late September brought the beginning of harvest in southern Wisconsin. Wet weather early in the month, and stems with high moisture levels, slowed the early harvest. Soybeans harvested by October 20, were reported at 53 percent complete, compared to 46 percent for the previous year, and 73 percent for the 5-year average. Southern Wisconsin had areas up to 70 percent complete at this time. Early yield reports were at normal to above normal. By November 10, 89 percent of the crop was harvested. Wet conditions in low-lying fields in the north and northwest caused harvest delays.

### **OATS**

The southern tier of counties began planting oats in mid-April. A warm week ending April 21 saw temperatures in the 90's, and farmers in the south responded by drilling oats on open fields. Cooler temperatures returned, and planting was delayed in northern counties. As of May 19, 76 percent of the oats were planted, well behind the 89 percent in 2002, and the 97 percent 5-year average. The continued cool temperatures caused slow growth for the crop throughout the state. The first week of July saw oat harvest for forage beginning. The crop was reported to be generally shorter than

normal. Harvesting of oats for grain began in late July. By August 11, harvest progress caught up to normal at 65 percent complete. Most oats were harvested by the end of August. Some yields were below normal, due to the late spring and cool temperatures.

### **WINTER WHEAT**

Spring rains in early April brought winter wheat out of dormancy, and the crop greened-up quickly. Most of the state had none or light winter freeze damage to wheat. Soil moisture conditions were favorable for wheat growth, and as of April 26, the crop condition was rated 89 percent good to excellent. Winter wheat began to head out in early June in southern Wisconsin. Warmer weather in June and July kept crop condition ratings in the 82 to 86 percent good to excellent range. Winter wheat harvest began in mid-July. Scattered areas of the state reported lodging of wheat before harvest. Wet weather stalled harvest progress in the north in early August. In the first week of the month, harvest was reported at 75 percent complete and progressed at an average pace until harvest was complete by mid-August. Yields were reported as extremely varied around the state. Fall planting of winter wheat began by the middle of September. Soybean harvest allowed winter wheat planting to progress. October precipitation caused delays in the soybean harvest, with subsequent delays in wheat planting. In some cases, wheat acres were not planted due to the delayed soybean harvest. Early-planted wheat emerged and was reported to be in good shape. Late-planted wheat was slow to emerge and may not have fully established a stand.

### **STATISTICAL ANALYSIS**

All data are analyzed using generally accepted statistical tests. In most cases the probabilities of main effect and interaction are shown. The numbered listed as a percent probability that the main effect differences due to chance (i.e. not due to treatment). A Fisher's Protected Least Significant Difference (LSD) is calculated for all main effect probabilities of 10

## Observations and Data Collected

**Table B-1.**

**Corn**  
**Measurements**

Grower Return	Units	\$/acre
	Formula	(weighted price per bushel x bushels per acre) - handling - hauling - drying costs.
	Determination	Handling cost = \$0.017 per bushel Hauling cost = \$0.04 per bushel On-farm drying cost = \$0.015 per point per bushel Weighted Price per Bushel = \$2.24 per bushel = (50% December Average Cash price) + (25% March CBOT Futures price) + (25% July CBOT Futures price). December Average Cash price derived from Wisconsin Ag Statistics; CBOT Futures prices derived from closing price on first business day in December.
Grain Yield	Units	Bu/acre
	Formula	$(43560 / (\text{plot width} * \text{plot length in feet})) * \text{weight of sample in lbs.} * ((100 - \text{sample moisture}) / (100 - 15.5 \{ \text{moisture standard} \})) / 56 \text{ lb/bu}$
Moisture	Units	%
	Determination	GRAIN: determined by detector on combine or wet weight method 15.5% is standard corn moisture WHOLE PLANT: moisture of subsample of chopped whole plant moisture of subsample of chopped stover (whole plant less ears)
Test Weight	Units	lbs/bushel
	Determination	weight of known volume converted to lbs/bushel
Plant Height	Units	inches or centimeters
	Determination	plant height from soil surface to top of canopy.
	Observations	average of several plants in each plot
Ear Height	Units	inches
	Determination	height from soil surface to base of ear
	Observations	average of several plants in each plot
Broken Stalks	Units	%
	Determination	at harvest
	Observations	number of stalks broken below the ear + number of plants lodged at >45% from the whole plot (22' x 2 rows)
	Formula	(broken stalks + lodged plants)/total stalks x 100%
Kernel Weight	Units	mg/seed
	Determination	weight of 100 seeds converted to mg/seed
Plant Density	Units	plants per acre
	Determination	Early = plants at v3-v5 stage Late = just prior to harvest
	Observations	plants counts on whole plot (22' x 2 rows)

**Table B-1 continued.**

Ear Density	Units	Ears per acre
	Determination	Just prior to harvest
	Observations	Ear counts are taken from whole plot (22' x 2 rows) taken
Leaf Development	Units	none
	Determination	count of leaf number
	Observations	LEAF COLLARS: total number of visible leaf collars HAIL ADJUSTERS: total number of drooping leaves TOTAL: total number of leaves visible
Kernel Milk	Units	%
	Determination	percent milk remaining in kernel at harvest
	Observations	visual average of three ears from a non-harvest row
Crude Protein (CP)	Units	%
	Determination	wet lab or NIRS procedure on plot subsample
NDF	Units	%
	Determination	wet lab or NIRS procedure on plot subsample
NDFD	Units	%
	Determination	wet lab or NIRS procedure on plot subsample
ADF	Units	%
	Determination	wet lab or NIRS procedure on plot subsample
Digestibility	Units	%
	Determination	invitro wet lab or NIRS procedure on plot subsample
Starch content	Units	%
	Determination	wet lab or NIRS on plot subsample
Kernel Rot	Units	none
	Determination	visual average of 5 plants at V2-V4
	Scale	1=deterioration 2=no deterioration
Emergence	Units	%
	Formula	Early stand / late stand count x 100%
Extended Leaf Height	Units	inches
	Determination	height of plant with leaves extended in upright position
Residue cover	Units	%
	Determination	Point transects centered on row.
% Survival	Units	%
	Formula	Early stand / late stand count x 100%

**Table B-1 continued.**

**Soybean**  
**Parameters**

Grower Return	Units	\$/acre
	Formula	(weighted price per bushel x bushels per acre) - handling - hauling - drying costs.
	Determination	Handling cost = \$0.017 per bushel Hauling cost = \$0.04 per bushel On-farm drying cost = \$0.015 per point per bushel Weighted Price per Bushel = \$5.41 per bushel = (50% December Average Cash price) + (25% March CBOT Futures price) + (25% July CBOT Futures price). December Average Cash price derived from Wisconsin Ag Statistics; CBOT Futures prices derived from closing price on first business day in December.
Grain Yield	Units	Bu/acre
	Formula	$(43560 / (\text{plot width} * \text{plot length in feet})) * \text{weight of sample in lbs.} * ((100 - \text{sample moisture}) / (100 - 13\{\text{moisture standard}\})) / 60 \text{ lb/bu}$
Grain Moisture	Units	%
	Determination	determined by detector on combine 13% is standard soybean moisture
Plant Height	Units	inches
	Determination	plant height from soil surface to tip of main stem
	Observations	average of several plants in each plot
Plant Lodging	Units	none
	Determination	based on average erectness of main stem of plant
	Observations	whole plot is assessed
	Scale	1=ALL PLANTS ERECT 2=SLIGHT LODGING 3=PLANTS LODGED AT 45 DEGREE ANGLE 4=PLANTS LODGED AT 60-80 DEGREE ANGLE
Seed Weight	Units	seeds/lb
	Determination	weight of 300 seeds converted to seeds/lb
Plant Density	Units	plants per acre
	Determination	early = plants at V3 to V5 stage late = just prior to harvest
	Observations	plants counts are taken from 5 linear feet of plot X the harvested area
% Survival	Units	%
	Formula	Early stand / late stand count x 100%

**Table B-1 continued.**

**Wheat**

**Parameters**

Grower Return	Units	\$/acre
	Formula	(weighted price per bushel x bushels per acre) - handling - hauling - drying costs.
	Determination	Handling cost = \$0.017 per bushel Hauling cost = \$0.04 per bushel On-farm drying cost = \$0.015 per point per bushel Weighted Price per Bushel = \$2.85 per bushel = (50% December Average Cash price) + (25% March CBOT Futures price) + (25% July CBOT Futures price). December Average Cash price derived from Wisconsin Ag Statistics; CBOT Futures prices derived from closing price on first business day in December.
Grain Yield	Units	Bu/acre
	Formula	$(43560 / (\text{plot width} * \text{plot length in feet})) * \text{weight of sample in lbs.} * ((100 - \text{sample moisture}) / (100 - 13.5\{\text{moisture standard}\})) / 60 \text{ lb/bu}$
Grain Moisture	Units	%
	Determination	Determined by sensor on combine 13.5% is standard wheat moisture

## Soils Information

Table B-2.

Location Lat - Long	Soil Series	Soil Family	Soil Subgroup
Arlington ARS 43 ° 18 ' - 89 ° 21 '	Plano silt loam (predominant soil)	Fine-silty, mixed, mesic	Typic Agriudoll
	Ringwood silt loam	Fine-loamy, mixed, mesic	Typic Argiudoll
	Saybrook silt loam	Fine-silty, mixed, mesic	Typic Argiudoll
	Radford silt loam	Fine-silty, mixed, mesic	Fluvaquentic Hapludoll
	Sable silt loam	Fine-silty, mixed, mesic	Typic Haplaquoll
	Huntsville silt loam	Fine-silty, mixed, mesic	Cumulic Hapludoll
	Elburn silt loam	Fine-silty, mixed mesic	Aquic Argiudoll
Hancock ARS 44 ° 7 ' - 89 ° 32 '	Channahon silt loam	Loamy, mixed, mesic	Lithic Argiudoll
	Plainfield loamy sand (Predominant soil)	Mixed, mesic	Typic Udipsamment
Lancaster ARS 42 ° 50 ' - 90 ° 47 '	Sparta loamy sand	Sandy, mixed, mesic	Entic Hapludoll
	Fayette silt loam	Fine-silty, mixed, mesic	Typic Hapludalf
	Rozetta silt loam	Fine-silty, mixed, mesic	Typic Hapludalf
Marshfield ARS 44 ° 39 ' - 90 ° 8 '	Dubuque silt loam	Fine-silty, mixed, mesic	Typic Hapludalf
	Withee silt loam (Predominant soil)	Fine-loamy, mixed	Aquic Glossoboralf
	Marshfield silt loam	Fine-loamy, mixed, frigid	Typic Ochraqualf
Rhineland ARS 45 ° 39 ' - 89 ° 22 '	Vilas loamy sand	Sandy, mixed, frigid	Entic Haplorthod
	Au Gres loamy sand	Sandy, mixed, frigid	Entic Haplaquod
Spoooner ARS 45 ° 49 ' - 91 ° 53 '	Chetek sandy loam	Coarse-loamy, mixed	Eutric Glossaboralf
	Pence sandy loam	Sandy, mixed, frigid	Entic Haplorthod
	Omega loamy sand	Sandy, mixed, frigid	Typic Udipsamment
	Antigo silt loam	Well drained silt loam- sandy loam soils	

## FIELD EXPERIMENT HISTORY

**Title:** Determining Corn Hybrid Maturity  
**Experiment:** 01GD **Trial ID** 2344 **Year:** 2002  
**Personnel:** J.G. Lauer, P. J. Flannery, and K. D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** 406 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
Preplant :	46-0-0	325	N/A
Starter :	6-24-24	150	4 /24/02
Post plant :	N/A	N/A	N/A
Manure:	None	N/A	

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

**Irrigation:** None

**Planting Date:** 4/24/02 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** 10/15/02 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 22' x 10' **Experiment Size:** 0.275 Acre  
**Harvest Plot Size:** 22' x 5' **Harvest Plant Density:** 24140 plants per acre

### Factors/Treatments:

#### Hybrids:

Mycogen 2141	Dekalb DKC4442	Pioneer 35R58
NK Brand N17R3	Pioneer 37R71	NK Brand N58D1
Renk RK232	Pioneer 37H26	Dairyland Stealth 1410
Golden Harvest H6355	Midwest G7101B	Jung 2710
NK Brand N2555Bt	Cargill 4521Bt	Pioneer 33A14
Golden Harvest H6675		

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**Results: Table C-1 and C-2.**

**Table C-1. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Arlington, WI - 2002**

Hybrid	Relative maturity	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Lodging %	Flag Leaf height inches	Plant population no./A	Grower return \$/A
Mycogen 2141	81	139	18.6	62	2	78	24116	298
NK Brand N17R3	82	134	18.6	61	0	86	21464	286
Renk RK232	85	168	17.2	59	0	85	25000	362
Golden Harvest H6355	87	144	17.6	58	0	86	25126	310
NK Brand N2555Bt	88	161	19.7	60	0	87	21843	342
Golden Harvest H6675	90	157	19.4	60	1	87	23990	333
Dekalb DKC4442	94	187	19.6	56	0	91	23737	397
Pioneer 37R71	97	190	20.7	55	0	89	25378	399
Pioneer 37H26	99	197	22.1	59	0	91	25000	410
Midwest G7101B	100	187	19.8	57	0	99	26389	395
Cargill 4521Bt	105	174	21.0	57	0	96	23737	366
Pioneer 35R58	105	190	23.2	55	0	103	24242	392
NK Brand N58D1	107	200	25.8	53	0	98	25000	405
Dairyland Stealth 1410	110	179	26.3	53	1	100	23232	363
Jung 2710	112	182	26.5	52	1	99	21969	367
Pioneer 33A14	113	205	29.9	54	0	106	26010	402
Mean		174	21.7	57	0	92	24140	364
<b><u>Probability(%)</u></b>								
Hybrid (H)		0.0	0.0	0.0	34.2	0.0	5.1	0.0
<b><u>LSD(0.10)</u></b>								
Hybrid (H)		19	0.8	1	NS	3	2461	41
<b><u>CV(%)</u></b>								
		8	3	1	263	2	7	8



**Table C-1. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Arlington, WI - 2002**

Hybrid	Relative maturity	Kernel Milk on Day of Year												Silks on Day of Year					
		238	242	246	249	253	256	260	263	267	269	274	276	203	206	210	213	217	220
		----- % -----												----- % -----					
Mycogen 2141	81	82	63	48	43	30	17	0	0	0	0	0	0	70	95	98	99	99	99
NK Brand N17R3	82	83	60	52	47	33	23	8	0	0	0	0	0	77	90	96	99	99	99
Renk RK232	85	97	85	70	58	40	37	15	0	0	0	0	0	21	78	98	99	100	100
Golden Harvest H6355	87	99	83	75	52	38	35	13	0	0	0	0	0	14	67	88	92	94	95
NK Brand N2555Bt	88	93	77	63	57	52	43	12	0	0	0	0	0	71	83	94	98	98	98
Golden Harvest H6675	90	97	80	62	53	48	43	10	0	0	0	0	0	22	79	92	97	98	98
Dekalb DKC4442	94	95	92	77	65	53	48	30	10	3	2	0	0	22	74	95	98	99	99
Pioneer 37R71	97	90	85	75	58	48	37	25	10	3	3	2	0	81	90	94	98	100	100
Pioneer 37H26	99	92	83	72	62	57	47	25	3	0	0	0	0	71	90	96	99	100	100
Midwest G7101B	100	100	97	87	72	53	43	30	23	7	3	2	2	0	31	90	96	100	100
Cargill 4521Bt	105	98	95	83	72	63	53	35	22	12	12	5	2	0	31	92	96	98	98
Pioneer 35R58	105	95	93	88	82	68	62	48	43	25	28	13	5	0	19	85	95	97	97
NK Brand N58D1	107	100	97	90	77	75	67	57	48	33	30	8	3	0	16	80	94	97	97
Dairyland Stealth 1410	110	100	100	100	93	75	67	55	48	42	25	12	10	0	0	52	86	96	98
Jung 2710	112	100	98	98	92	78	63	55	52	35	27	15	8	0	4	70	91	97	100
Pioneer 33A14	113	100	98	98	95	83	65	57	50	38	35	15	10	0	0	59	86	94	96
<b>Mean</b>		95	87	77	67	56	47	30	19	12	10	4	3	28	53	86	95	98	98
<b>Probability(%)</b>																			
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	71.7	93.4
<b>LSD(0.10)</b>																			
Hybrid (H)		5	13	14	15	12	7	9	11	10	11	5	4	15	14	10	7	NS	NS
<b>CV(%)</b>																			
		4	11	13	16	15	11	21	39	56	75	76	107	39	19	9	6	4	4

**Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids  
Arlington, WI - 2002**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
		154	2.3	3.5	4.1	3.6
		168	4.3	5.9	7.3	9.8
		179	7.1	9.4	10.6	24.9
		193	11.8	14.2	16.3	62.1
		206	17.7	17.8	18.2	88.9
		220	18.5	18.4	18.5	92.4
Mycogen 2141	81		9.9	11.1	12.0	41.2
NK Brand N17R3	82		10.1	11.4	12.3	43.6
Renk RK232	85		10.1	11.2	12.1	46.7
Golden Harvest H6355	87		10.2	11.4	12.3	45.4
NK Brand N2555Bt	88		10.7	11.8	12.8	47.2
Golden Harvest H6675	90		10.3	11.7	12.2	48.7
Dekalb DKC4442	94		10.6	11.8	12.6	45.9
Pioneer 37R71	97		10.5	12.0	12.9	48.0
Pioneer 37H26	99		11.4	12.7	13.6	49.1
Midwest G7101B	100		10.5	11.9	12.8	48.0
Cargill 4521Bt	105		10.5	11.8	12.7	49.5
Pioneer 35R58	105		9.6	10.8	11.9	47.5
NK Brand N58D1	107		10.2	11.9	12.9	46.7
Dairyland Stealth 1410	110		9.9	11.3	12.4	46.9
Jung 2710	112		10.1	11.2	12.4	47.8
Pioneer 33A14	113		9.9	10.7	12.1	48.8
Mycogen 2141	81	154	2.2	3.5	4.0	3.2
Mycogen 2141	81	168	4.2	5.8	7.2	7.5
Mycogen 2141	81	179	6.8	9.2	10.3	22.0
Mycogen 2141	81	193	11.8	13.8	16.0	60.0
Mycogen 2141	81	206	17.2	17.2	17.2	77.3
Mycogen 2141	81	220	17.2	17.2	17.2	77.3
NK Brand N17R3	82	154	2.2	3.5	4.2	3.8
NK Brand N17R3	82	168	4.3	5.5	7.2	9.1
NK Brand N17R3	82	179	6.8	9.8	10.7	21.5
NK Brand N17R3	82	193	11.7	14.0	16.2	59.2
NK Brand N17R3	82	206	17.8	17.8	17.8	83.8
NK Brand N17R3	82	220	17.8	17.8	17.8	84.2
Renk RK232	85	154	2.0	3.2	4.0	3.4
Renk RK232	85	168	4.3	5.8	7.5	10.2
Renk RK232	85	179	7.2	9.8	10.7	27.0
Renk RK232	85	193	12.2	14.2	15.3	65.8
Renk RK232	85	206	17.3	17.0	17.5	87.0
Renk RK232	85	220	17.3	17.0	17.5	87.0

continued

**Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids**  
 (continued) **Arlington, WI - 2002**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height
			Leaf collars	Hail adjusters method	Total leaves	
			no./plant	no./plant	no./plant	
Golden Harvest H6355	87	154	2.3	3.3	4.2	3.3
Golden Harvest H6355	87	168	4.3	5.8	7.0	9.9
Golden Harvest H6355	87	179	7.2	9.5	10.7	25.8
Golden Harvest H6355	87	193	11.5	14.2	15.8	60.2
Golden Harvest H6355	87	206	17.7	17.8	18.0	85.3
Golden Harvest H6355	87	220	18.0	18.0	18.0	87.7
NK Brand N2555Bt	88	154	2.3	3.3	4.5	4.3
NK Brand N2555Bt	88	168	4.7	6.0	7.5	11.2
NK Brand N2555Bt	88	179	7.0	9.7	10.8	24.2
NK Brand N2555Bt	88	193	13.0	14.5	17.2	66.0
NK Brand N2555Bt	88	206	18.5	18.5	18.5	88.8
NK Brand N2555Bt	88	220	18.5	18.5	18.5	88.8
Golden Harvest H6675	90	154	2.5	3.8	4.3	3.7
Golden Harvest H6675	90	168	4.7	6.7	7.7	11.7
Golden Harvest H6675	90	179	7.0	9.5	10.8	29.0
Golden Harvest H6675	90	193	12.3	14.7	16.3	70.5
Golden Harvest H6675	90	206	17.7	17.7	16.3	88.5
Golden Harvest H6675	90	220	17.7	17.7	17.7	88.5
Dekalb DKC4442	94	154	2.5	3.3	4.0	3.7
Dekalb DKC4442	94	168	4.2	6.3	7.3	9.6
Dekalb DKC4442	94	179	7.3	9.7	10.7	24.8
Dekalb DKC4442	94	193	12.2	14.7	16.5	58.5
Dekalb DKC4442	94	206	18.7	18.5	18.7	89.8
Dekalb DKC4442	94	220	18.7	18.5	18.7	88.8
Pioneer 37R71	97	154	2.2	3.7	4.2	4.1
Pioneer 37R71	97	168	4.7	6.7	8.3	11.2
Pioneer 37R71	97	179	7.5	10.3	11.5	28.8
Pioneer 37R71	97	193	12.5	15.2	16.8	65.8
Pioneer 37R71	97	206	18.2	18.2	18.2	89.2
Pioneer 37R71	97	220	18.2	18.2	18.2	89.2
Pioneer 37H26	99	154	2.5	3.5	4.5	3.9
Pioneer 37H26	99	168	4.8	6.7	8.2	11.4
Pioneer 37H26	99	179	7.7	10.2	11.3	28.5
Pioneer 37H26	99	193	13.5	16.0	17.7	69.5
Pioneer 37H26	99	206	20.0	20.0	20.0	90.7
Pioneer 37H26	99	220	20.0	20.0	20.0	90.7
Midwest G7101B	100	154	2.3	3.5	4.0	3.6
Midwest G7101B	100	168	4.8	6.2	7.7	10.4
Midwest G7101B	100	179	7.2	9.5	10.7	26.8
Midwest G7101B	100	193	11.5	15.2	16.5	63.3
Midwest G7101B	100	206	18.5	18.5	19.0	91.8
Midwest G7101B	100	220	18.5	18.5	19.0	92.3
Cargill 4521Bt	105	154	2.2	3.8	4.2	3.8
Cargill 4521Bt	105	168	4.7	5.7	7.0	10.1
Cargill 4521Bt	105	179	7.0	9.7	10.8	26.2
Cargill 4521Bt	105	193	11.8	14.8	16.7	62.7
Cargill 4521Bt	105	206	18.5	18.5	18.7	97.2
Cargill 4521Bt	105	220	18.7	18.5	18.7	97.2

continued

**Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids**  
 (continued) **Arlington, WI - 2002**

Hybrid	Relative maturity	Day of year	Leaf Development			Plant height inches
			Leaf collars	Hail adjusters method	Total leaves	
			no./plant	no./plant	no./plant	
Pioneer 35R58	105	154	2.0	3.3	3.8	3.4
Pioneer 35R58	105	168	4.0	5.2	6.7	9.1
Pioneer 35R58	105	179	6.5	8.8	10.2	24.0
Pioneer 35R58	105	193	10.7	13.3	14.7	57.8
Pioneer 35R58	105	206	16.2	16.2	17.7	89.5
Pioneer 35R58	105	220	18.2	18.2	18.2	101.3
NK Brand N58D1	107	154	2.0	3.3	4.2	3.0
NK Brand N58D1	107	168	4.0	6.2	7.2	7.6
NK Brand N58D1	107	179	7.0	9.2	10.2	21.5
NK Brand N58D1	107	193	11.0	14.7	16.8	55.2
NK Brand N58D1	107	206	17.3	18.0	19.2	93.2
NK Brand N58D1	107	220	19.8	19.8	19.8	99.5
Dairyland Stealth 1410	110	154	2.3	3.3	4.0	3.2
Dairyland Stealth 1410	110	168	4.0	5.5	6.8	8.1
Dairyland Stealth 1410	110	179	6.8	8.8	10.3	21.7
Dairyland Stealth 1410	110	193	10.8	13.7	16.3	57.0
Dairyland Stealth 1410	110	206	16.7	17.3	18.3	89.0
Dairyland Stealth 1410	110	220	18.8	18.8	18.8	102.7
Jung 2710	112	154	2.2	3.3	4.0	3
Jung 2710	112	168	4.0	5.3	6.8	10
Jung 2710	112	179	7.0	8.8	10.0	23
Jung 2710	112	193	11.2	13.8	16.2	59
Jung 2710	112	206	17.0	16.8	18.0	92
Jung 2710	112	220	19.2	19.2	19.2	100
Pioneer 33A14	113	154	2.5	3.5	4.2	4
Pioneer 33A14	113	168	3.8	5.3	6.7	10
Pioneer 33A14	113	179	6.8	8.3	9.5	24
Pioneer 33A14	113	193	10.7	11.2	15.5	63
Pioneer 33A14	113	206	16.7	16.7	17.8	90
Pioneer 33A14	113	220	19.2	19.2	19.2	103
Mean			10.3	11.5	12.5	47
<b>Probability(%)</b>						
Hybrid (H)			0.0	0.0	0.0	0.2
Day Of Year (D)			0.0	0.0	0.0	0.0
H x D			0.0	0.0	0.0	0.0
<b>LSD(0.10)</b>						
Hybrid (H)			0.4	0.5	0.5	2.7
Day Of Year (D)			0.1	0.2	0.2	0.8
H x D			0.5	0.7	0.6	3.2
<b>CV(%)</b>			4	4	4	5

## Field Experiment History

### Comparison of Monsanto Bt and Non Bt Hybrids.

Location	Cooperators	Soil Type	Previous Crop	Row Width (in)	Planting Date	Harvest Dates	Ave. Final Stand (plants/A)	Tillage Operations	--Soil Test--			actual (lb/a)	--Nitrogen Fertilizer--		Weed Control	Insecticides
									pH	P	K		form	time		
Arlington	S. Kraak J. Quimby	Plano Silt Loam	Soybean	30	24-Apr	15-Oct	22100	Chisel Field Cultivator	6.2	79	247	150 9	46-0-0 6-24-24	preplant planting	Harness 2.5 pt/A Hornet 3.0 oz/A cultivate	None
Chippewa Falls	J. Clark	Sattre Silt Loam	Soybean	30	3-May	16-Oct	25500	Field Cultivator	6.4	30	111	150 9	28-0-0 6-24-24	preplant planting	Frontier 25 oz/A Hornet 3.0 oz/A cultivate	None
Fond du Lac	M. Rankin D. Boelk	Virgil Silt Loam	Soybean	30	10-May	17-Oct	28500	Moldboard Plow Field Cultivator	7.1	42	100	150 9	82-0-0 6-24-24	preplant planting	Accent Gold 2.9 oz/A Atrazine 0.5 lb/A cultivate	None
Galesville	K. Congdon J. Zander	Downs Silt Loam	Soybean	30	3-May	9-Oct	28400	V-ripper Field Cultivator	6.6	43	161	160 9	46-0-0 6-24-24	preplant planting	Dual II 2.25 pt/A Hornet 3.0 oz/A Clarity 4.0 oz/A cultivate	None
Hancock Irrigated	J. Breuer C. Kostichka	Plainfield Sand	Soybean	30	29-Apr	10-Oct	28400	Moldboard Plow Disk	6.4	120	47	9 204	6-24-24 34-0-0	planting post	Aatrex 4L 0.75 lb/A Lasso 2.0 qt/A	None
Janesville	B. Jaynes D. Nehring	Plano Silt Loam	Soybean	30	26-Apr	11-Oct	28000	Chisel Plow Field Cultivator	6.9	66	229	160 9	28-0-0 6-24-24	preplant planting	Dual II 1.8 pt/A Hornet 4.5 oz/A cultivate	None
Lancaster	T. Wood	Fayette Silt Loam	Soybean	30	26-Apr	14-Oct	25900	Soil Finisher	7.3	57	157	140 9	46-0-0 6-24-24	preplant planting	Aatrex 4L 1.0 qt/A Harness 1.0 qt/A Accent 0.33 oz/A Northstar 4.0 oz/A cultivate	None
Marshfield	M. Bertram T. Drendel	Loyal Silt Loam	Soybean	30	15-May	30-Oct	28900	Chisel Plow Field Cultivator (2x)	6.4	62	172	9 46 6776 gal/A	6-24-24 46-0-0 Manure	planting post preplant	Harness 1.0 qt/A Hornet 2.4 oz/A cultivate	None
Seymour	R. Vanden Heuvel Z. Miller	Clay Loam	Corn	30	16-May	23-Oct	29800	Chisel Plow Soil Finisher	7.4	41	165	9 160	6-24-24 82-0-0	planting post	Accent 0.33 oz/A Northstar 4.5 oz/A cultivate	Force 4.4 lbs/A
Spooner Dryland	R. Rand Y. Berger	Cress Sandy Loam	Alfalfa	30	13-May	23-Oct	21300	Moldboard Plow Disk	6.1	27	73	6 92	5-10-30 46-0-0	planting post	Dual II Mag 1.0 pt/A Northstar 5.0 oz/A	None
Spooner Irrigated	R. Rand Y. Berger	Cress Sandy Loam	Corn	30	7-May	23-Oct	21000	Moldboard Plow Disk (2x)	6.1	32	63	6 184	5-10-30 46-0-0	planting post	Dual II Mag 1.0 pt/A Northstar 5.0 oz/A	None
Spooner Silt Loam	R. Rand Y. Berger	Miami Silt Loam	Soybean	30	17-May	24-Oct	26900	Moldboard Plow Disk (2x)	6.7	29	89	6 138 15	5-10-30 46-0-0 5-10-30	planting post post	Dual II Mag 1.0 pt/A Northstar 5.0 oz/A	None
Valders	S. Hendrickson J. Maney T. & B. Maney	Kewaunee Clay Loam	Corn	30	15-May	17-Oct	28300	Moldboard Plow Field Cultivator	6.8	40	105	9 7500 gal/A	6-24-24 Manure	planting preplant	Surpass 1.0 pt/A Accent Gold 2.0 oz/A Banvel 2.0 oz/A cultivate	Force 4.4 lbs/A
White Lake	J. Wahleithner	Antigo Silt Loam	Soybeans	30	2-May	23-Oct	25900	Disk	6.5	58	144	9 120	6-24-24 28-0-0	planting preplant	Atrazine 1.0 lb/A Lasso 2.0 qt/A cultivate	None

**Results: Tables C-3, C-4, C-5, and C-6.**

**Table C-3. Comparison of Monsanto Bt and Non Bt Hybrids.  
Northern Zone 2002.**

<b>Zone</b>	<b>Location</b>	<b>Hybrid</b>	<b>Specialty</b>	<b>Yield</b>	<b>Moisture</b>	<b>Lodging</b>	<b>Grower return</b>
				bu/A	%	%	\$/A
N		DKC3259	Conventional	131	29.8	0	257
N		DK334BtY	Bt	144	30.1	0	283
N		CS86	Conventional	134	31.2	0	261
N		CS86Bt	Bt	145	31.7	1	281
N		CS85	Conventional	145	31.1	0	284
N		CS85Bt	Bt	145	31.1	0	282
N	Spooner - Dryland			141	28.1	0	280
N	Spooner - Irrigated			139	28.1	0	277
N	Spooner - Silt Loam			141	33.7	0	269
N	White Lake			142	33.4	1	272
N	Spooner - Dryland	DKC3259	Conventional	133	27.5	0	267
N	Spooner - Dryland	DK334BtY	Bt	133	26.8	0	268
N	Spooner - Dryland	CS85	Conventional	156	28.0	0	312
N	Spooner - Dryland	CS85Bt	Bt	141	28.3	0	280
N	Spooner - Dryland	CS86	Conventional	139	29.9	0	273
N	Spooner - Dryland	CS86Bt	Bt	141	27.8	0	282
N	Spooner - Irrigated	DKC3259	Conventional	130	25.6	0	265
N	Spooner - Irrigated	DK334BtY	Bt	152	26.8	0	306
N	Spooner - Irrigated	CS85	Conventional	143	28.2	0	285
N	Spooner - Irrigated	CS85Bt	Bt	148	29.6	0	292
N	Spooner - Irrigated	CS86	Conventional	117	27.9	0	234
N	Spooner - Irrigated	CS86Bt	Bt	144	30.2	0	282
N	Spooner - Silt Loam	DKC3259	Conventional	134	34.1	0	255
N	Spooner - Silt Loam	DK334BtY	Bt	137	32.9	0	263
N	Spooner - Silt Loam	CS85	Conventional	141	35.0	0	266
N	Spooner - Silt Loam	CS85Bt	Bt	143	32.4	0	276
N	Spooner - Silt Loam	CS86	Conventional	146	33.9	0	279
N	Spooner - Silt Loam	CS86Bt	Bt	144	34.1	0	275
N	White Lake	DKC3259	Conventional	125	32.0	1	241
N	White Lake	DK334BtY	Bt	155	34.0	0	296
N	White Lake	CS85	Conventional	142	33.1	2	273
N	White Lake	CS85Bt	Bt	147	34.0	1	280
N	White Lake	CS86	Conventional	134	32.9	2	257
N	White Lake	CS86Bt	Bt	149	34.4	2	283
N	Mean			141	30.8	0	275
<b>Probability(%)</b>							
Hybrid (H)				14.6	9.2	8.8	18.8
Location (L)				96.6	0.0	0.0	74.6
H x L				74.7	0.0	1.6	78.7
<b>LSD (0.10)</b>							
Hybrid (H)				NS	1.0	0	NS
Location (L)				NS	0.6	0	NS
H x L				NS	1.2	1	NS
<b>CV(%)</b>				12	3	173	12

**Table C-4. Comparison of Monsanto Bt and Non Bt Hybrids.  
North Central Zone 2002.**

Zone	Location	Hybrid	Specialty	Yield bu/A	Moisture %	Test		Grower return \$/A
						Weight lbs/bu	Lodging %	
NC		DKC4270	Conventional	182	26.6	52	1	367
NC		DKC4222	Bt	184	27.1	52	1	370
NC		DK440	Conventional	186	26.7	51	3	374
NC		DKC4442	Bt	197	28.0	51	0	393
NC		DK507	Conventional	183	30.3	51	1	358
NC		DKC5072	Bt	173	31.2	51	1	336
NC	Chippewa Falls			181	25.8	52	2	368
NC	Marshfield			209	31.3	50	1	407
NC	Seymour			205	29.5	50	0	405
NC	Valders			155	27.4	52	1	312
NC	Chippewa Falls	DKC4270	Conventional	187	23.9	53	2	384
NC	Chippewa Falls	DKC4222	Bt	189	24.7	53	1	387
NC	Chippewa Falls	DK440	Conventional	176	24.7	52	7	359
NC	Chippewa Falls	DKC4442	Bt	206	26.5	52	0	416
NC	Chippewa Falls	DK507	Conventional	168	26.8	52	3	339
NC	Chippewa Falls	DKC5072	Bt	161	27.9	52	2	323
NC	Marshfield	DKC4270	Conventional	208	29.8	51	1	410
NC	Marshfield	DKC4222	Bt	210	30.1	50	2	413
NC	Marshfield	DK440	Conventional	216	29.5	49	0	426
NC	Marshfield	DKC4442	Bt	204	31.4	49	1	397
NC	Marshfield	DK507	Conventional	208	33.5	49	0	399
NC	Marshfield	DKC5072	Bt	206	33.8	50	0	393
NC	Seymour	DKC4270	Conventional	189	27.2	51	0	380
NC	Seymour	DKC4222	Bt	195	27.5	50	0	391
NC	Seymour	DK440	Conventional	194	30.5	50	0	380
NC	Seymour	DKC4442	Bt	216	30.7	50	0	422
NC	Seymour	DK507	Conventional	219	30.8	50	0	429
NC	Seymour	DKC5072	Bt	217	30.5	49	0	425
NC	Valders	DKC4270	Conventional	149	25.7	52	2	303
NC	Valders	DKC4222	Bt	150	26.3	52	0	303
NC	Valders	DK440	Conventional	163	24.7	52	4	333
NC	Valders	DKC4442	Bt	175	25.1	52	0	358
NC	Valders	DK507	Conventional	160	30.4	51	1	313
NC	Valders	DKC5072	Bt	136	32.0	51	1	263
NC	Mean			184	28.3	51	1	366
<b>Probability(%)</b>								
	Hybrid (H)			50.7	0.0	3.3	7.7	38.1
	Location (L)			0.0	0.0	0.0	0.1	0.0
	H x L			53.4	1.6	64.9	1.4	56.9
<b>LSD (0.10)</b>								
	Hybrid (H)			NS	0.2	1	1	NS
	Location (L)			10	NS	0	1	22
	H x L			NS	1.5	NS	2	NS
<b>CV(%)</b>								
				10	4	1	134	10

**Table C-5. Comparison of Monsanto Bt and Non Bt Hybrids.  
Southern Zone 2002.**

Zone	Location	Hybrid	Specialty	Yield bu/A	Moisture %	Test		Grower return \$/A
						Weight lbs/bu	Lodging %	
S		DK537	Conventional	196	21.3	55	2	411
S		DKC5332	Bt	208	22.7	54	0	431
S		DK567	Conventional	204	23.3	54	3	420
S		DKC5671	Bt	237	23.9	54	2	488
S		DK585	Conventional	220	23.9	53	1	453
S		DK5852	Bt	229	24.7	53	1	470
		RX730IMI	Conventional	205	25.3	52	2	417
S		RX730YG	Bt	229	24.9	53	2	468
S	Arlington			188	25.6	53	2	381
S	Janesville			244	24.5	54	0	499
S	Lancaster			217	21.1	53	3	455
S	Arlington	DK537	Conventional	173	22.3	54	3	360
S	Arlington	DKC5332	Bt	155	25.0	52	1	315
S	Arlington	DK567	Conventional	186	24.7	54	4	380
S	Arlington	DKC5671	Bt	224	25.4	53	2	455
S	Arlington	DK585	Conventional	194	26.3	52	0	392
S	Arlington	DK5852	Bt	196	27.5	52	1	392
S	Arlington	RX730IMI	Conventional	177	26.5	52	2	358
S	Arlington	RX730YG	Bt	187	26.9	53	1	376
S	Janesville	DK537	Conventional	226	21.8	58	0	471
S	Janesville	DKC5332	Bt	242	23.3	55	0	499
S	Janesville	DK567	Conventional	237	25.2	55	0	484
S	Janesville	DKC5671	Bt	255	25.3	55	0	519
S	Janesville	DK585	Conventional	244	24.7	54	0	500
S	Janesville	DK5852	Bt	248	25.0	54	0	507
S	Janesville	RX730IMI	Conventional	241	25.6	53	0	489
S	Janesville	RX730YG	Bt	257	25.1	54	1	525
S	Lancaster	DK537	Conventional	186	19.0	54	4	396
S	Lancaster	DKC5332	Bt	209	20.5	53	1	441
S	Lancaster	DK567	Conventional	188	20.1	54	5	397
S	Lancaster	DKC5671	Bt	233	21.1	54	4	490
S	Lancaster	DK585	Conventional	222	20.6	53	2	468
S	Lancaster	DK5852	Bt	244	21.8	52	2	510
S	Lancaster	RX730IMI	Conventional	191	23.0	52	5	396
S	Lancaster	RX730YG	Bt	244	22.9	52	3	505
S	Mean			217	23.8	53	2	446
<b>Probability(%)</b>								
	Hybrid (H)			0.0	0.0	0.0	21.7	0.0
	Location (L)			0.0	0.0	0.0	0.2	0.0
	H x L			9.9	1.2	6.1	94.2	8.7
<b>LSD (0.10)</b>								
	Hybrid (H)			12	0.6	1	NS	25
	Location (L)			8	0.3	0	1	17
	H x L			23	1	1	NS	48
<b>CV(%)</b>								
				8	3	1	154	8



**Table C-6. Comparison of Monsanto Bt and Non Bt Hybrids.  
South Central Zone 2002.**

Zone	Location	Hybrid	Specialty	Yield bu/A	Moisture %	Test		Grower return \$/A
						Weight lbs/bu	Lodging %	
SC		DKC4270	Conventional	206	21.0	57	2	433
SC		DKC4222	Bt	223	20.8	56	2	468
SC		DK440	Conventional	203	20.1	55	2	428
SC		DKC4442	Bt	220	21.3	55	2	460
SC		DK507	Conventional	212	23.1	54	1	438
SC		DKC5072	Bt	220	23.7	54	0	453
SC		DK537	Conventional	226	24.7	53	2	462
SC		DKC5332	Bt	232	27.1	52	0	465
SC	Fond du lac			188	20.8	55	3	396
SC	Galesville			230	22.8	56	0	478
SC	Hancock			234	24.6	52	0	479
SC	Fond du lac	DKC4270	Conventional	180	19.2	58	3	382
SC	Fond du lac	DKC4222	Bt	191	19.3	57	4	406
SC	Fond du lac	DK440	Conventional	174	18.2	55	4	373
SC	Fond du lac	DKC4442	Bt	189	19.4	56	6	401
SC	Fond du lac	DK507	Conventional	182	21.5	55	4	380
SC	Fond du lac	DKC5072	Bt	194	22.5	55	0	402
SC	Fond du lac	DK537	Conventional	195	21.6	54	6	407
SC	Fond du lac	DKC5332	Bt	205	24.6	53	0	419
SC	Galesville	DKC4270	Conventional	220	21.4	59	0	460
SC	Galesville	DKC4222	Bt	224	21.0	59	1	470
SC	Galesville	DK440	Conventional	203	20.3	57	0	429
SC	Galesville	DKC4442	Bt	244	21.7	56	0	511
SC	Galesville	DK507	Conventional	228	22.7	57	0	474
SC	Galesville	DKC5072	Bt	235	23.3	56	0	485
SC	Galesville	DK537	Conventional	244	24.9	54	0	498
SC	Galesville	DKC5332	Bt	246	26.7	53	0	495
SC	Hancock	DKC4270	Conventional	219	22.3	54	1	456
SC	Hancock	DKC4222	Bt	254	22.1	53	0	529
SC	Hancock	DK440	Conventional	231	21.7	52	0	482
SC	Hancock	DKC4442	Bt	226	22.7	52	0	468
SC	Hancock	DK507	Conventional	226	25.2	52	0	461
SC	Hancock	DKC5072	Bt	233	25.4	52	0	473
SC	Hancock	DK537	Conventional	241	27.5	51	0	482
SC	Hancock	DKC5332	Bt	245	29.9	50	0	482
SC	Mean			218	22.7	54	1	451
<b>Probability(%)</b>								
	Hybrid (H)			0.0	0.0	0.0	7.4	0.4
	Location (L)			0.0	0.0	0.0	0.0	0.0
	H x L			45.9	0.1	6.9	2.1	36.3
<b>LSD (0.10)</b>								
	Hybrid (H)			7	0.5	0	1	17
	Location (L)			8	0.3	0	1	15
	H x L			NS	0.8	1	2	NS
<b>CV(%)</b>								
				7	3	2	116	7

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2264 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** 406 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Soil Finisher Rotary Cultivate

<b>Fertilizer:</b>	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	46-0-0	325	4 /18/02
<b>Starter</b>	6-24-24	150	4 /25/02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	None	N/A	N/A

**Herbicide:** Harness 2.5 pt/A  
Hornet 3.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/25/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/21/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.10 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 27324 plants per acre

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### Hybrid

**Results:** Table C-7.

**Table C-7. AgReliant Hybrid Corn Silage Evaluation Study - Late.  
Arlington, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
AGR560	8.2	58.2	48	7.8	25	49	82	64	32	3446	28463
AGR561	8.6	59.9	22	7.4	24	47	84	66	36	3622	31106
AGR562	8.3	59.1	37	7.2	25	48	83	64	34	3458	28645
AGR563	9.5	56.5	47	7.6	25	48	84	67	33	3567	33769
AGR564	7.7	59.1	32	7.9	24	47	84	65	36	3562	27581
AGR565	8.9	61.3	30	7.7	26	49	83	66	32	3586	31855
AGR566	9.7	62.8	43	8.0	25	49	84	66	32	3646	35206
AGR567	10.5	60.9	48	7.7	23	45	85	66	35	3690	38633
AGR568	8.4	65.2	37	8.1	25	49	83	66	32	3645	30509
AGR569	9.4	64.0	37	8.2	25	48	83	65	30	3601	33997
AGR570	10.1	62.3	47	7.5	22	44	85	66	38	3727	37699
AGR571	10.3	61.3	45	7.4	24	47	84	65	35	3638	37256
Mean	9.1	60.9	39	7.7	25	48	84	65	34	3599	32893
<b>Probability (%)</b>											
Genotype	3.2	7.7	1.6	2.1	54.0	62.1	69.5	50.8	46.5	15.1	1.9
<b>LSD (0.10)</b>											
Genotype	1.2	4.1	11	0.4	NS	NS	NS	NS	NS	NS	4929
<b>CV (%)</b>											
Genotype	10	5	20	4	8	6	2	3	11	3	11

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2265 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Lancaster, WI **County:** Grant  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Fayette  
**Soil Test:** **Date:** 11/01/02 **pH** 7.3 **OM (%)** 2.1 **P (ppm)** 57 **K (ppm)** 157

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### Plot Management

**Tillage Operations:** Soil Finisher Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	46-0-0	300	N/A
<b>Starter</b>	6-24-24	150	4 /26/02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	None	N/A	N/A

**Herbicide:** Aatrex 4L 1.0 qt/A  
Harness 1.0 qt/A  
Accent 0.33 oz/A  
Northstar 4.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/26/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/16/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.10 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 25106 plants per acre

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### Hybrid

**Results:** Table C-8.

**Table C-8. AgReliant Hybrid Corn Silage Evaluation Study - Late.  
Lancaster, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
AGR560	8.9	55.9	40	7.8	24	47	83	64	35	3441	30691
AGR561	8.8	56.7	30	7.0	23	46	84	65	36	3515	30954
AGR562	8.3	56.7	42	7.0	24	46	83	64	35	3498	28937
AGR563	10.1	53.3	28	7.3	22	44	85	65	38	3505	35511
AGR564	8.5	55.8	37	7.3	23	45	84	65	38	3545	30326
AGR565	8.7	58.4	35	7.1	24	47	83	64	35	3510	30526
AGR566	8.1	60.1	48	7.3	22	44	85	66	38	3722	30027
AGR567	9.3	61.1	38	7.5	24	47	83	63	35	3537	32808
AGR568	8.3	64.1	32	8.3	22	43	85	64	38	3728	30778
AGR569	9.7	63.0	37	7.8	24	47	83	64	34	3631	35279
AGR570	9.9	61.9	47	7.5	24	46	84	65	35	3636	35961
AGR571	10.0	58.7	40	7.4	23	44	84	64	37	3568	35661
Mean	9.0	58.8	38	7.4	23	45	84	65	36	3570	32288
<b>Probability (%)</b>											
Genotype	2.0	0.2	46.0	11.9	81.9	85.8	76.3	32.7	89.2	1.3	7.5
<b>LSD (0.10)</b>											
Genotype	1.1	3.9	NS	NS	NS	NS	NS	NS	NS	128	4468
<b>CV (%)</b>											
	8	5	28	6	9	7	2	2	10	3	10

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2266 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Fond du Lac, WI **County:** Fond du Lac  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Virgil  
**Soil Test:** **Date:** 11/01/02 **pH** 7.1 **OM (%)** 4.2 **P (ppm)** 42 **K (ppm)** 100

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### Plot Management

**Tillage Operations:** Moldboard Field Cultivator Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
Preplant	82-0-0	185	N/A
Starter	6-24-24	150	5 /10/02
Post plant	N/A	N/A	N/A
Manure:	None	N/A	N/A

**Herbicide:** Accent Gold 2.9 oz/A  
Aatrazine 0.5 lb/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 5/10/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/18/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 30571 plants per acre

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### Hybrid

**Results:** Table C-9.

**Table C-9. AgReliant Hybrid Corn Silage Evaluation Study - Mid.  
Fond du Lac, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
AGR556	8.4	51.2	13	6.1	27	53	80	63	32	3225	27207
AGR557	7.0	50.5	12	6.4	29	55	79	62	30	3170	21897
AGR558	7.5	52.0	27	6.3	29	55	79	63	29	3159	23809
AGR559	8.2	58.6	17	6.9	25	48	82	62	33	3433	28230
AGR560	9.0	56.8	43	6.6	27	50	81	62	32	3325	30011
AGR561	8.5	60.3	28	6.5	28	53	80	63	28	3368	28649
AGR562	8.6	53.7	30	6.4	25	48	82	62	36	3328	28658
AGR563	9.7	54.9	43	6.2	27	51	80	61	33	3219	31150
AGR564	8.2	54.4	27	6.0	26	50	82	64	34	3382	27707
AGR565	9.2	59.4	40	6.2	27	51	81	63	32	3407	31357
Mean	8.4	55.1	28	6.4	27	51	81	62	32	3302	27868
<b>Probability (%)</b>											
Genotype	44.8	0.5	0.1	89.1	6.6	5.5	4.9	12.0	17.9	0.0	28.3
<b>LSD (0.10)</b>											
Genotype	NS	4.2	12	NS	2.5	4.2	1.6	NS	NS	93	NS
<b>CV (%)</b>											
	16	5	31	11	7	6	1	2	10	2	16

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2267 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Galesville, WI **County:** Trempealeau  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Downs  
**Soil Test:** **Date:** 11/01/02 **pH** 6.6 **OM (%)** 3.2 **P (ppm)** 43 **K (ppm)** 161

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### Plot Management

**Tillage Operations:** V-Ripper Field Cultivator Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	46-0-0	350	N/A
<b>Starter</b>	6-24-24	150	5 /3 /02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	None	N/A	N/A

**Herbicide:** Dual II Magnum 2.25 pt/A  
Hornet 3.0 oz/A  
Clarity 4.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 5/3/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/13/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 30334 plants per acre

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### Hybrid

**Results:** Table C-10.



**Table C-10. AgReliant Hybrid Corn Silage Evaluation Study - Mid. Galesville, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
AGR556	11.3	61.3	30	7.6	23	44	82	59	38	3480	39457
AGR557	9.4	61.0	42	7.6	27	50	80	61	33	3396	31870
AGR558	9.4	68.0	42	8.2	26	48	81	60	33	3446	32287
AGR559	10.8	64.0	37	8.2	24	45	81	59	37	3455	37300
AGR560	10.9	64.0	62	8.0	25	47	81	59	36	3448	37481
AGR561	10.4	68.8	42	7.5	24	45	83	62	37	3624	37878
AGR562	9.1	66.8	47	7.3	26	48	80	57	35	3375	30646
AGR563	11.0	65.0	60	8.2	26	49	81	62	31	3483	38585
AGR564	10.3	66.0	52	7.8	28	51	79	59	32	3323	34298
AGR565	9.2	68.6	50	8.5	27	50	79	58	31	3340	30588
Mean	10.2	65.3	46	7.9	26	48	81	59	34	3437	35039
<b><u>Probability (%)</u></b>											
Genotype	2.7	0.5	0.3	1.0	8.7	5.4	14.9	0.7	3.2	10.8	4.6
<b><u>LSD (0.10)</u></b>											
Genotype	1.2	3.4	11	0.5	2.5	3.7	NS	1.8	4.0	NS	5365
<b><u>CV (%)</u></b>											
	9	4	17	4	7	5	2	2	8	3	11

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2268 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Chippewa Falls, WI **County:** Chippewa  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Sattre  
**Soil Test:** **Date:** 11/01/02 **pH** 6.4 **OM (%)** 2.1 **P (ppm)** 30 **K (ppm)** 111

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### Plot Management

**Tillage Operations:** Field Cultivator Cultivated

<b>Fertilizer:</b>		<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>		28-0-0	535	N/A
<b>Starter</b>		6-24-24	150	5 /3 /02
<b>Post plant</b>		N/A	N/A	N/A
<b>Manure:</b>		None	N/A	N/A

**Herbicide:** Frontier 25 oz/A  
Hornet 3.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 5/3/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/17/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.08 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 29066 plants per acre

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### Hybrid

**Results:** Table C-11.

**Table C-11. AgReliant Hybrid Corn Silage Evaluation Study - Early.  
Chippewa Falls, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
AGR551	8.2	65.3	45	6.8	27	51	82	64	30	3524	29052
AGR552	7.0	62.1	27	6.8	26	50	81	62	32	3438	24044
AGR553	8.0	61.8	23	6.9	24	46	83	64	36	3634	29238
AGR554	8.1	59.8	23	6.3	28	52	81	63	31	3385	27512
AGR555	7.8	63.1	57	6.2	27	51	82	65	31	3578	28099
AGR556	8.6	62.7	25	6.1	26	49	82	64	34	3559	30386
AGR557	8.6	60.1	37	6.2	26	49	83	64	35	3538	30413
AGR558	7.7	65.7	48	6.9	27	50	81	62	32	3470	26807
AGR559	7.8	66.0	43	6.2	29	54	80	62	26	3381	26446
Mean	8.0	63.0	36	6.5	27	50	82	63	32	3501	28000
<b>Probability (%)</b>											
Genotype	40.4	1.4	0.0	4.6	21.6	33.3	24.7	3.8	7.8	17.3	34.1
<b>LSD (0.10)</b>											
Genotype	NS	3.0	11	0.5	NS	NS	NS	2.3	4.9	NS	NS
<b>CV (%)</b>											
Genotype	10	3	20	6	8	7	2	2	11	3	11

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2269 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Marshfield, WI **County:** Wood  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Loyal  
**Soil Test:** **Date:** 10/25/00 **pH** 6.5 **OM (%)** 3.3 **P (ppm)** 47 **K (ppm)** 108

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	N/A	N/A	N/A
<b>Starter</b>	6-24-24	150	5 /15/02
<b>Post plant</b>	46-0-0	100	7 /2 /02
<b>Manure:</b>	Manure	9342 gal/A	Fall

**Herbicide:** Hornet 2.4 oz/A  
Harness 2 pt/A **Insecticide:** Force 4.4 lb/A

**Irrigation:** None

**Planting Date:** 5/15/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 10/2/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.08 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 30096 plants per acre

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### Hybrid

**Results:** Table C-12.

**Table C-12. AgReliant Hybrid Corn Silage Evaluation Study - Early.  
Marshfield, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
AGR551	8.9	72.1	47	8.3	28	51	81	63	31	3491	31089
AGR552	7.7	69.2	37	7.8	29	54	79	61	29	3343	25990
AGR553	6.8	68.1	48	7.3	29	55	80	64	29	3438	23414
AGR554	7.7	66.4	28	7.4	29	54	80	63	30	3400	26337
AGR555	9.2	69.4	40	7.2	28	51	82	65	31	3557	32753
AGR556	9.3	69.4	42	7.4	28	51	80	60	33	3388	31498
AGR557	8.7	67.0	48	7.6	28	52	82	64	32	3541	30866
AGR558	9.1	67.5	53	7.6	27	50	81	62	33	3479	31483
AGR559	8.5	72.2	23	7.9	29	52	80	62	29	3396	28886
Mean	8.4	69.1	41	7.6	28	52	81	63	31	3448	29146
<b>Probability (%)</b>											
Genotype	1.2	9.6	26.9	6.0	76.2	38.2	54.3	13.3	28.3	50.2	3.4
<b>LSD (0.10)</b>											
Genotype	1.1	3.5	NS	0.5	NS	NS	NS	NS	NS	NS	4646
<b>CV (%)</b>											
	9	4	36	5	6	5	2	3	9	4	11

## FIELD EXPERIMENT HISTORY

**Title:** AgReliant Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2270 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Valders, WI **County:** Manitowoc  
**Supported By:** AgReliant Genetics, LLC

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Kewaunee  
**Soil Test:** **Date:** 11/01/02 **pH** 6.8 **OM (%)** 2.8 **P (ppm)** 40 **K (ppm)** 105

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### Plot Management

**Tillage Operations:** Moldboard Field Cultivator Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	N/A	N/A	N/A
<b>Starter</b>	6-24-24	150	5 /15/02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	Manure	7500 gal/A	Fall

**Herbicide:** Surpass 1 pt/A  
Accent Gold 2 oz/A  
Banvel 2 oz/A **Insecticide:** Force 4.4 lb/A

**Irrigation:** None

**Planting Date:** 5/15/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/24/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.08 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 28750 plants per acre

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### Hybrid

**Results:** Table C-13.

**Table C-13. AgReliant Hybrid Corn Silage Evaluation Study - Early.  
Valders, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
AGR551	5.5	62.8	45	8.1	24	50	86	71	25	3788	20724
AGR552	4.5	58.3	25	8.0	24	50	85	71	28	3675	16606
AGR553	5.2	58.0	28	7.9	22	48	87	72	30	3772	19751
AGR554	5.4	54.2	15	7.4	24	48	85	70	32	3581	19440
AGR555	6.2	58.7	50	7.6	22	47	88	74	30	3888	24156
AGR556	6.4	58.6	37	7.9	22	46	87	72	33	3814	24485
AGR557	6.7	55.2	42	7.9	23	47	87	72	32	3713	24979
AGR558	5.4	58.8	50	7.5	23	48	85	69	29	3668	20001
AGR559	5.6	60.5	40	8.4	24	49	86	71	27	3764	21190
Mean	5.7	58.3	37	7.8	23	48	86	71	30	3740	21259
<b>Probability (%)</b>											
Genotype	6.1	1.0	2.7	39.7	30.7	16.1	4.9	7.1	0.8	1.1	2.7
<b>LSD (0.10)</b>											
Genotype	1.1	3.2	17	NS	NS	NS	1.4	2.2	3.4	115	3912
<b>CV (%)</b>											
	13	4	32	7	5	4	1	2	8	2	13

## FIELD EXPERIMENT HISTORY

**Title:** IFSI Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2271 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Illinois Foundation Seed, Inc

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### Site Information

**Field:** 406 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Soil Finisher Rotary Cultivate

<b>Fertilizer:</b>	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	46-0-0	325	4 /18/02
<b>Starter</b>	6-24-24	150	4 /25/02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	None	N/A	N/A

**Herbicide:** Harness 2.5 pt/A  
Hornet 3.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/25/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/21/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 23998 plants per acre

### Hybrid

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**Results:** Table C-14.



**Table C-14. IFSI Hybrid Corn Silage Evaluation Study.  
Arlington, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
2002-01	8.3	50.9	20	7.5	26	51	82	66	30	3356	27772
2002-02	7.7	60.3	48	7.8	24	46	84	66	33	3616	27693
2002-03	8.2	60.8	48	7.7	22	43	86	67	36	3751	30790
2002-04	7.0	57.6	23	7.2	25	49	83	66	35	3498	24265
2002-05	9.1	61.6	45	7.2	25	49	83	66	32	3596	32764
2002-06	6.3	64.3	37	7.7	26	50	83	67	31	3637	22960
2002-07	9.9	60.6	28	7.3	26	50	82	64	31	3449	34054
2002-08	9.6	62.6	50	7.8	21	42	86	67	37	3833	36925
2002-09	7.1	64.6	45	7.7	29	54	80	64	23	3409	24156
2002-10	8.0	68.2	63	8.3	28	53	82	66	24	3563	28404
Mean	8.1	61.2	41	7.6	25	49	83	66	31	3571	28978
<b>Probability (%)</b>											
Genotype	2.3	0.2	0.0	0.7	1.0	1.1	3.9	16.2	2.7	0.2	1.5
<b>LSD (0.10)</b>											
Genotype	1.2	4.5	8.2	0.4	3.1	4.9	2.6	NS	6.6	161	5084
<b>CV (%)</b>											
Genotype	10	5	14	4	9	7	2	3	15	3	12

## FIELD EXPERIMENT HISTORY

**Title:** IFSI Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2272 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Lancaster, WI **County:** Grant  
**Supported By:** Illinois Foundation Seed, Inc

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Fayette  
**Soil Test:** **Date:** 11/01/02 **pH** 7.3 **OM (%)** 2.1 **P (ppm)** 57 **K (ppm)** 157

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### Plot Management

**Tillage Operations:** Soil Finisher Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	46-0-0	300	N/A
<b>Starter</b>	6-24-24	150	4 /26/02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	None	N/A	N/A

**Herbicide:** Aatrex 4L 1.0 qt/A  
Harness 1.0 qt/A  
Accent 0.33 oz/A  
Northstar 4.0 oz/A

**Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/26/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/16/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 26770 plants per acre

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### Hybrid

**Results:** Table C-15.

**Table C-15. IFSI Hybrid Corn Silage Evaluation Study.  
Lancaster, WI 2002.**

Genotype	Dry Matter		Kernel				IVD	NDFD	Starch	Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF				Ton	Acre
	T/A	%	%	%	%	%	%	%	lbs/T	lbs/A	
2002-01	7.1	45.0	20	8.0	25	49	83	66	33	3396	23988
2002-02	8.7	57.4	28	7.6	23	45	83	63	36	3484	30454
2002-03	8.5	61.3	27	7.2	23	46	84	65	35	3631	30931
2002-04	8.7	48.7	12	7.1	21	43	85	66	40	3504	30394
2002-05	9.1	61.0	40	7.4	22	45	85	66	37	3706	33734
2002-06	7.2	61.3	27	7.7	24	46	84	65	35	3654	26242
2002-07	10.4	58.1	25	7.0	25	48	82	62	33	3413	35334
2002-08	9.4	65.0	42	6.9	24	47	84	66	33	3679	34728
2002-09	9.8	62.4	42	7.2	25	47	83	63	33	3568	34796
2002-10	8.6	68.0	57	8.3	28	54	80	63	25	3413	29299
Mean	8.7	58.8	32	7.4	24	47	83	64	34	3545	30990
<b>Probability (%)</b>											
Genotype	0.1	0.0	0.0	0.1	1.6	1.3	4.1	6.4	0.2	7.4	0.2
<b>LSD (0.10)</b>											
Genotype	1.1	5.8	12.1	0.5	2.7	3.9	2.2	2.5	4.3	196	4199
<b>CV (%)</b>											
	9	7	27	4	8	6	2	3	9	4	10

## FIELD EXPERIMENT HISTORY

**Title:** Thurston Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2273 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Thurston Genetics, Inc.

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### Site Information

**Field:** 406 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Soil Finisher Rotary Cultivate

<b>Fertilizer:</b>	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	46-0-0	325	4 /18/02
<b>Starter</b>	6-24-24	150	4 /25/02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	None	N/A	N/A

**Herbicide:** Harness 2.5 pt/A  
Hornet 3.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/25/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/21/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 23602 plants per acre

### Hybrid

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**Results:** Table C-16.

**Table C-16. Thurston Hybrid Corn Silage Evaluation Study - Late.  
Arlington, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
TE7130	8.3	62.7	57	7.5	24	47	84	66	32	3650	30402
TE8785	9.0	63.5	28	8.2	25	49	83	66	34	3645	32635
TE8983	8.7	65.1	45	8.5	24	47	84	67	31	3723	32309
TE8991	7.8	66.4	48	8.5	27	51	81	63	28	3459	26639
TE9002	9.2	62.5	47	7.6	24	47	84	67	33	3696	34021
TE9716	7.4	67.0	40	8.4	24	48	86	70	32	3849	28334
TE9899	9.2	61.8	23	7.5	25	48	82	63	33	3504	32418
TE9977	8.7	63.9	58	8.9	25	49	83	66	30	3649	31762
TE9978	8.5	67.7	62	8.6	27	51	83	66	24	3582	30434
TE9979	8.4	65.1	50	8.2	29	55	82	66	22	3513	29619
TE9980	9.1	66.7	47	8.5	27	51	81	64	24	3464	31386
Mean	8.6	64.8	46	8.2	25	49	83	66	29	3612	31039
<b><u>Probability (%)</u></b>											
Genotype	3.1	1.7	7.5	0.0	2.6	5.3	0.8	0.0	2.1	0.1	14.9
<b><u>LSD (0.10)</u></b>											
Genotype	1.1	2.7	15	0.5	2.5	3.9	1.9	1.4	5.4	129	NS
<b><u>CV (%)</u></b>											
	9	3	23	4	7	6	2	2	13	3	10

## FIELD EXPERIMENT HISTORY

**Title:** Thurston Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2274 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Lancaster, WI **County:** Grant  
**Supported By:** Thurston Genetics, Inc.

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Fayette  
**Soil Test:** **Date:** 11/01/02 **pH** 7.3 **OM (%)** 2.1 **P (ppm)** 57 **K (ppm)** 157

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### Plot Management

**Tillage Operations:** Soil Finisher Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	46-0-0	300	N/A
<b>Starter</b>	6-24-24	150	4 /26/02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	None	N/A	N/A

**Herbicide:** Aatrex 4L 1.0 qt/A  
Harness 1.0 qt/A  
Accent 0.33 oz/A  
Northstar 4.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 4/26/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/16/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.09 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 25027 plants per acre

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### Hybrid

**Results:** Table C-17.

**Table C-17. Thurston Hybrid Corn Silage Evaluation Study - Late.  
Lancaster, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
TE7130	7.6	65.4	45	7.7	25	48	82	63	32	3551	27121
TE8785	9.4	59.9	28	8.3	21	42	85	65	39	3694	34854
TE8983	8.6	62.1	43	8.5	23	46	83	64	33	3588	30941
TE8991	9.3	66.7	47	8.2	24	47	82	61	33	3528	32915
TE9002	9.1	62.3	43	7.5	25	47	82	62	33	3485	31945
TE9716	7.1	59.6	27	7.8	23	47	86	71	37	3819	27095
TE9899	9.8	58.0	28	7.8	26	49	81	61	32	3329	32557
TE9977	8.2	63.2	57	8.4	25	50	83	65	31	3597	29280
TE9978	9.4	65.7	45	8.1	27	52	81	63	26	3452	32339
TE9979	9.6	63.5	48	7.6	26	50	83	66	30	3615	34723
TE9980	9.6	63.6	38	7.2	26	49	81	62	31	3486	33408
Mean	8.9	62.7	41	7.9	25	48	83	64	33	3559	31561
<b><u>Probability (%)</u></b>											
Genotype	6.3	2.5	1.5	0.3	5.1	1.5	0.6	0.0	0.5	0.2	30.3
<b><u>LSD (0.10)</u></b>											
Genotype	1.5	4.0	13	0.5	2.6	3.5	2.2	2.2	4.2	150	NS
<b><u>CV (%)</u></b>											
	12	5	23	4	8	5	2	2	9	3	13

## FIELD EXPERIMENT HISTORY

**Title:** Thurston Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2275 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Fond du Lac, WI **County:** Fond du Lac  
**Supported By:** Thurston Genetics, Inc.

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Virgil  
**Soil Test:** **Date:** 11/01/02 **pH** 7.1 **OM (%)** 4.2 **P (ppm)** 42 **K (ppm)** 100

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### Plot Management

**Tillage Operations:** Moldboard Field Cultivator Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
Preplant	82-0-0	185	N/A
Starter	6-24-24	150	5 /10/02
Post plant	N/A	N/A	N/A
Manure:	None	N/A	N/A

**Herbicide:** Accent Gold 2.9 oz/A  
Aatrazine 0.5 lb/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 5/10/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/18/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.07 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 30096 plants per acre

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### Hybrid

**Results:** Table C-18.



**Table C-18. Thurston Hybrid Corn Silage Evaluation Study - Early.  
Fond du Lac, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
TE7051	7.7	56.1	30	6.6	26	50	82	63	32	3370	25915
TE8784	7.4	59.1	23	6.9	28	53	80	62	28	3303	24554
TE8785	8.5	61.8	42	6.6	26	50	81	61	33	3418	29121
TE9712	8.6	52.1	10	6.2	28	54	80	63	29	3228	27946
TE9713	8.3	52.6	15	6.0	27	52	82	65	31	3369	27814
TE9714	7.8	54.6	17	6.7	28	53	80	63	29	3258	25225
TE9929	9.7	56.3	28	6.7	28	54	80	62	29	3239	31537
TE9938	9.3	55.6	25	6.4	26	50	80	60	33	3237	30197
Mean	8.4	56.0	24	6.5	27	52	81	62	31	3303	27789
<b>Probability (%)</b>											
Genotype	8.3	0.1	2.3	21.2	81.8	76.0	73.0	1.4	73.4	27.6	19.4
<b>LSD (0.10)</b>											
Genotype	1.3	3.1	13	NS	NS	NS	NS	1.8	NS	NS	NS
<b>CV (%)</b>											
	11	4	39	6	10	8	2	2	14	3	12

## FIELD EXPERIMENT HISTORY

**Title:** Thurston Hybrid Corn Silage Trial  
**Experiment:** 01PrivateSilage **Trial ID** 2276 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Galesville, WI **County:** Trempealeau  
**Supported By:** Thurston Genetics, Inc.

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Downs  
**Soil Test:** **Date:** 11/01/02 **pH** 6.6 **OM (%)** 3.2 **P (ppm)** 43 **K (ppm)** 161

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### Plot Management

**Tillage Operations:** V-Ripper Field Cultivator Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	46-0-0	350	N/A
<b>Starter</b>	6-24-24	150	5 /3 /02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	None	N/A	N/A

**Herbicide:** Dual II Magnum 2.25 pt/A  
Hornet 3.0 oz/A  
Clarity 4.0 oz/A **Insecticide:** None

**Irrigation:** None

**Planting Date:** 5/3/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/13/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** Planted adjacent to public silage trial

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.07 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 32076 plants per acre

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### Hybrid

**Results:** Table C-19.

**Table C-19. Thurston Hybrid Corn Silage Evaluation Study - Early.  
Galesville, WI 2002.**

Genotype	Dry Matter		Kernel							Milk Per	
	Yield	Moisture	Milk	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre
	T/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
TE7051	9.9	65.3	43	7.6	25	47	81	60	36	3504	34602
TE8784	8.9	65.5	58	8.4	25	48	80	60	32	3434	30705
TE8785	11.6	69.1	53	8.4	26	49	80	59	33	3387	39273
TE9712	10.7	60.6	45	7.8	24	46	82	62	34	3518	37755
TE9713	11.4	62.2	55	7.3	26	48	81	61	34	3476	39592
TE9714	9.2	66.2	48	8.1	26	48	81	60	33	3482	31909
TE9929	9.9	67.2	48	7.8	28	51	79	58	30	3292	32628
TE9938	10.5	66.2	52	7.6	25	47	81	59	34	3464	36443
Mean	10.3	65.3	50	7.9	26	48	81	60	33	3445	35363
<b>Probability (%)</b>											
Genotype	2.3	0.2	53.8	1.2	30.6	26.5	4.1	1.9	27.4	12.4	4.5
<b>LSD (0.10)</b>											
Genotype	1.3	2.8	NS	0.5	NS	NS	1.6	1.4	NS	NS	5035
<b>CV (%)</b>											
	9	3	19	5	6	5	1	2	8	3	10

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02PD **Trial ID** 2367 **Year:** 2002  
**Personnel:** J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** 406 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator Cultivated 6/19/02  
**Analysis:** **Rate lbs/A:** **Date:**  
**Fertilizer:** **Preplant :** 46-0-0 325 lbs/A 4 /14/02  
**Starter :** 6-24-24 150 lbs/A 4 /30/02  
**Post plant :**  
**Manure:**  
**Herbicide:** Harness 2.5 pt/A 4/26/02 **Insecticide:**  
Hornet 3.0 oz/A 6/10/02 **Hybrid:** Dairyland 1410  
Pioneer 37R71  
**Irrigation:**  
**Planting Date:** 4/30/02 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/21/02 **Harvest Method:** S: NH707 Plot Chopper  
G: Kincaid Plot Combine  
**Notes:**

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### Experimental Design

**Design:** RCB split plot **Replications:** 3  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 22' x 5'  
**Harvest Plot Size:** S: 2.5' x 22', **Harvest Plant Density:** N/A plants per acre  
G: 5' x 22'

### Factors/Treatments:

#### Plant Density: (plants/A)

25000, 30000,  
35000,  
40000, 45000,  
& 50000

Dairyland 1410  
Pioneer 37R71

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**Results: Tables C-20.**

**Table C-20. Plant Density and Hybrid Influence on Corn Grain and Silage Performance.  
Arlington, WI - 2002.**

Target Density	Hybrid	Grain						Plants emerged	Seeds planted	Flag Leaf height	
		Yield	Moisture	Test Wt	Lodged	Grower Return	Harvest				
							bu/A				%
	Dairyland 1410	176	24.2	52	9	362	23936	22770	26164	50688	101
	Pioneer 37R71	190	19.9	55	7	403	32538	31746	35145	50688	91
25000		171	21.7	53	4	356	22176	21912	22077	35640	94
30000		185	22.4	53	3	384	23430	22902	24486	41976	99
35000		173	22.2	53	7	361	24684	24222	27819	47520	95
40000		196	21.8	53	11	409	31020	30294	34205	53856	97
45000		187	22.1	54	13	390	31746	31086	36102	59400	98
50000		190	22.3	54	12	395	36366	33132	39237	65736	96
25000	Dairyland 1410	169	23.7	52	8	349	19932	19668	19602	35640	101
25000	Pioneer 37R71	172	19.7	54	0	364	24420	24156	24552	35640	87
30000	Dairyland 1410	185	24.5	51	4	379	19536	19008	21318	41976	103
30000	Pioneer 37R71	184	20.3	54	1	389	27324	26796	27654	41976	94
35000	Dairyland 1410	158	24.6	52	6	324	19140	19140	22572	47520	101
35000	Pioneer 37R71	188	19.8	55	8	398	30228	29304	33066	47520	89
40000	Dairyland 1410	193	23.5	51	10	399	27456	25344	29997	53856	101
40000	Pioneer 37R71	198	20.0	55	11	418	34584	35244	38412	53856	92
45000	Dairyland 1410	169	24.6	52	13	347	27060	26004	30987	59400	100
45000	Pioneer 37R71	204	19.6	55	12	434	36432	36168	41217	59400	95
50000	Dairyland 1410	183	24.5	52	14	375	30492	27456	32505	65736	102
50000	Pioneer 37R71	196	20.0	56	10	415	42240	38808	45969	65736	91
Mean		183	22.1	53	8	382	28237	27258	30654	50688	96
<b>Probability(%)</b>											
Plant Density (D)		31.9	39.7	47.7	1.8	33.8	0.0	0.1	0.0	-	54.5
Hybrid (H)		2.2	0.0	0.0	43.3	0.3	0.0	0.0	0.0	-	0.0
D x H		31.9	73.4	30.3	80.0	27.4	25.4	11.1	6.9	-	47.1
<b>LSD (0.10)</b>											
Plant Density (D)		NS	NS	NS	5	NS	3524	3571	1398	-	NS
Hybrid (H)		10	0.5	1	NS	20	1590	1195	1347	-	2
D x H		NS	NS	NS	NS	NS	NS	NS	3300	-	NS
<b>CV(%)</b>											
		9	4	2	87	9	9	7	7	-	4

continued

**Table C-20. Plant Density and Hybrid Influence on Corn Grain and Silage Performance.**

(continued) **Arlington, WI - 2002.**

Target Density	Hybrid	Whole Plant												
		Dry Matter		Kernel milk	Harvest		Crude protein	ADF	NDF	<i>In Vitro</i> Digest	Cell Wall		Milk per	
		yield tons/A	Moisture %		plants plants/A	ears ears/A					Digest	Starch	Ton lbs/T	Acre lbs/A
	Dairyland 1410	9.0	56.2	40	25696	23848	7.7	21.8	44.8	85.1	66.8	33.6	3606	32408
	Pioneer 37R71	8.8	52.2	7	31636	30668	7.6	20.0	41.7	86.4	67.4	36.3	3629	31826
25000		7.1	56.6	26	20196	18876	8.1	21.3	44.3	85.5	67.3	31.8	3647	25961
30000		8.1	57.2	28	22836	22440	7.8	20.6	42.3	85.8	66.6	33.3	3644	29589
35000		9.3	54.8	23	27324	25872	7.5	21.1	43.5	85.4	66.5	34.3	3590	33397
40000		9.6	54.6	22	30624	28776	7.6	20.0	41.7	86.4	67.3	36.7	3672	35305
45000		9.6	50.4	25	34188	32076	7.3	21.6	44.5	85.5	67.4	36.2	3565	34182
50000		9.5	51.5	16	36828	35508	7.5	20.9	43.2	85.9	67.4	37.1	3589	34266
25000	Dairyland 1410	5.9	57.8	38	14520	13728	8.3	22.1	46.0	85.2	67.9	31.1	3652	21406
25000	Pioneer 37R71	8.4	55.4	13	25872	24024	7.8	20.6	42.7	85.8	66.8	32.5	3642	30516
30000	Dairyland 1410	8.2	59.5	43	20064	19800	7.8	21.5	43.9	85.5	67.1	32.1	3661	29923
30000	Pioneer 37R71	8.1	54.8	13	25608	25080	7.9	19.7	40.8	86.1	66.0	34.4	3627	29255
35000	Dairyland 1410	9.9	56.3	37	25608	23760	7.4	22.3	45.3	84.3	65.2	33.2	3532	34929
35000	Pioneer 37R71	8.7	53.4	10	29040	27984	7.6	19.9	41.8	86.5	67.7	35.5	3648	31864
40000	Dairyland 1410	10.0	57.9	43	28776	26136	7.3	20.7	42.6	85.8	66.8	35.9	3686	37030
40000	Pioneer 37R71	9.2	51.3	0	32472	31416	7.9	19.3	40.8	86.9	67.9	37.5	3659	33580
45000	Dairyland 1410	10.3	50.4	47	32472	29040	7.3	22.5	46.1	84.9	67.2	35.0	3548	36603
45000	Pioneer 37R71	8.9	50.4	3	35904	35112	7.4	20.7	43.0	86.0	67.5	37.5	3582	31762
50000	Dairyland 1410	9.7	55.3	32	32736	30624	7.8	22.0	45.2	84.8	66.4	34.0	3560	34556
50000	Pioneer 37R71	9.4	47.8	0	40920	40392	7.3	19.8	41.3	86.9	68.3	40.1	3618	33976
Mean		8.9	54.2	23	28666	27258	7.6	20.9	43.3	85.7	67.1	34.9	3618	32117
<b>Probability(%)</b>														
Plant Density (D)		2.8	12.4	46.3	0.0	0.0	9.4	43.7	22.4	66.3	68.7	5.3	31.2	3.7
Hybrid (H)		68.0	1.0	0.0	0.1	0.0	95.0	0.2	0.1	0.5	20.5	3.6	39.1	77.7
D x H		36.9	60.9	17.5	53.8	50.8	34.9	98.9	97.1	70.5	13.9	85.2	54.5	43.6
<b>LSD (0.10)</b>														
Plant Density (D)		1.3	NS	NS	3786	4114	0.4	NS	NS	NS	NS	3.0	NS	4797
Hybrid (H)		NS	2.4	4	2539	1957	NS	0.8	1.3	0.7	NS	2.1	NS	NS
D x H		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
<b>CV(%)</b>		18	7	31	15	12	6	7	5	1	2	10	2	19

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02PD **Trial ID** 2363 **Year:** 2002  
**Personnel:** J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger  
**Location:** Chippewa Falls, WI **County:** Chippewa  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Sattre  
**Soil Test:** **Date:** 11/01/02 **pH** 6.4 **OM (%)** 2.1 **P (ppm)** 30 **K (ppm)** 111

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### Plot Management

**Tillage Operations:** Field Cultivator Cultivated 6/25/02  
**Analysis:** **Rate lbs/A:** **Date:**  
**Fertilizer:** **Preplant :** 28-0-0 150 lbs/A  
**Starter :** 6-24-24 9 lbs/A 5 /3 /02  
**Post plant :**  
**Manure:**  
**Herbicide:** Frontier 25 oz/A **Insecticide:**  
Hornet 3.0 oz/A **Hybrid:** Dekalb DKC4442  
Pioneer 37R71  
**Irrigation:**  
**Planting Date:** 5/3/02 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/16/02 **Harvest Method:** Kincaid Plot Combine  
**Notes:**

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### Experimental Design

**Design:** RCB split plot **Replications:** 3  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 22' x 5'  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Plant Density: (plants/A)

25000, 30000,  
35000,  
40000, 45000,  
& 50000

Dekalb DKC4442  
Pioneer 37R71

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**Results: Tables C-21.**

**Table C-21. Plant Density and Hybrid Influence on Corn Grain.  
Chippewa Falls, WI - 2002.**

Target Density	Hybrid	Grain						Plants emerged	Seeds planted	
		Yield	Moisture	Test Wt	Lodged	Grower Return	Harvest			
							plants/A			ears/A
bu/A	%	lbs/bu	%	\$/A	plants/A	ears/A	plants/A	seeds/A		
	Dekalb DKC4442	200	25.5	49	0	408	36058	34892	42174	50688
	Pioneer 37R71	190	24.0	49	2	390	34650	33924	37708	50688
25000		190	23.8	49	1	391	25014	26268	27984	35640
30000		198	24.5	49	1	407	29766	30294	36036	41976
35000		197	25.1	49	1	402	33330	32472	36564	47520
40000		190	25.1	49	3	387	35442	34320	39138	53856
45000		211	25.0	49	1	430	41118	39468	47916	59400
50000		184	24.9	49	2	376	47454	43626	52008	65736
25000	Dekalb DKC4442	211	23.8	49	0	434	24816	26400	27720	35640
25000	Pioneer 37R71	169	23.7	49	1	348	25212	26136	28248	35640
30000	Dekalb DKC4442	191	25.2	49	1	390	30360	30096	37356	41976
30000	Pioneer 37R71	205	23.7	49	1	423	29172	30492	34716	41976
35000	Dekalb DKC4442	188	26.2	49	0	381	34188	32868	39336	47520
35000	Pioneer 37R71	206	24.0	50	2	422	32472	32076	33792	47520
40000	Dekalb DKC4442	201	25.8	49	1	408	37752	35508	42240	53856
40000	Pioneer 37R71	179	24.4	49	4	367	33132	33132	36036	53856
45000	Dekalb DKC4442	226	25.9	49	1	459	40524	40260	51744	59400
45000	Pioneer 37R71	196	24.1	49	2	402	41712	38676	44088	59400
50000	Dekalb DKC4442	185	26.0	48	0	376	48708	44220	54648	65736
50000	Pioneer 37R71	183	23.8	50	4	377	46200	43032	49368	65736
Mean		195	24.7	49	1	399	35354	34408	39941	50688
<b>Probability(%)</b>										
Plant Density (D)		35.2	5.1	77.9	38.1	37.5	0.0	0.0	0.0	-
Hybrid (H)		38.9	0.0	0.2	8.0	48.8	4.8	36.4	0.0	-
D x H		66.4	21.5	41.9	72.5	64.5	19.5	97.5	18.8	-
<b>LSD (0.10)</b>										
Plant Density (D)		NS	0.7	NS	NS	NS	2380	2967	3125	-
Hybrid (H)		NS	0.4	0	2	NS	1140	NS	1598	-
D x H		NS	NS	NS	NS	NS	NS	NS	NS	-
<b>CV(%)</b>		19	3	1	200	19	5	9	7	-



## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02PD **Trial ID** 2362 **Year:** 2002  
**Personnel:** J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger  
**Location:** Fond du Lac, WI **County:** Fond du Lac  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Virgil  
**Soil Test:** **Date:** **pH** 7.1 **OM (%)** 4.2 **P (ppm)** 42 **K (ppm)** 100

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### Plot Management

**Tillage Operations:** Field Cultivator Cultivated 6/20/02  
**Analysis:** **Rate lbs/A:** **Date:**  
**Fertilizer:** **Preplant :** 28-0-0 150 lbs/A  
**Starter :** 6-24-24 9 lbs/A 5 /10/02  
**Post plant :**  
**Manure:**  
**Herbicide:** Accent Gold 2.9 oz/A **Insecticide:**  
Aatrazine 0.5 lbs/A **Hybrid:** Cargill 4521Bt  
Pioneer 37R  
**Irrigation:**  
**Planting Date:** 5/10/02 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/17/02 **Harvest Method:** Kincaid Plot Combine

**Notes:**

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### Experimental Design

**Design:** RCB split plot **Replications:** 3  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 22' x 5'  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Plant Density: (plants/A)

25000, 30000,  
35000,  
40000, 45000,  
& 50000

Cargill 4521Bt  
Pioneer 37R71

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**Results: Tables C-22.**

**Table C-22. Plant Density and Hybrid Influence on Corn Grain.  
Fond du Lac, WI - 2002.**

Target Density	Hybrid	Grain				Grower Return	Harvest		Plants emerged	Seeds planted
		Yield	Moisture	Test Wt	Lodged		plants	ears		
		bu/A	%	lbs/bu	%		plants/A	ears/A		
	Cargill 4521Bt	204	21.8	57	1	425	38214	35266	47498	50688
	Pioneer 37R71	206	21.3	55	0	431	38148	36674	44066	50688
25000		198	22.0	55	0	413	28248	25608	32274	35640
30000		206	21.4	56	0	432	31416	29766	38940	41976
35000		206	21.3	56	1	432	34848	33462	42174	47520
40000		204	21.6	56	0	427	40062	38016	48642	53856
45000		214	21.5	56	0	449	44220	41580	53394	59400
50000		199	21.7	56	1	416	50292	47388	59268	65736
25000	Cargill 4521Bt	205	22.6	56	0	425	29304	26136	34056	35640
25000	Pioneer 37R71	191	21.4	54	1	401	27192	25080	30492	35640
30000	Cargill 4521Bt	213	21.4	58	1	445	32472	30228	39996	41976
30000	Pioneer 37R71	200	21.4	55	0	418	30360	29304	37884	41976
35000	Cargill 4521Bt	210	21.3	58	2	439	34716	32208	44484	47520
35000	Pioneer 37R71	203	21.2	55	0	425	34980	34716	39864	47520
40000	Cargill 4521Bt	197	21.9	57	0	411	38676	35904	49632	53856
40000	Pioneer 37R71	211	21.2	55	0	443	41448	40128	47652	53856
45000	Cargill 4521Bt	218	21.7	57	1	455	43428	40920	55968	59400
45000	Pioneer 37R71	211	21.2	55	0	442	45012	42240	50820	59400
50000	Cargill 4521Bt	179	21.9	57	1	374	50688	46200	60852	65736
50000	Pioneer 37R71	219	21.5	55	1	458	49896	48576	57684	65736
Mean		205	21.6	56	1	428	38181	35970	45782	50688
<b>Probability(%)</b>										
Plant Density (D)		3.5	25.2	50.5	35.4	2.9	0.0	0.0	0.0	-
Hybrid (H)		48.8	4.0	0.0	46.8	35.5	89.2	1.2	0.0	-
D x H		0.3	59.9	80.6	78.4	0.2	6.0	4.7	32.8	-
<b>LSD (0.10)</b>										
Plant Density (D)		8	NS	NS	NS	16	1595	1752	2144	-
Hybrid (H)		NS	0.4	0	NS	NS	NS	850	822	-
D x H		14	NS	NS	NS	28	2077	2082	NS	-
<b>CV(%)</b>		5	3	1	216	5	4	4	3	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02PD **Trial ID** 2364 **Year:** 2002  
**Personnel:** J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger  
**Location:** Galesville, WI **County:** Trempealeau  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Downs  
**Soil Test:** **Date:** **pH** 6.6 **OM (%)** 3.2 **P (ppm)** 43 **K (ppm)** 161

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### Plot Management

**Tillage Operations:** U-Ripper **Field Cultivator** Cultivated 6/25/02  
**Analysis:** **Rate lbs/A:** **Date:**  
**Fertilizer:** **Preplant :** 46-0-0 160 lbs/A  
**Starter :** 6-24-24 9 lbs/A 5 /3 /02  
**Post plant :**  
**Manure:**  
**Herbicide:** Dual II Magnum 2.25 **Insecticide:**  
pt/A **Hybrid:** Cargill 4521Bt  
Hornet 3.0 oz/A Pioneer 37  
Clarity 4.0 oz/A  
**Irrigation:**  
**Planting Date:** 5/3/02 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/9/02 **Harvest Method:** Kincaid Plot Combine  
**Notes:** Some disease pressure late.

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### Experimental Design

**Design:** RCB split plot **Replications:** 3  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 22' x 5'  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Plant Density: (plants/A)

25000, 30000, Cargill 4521Bt  
35000, Pioneer 37R71  
40000, 45000,  
& 50000

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**Results: Tables C-23.**

**Table C-23. Plant Density and Hybrid Influence on Corn Grain.  
Galesville, WI - 2002.**

Target Density	Hybrid	Grain				Grower Return \$/A	Harvest		Plants emerged plants/A	Seeds planted seeds/A
		Yield	Moisture	Test Wt	Lodged		plants	ears		
		bu/A	%	lbs/bu	%		plants/A	ears/A		
	Cargill 4521Bt	226	23.2	55	0	466	36674	34474	47190	50688
	Pioneer 37R71	223	23.0	53	1	461	35926	34342	44374	50688
25000		206	22.7	54	0	428	26268	25278	33330	35640
30000		219	23.6	54	0	452	29832	28908	37620	41976
35000		229	22.9	54	1	474	33726	32868	42174	47520
40000		233	22.8	54	0	484	38808	36366	48972	53856
45000		233	23.4	54	0	481	42834	40062	53262	59400
50000		224	23.2	53	2	463	46332	42966	59334	65736
25000	Cargill 4521Bt	216	23.4	55	0	446	26796	25740	33924	35640
25000	Pioneer 37R71	197	21.9	53	1	411	25740	24816	32736	35640
30000	Cargill 4521Bt	231	23.7	55	0	476	29964	29172	40392	41976
30000	Pioneer 37R71	208	23.4	53	0	428	29700	28644	34848	41976
35000	Cargill 4521Bt	229	23.5	55	0	472	34188	33132	43428	47520
35000	Pioneer 37R71	229	22.4	52	1	477	33264	32604	40920	47520
40000	Cargill 4521Bt	234	22.4	55	0	487	38280	35772	50028	53856
40000	Pioneer 37R71	232	23.1	53	1	480	39336	36960	47916	53856
45000	Cargill 4521Bt	224	23.6	55	0	461	43560	40524	54252	59400
45000	Pioneer 37R71	243	23.2	53	1	502	42108	39600	52272	59400
50000	Cargill 4521Bt	221	22.7	54	2	458	47256	42504	61116	65736
50000	Pioneer 37R71	227	23.7	53	1	468	45408	43428	57552	65736
Mean		224	23.1	54	1	464	36300	34408	45782	50688
<b>Probability(%)</b>										
Plant Density (D)		0.5	15.1	51.5	9.1	0.6	0.0	0.0	0.0	-
Hybrid (H)		37.6	19.7	0.0	30.1	43.6	20.7	79.7	0.0	-
D x H		2.7	2.3	62.4	61.1	3.0	72.7	71.2	38.4	-
<b>LSD (0.10)</b>										
Plant Density (D)		10	NS	NS	1	21	1689	1895	1739	-
Hybrid (H)		NS	NS	0	NS	NS	NS	NS	1045	-
D x H		15	0.9	NS	NS	30	NS	NS	NS	-
<b>CV(%)</b>		4	3	1	156	4	5	4	4	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02PD **Trial ID** 2365 **Year:** 2002  
**Personnel:** J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger  
**Location:** Hancock, WI **County:** Waushara  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Plainfield  
**Soil Test:** **Date:** **pH** 6.4 **OM (%)** 0.7 **P (ppm)** 120 **K (ppm)** 47

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### Plot Management

**Tillage Operations:** Plow & Disk  
**Analysis:** **Rate lbs/A:** **Date:**  
**Fertilizer:** **Preplant :** 0-0-60 100 lbs/A 4 /10/02  
**Starter :** 6-24-24 9 lbs/A 4 /29/02  
**Post plant :** 34-0-0 300 lbs/A (2x) 6/17/02 & 6/24/02  
**Manure:**  
**Herbicide:** Aatrex 4L 0.75 lbs/A **Insecticide:**  
Lasso 2.0 lbs/A **Hybrid:** Cargill 4521Bt  
Pioneer 37R71  
**Irrigation:** 11.5 Inches  
**Planting Date:** 4/29/02 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/10/02 **Harvest Method:** Kincaid Plot Combine

**Notes:**

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### Experimental Design

**Design:** RCB split plot **Replications:** 3  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 22' x 5'  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Plant Density: (plants/A)

25000, 30000,  
35000,  
40000, 45000,  
& 50000

Cargill 4521Bt  
Pioneer 37R71

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**Results: Tables C-24.**

**Table C-24. Plant Density and Hybrid Influence on Corn Grain.  
Hancock, WI - 2002.**

Target Density	Hybrid	Grain				Grower Return \$/A	Harvest		Plants emerged plants/A	Seeds planted seeds/A
		Yield	Moisture	Test Wt	Lodged		plants	ears		
		bu/A	%	lbs/bu	%		plants/A	ears/A		
	Cargill 4521Bt	257	25.9	52	0	521	38214	36850	48444	50688
	Pioneer 37R71	247	24.6	51	1	506	37708	37422	44044	50688
25000		233	25.8	52	0	472	26136	26598	32208	35640
30000		245	25.8	52	0	497	30756	30360	38214	41976
35000		253	25.4	51	0	515	34452	33726	43296	47520
40000		263	24.8	51	1	537	41052	40128	48444	53856
45000		264	24.9	52	1	539	45210	44220	54780	59400
50000		256	25.1	51	1	521	50160	47784	60522	65736
25000	Cargill 4521Bt	244	27.1	52	0	490	26928	26664	34056	35640
25000	Pioneer 37R71	221	24.4	52	0	453	25344	26532	30360	35640
30000	Cargill 4521Bt	257	27.1	53	0	516	31152	30888	39468	41976
30000	Pioneer 37R71	233	24.5	51	0	478	30360	29832	36960	41976
35000	Cargill 4521Bt	258	26.5	52	0	520	33528	33000	45408	47520
35000	Pioneer 37R71	249	24.3	51	1	511	35376	34452	41184	47520
40000	Cargill 4521Bt	267	25.1	52	0	545	41052	39996	51744	53856
40000	Pioneer 37R71	258	24.5	51	1	529	41052	40260	45144	53856
45000	Cargill 4521Bt	269	24.7	53	0	549	45936	44352	57288	59400
45000	Pioneer 37R71	259	25.0	51	1	529	44484	44088	52272	59400
50000	Cargill 4521Bt	248	24.9	52	0	507	50688	46200	62700	65736
50000	Pioneer 37R71	263	25.2	51	1	536	49632	49368	58344	65736
Mean		252	25.3	52	0	514	37961	37136	46244	50688
<b>Probability(%)</b>										
Plant Density (D)		0.1	9.0	24.7	46.3	0.0	0.0	0.0	0.0	-
Hybrid (H)		1.3	0.0	0.0	1.4	4.6	43.5	37.2	0.0	-
D x H		6.2	1.5	42.8	71.2	12.4	63.4	45.6	46.9	-
<b>LSD (0.10)</b>										
Plant Density (D)		9	0.7	NS	NS	18	2007	2185	1203	-
Hybrid (H)		6	0.5	0	0	12	NS	NS	1004	-
D x H		15	1.2	NS	NS	NS	NS	NS	NS	-
<b>CV(%)</b>										
		4	3	1	187	4	5	5	4	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02PD **Trial ID** 2359 **Year:** 2002  
**Personnel:** J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger  
**Location:** Janesville, WI **County:** Rock  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** **pH** 6.9 **OM (%)** 3.1 **P (ppm)** 66 **K (ppm)** 229

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator Cultivated 6/19/02  
**Analysis:** **Rate lbs/A:** **Date:**  
**Fertilizer:** **Preplant :** 28-0-0 160 lbs/A  
**Starter :** 6-24-24 9 lbs/A 4 /26/02  
**Post plant :**  
**Manure:**  
**Herbicide:** Dual II Magnum 1.8 pt/A **Insecticide:**  
Hornet 4.5 oz/A **Hybrid:** Dairyland 1410  
Pioneer 3  
**Irrigation:**  
**Planting Date:** 4/26/02 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/11/02 **Harvest Method:** Kincaid Plot Combine  
**Notes:** Short on moisture most of the year.

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### Experimental Design

**Design:** RCB split plot **Replications:** 3  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 22' x 5'  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Plant Density: (plants/A)

25000, 30000, Dairyland 1410  
35000, Pioneer 37R71  
40000, 45000,  
& 50000

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**Results: Tables C-25.**

**Table C-25. Plant Density and Hybrid Influence on Corn Grain.  
Janesville, WI - 2002.**

Target Density	Hybrid	Grain					Grower Return \$/A	Harvest		Plants emerged plants/A	Seeds planted seeds/A
		Yield	Moisture	Test Wt	Lodged	plants		ears			
		bu/A	%	lbs/bu	%	plants/A		ears/A			
	Dairyland 1410	194	24.1	52	1	399	30932	28754	34452	50688	
	Pioneer 37R71	200	20.3	56	0	421	35354	35068	42240	50688	
25000		185	22.2	54	0	384	24486	23760	26664	35640	
30000		191	22.0	54	1	397	26862	26994	31548	41976	
35000		194	22.1	54	0	405	31680	30360	34848	47520	
40000		203	22.8	54	1	422	33990	33066	41712	53856	
45000		204	21.9	55	1	425	37818	35376	43494	59400	
50000		205	22.1	54	1	428	44022	41910	51810	65736	
25000	Dairyland 1410	178	24.1	52	0	366	22176	20196	22572	35640	
25000	Pioneer 37R71	191	20.3	56	0	403	26796	27324	30756	35640	
30000	Dairyland 1410	195	24.1	52	1	400	25608	25476	28116	41976	
30000	Pioneer 37R71	187	20.0	56	0	394	28116	28512	34980	41976	
35000	Dairyland 1410	195	24.1	52	0	401	29700	27984	31284	47520	
35000	Pioneer 37R71	193	20.1	57	0	408	33660	32736	38412	47520	
40000	Dairyland 1410	199	24.7	53	2	407	33396	31548	38016	53856	
40000	Pioneer 37R71	207	21.0	56	0	436	34584	34584	45408	53856	
45000	Dairyland 1410	197	23.4	53	1	407	34716	30360	37752	59400	
45000	Pioneer 37R71	210	20.4	57	1	443	40920	40392	49236	59400	
50000	Dairyland 1410	201	24.1	53	3	413	39996	36960	48972	65736	
50000	Pioneer 37R71	210	20.2	56	0	444	48048	46860	54648	65736	
Mean		197	22.2	54	1	410	33143	31911	38346	50688	
<b>Probability(%)</b>											
Plant Density (D)		2.6	32.0	99.1	69.6	2.7	0.0	0.0	0.0	-	
Hybrid (H)		32.3	0.0	0.0	5.9	5.7	0.0	0.0	0.0	-	
D x H		81.2	93.8	26.3	43.7	80.0	27.3	17.4	92.3	-	
<b>LSD (0.10)</b>											
Plant Density (D)		11	NS	NS	NS	22	3926	4278	4401	-	
Hybrid (H)		NS	0.6	1	1	19	1493	1704	2801	-	
D x H		NS	NS	NS	NS	NS	NS	NS	NS	-	
<b>CV(%)</b>		8	4	2	209	8	8	9	12	-	



## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02PD **Trial ID** 2361 **Year:** 2002  
**Personnel:** J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger  
**Location:** Lancaster, WI **County:** Grant  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Fayette  
**Soil Test:** **Date:** **pH** 7.3 **OM (%)** 2.1 **P (ppm)** 57 **K (ppm)** 157

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### Plot Management

**Tillage Operations:** Soil Finisher Cultivated 6/24/02  
**Analysis:** **Rate lbs/A:** **Date:**  
**Fertilizer:** **Preplant :** 46-0-0 150 lbs/A  
**Starter :** 6-24-24 4/26/02  
**Post plant :**  
**Manure:**  
**Herbicide:** Aatrex 4L 1.0 qt/A **Insecticide:**  
Harness 1.0 qt/A **Hybrid:** Dairyland 1410  
Accent 0.33 oz/A Pioneer 37  
Northstar 4.0 oz/A  
**Irrigation:**  
**Planting Date:** 4/26/02 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/14/02 **Harvest Method:** Kincaid Plot Combine

### **Notes:**

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### Experimental Design

**Design:** RCB split plot **Replications:** 3  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 22' x 5'  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### **Factors/Treatments:**

#### Plant Density: (plants/A)

25000, 30000, Dairyland 1410  
35000, Pioneer 37R71  
40000, 45000,  
& 50000

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**Results: Tables C-26.**

**Table C-26. Plant Density and Hybrid Influence on Corn Grain.  
Lancaster, WI - 2002.**

Target Density	Hybrid	Grain						Plants emerged	Seeds planted	
		Yield	Moisture	Test Wt	Lodged	Grower Return	Harvest			
							plants/A			ears/A
bu/A	%	lbs/bu	%	\$/A	plants/A	ears/A	plants/A	seeds/A		
	Dairyland 1410	182	22.5	54	3	378	26598	25432	30690	50688
	Pioneer 37R71	211	18.9	57	0	450	32846	34320	35772	50688
25000		171	20.5	55	0	361	22242	22572	22572	35640
30000		196	20.8	55	1	413	25674	25476	26202	41976
35000		183	20.7	56	1	386	26532	27588	30294	47520
40000		206	20.7	55	1	433	31482	31482	36168	53856
45000		202	21.0	55	3	425	31086	31086	34056	59400
50000		220	20.7	55	3	464	41316	41052	50094	65736
25000	Dairyland 1410	160	22.1	55	1	333	17952	17556	21120	35640
25000	Pioneer 37R71	182	18.9	56	0	388	26532	27588	24024	35640
30000	Dairyland 1410	193	22.6	54	2	400	22440	21384	25080	41976
30000	Pioneer 37R71	199	18.9	56	0	425	28908	29568	27324	41976
35000	Dairyland 1410	161	22.3	54	2	335	22440	20460	25872	47520
35000	Pioneer 37R71	205	19.1	57	0	437	30624	34716	34716	47520
40000	Dairyland 1410	200	22.5	53	3	416	29700	28512	33792	53856
40000	Pioneer 37R71	211	18.8	56	0	450	33264	34452	38544	53856
45000	Dairyland 1410	173	23.1	53	6	358	25608	24552	28776	59400
45000	Pioneer 37R71	231	18.8	57	1	492	36564	37620	39336	59400
50000	Dairyland 1410	204	22.6	54	6	423	41448	40128	49500	65736
50000	Pioneer 37R71	237	18.8	57	0	506	41184	41976	50688	65736
Mean		196	20.7	55	2	414	29722	29876	33231	50688
<b>Probability(%)</b>										
Plant Density (D)		0.2	32.4	21.9	1.0	0.2	0.0	0.0	0.0	-
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	-
D x H		5.5	33.4	3.7	0.0	4.6	17.9	24.0	52.3	-
<b>LSD (0.10)</b>										
Plant Density (D)		15	NS	NS	1	31	3077	3334	2985	-
Hybrid (H)		8	0.3	0	1	17	2159	2674	2948	-
D x H		20	NS	0.9	1.2	42	NS	NS	NS	-
<b>CV(%)</b>		7	2	1	46	7	12	15	15	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02PD **Trial ID** 2366 **Year:** 2002  
**Personnel:** J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger  
**Location:** Marshfield, WI **County:** Wood  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Loyal  
**Soil Test:** **Date:** **pH** 6.4 **OM (%)** 3.1 **P (ppm)** 62 **K (ppm)** 172

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator Cultivated  
**Analysis:** **Rate lbs/A:** **Date:**  
**Fertilizer:** **Preplant :** 46-0-0 46 lbs/A  
**Starter :** 6-24-24 9 lbs/A 5 /15/02  
**Post plant :**  
**Manure:** Dairy 6776 gallons  
**Herbicide:** Hornet 2.4 oz/A **Insecticide:**  
Harness 2 pt/A **Hybrid:** Dekalb DKC4442  
Pioneer 37R  
**Irrigation:**  
**Planting Date:** 5/15/02 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/31/02 **Harvest Method:** Kincaid Plot Combine

**Notes:**

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### Experimental Design

**Design:** RCB split plot **Replications:** 3  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 22' x 5'  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Plant Density: (plants/A)

25000, 30000,  
35000,  
40000, 45000,  
& 50000

Dekalb DKC4442  
Pioneer 37R71

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**Results: Tables C-27.**

**Table C-27. Plant Density and Hybrid Influence on Corn Grain.  
Marshfield, WI - 2002.**

Target Density	Hybrid	Grain						Plants emerged	Seeds planted	
		Yield	Moisture	Test Wt	Lodged	Grower Return	Harvest			
							plants/A			ears/A
bu/A	%	lbs/bu	%	\$/A	plants/A	ears/A	plants/A	seeds/A		
	Dekalb DKC4442	222	31.6	51	1	432	37642	38720	46552	50688
	Pioneer 37R71	218	30.2	50	11	428	37356	37334	43252	50688
25000		202	31.4	50	0	393	24948	28050	32406	35640
30000		217	31.3	51	1	422	30624	31416	37686	41976
35000		219	30.6	51	4	429	34716	34914	42702	47520
40000		237	30.9	51	4	462	40128	39864	46464	53856
45000		229	30.9	50	11	447	45012	44550	52338	59400
50000		218	30.2	50	17	427	49566	49368	57816	65736
25000	Dekalb DKC4442	202	32.0	51	0	392	25080	29172	33264	35640
25000	Pioneer 37R71	202	30.9	50	1	393	24816	26928	31548	35640
30000	Dekalb DKC4442	216	32.2	51	0	417	30228	31944	38544	41976
30000	Pioneer 37R71	218	30.5	51	2	426	31020	30888	36828	41976
35000	Dekalb DKC4442	217	31.5	51	0	421	35376	36300	44484	47520
35000	Pioneer 37R71	222	29.6	50	7	438	34056	33528	40920	47520
40000	Dekalb DKC4442	234	31.3	51	0	456	40128	39864	48708	53856
40000	Pioneer 37R71	239	30.6	50	8	468	40128	39864	44220	53856
45000	Dekalb DKC4442	232	31.8	51	2	450	46200	45936	54384	59400
45000	Pioneer 37R71	226	29.9	50	21	444	43824	43164	50292	59400
50000	Dekalb DKC4442	233	30.7	50	4	455	48840	49104	59928	65736
50000	Pioneer 37R71	203	29.7	50	29	400	50292	49632	55704	65736
Mean		220	30.9	51	6	430	37499	38027	44902	50688
<b>Probability(%)</b>										
Plant Density (D)		0.5	45.1	19.6	2.9	0.3	0.0	0.0	0.0	-
Hybrid (H)		33.8	0.2	0.0	0.0	65.5	66.8	2.6	0.0	-
D x H		19.4	86.1	32.3	4.4	14.3	59.4	39.0	56.6	-
<b>LSD (0.10)</b>										
Plant Density (D)		12	NS	NS	8	22	2315	2359	1665	-
Hybrid (H)		NS	0.6	0	4	NS	NS	975	1022	-
D x H		NS	NS	NS	10.0	NS	NS	NS	NS	-
<b>CV(%)</b>										
		6	3	1	111	5	5	4	4	-

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Hybrid Influence on Corn Grain and Silage Performance  
**Experiment:** 02PD **Trial ID** 2360 **Year:** 2002  
**Personnel:** J. G. Lauer, P. J. Flannery, K. D. Kohn, and T. F. Stanger  
**Location:** Valders, WI **County:** Manitowoc  
**Supported By:** HATCH

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Kewaunee  
**Soil Test:** **Date:** **pH** 6.8 **OM (%)** 2.8 **P (ppm)** 40 **K (ppm)** 105

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### Plot Management

**Tillage Operations:** Moldboard Plow Field Cultivator Cultivated 7/9/02  
**Analysis:** **Rate lbs/A:** **Date:**  
**Fertilizer:** **Preplant :**  
**Starter :** 6-24-24 150 lbs/A 5 /15/02  
**Post plant :**  
**Manure:** 7500 gallons  
**Herbicide:** Surpass 1 pt/A **Insecticide:**  
Accent Gold 2 oz/A **Hybrid:** Dekalb DKC4442  
Banvel 2 oz/A Pioneer 37R71  
**Irrigation:**  
**Planting Date:** 5/15/02 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** See Factors **Planting Method:** Kinze Plot Planter  
**Harvest Date:** 10/17/02 **Harvest Method:** Kincaid Plot Combine  
**Notes:** Low precipitation through pollination.

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### Experimental Design

**Design:** RCB split plot **Replications:** 3  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 22' x 5'  
**Harvest Plot Size:** 5' x 22' **Harvest Plant Density:** N/A plants per acre

### Factors/Treatments:

#### Plant Density: (plants/A)

25000, 30000, 35000, 40000, 45000, & 50000  
Dekalb DKC4442  
Pioneer 37R71

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**Results: Tables C-28.**

**Table C-28. Plant Density and Hybrid Influence on Corn Grain.  
Valders, WI - 2002.**

Target Density	Hybrid	Grain					Grower Return \$/A	Harvest		Plants emerged plants/A	Seeds planted seeds/A
		Yield	Moisture	Test Wt	Lodged	plants		ears			
		bu/A	%	lbs/bu	%	plants/A		ears/A			
	Dekalb DKC4442	175	25.9	52	0	354	36696	34562	48730	50688	
	Pioneer 37R71	166	25.6	52	0	336	37180	35200	46486	50688	
25000		172	26.3	52	0	347	24816	25014	35442	35640	
30000		176	25.8	51	0	358	30030	29898	39798	41976	
35000		171	25.7	52	0	347	34320	32736	44154	47520	
40000		168	25.5	52	0	341	39270	37356	50292	53856	
45000		165	26.3	52	1	333	44616	40788	54846	59400	
50000		170	24.8	51	1	347	48576	43494	61116	65736	
25000	Dekalb DKC4442	169	26.4	52	0	340	24948	24684	37356	35640	
25000	Pioneer 37R71	175	26.2	52	1	353	24684	25344	33528	35640	
30000	Dekalb DKC4442	181	26.2	52	0	367	29832	29700	41052	41976	
30000	Pioneer 37R71	171	25.4	51	0	348	30228	30096	38544	41976	
35000	Dekalb DKC4442	176	26.0	52	0	357	34188	31944	45936	47520	
35000	Pioneer 37R71	166	25.5	52	0	337	34452	33528	42372	47520	
40000	Dekalb DKC4442	169	25.4	52	0	345	39336	37356	49764	53856	
40000	Pioneer 37R71	166	25.7	52	0	336	39204	37356	50820	53856	
45000	Dekalb DKC4442	175	26.7	52	1	353	44088	39864	55836	59400	
45000	Pioneer 37R71	154	25.9	51	0	313	45144	41712	53856	59400	
50000	Dekalb DKC4442	177	24.7	51	1	362	47784	43824	62436	65736	
50000	Pioneer 37R71	162	24.8	51	1	331	49368	43164	59796	65736	
Mean		170	25.7	52	0	345	36938	34881	47608	50688	
<b>Probability(%)</b>											
Plant Density (D)		35.5	10.1	50.2	50.7	38.0	0.0	0.0	0.0	-	
Hybrid (H)		5.4	34.7	60.8	33.8	6.7	21.3	19.5	0.9	-	
D x H		56.5	89.8	86.6	16.3	60.5	68.6	63.7	46.0	-	
<b>LSD (0.10)</b>											
Plant Density (D)		NS	NS	NS	NS	NS	920	1983	1285	-	
Hybrid (H)		8	NS	NS	NS	16	NS	NS	1280	-	
D x H		NS	NS	NS	NS	NS	NS	NS	NS	-	
<b>CV(%)</b>											
		7	4	2	146	8	3	4	5	-	

## FIELD EXPERIMENT HISTORY

**Title:** Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield  
**Experiment:** 03DOP **Trial ID** 2347 **Year:** 2002  
**Personnel:** J.G. Lauer, P. J. Flannery, and K. D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** 369 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/1 /02 **pH** 6.3 **OM (%)** 3.1 **P (ppm)** 40 **K (ppm)** 141

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Soil Finisher

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

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

**Irrigation:** none

**Planting Date:** See Factors **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter

**Harvest Date:** S: 9/25 & 10/9 **Harvest Method:** S:New Holland Plot Chopper

**Notes:**

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### Experimental Design

**Design:** RCB split plot

**Replications:** 3

**Plot Size Seeded:** 25' x 20'

**Experiment Size:** 0.69 A

**Harvest Plot Size:** S: 22' x 2.5'  
G: 22' x 5'

**Harvest Plant Density:** S:28358 plants per acre

### Factors/Treatments:

#### Date of Planting:

April 15, April 30,  
May 10, May 20,  
May 31 & June 10

#### Hybrids:

Pioneer 35R57  
Midwest G7101B

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**Results:** Tables C-29 and C-30.

**Table C-29. Planting Date And Hybrid Influence On Corn Grain And Silage Performance  
Arlington, WI - 2002.**

Planting Date	Hybrid	Grain										Plants Silking on Day of Year						
		Yield	Moisture	Test wt	Grower return	Lodged	Harvest pop	Harvest ear pop	Seeds planted	Plants emerged	Flag Leaf height	206	210	213	217	220	224	227
		bu/A	%	lbs/bu	\$/A	%	plants/A	ears/A	seeds/A	plants/A	inches	%						
	Midwest G7101B	187	21.6	54	392	2	29326	29722	41184	34265	102	11	53	65	84	92	96	99
	Pioneer 35R57	185	24.4	52	380	2	28688	28864	41184	33017	103	12	44	59	75	88	94	97
April 15		194	20.4	55	408	1	24750	25278	41184	27291	100	34	75	82	90	95	95	95
April 30		186	21.0	54	391	1	26334	26532	41184	26400	98	15	67	87	98	100	100	100
May 10		210	20.6	54	443	4	29766	29832	41184	34106	102	18	71	94	96	97	97	97
May 20		224	20.5	54	472	4	30954	31350	41184	39468	102	0	78	96	98	98	98	98
May 31		148	27.2	51	298	2	30426	30558	41184	37950	104	0	0	13	85	99	99	99
June 10		146	29.8	50	288	1	31812	32208	41184	36630	108	0	0	0	11	49	82	99
April 15	Midwest G7101B	187	19.3	57	396	1	24948	25740	41184	27522	101	35	80	87	100	100	100	100
April 15	Pioneer 35R57	201	21.4	53	420	1	24552	24816	41184	27060	100	34	70	77	79	89	89	89
April 30	Midwest G7101B	183	20.1	56	386	2	27192	27456	41184	27588	97	9	71	89	97	100	100	100
April 30	Pioneer 35R57	190	21.8	53	396	1	25476	25608	41184	25212	99	20	64	86	99	100	100	100
May 10	Midwest G7101B	205	19.6	55	435	4	28908	28908	41184	34914	102	19	78	94	96	96	96	96
May 10	Pioneer 35R57	216	21.6	53	451	4	30624	30756	41184	33297	103	18	63	94	96	97	97	97
May 20	Midwest G7101B	223	19.8	55	472	6	31284	31812	41184	40062	104	0	88	97	98	98	98	98
May 20	Pioneer 35R57	225	21.2	53	472	3	30624	30888	41184	38874	101	0	68	96	98	98	98	98
May 31	Midwest G7101B	150	25.3	52	305	1	30888	31020	41184	38313	103	0	0	22	92	98	98	98
May 31	Pioneer 35R57	147	29.1	51	291	2	29964	30096	41184	37587	105	0	0	4	77	100	100	100
June 10	Midwest G7101B	171	27.2	51	344	1	32736	33396	41184	37191	108	0	0	0	21	57	82	99
June 10	Pioneer 35R57	129	31.6	49	251	0	30888	31020	41184	36069	108	0	0	0	2	40	82	100
Mean		186	23.0	53	386	2	29007	29293	41184	33641	102	11	49	62	80	90	95	98
<b>Probability(%)</b>																		
Date of Planting (D)		0.8	0.0	0.1	0.3	0.0	0.1	0.1	-	0.0	0.4	3.5	0.0	0.0	0.0	1.9	8.5	71.1
Hybrid (H)		43.6	0.0	0.0	98.1	30.5	35.2	21.2	-	0.5	74.1	50.7	7.4	2.3	4.8	20.1	45.4	49.1
D x H		47.5	0.6	5.9	38.6	24.9	67.5	54.9	-	71.3	37.7	51.4	74.8	12.5	37.1	44.9	50.5	31.2
<b>LSD (0.10)</b>																		
Date of Planting (D)		37	0.9	1.6	74	1.3	2587	2430	-	3381	4	20	26	18	17	27	12	NS
Hybrid (H)		NS	0.3	0.3	NS	NS	NS	NS	-	649	NS	NS	8	4	7	NS	NS	NS
D x H		NS	0.8	0.8	NS	NS	NS	NS	-	NS	NS	NS	NS	NS	NS	NS	NS	NS
<b>CV(%)</b>																		
		6	2	1	6	84	7	7	-	3	2	54	28	10	16	11	7	6

continued



**Table C-29. Planting Date And Hybrid Influence On Corn Grain And Silage Performance**

(continued) **Arlington, WI - 2002.**

Planting Date	Hybrid	Whole Plant													
		Dry Matter		Kernel milk	Harvest		Crude protien	ADF	NDF	<i>In Vitro</i>			Milk per		
		yield	Moisture		plants	ears				Digest	NDFD	Starch	Ton	Acre	
tons/A	%	%	plants/A	ears/A	%	%	%	%	%	%	lbs/T	lbs/A			
	Midwest G7101B	8.2	59.0	31	28864	28468	7.9	23.5	46.2	83.2	63.6	32.0	3519	28819	
	Pioneer 35R57	8.6	58.2	39	27852	27060	7.9	22.8	46.3	84.2	66.0	31.8	3595	31102	
April 15		8.1	56.8	28	23892	24420	7.8	21.7	44.1	84.7	65.4	33.9	3601	29329	
April 30		8.0	58.0	29	24816	24552	8.0	21.8	44.4	84.8	65.9	33.4	3636	29169	
May 10		9.1	56.8	29	28908	28248	7.5	23.0	46.1	84.2	65.7	32.6	3584	32525	
May 20		9.4	57.9	35	30228	29832	7.4	21.7	43.9	85.0	65.7	35.0	3641	34320	
May 31		8.1	59.9	39	30096	29568	8.4	24.4	48.1	82.3	63.2	29.7	3471	28319	
June 10		7.6	62.5	49	32208	29964	8.3	26.3	50.8	81.1	62.7	26.7	3408	26101	
April 15	Midwest G7101B	7.6	57.5	25	22968	24288	7.8	22.1	44.0	84.3	64.3	34.1	3568	27208	
April 15	Pioneer 35R57	8.7	56.1	32	24816	24552	7.9	21.4	44.2	85.2	66.6	33.6	3635	31450	
April 30	Midwest G7101B	7.9	57.4	27	25872	26400	8.1	22.1	44.4	84.3	64.7	33.6	3590	28402	
April 30	Pioneer 35R57	8.1	58.5	32	23760	22704	8.0	21.5	44.5	85.3	67.0	33.2	3681	29937	
May 10	Midwest G7101B	8.4	58.3	20	29040	27984	7.5	23.8	46.7	83.2	64.1	31.7	3532	29848	
May 10	Pioneer 35R57	9.7	55.2	38	28776	28512	7.5	22.1	45.5	85.2	67.4	33.5	3635	35203	
May 20	Midwest G7101B	9.4	58.1	30	31152	30360	7.5	21.7	43.2	84.6	64.3	35.6	3607	34073	
May 20	Pioneer 35R57	9.4	57.6	40	29304	29304	7.4	21.8	44.6	85.4	67.1	34.3	3676	34566	
May 31	Midwest G7101B	7.9	60.5	38	31152	30888	8.3	24.1	47.0	82.2	62.2	31.0	3472	27582	
May 31	Pioneer 35R57	8.3	59.2	40	29040	28248	8.4	24.8	49.3	82.3	64.2	28.4	3470	29056	
June 10	Midwest G7101B	7.7	62.2	48	33000	30888	8.1	27.1	51.6	80.4	61.9	25.8	3345	25803	
June 10	Pioneer 35R57	7.6	62.7	50	31416	29040	8.5	25.4	49.9	81.8	63.4	27.7	3472	26400	
Mean		8.4	58.6	35	28358	27764	7.9	23.2	46.2	83.7	64.8	31.9	3557	29961	
<b>Probability(%)</b>															
Date of Planting (D)		17.1	24.2	2.8	0.2	0.1	22.0	2.5	6.1	0.7	2.0	28.3	8.5	11.6	
Hybrid (H)		19.4	19.8	2.0	19.1	8.0	52.1	26.2	84.7	2.3	0.0	86.2	1.8	6.8	
D x H		79.4	35.7	50.6	59.4	5464	68.9	77.7	74.9	81.8	51.5	73.3	82.3	75.1	
<b>LSD (0.10)</b>															
Date of Planting (D)		NS	NS	11.4	3151	2262	NS	2.6	4.4	1.8	1.9	NS	165	NS	
Hybrid (H)		NS	NS	4.8	NS	1310	NS	NS	NS	0.7	0.5	NS	49.3	2028	
D x H		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
<b>CV(%)</b>															
		12	3	23	8	8	4	7	6	1	1	9	2	11	

**Table C-30. Planting Date And Hybrid Influence On Corn Leaf Development  
Arlington, WI - 2002.**

Date of Planting	Hybrid	Observation	Leaf Development			Plant height inches
		Day of year day of year	Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
		154	2.4	3.2	4.0	3.2
		168	3.7	4.7	6.3	8.2
		179	5.7	7.7	8.8	19.1
		191	9.5	12.0	13.4	45.5
		206	15.5	15.9	16.9	85.8
		220	18.3	18.4	18.4	100.3
	Midwest G7101B		10.3	11.5	12.5	49.5
	Pioneer 35R57		9.7	10.8	11.8	47.6
	Midwest G7101B	154	2.5	3.2	3.9	3.2
	Midwest G7101B	168	3.8	4.7	6.4	8.3
	Midwest G7101B	179	5.9	7.9	9.1	20.4
	Midwest G7101B	191	9.9	12.6	14.1	46.6
	Midwest G7101B	206	16.2	16.7	17.6	87.4
	Midwest G7101B	220	18.7	18.7	18.7	101.3
	Pioneer 35R57	154	2.4	3.2	4.0	3.2
	Pioneer 35R57	168	3.6	4.7	6.1	8.1
	Pioneer 35R57	179	5.5	7.5	8.6	17.8
	Pioneer 35R57	191	9.1	11.4	12.8	44.4
	Pioneer 35R57	206	14.8	15.2	16.2	84.2
	Pioneer 35R57	220	17.9	18.0	18.1	99.3
April 15			10.5	11.7	12.6	49.4
April 30			10.0	11.1	12.0	44.5
May 10			9.6	10.7	11.7	46.9
May 20			10.9	12.2	13.3	56.8
May 31			9.1	10.3	11.3	45.6
June 10			9.7	11.0	12.0	49.4
April 15		154	3.0	3.7	4.4	3.8
April 15		168	4.4	6.3	7.2	9.9
April 15		179	7.2	9.9	11.0	25.3
April 15		191	11.5	13.9	15.7	58.9
April 15		206	18.5	17.8	18.7	98.9
April 15		220	18.6	18.6	18.6	99.8
April 30		154	2.5	3.4	4.2	3.4
April 30		168	4.5	5.5	6.9	8.9
April 30		179	6.8	8.8	10.2	22.8
April 30		191	10.4	13.0	14.6	48.3
April 30		206	17.1	17.2	17.8	87.9
April 30		220	18.5	18.5	18.6	96.0

continued

**Table C-30. Planting Date And Hybrid Influence On Corn Leaf Development**  
 (continued) **Arlington, WI - 2002.**

Date of Planting	Hybrid	Observation	Leaf Development			Plant height inches
		Day of year	Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
May 10		154	1.8	2.6	3.3	2.4
May 10		168	3.9	4.8	6.7	9.0
May 10		179	6.7	8.7	9.9	22.3
May 10		191	10.1	12.9	14.3	52.4
May 10		206	16.5	16.8	17.6	93.8
May 10		220	18.7	18.7	18.7	101.3
May 20		154	-	-	-	-
May 20		168	3.6	4.6	6.6	9.3
May 20		179	6.3	8.6	9.8	23.8
May 20		191	10.0	13.1	14.3	53.8
May 20		206	16.3	16.5	17.4	95.2
May 20		220	18.4	18.4	18.4	102.0
May 31		154	-	-	-	-
May 31		168	2.0	2.5	4.0	4.1
May 31		179	4.4	6.2	7.2	12.4
May 31		191	8.1	10.1	11.4	34.4
May 31		206	12.9	14.3	15.4	75.5
May 31		220	18.3	18.3	18.3	101.8
June 10		154	-	-	-	-
June 10		168	-	-	-	-
June 10		179	3.0	3.9	5.1	7.9
June 10		191	6.9	9.0	10.3	25.3
June 10		206	11.5	13.2	14.6	63.4
June 10		220	17.4	17.8	17.8	101.0
April 15	Midwest G7101B		10.6	11.8	12.8	48.8
April 15	Pioneer 35R57		10.4	11.6	12.4	50.0
April 30	Midwest G7101B		10.1	11.3	12.2	44.9
April 30	Pioneer 35R57		9.8	10.9	11.9	44.2
May 10	Midwest G7101B		10.1	11.2	12.3	48.0
May 10	Pioneer 35R57		9.2	10.2	11.2	45.7
May 20	Midwest G7101B		11.4	12.8	13.9	58.3
May 20	Pioneer 35R57		10.4	11.7	12.7	55.3
May 31	Midwest G7101B		9.6	10.8	11.9	48.1
May 31	Pioneer 35R57		8.6	9.7	10.6	43.2
June 10	Midwest G7101B		10.0	11.2	12.3	50.6
June 10	Pioneer 35R57		9.4	10.7	11.7	48.2
April 15	Midwest G7101B	154	3.0	3.7	4.5	3.6
April 15	Midwest G7101B	168	4.3	6.0	7.0	9.1
April 15	Midwest G7101B	179	7.2	10.0	11.0	25.0
April 15	Midwest G7101B	191	11.7	14.2	16.2	57.0
April 15	Midwest G7101B	206	18.8	18.2	19.0	99.2
April 15	Midwest G7101B	220	18.8	18.8	18.8	99.2

continued

**Table C-30. Planting Date And Hybrid Influence On Corn Leaf Development**  
 (continued) **Arlington, WI - 2002.**

Date of Planting	Hybrid	Observation	Leaf Development			Plant height inches
		Day of year day of year	Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
April 15	Pioneer 35R57	154	3.0	3.7	4.3	3.9
April 15	Pioneer 35R57	168	4.5	6.5	7.3	10.8
April 15	Pioneer 35R57	179	7.2	9.8	11.0	25.5
April 15	Pioneer 35R57	191	11.3	13.7	15.2	60.8
April 15	Pioneer 35R57	206	18.2	17.5	18.3	98.7
April 15	Pioneer 35R57	220	18.3	18.3	18.3	100.3
April 30	Midwest G7101B	154	2.5	3.3	3.8	3.5
April 30	Midwest G7101B	168	4.5	5.5	7.0	9.8
April 30	Midwest G7101B	179	6.8	8.7	10.3	24.7
April 30	Midwest G7101B	191	10.8	13.7	15.2	48.8
April 30	Midwest G7101B	206	17.5	17.7	18.0	86.7
April 30	Midwest G7101B	220	18.7	18.7	18.7	96.0
April 30	Pioneer 35R57	154	2.5	3.5	4.5	3.3
April 30	Pioneer 35R57	168	4.5	5.5	6.8	7.9
April 30	Pioneer 35R57	179	6.7	9.0	10.0	21.0
April 30	Pioneer 35R57	191	10.0	12.3	14.0	47.7
April 30	Pioneer 35R57	206	16.7	16.7	17.5	89.2
April 30	Pioneer 35R57	220	18.3	18.3	18.5	96.0
May 10	Midwest G7101B	154	2.0	2.7	3.5	2.5
May 10	Midwest G7101B	168	4.0	4.7	7.0	8.9
May 10	Midwest G7101B	179	7.0	9.2	10.3	24.0
May 10	Midwest G7101B	191	10.7	13.7	15.2	54.5
May 10	Midwest G7101B	206	17.5	18.0	18.7	96.7
May 10	Midwest G7101B	220	19.2	19.2	19.2	101.3
May 10	Pioneer 35R57	154	1.7	2.5	3.2	2.3
May 10	Pioneer 35R57	168	3.8	4.8	6.3	9.0
May 10	Pioneer 35R57	179	6.3	8.2	9.5	20.7
May 10	Pioneer 35R57	191	9.5	12.2	13.3	50.3
May 10	Pioneer 35R57	206	15.5	15.5	16.5	91.0
May 10	Pioneer 35R57	220	18.2	18.2	18.2	101.2
May 20	Midwest G7101B	154	-	-	-	-
May 20	Midwest G7101B	168	4.0	4.7	7.0	9.7
May 20	Midwest G7101B	179	6.5	9.0	10.2	25.3
May 20	Midwest G7101B	191	10.5	13.8	15.2	55.7
May 20	Midwest G7101B	206	17.2	17.5	18.3	97.5
May 20	Midwest G7101B	220	18.8	18.8	18.8	103.5
May 20	Pioneer 35R57	154	-	-	-	-
May 20	Pioneer 35R57	168	3.2	4.5	6.2	8.8
May 20	Pioneer 35R57	179	6.0	8.2	9.3	22.2
May 20	Pioneer 35R57	191	9.5	12.3	13.5	52.0
May 20	Pioneer 35R57	206	15.5	15.5	16.5	92.8
May 20	Pioneer 35R57	220	18.0	18.0	18.0	100.5

continued

**Table C-30. Determining Corn Hybrid Maturity - Comparison of Hybrids**  
 (continued) **Arlington, WI - 2002.**

Date of Planting	Hybrid	Observation	Leaf Development			Plant height inches
		Day of year day of year	Leaf collars no./plant	Hail adjusters method no./plant	Total leaves no./plant	
May 31	Midwest G7101B	154	-	-	-	-
May 31	Midwest G7101B	168	2.0	2.7	4.0	4.1
May 31	Midwest G7101B	179	4.8	6.7	7.7	14.8
May 31	Midwest G7101B	191	8.7	10.8	12.5	37.2
May 31	Midwest G7101B	206	14.0	15.2	16.5	80.8
May 31	Midwest G7101B	220	18.7	18.7	18.7	103.7
May 31	Pioneer 35R57	154	-	-	-	-
May 31	Pioneer 35R57	168	2.0	2.3	4.0	4.2
May 31	Pioneer 35R57	179	4.0	5.7	6.7	10.0
May 31	Pioneer 35R57	191	7.5	9.3	10.3	31.7
May 31	Pioneer 35R57	206	11.8	13.3	14.3	70.2
May 31	Pioneer 35R57	220	17.8	17.8	17.8	99.8
June 10	Midwest G7101B	154	-	-	-	-
June 10	Midwest G7101B	168	-	-	-	-
June 10	Midwest G7101B	179	3.0	3.8	5.2	8.5
June 10	Midwest G7101B	191	7.2	9.3	10.5	26.5
June 10	Midwest G7101B	206	12.0	13.7	15.2	63.7
June 10	Midwest G7101B	220	17.8	18.0	18.2	103.8
June 10	Pioneer 35R57	154	-	-	-	-
June 10	Pioneer 35R57	168	-	-	-	-
June 10	Pioneer 35R57	179	3.0	4.0	5.0	7.3
June 10	Pioneer 35R57	191	6.7	8.7	10.2	24.2
June 10	Pioneer 35R57	206	11.0	12.7	14.0	63.2
June 10	Pioneer 35R57	220	17.0	17.5	17.5	98.2
Mean			10.0	11.2	12.1	48.6

**Probability(%)**

Date of Planting (D)	0.0	0.0	0.0	0.0
Hybrid (H)	0.0	0.0	0.0	0.1
D x H	1.3	0.3	0.0	4.3
Sample DOY (S)	0.0	0.0	0.0	0.0
D x S	0.0	0.0	0.0	0.0
H x S	0.0	0.0	0.0	67.6
D x H x S	99.4	98.3	64.8	90.6

**LSD(0.10)**

Date of Planting (D)	0.4	0.5	0.4	3.7
Hybrid (H)	0.1	0.1	0.1	0.8
D x H	0.3	0.3	0.3	2.1
Sample DOY (S)	0.2	0.2	0.2	1.5
D x S	0.5	0.5	0.4	3.6
H x S	0.3	0.5	0.3	NS
D x H x S	NS	NS	NS	NS

**CV(%)**

	5	5	4	8
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## FIELD EXPERIMENT HISTORY

**Title:** Plant Density, Planting Date, and Hybrid Influence on Corn Grain and Silage  
**Experiment:** 04PDxDOP **Trial ID** 2348 **Year:** 2002  
**Personnel:** J. G. Lauer, K.D. Kohn, P.J. Flannery  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** 406 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator Soil Finisher Cultivated

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
Preplant :	46-0-0	325	4 /14/02
Starter :	6-24-24	150	Each DOP
Post plant :	N/A	N/A	N/A
Manure:	N/A	None	

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

**Irrigation:** none

**Planting Date:** See Factors **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** S: 9/25 **Harvest Method:** S:New Holland Plot Chopper  
G: 10/22 G:Kincaid Plot Combine

**Notes:**

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### Experimental Design

**Design:** RCB split plot **Replications:** 3  
**Plot Size Seeded:** 22' x 20' **Experiment Size:** 1.15 Acre  
**Harvest Plot Size:** S: 22' x 2.5' **Harvest Plant Density:** Varies  
**Factors/Treatments:** G: 22' x 5'

#### Planting Dates:

April 30, May 20,  
and June 10

#### Plant Densities: (plants/A)

15000, 30000,  
and 45000

#### Hybrids:

Cargill 4521Bt  
Dekalb DKC4442

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**Results:** Table C-31.

**Table C-31. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain  
Arlington, WI - 2002**

Date of planting	Target plant density	Hybrid	Grain				Grower return	50% Silk date	Seeds planted	Stand		Harvest ears
			Yield	Moisture	Test Wt	Lodging				Emerg	Harvest	
			bu/A	%	lbs/bu	%	\$/A	DOY	seeds/A	seeds/A	plants/A	ears/A
		Cargill 4521Bt	169	22.6	54	12	352	211	42240	37257	30081	31064
		Dekalb DKC4442	203	21.2	53	21	425	208	42240	36205	29055	31900
	15000		157	21.9	53	2	329	209	23760	20631	15972	20702
	30000		208	21.6	54	11	436	209	43560	38104	30030	30734
	45000		192	22.1	54	36	401	210	59400	51458	42702	43010
	15000	Cargill 4521Bt	144	23.4	53	3	298	211	23760	20955	16588	18656
	15000	Dekalb DKC4442	171	20.5	53	1	360	207	23760	20306	15356	22748
	30000	Cargill 4521Bt	196	22.1	55	10	409	210	43560	38643	30844	31416
	30000	Dekalb DKC4442	221	21.0	54	11	463	208	43560	37565	29216	30052
	45000	Cargill 4521Bt	167	22.1	56	21	349	211	59400	52173	42812	43120
	45000	Dekalb DKC4442	217	22.1	53	51	452	209	59400	50743	42592	42900
April 30			193	19.1	55	11	412	204	42240	29348	27962	29986
May 20			196	19.7	55	26	415	207	42240	40849	30822	32494
June 10			168	26.9	52	11	339	217	42240	39996	29920	31966
April 30		Cargill 4521Bt	184	19.6	55	9	391	206	42240	30591	29216	30492
April 30		Dekalb DKC4442	202	18.5	55	14	432	203	42240	28105	26708	29480
May 20		Cargill 4521Bt	180	20.1	56	23	380	209	42240	40843	30932	31460
May 20		Dekalb DKC4442	212	19.2	54	29	450	206	42240	40854	30712	33528
June 10		Cargill 4521Bt	143	28.0	52	2	285	218	42240	40337	30096	31240
June 10		Dekalb DKC4442	194	25.8	51	20	393	216	42240	39655	29744	32692
April 30	15000		153	19.4	53	3	325	204	23760	15527	16038	21384
April 30	30000		205	18.8	55	6	436	204	43560	30410	27786	28314
April 30	45000		222	19.0	57	25	474	204	59400	42108	40062	40260
May 20	15000		177	19.7	54	3	375	207	23760	23397	16236	20196
May 20	30000		222	19.5	56	24	472	207	43560	42290	30888	31482
May 20	45000		188	19.8	54	52	398	208	59400	56859	45342	45804
June 10	15000		142	26.8	51	0	287	216	23760	22968	15642	20526
June 10	30000		198	26.4	52	2	401	217	43560	41613	31416	32406
June 10	45000		165	27.5	52	31	330	218	59400	55407	42702	42966

continued

**Table C-31. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain**  
 (continued) **Arlington, WI - 2002**

Date of planting	Target plant density	Hybrid	Grain				Grower return	50% Silk date	Seeds planted	Stand		Harvest ears
			Yield	Moisture	Test Wt	Lodging				Emerg	Harvest	
			bu/A	%	lbs/bu	%	\$/A	DOY	seeds/A	seeds/A	plants/A	ears/A
April 30	15000	Cargill 4521Bt	152	20.4	53	4	321	207	23760	16797	17292	20460
April 30	15000	Dekalb DKC4442	153	18.4	53	2	328	202	23760	14256	14784	22308
April 30	30000	Cargill 4521Bt	201	19.3	54	5	427	205	43560	31680	28908	29568
April 30	30000	Dekalb DKC4442	208	18.3	56	8	446	203	43560	29139	26664	27060
April 30	45000	Cargill 4521Bt	200	19.2	57	18	425	205	59400	43296	41448	41448
April 30	45000	Dekalb DKC4442	245	18.8	56	32	523	203	59400	40920	38676	39072
May 20	15000	Cargill 4521Bt	164	20.6	53	4	346	209	23760	22968	16500	17160
May 20	15000	Dekalb DKC4442	189	18.7	55	2	404	205	23760	23826	15972	23232
May 20	30000	Cargill 4521Bt	210	20.2	56	27	443	208	43560	42504	31020	31416
May 20	30000	Dekalb DKC4442	235	18.9	56	21	500	206	43560	42075	30756	31548
May 20	45000	Cargill 4521Bt	165	19.5	57	39	350	209	59400	57057	45276	45804
May 20	45000	Dekalb DKC4442	211	20.1	51	65	446	206	59400	56661	45408	45804
June 10	15000	Cargill 4521Bt	115	29.3	52	0	227	218	23760	23100	15972	18348
June 10	15000	Dekalb DKC4442	169	24.3	50	0	347	215	23760	22836	15312	22704
June 10	30000	Cargill 4521Bt	178	26.9	53	0	357	218	43560	41745	32604	33264
June 10	30000	Dekalb DKC4442	219	25.8	51	4	444	216	43560	41481	30228	31548
June 10	45000	Cargill 4521Bt	136	27.6	52	7	272	218	59400	56166	41712	42108
June 10	45000	Dekalb DKC4442	194	27.4	51	55	389	217	59400	54648	43692	43824
Mean			186	21.9	54	16	389	209	42240	36731	29568	31482
<b>Probability(%)</b>												
Date of Planting (D)			5.1	0.0	13.5	4.9	2.0	0.0	-	0.0	4	15.4
Plant Density (P)			0.0	9.3	3.5	0.0	0.0	4.1	-	0.0	0.0	0.0
D x P			0.0	33.3	10.0	13.8	0.0	4	-	0.0	5.2	1.0
Hybrid (H)			0.0	0.0	5.5	1.5	0.0	0.0	-	0.0	10.4	20.3
D x H			0.4	3.9	51.6	30.0	0.6	2.4	-	0.1	24.6	13.4
P x H			1.9	0.0	6.9	0.2	3.4	0.1	-	43.8	63.0	0.4
D x P x H			51.5	4.1	7.3	54.0	40.5	20.8	-	68.8	73.2	84.1
<b>LSD(0.10)</b>												
Date of Planting (D)			17	0.4	NS	10	37	0.6	-	578	1603	NS
Plant Density (P)			8	0.4	1	8	16	0.4	-	509	1272	1334
D x P			13	NS	NS	NS	28	1	-	882	2203	2310
Hybrid (H)			6	0.3	0.9	6	13	0.3	-	416	NS	NS
D x H			11	0.6	NS	NS	23	0.5	-	720	NS	NS
P x H			11	1	2	11	23	1	-	NS	NS	1886
D x P x H			NS	1.0	2.6	NS	NS	NS	-	NS	NS	NS
<b>CV(%)</b>												
			7	3.3	4	83	7	0	-	2	8	7

continued



**Table C-31. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain**

(continued) **Arlington, WI - 2002**

Date of planting	Density	Hybrid	Whole Plant											Milk per			
			Dry Matter		Kernel milk		Harvest		Crude			<i>In Vitro</i>		Cell Wall		Ton	Acre
			yield	Moisture	stage	plants	ears	protien	ADF	NDF	Digest	Digest	Starch				
tons/A	%	%	plants/A	ears/A	%	%	%	%	%	%	lbs/T	lbs/A					
		Cargill 4521Bt	8.1	63.1	34.3	29509	32208	8.2	25.4	49.1	82.5	64.3	29.0	3522	28522		
		Dekalb DKC4442	8.4	56.0	22.0	29128	32531	7.1	23.1	46.5	84.7	67.1	35.7	3598	30128		
	15000		6.9	61.9	33.1	15048	22968	8.3	24.0	47.6	83.6	65.6	30.4	3607	24935		
	30000		9.0	58.4	28.9	29700	32208	7.3	23.9	47.3	83.9	66.1	33.7	3571	32078		
	45000		8.9	58.2	22.5	43208	41932	7.2	24.8	48.4	83.2	65.5	32.9	3501	31012		
	15000	Cargill 4521Bt	7.3	64.9	43.3	15312	22704	9.1	24.7	48.3	82.8	64.4	27.2	3577	26106		
	15000	Dekalb DKC4442	6.5	59.0	22.8	14784	23232	7.5	23.2	46.9	84.5	66.8	33.5	3637	23764		
	30000	Cargill 4521Bt	8.4	62.6	33.3	29568	32120	7.7	25.2	48.6	82.7	64.5	30.8	3542	29787		
	30000	Dekalb DKC4442	9.5	54.2	24.4	29832	32296	6.9	22.6	46.0	85.1	67.7	36.6	3600	34370		
	45000	Cargill 4521Bt	8.6	61.7	26.1	43648	41800	7.7	26.3	50.3	81.9	64.1	29.0	3446	29675		
	45000	Dekalb DKC4442	9.2	54.7	18.9	42768	42064	6.8	23.3	46.5	84.6	66.9	36.8	3557	32515		
April 30			8.3	56.9	24.2	26664	29744	7.5	23.9	47.5	84.0	66.3	32.5	3545	29568		
May 20			8.9	57.9	25.3	30448	33616	7.4	23.6	47.0	84.3	66.6	33.2	3590	31904		
June 10			7.5	63.7	35.0	30844	33748	7.9	25.2	48.8	82.5	64.3	31.3	3544	26603		
April 30		Cargill 4521Bt	8.1	61.1	30.6	26752	29920	8.1	24.5	47.9	83.2	65.0	30.2	3549	28683		
April 30		Dekalb DKC4442	8.6	52.7	17.8	26576	29568	6.9	23.3	47.1	84.8	67.7	34.9	3542	30453		
May 20		Cargill 4521Bt	8.8	61.8	31.1	31152	33352	7.9	24.4	47.7	83.4	65.2	30.7	3586	31613		
May 20		Dekalb DKC4442	9.0	54.0	19.4	29744	33880	6.9	22.8	46.4	85.1	68.0	35.6	3594	32232		
June 10		Cargill 4521Bt	7.4	66.3	41.1	30624	33352	8.5	27.3	51.6	80.8	62.8	26.1	3430	25272		
June 10		Dekalb DKC4442	7.6	61.2	28.9	31064	34144	7.4	23.1	45.9	84.3	65.8	36.5	3658	27934		
April 30	15000		6.5	59.3	27.5	13200	20724	8.2	23.2	46.9	84.3	66.5	31.4	3610	23651		
April 30	30000		8.8	57.4	24.2	27456	30888	7.3	24.4	48.1	83.6	66.0	31.8	3530	31293		
April 30	45000		9.7	53.9	20.8	39336	37620	7.0	24.0	47.6	84.0	66.4	34.4	3496	33758		
May 20	15000		7.9	62.0	32.5	16104	24024	8.1	23.9	47.5	83.8	65.9	30.2	3627	28682		
May 20	30000		9.7	55.4	24.2	30360	31680	7.0	22.7	45.7	85.1	67.4	35.6	3610	35149		
May 20	45000		9.1	56.3	19.2	44880	45144	7.1	24.3	47.8	83.9	66.5	33.7	3533	31876		
June 10	15000		6.3	64.5	39.2	15840	24156	8.6	24.7	48.4	82.8	64.5	29.5	3584	22471		
June 10	30000		8.3	62.3	38.3	31284	34056	7.5	24.7	48.1	83.1	65.0	33.7	3574	29792		
June 10	45000		7.9	64.5	27.5	45408	43032	7.6	26.1	49.8	81.7	63.5	30.7	3475	27545		

continued

**Table C-31. Plant Density, Planting Date, and Hybrid Influence on Corn Silage Yield and Quality and Corn Grain**

(continued) **Arlington, WI - 2002**

Date of planting	Density	Hybrid	Whole Plant													
			Dry Matter		Kernel milk		Harvest		Crude			<i>In Vitro</i>	Cell Wall		Milk per	
			yield tons/A	Moisture %	stage %	plants/A	ears/A	protien %	ADF %	NDF %	Digest %	Digest %	Starch %	Ton lbs/T	Acre lbs/A	
April 30	15000	Cargill 4521Bt	7.1	63.6	36.7	13992	20592	9.0	23.7	47.1	83.5	65.0	28.4	3622	25678	
April 30	15000	Dekalb DKC4442	6.0	55.1	18.3	12408	20856	7.4	22.8	46.6	85.1	68.0	34.4	3598	21625	
April 30	30000	Cargill 4521Bt	7.5	63.3	28.3	26136	29568	7.8	25.9	49.7	82.2	64.2	28.3	3501	26344	
April 30	30000	Dekalb DKC4442	10.2	51.5	20.0	28776	32208	6.9	22.9	46.5	85.0	67.8	35.3	3558	36242	
April 30	45000	Cargill 4521Bt	9.7	56.4	26.7	40128	39600	7.6	23.8	47.0	83.9	65.7	33.7	3524	34026	
April 30	45000	Dekalb DKC4442	9.6	51.4	15.0	38544	35640	6.5	24.1	48.2	84.2	67.2	35.0	3469	33490	
May 20	15000	Cargill 4521Bt	8.0	65.0	41.7	16368	22968	8.8	24.5	47.7	83.0	64.2	28.0	3593	28578	
May 20	15000	Dekalb DKC4442	7.9	58.9	23.3	15840	25080	7.4	23.3	47.3	84.7	67.6	32.4	3661	28787	
May 20	30000	Cargill 4521Bt	9.6	59.5	30.0	31416	32472	7.5	23.0	45.7	84.4	66.0	34.1	3634	34917	
May 20	30000	Dekalb DKC4442	9.9	51.4	18.3	29304	30888	6.6	22.3	45.7	85.7	68.8	37.1	3586	35381	
May 20	45000	Cargill 4521Bt	8.9	60.9	21.7	45672	44616	7.5	25.6	49.6	82.8	65.4	30.1	3530	31343	
May 20	45000	Dekalb DKC4442	9.4	51.7	16.7	44088	45672	6.6	22.9	46.0	85.0	67.6	37.3	3537	32675	
June 10	15000	Cargill 4521Bt	6.8	66.1	51.7	15576	24552	9.4	25.9	50.1	81.9	63.9	25.2	3515	24061	
June 10	15000	Dekalb DKC4442	5.7	62.9	26.7	16104	23760	7.8	23.6	46.7	83.6	65.0	33.8	3653	20881	
June 10	30000	Cargill 4521Bt	8.0	64.9	41.7	31152	34320	7.9	26.6	50.5	81.5	63.4	29.9	3492	28098	
June 10	30000	Dekalb DKC4442	8.6	59.7	35.0	31416	33792	7.1	22.7	45.8	84.6	66.5	37.4	3656	31486	
June 10	45000	Cargill 4521Bt	7.2	67.9	30.0	45144	41184	8.1	29.4	54.2	79.0	61.1	23.1	3283	23657	
June 10	45000	Dekalb DKC4442	8.6	61.1	25.0	45672	44880	7.2	22.9	45.3	84.5	65.8	38.2	3667	31433	
Mean			8.2	59.5	28.1	29319	32369	7.6	24.2	47.8	83.6	65.7	32.3	3560	29310	
<b>Probability(%)</b>																
Date of Planting (D)			1.6	0.2	2.2	0.7	1.1	2.0	0.3	4.6	0.3	2.5	2.1	0.6	1.4	
Plant Density (P)			0.0	0.1	0.0	0.0	0.0	0.0	38.4	58.4	45.2	37.7	1.5	0.9	0.0	
D x P			19.8	2.4	44.3	58.3	9.2	65.4	62.3	76.4	49.2	33.0	22.9	88.3	26.6	
Hybrid (H)			16.9	0.0	0.0	62.2	68.2	0.0	0.0	0.5	0.0	0.0	0.0	0.7	9.8	
D x H			89.4	17.9	96.9	61.0	82.3	91.8	8.2	5.5	17.8	96.6	2.6	0.1	78.8	
P x H			1.4	42.1	1.0	82.4	98.2	1.6	56.5	54.6	62.1	75.7	65.5	64.0	2.5	
D x P x H			11.0	31.4	66.4	71.5	13.3	96.7	36.9	44.8	28.3	22.8	15.5	15.9	7.7	
<b>LSD(0.10)</b>																
Date of Planting (D)			1	2	5.3	1503	1640	0.2	0.4	1.0	0	1	0.8	15.8	2080	
Plant Density (P)			0.5	2	4	1592	1622	0.2	NS	NS	NS	NS	1.9	55	2120	
D x P			NS	3	NS	NS	2809	NS	NS	NS	NS	NS	NS	NS	NS	
Hybrid (H)			NS	1.3	3.1	NS	NS	0.2	1.0	1.5	1	0.7	1.6	44.6	1733	
D x H			NS	NS	NS	NS	NS	NS	1.7	2.5	NS	NS	2.7	77.3	NS	
P x H			1	NS	5	NS	NS	0.3	NS	NS	NS	NS	NS	NS	3002	
D x P x H			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	5200	
<b>CV(%)</b>																
			12	5	24	10	9	5	9	7	2	2	10	3	13	

## FIELD EXPERIMENT HISTORY

**Title:** Row Spacing Influence on Grain Yield  
**Experiment:** 05RS **Trial ID** 2349 **Year:** 2002  
**Personnel:** J. G. Lauer, K.D. Kohn, P.J. Flannery  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** 371 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 5.8 **OM (%)** 2.8 **P (ppm)** 36 **K (ppm)** 128

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator 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 None  
**Herbicide:** Harness 2.5 pt/A **Insecticide:** None  
Hornet 4.5 oz/A **Hybrid:** Pioneer 35R57  
**Irrigation:** None  
**Planting Date:** 5/7/02 **Planting Depth:** 1.5" **Row Width:** See Factors  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Inter-Row Planter  
**Harvest Date:** 10/22 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB Factorial **Replications:** 3  
**Plot Size Seeded:** 10' x 75' **Experiment Size:** 0.258 Acre  
**Harvest Plot Size:** 5' x 75' **Harvest Plant Density:** 29500 plants per acre

### Factors/Treatments:

#### Row Spacing:

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

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**Results: Table C-32.**

**Table C-32. Row Spacing Influence on Grain Yield  
Arlington, WI - 2002**

Row spacing	Yield	Moisture	Test weight	Grower return	Population	Lodging
	bu/A	%	lbs/bu	\$/A	plants/A	%
7.5 inch plantback using 15 inch planter	148	21.5	55	309	28667	13.0
7.5 inch plantback using 30 inch planter	163	20.5	55	344	31333	15.3
15 inch	155	20.9	55	325	28333	9.6
15 inch plantback using 30 inch planter	162	21.1	55	340	30000	9.3
30 inch	162	21.0	56	341	29000	8.2
Mean	158	21.0	55	332	29467	11.1
<b><u>Probability(%)</u></b>						
Row Space (R)	59.4	99.1	10.6	63.2	73.4	37.6
<b><u>LSD(0.10)</u></b>						
Row Space (R)	NS	NS	NS	NS	NS	NS
<b><u>CV(%)</u></b>						
	6	3	1	6	8	48

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Row Spacing Effects on Corn Grain and Silage  
**Experiment:** 06RSxPD **Trial ID** 2351 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** 371 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 5.8 **OM (%)** 2.8 **P (ppm)** 36 **K (ppm)** 128

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator Soil Finisher

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

**Herbicide:** Harness 2.5 pt/A Insecticide: None  
Hornet 4.5 oz/A Hybrid: Pioneer 35R57

**Irrigation:** None

**Planting Date:** 5/7/02 **Planting Depth:** 1.5" **Row Width:** See Factors

**Target Plant Density:** See Factors **Planting Method:** Kinze Inter-Row Planter

**Harvest Date:** S: 9/26/02 **Harvest Method:** S:New Holland Plot Chopper  
G: 10/22/02 G:Kincaid Plot Combine

### Notes

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### Experimental Design

**Design:** RCB Factorial **Replications:** 3  
**Plot Size Seeded:** 10' x 75' **Experiment Size:** 0.41 Acre  
**Harvest Plot Size:** S: 5' x 8.75' **Harvest Plant Density:** See Factors  
G: 5' x 75'

### Factors/Treatments:

<u>Row Spacing:</u>	<u>Plant Density: (plants/A)</u>
15 inch	25000, 30000, 35000
30 inch	and 40000

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**Results: Table C-33.**

**Table C-33. Plant Density and Row Spacing Effects on Corn Grain and Silage Yield and Quality  
Arlington, WI - 2002**

Row spacing inches	Grain									
	Density plants/A	Harvest pop plants/A	Broken stalks %	Yield bu/A	Moisture %	Test weight lbs/bu	Grower return \$/A	Yield Components @ 15.5% moisture		
								Ear number ears/A	Kernels number no./ear	100 Kernel wt grams
	25000	24725	4	141	20.4	56.8	297	25223	449	31.9
	30000	30368	6	139	20.2	57.2	294	30865	392	29.4
	35000	31529	8	141	20.7	56.8	297	32442	404	28.0
	40000	36259	6	137	20.2	57.0	289	37586	328	28.4
15 inches		29579	7	137	20.4	57.1	289	30451	397	29.8
30 inches		31861	5	142	20.4	56.8	299	32608	390	29.0
15 inches	25000	24062	7	139	20.8	56.6	292	24725	435	32.9
15 inches	30000	29040	7	136	20.4	57.3	287	29538	391	29.9
15 inches	35000	29372	7	139	20.3	57.4	294	30036	443	27.4
15 inches	40000	35844	7	135	20.0	57.2	285	37503	318	29.1
30 inches	25000	25389	2	143	20.1	57.0	302	25721	463	30.9
30 inches	30000	31695	6	143	20.1	57.0	302	32193	393	28.9
30 inches	35000	33686	8	142	21.1	56.1	299	34848	365	28.6
30 inches	40000	36673	4	139	20.4	56.8	292	37669	338	27.8
Mean		30720	6	139	20.4	56.9	294	31529	393	29.4
<b>Probability(%)</b>										
Row Space (S)		22.3	38.8	1.4	83.7	21.8	1.0	22.0	65.2	10.8
Plant Density (D)		0.0	52.4	60.4	41.6	41.8	65.3	0.0	1.0	4.6
S x D		57.6	58.5	94.0	16.1	8.8	88.6	41.1	28.5	63.4
<b>LSD(0.10)</b>										
Row Space (S)		NS	NS	4	NS	NS	6	NS	NS	NS
Plant Density (D)		2366	NS	NS	NS	NS	NS	2535	51	2.3
S x D		NS	NS	NS	NS	0.7	NS	NS	NS	NS
<b>CV(%)</b>										
		7	64	4	3	1	4	8	13	8

continued

**Table C-33. Plant Density and Row Spacing Effects on Corn Grain and Silage Yield and Quality**  
 (continued) **Arlington, WI - 2002**

Row spacing inches	Whole Plant												
	Density plants/A	Harvest pop plants/A	Yield tons/A	Moisture %	Kernel milk %	Crude protien %	ADF %	NDF %	In Vitro Digest %	NDFD %	Starch %	Milk per	
												Ton lbs/T	Acre lbs/A
	25000	25167	7.2	46.0	18	6.7	23.2	47.0	82.7	63.3	36.2	3336	23913
	30000	28667	7.3	43.9	18	6.6	22.6	46.0	83.0	63.1	38.5	3340	24241
	35000	31500	8.3	45.4	20	6.6	23.1	46.5	83.0	63.5	37.3	3355	27701
	40000	35333	7.6	43.3	18	6.9	21.4	44.2	84.0	63.9	39.4	3410	26059
15 inches		29583	7.7	44.6	20	6.8	22.2	45.5	83.5	63.9	38.5	3382	26005
30 inches		30750	7.5	44.7	17	6.6	22.9	46.3	82.9	63.1	37.2	3338	24952
15 inches	25000	27000	7.4	48.5	18	6.8	21.8	44.9	83.8	64.2	38.4	3407	25051
15 inches	30000	27333	7.3	43.3	23	6.7	22.4	46.1	83.1	63.3	38.5	3348	24339
15 inches	35000	30000	8.1	44.0	20	6.8	22.9	46.2	83.3	63.8	37.9	3369	27406
15 inches	40000	34000	8.0	42.6	18	6.9	21.7	44.7	83.9	64.2	39.2	3405	27223
30 inches	25000	23333	7.0	43.4	18	6.6	24.6	49.0	81.6	62.5	34.0	3265	22776
30 inches	30000	30000	7.3	44.5	13	6.6	22.8	46.0	82.9	63.0	38.6	3333	24144
30 inches	35000	33000	8.4	46.8	20	6.4	23.3	46.8	82.8	63.3	36.7	3341	27995
30 inches	40000	36667	7.3	44.1	17	6.9	21.1	43.7	84.1	63.7	39.6	3415	24894
Mean		30167	7.6	44.7	19	6.7	22.6	45.9	83.2	63.5	37.8	3360	25478
<b>Probability(%)</b>													
Row Space (S)		16.6	48.7	97.6	19.2	24.2	56.6	64.4	49.7	54.0	56.8	48.6	49.6
Plant Density (D)		0.0	32.4	78.6	89.9	41.4	64.8	60.8	72.5	90.4	50.2	76.9	21.0
S x D		12.6	87.5	55.0	42.2	60.8	72.1	67.0	74.0	92.3	68.0	77.7	81.8
<b>LSD(0.10)</b>													
Row Space (S)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Plant Density (D)		2662	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
S x D		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
<b>CV(%)</b>													
		9	14	11	31	4	12	8	2	3	10	4	13

## FIELD EXPERIMENT HISTORY

**Title:** Plant Density and Row Spacing Effects on Corn Grain and Silage  
**Experiment:** 06 Plant Density x Row Spacing      **Trial ID:** 02C53      **Year:** 2002  
**Personnel:** M.G. Bertram  
**Location:** Marshfield, WI      **County:** Wood  
**Supported by:** Marshfield Ag. Research Station and Pioneer Hi-Bred

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### Site Information

**Field:** 6      **Soil Type:** Withee silt loam  
**Soil Test :**      **Date:** 10/25/00      **pH** 6.5      **SOM (%)** 3.6      **P (ppm)** 83      **K (ppm)** 208

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### Plot Management

**Tillage Operations:** Moldboard Plow    Field Cultivator

<b>Fertilizer:</b>	<b>Analysis</b>	<b>Rate</b>	<b>Date</b>
<b>Preplant</b>	none	N/A	N/A
<b>Starter</b>	none	N/A	N/A
<b>Post plant</b>	46-0-0	300	7/3/2002
<b>Manure</b>	Manure	7500 gal	5/21/2002

**Herbicide:** Harness 2.0 pt/A      **Insecticide:** None  
Hornet 2.4 oz/A

**Irrigation:** None      **Hybrid:** Pioneer 38K07

**Planting Date:** 5/22/2002      **Planting Depth:** 1.5"      **Row Width:** See Factors

**Target Plant Density:** Varies plants per acre      **Planting Method:** See Factors

**Harvest Date:**      **Silage:** 10/1/02      **Harvest Method:** **Silage:** Hand Harvest  
**Grain:** 11/4/02      **Grain:** John Deere plot combine

**Notes:**

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### Experimental Design

**Design:** RCB      **Replications:** 3  
**Plot Size Seeded:** 30' x 10'      **Experiment Size:** 0.87 A  
**Harvest Plot size:**      **Silage:** 10' x 3 - 5'  
   **Grain:** 20' x 3 - 5'

**Factors/Treatments:**

<b>Row Spacing</b>	<b>Target Population</b>
John Deere 7000 corn planter: 30"	30000
John Deere 450 grain drill: 30"	45000
John Deere 450 grain drill: 18"	60000
John Deere 450 grain drill: Twin 30"	75000

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**Results:** Table C-34.



**Table C-34. Plant Density and Row Spacing Effects on Corn Grain and Silage Yield and Quality  
Marshfield, WI - 2002**

Equipment type	Row spacing	Target pop	Grain									Grower return <sup>1</sup>
			Early pop	Average spacing	Std. Dev spacing	Grain pop	Ear density	Barren stalks	Broken stalks	Moisture	Yield	
	in.	plants/A	plants/A	in.	in.	plants/A	ears/A	%	%	%	bu/A	\$/A
Planter	30	30000	31436	6.6	2.8	31603	34007	1.8	0.0	32.3	161.5	236
Planter	30	45000	48424	4.2	2.6	46859	45489	1.9	0.9	33.6	183.5	247
Planter	30	60000	57281	3.7	2.3	58809	56534	5.1	2.2	33.4	196.3	248
Planter	30	75000	69841	2.9	2.0	65799	60035	6.9	5.8	34.0	172.1	182
Drill	30	30000	34993	5.7	5.0	36423	38977	0.4	0.3	32.5	182.7	272
Drill	30	45000	39349	4.7	4.0	40651	41536	2.8	0.7	33.4	183.9	248
Drill	30	60000	54668	3.5	3.1	54691	52278	5.7	6.0	33.0	187.0	233
Drill	30	75000	55612	3.3	3.0	55790	53692	3.6	4.8	33.6	178.2	194
Drill	18	30000	32912	9.2	7.6	33948	36537	1.2	0.0	32.7	152.8	219
Drill	18	45000	59290	5.6	4.3	60015	59819	4.6	1.3	33.3	202.7	282
Drill	18	60000	72842	4.6	4.1	68601	62126	6.2	5.5	32.5	229.0	307
Drill	18	75000	76170	4.3	3.8	73985	68177	5.7	6.0	33.0	208.9	249
Drill	Twin 30	30000	38406	11.2	8.7	45389	46506	1.8	0.0	33.1	199.7	299
Drill	Twin 30	45000	55031	6.6	5.4	58719	55803	6.6	2.0	33.0	185.6	253
Drill	Twin 30	60000	67083	6.5	5.7	70137	56386	7.9	10.7	33.1	172.6	208
Drill	Twin 30	75000	75794	5.4	5.0	74660	62039	8.7	10.5	33.2	207.0	245
Mean			54321	5.5	4.3	54755	51871	4.4	3.5	33.1	187.7	245
Probability (%)			<0.1	<0.1	<0.1	<0.1	<0.1	1.0	<0.1	38.3	4.5	3.6
LSD 5%			6697	1.2	1.0	7598	7650	4.6	4.4	NS	39.2	69
C.V. (%)			9	16	16	10	10	74	88	3	15	20

continued

<sup>1/</sup> Grower return calculated using \$118/80K unit for seed.

**Table C-34. Plant Density and Row Spacing Effects on Corn Grain and Silage Yield and Quality**

(continued) **Marshfield, WI - 2002**

Equipment type	Row spacing	Target pop	Whole Plant												
			Harvest pop	Ear density	Yield	Moisture	Kernel milk	Crude protein	ADF	NDF	In Vitro Digest	Starch	NDFD	Milk Per	
	in.	plants/A	plants/A	ears/A	Tons/A	%	%	%	%	%	%	%	%	lb/T	lb/A
Planter	30	30000	31799	36809	7.2	70.8	76	6.2	24.5	48.4	75.0	19.9	48.2	2736	19703
Planter	30	45000	52054	52708	8.6	69.6	84	5.8	25.0	48.9	73.9	19.7	46.5	2640	22621
Planter	30	60000	60113	57935	9.4	67.4	71	5.9	24.7	47.7	74.1	20.9	45.7	2639	24810
Planter	30	75000	75359	69479	8.3	69.6	81	5.8	27.5	51.9	72.2	16.3	46.6	2497	20748
Drill	30	30000	35937	39204	7.8	69.3	68	6.3	24.2	48.2	75.2	19.6	48.6	2739	21355
Drill	30	45000	44213	46174	8.0	69.4	81	6.1	25.5	49.6	73.9	18.6	47.4	2653	21433
Drill	30	60000	58153	57282	8.9	69.7	81	6.2	25.3	48.9	74.0	19.7	46.8	2681	23998
Drill	30	75000	59024	55539	8.7	67.5	81	5.8	24.0	47.1	74.0	21.8	44.9	2644	22901
Drill	18	30000	37026	43560	8.0	69.5	83	6.1	23.6	47.2	75.2	21.4	47.5	2772	22340
Drill	18	45000	67155	62436	8.9	70.6	85	6.0	23.8	47.2	75.2	21.1	47.4	2741	24192
Drill	18	60000	79134	74778	10.2	69.3	83	6.1	25.1	48.3	74.1	20.8	46.3	2706	27526
Drill	18	75000	85305	76230	9.8	69.2	79	5.8	25.4	49.3	73.6	19.4	46.5	2630	26068
Drill	Twin 30	30000	50094	50094	9.1	68.0	86	5.9	24.3	48.2	74.1	20.2	46.3	2648	24060
Drill	Twin 30	45000	57499	56193	8.7	70.0	79	5.9	27.0	51.1	72.7	20.0	46.5	2560	22347
Drill	Twin 30	60000	70132	66212	9.0	69.6	79	6.0	26.6	50.9	72.5	17.4	46.0	2533	22767
Drill	Twin 30	75000	75795	66647	8.8	69.1	78	6.2	24.0	47.5	74.9	20.6	47.2	2719	23732
Mean			58674	56955	8.7	69.3	80	6.0	25.0	48.8	74.0	19.8	46.8	2659	23163
Probability (%)			<0.1	<0.1	0.2	46.5	42.6	>50	22.9	25.4	17.5	24.3	14.6	32.1	4.9
LSD 5%			9177	7914	1.2	NS	NS	0.5	NS	NS	2.3	NS	2.2	NS	4092
C.V. (%)			11	10	10	6	12	6	8	5	2	13	3	5	12

## FIELD EXPERIMENT HISTORY

**Title:** Date of Planting and Row Spacing Influence on Grain Yield  
**Experiment:** 07DOPxRS **Trial ID** 2350 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** 371 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 5.8 **OM (%)** 2.8 **P (ppm)** 36 **K (ppm)** 128

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator prior to each DOP

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

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

**Irrigation:** None

**Planting Date:** See Factors **Planting Depth:** 1.5" **Row Width:** See Factors  
**Target Plant Density:** **Planting Method:** Kinze Inter-Row Planter  
**Harvest Date:** 10/28/02 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB Split-Plot **Replications:** 3  
**Plot Size Seeded:** 20' x 75' **Experiment Size:** 0.62 Acre  
**Harvest Plot Size:** 5' x 75' **Harvest Plant Density:** 29200

### Factors/Treatments:

<u>Date of Planting:</u>	<u>Row Spacing:</u>	<u>Hybrid:</u>
May 07	15 inch	Dekalb DKC4628
May 22	30 inch	Dekalb DKC5334
June 10		

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**Results:** Table C-35.

**Table C-35. Date of Planting and Row Spacing Influence on Grain Yield  
Arlington, WI - 2002**

Planting date	Row spacing	Hybrid	Yield Components @ 15.5% moisture									
			Yield	Moisture	Test wt.	Grower return	Lodged	Silk date	Plant number	Ear number	100 Kernel wt.	Kernel no./ear
			bu/A	%	lbs/bu	\$/A	%	doy	plants/A	ears/A	grams	kernels/ear
		Dekalb DKC4628	144	21.6	55	301	22.2	212	29344	29842	33.7	379
		DeKalb DKC5334	166	25.7	53	339	1.5	213	29123	29676	36.2	416
	15 inches		151	23.6	54	312	13.0	212	26551	27325	35.4	417
	30 inches		159	23.7	54	329	10.6	213	31916	32193	34.4	378
	15 inches	Dekalb DKC4628	135	21.6	55	283	25.5	212	26772	27547	34.5	381
	15 inches	DeKalb DKC5334	167	25.7	53	340	0.6	213	26330	27104	36.4	453
	30 inches	Dekalb DKC4628	152	21.6	55	319	18.9	212	31916	32138	32.9	378
	30 inches	DeKalb DKC5334	166	25.7	53	338	2.3	213	31916	32248	35.9	378
May 07			175	20.9	56	367	11.4	208	26592	26883	32.6	519
May 22			164	21.3	55	344	17.2	210	30658	30907	32.6	414
June 10			126	28.8	51	249	6.8	220	30451	31488	39.6	259
May 07		Dekalb DKC4628	161	19.6	57	342	22.4	207	27464	27712	31.0	486
May 07		DeKalb DKC5334	188	22.2	55	392	0.3	209	25721	26053	34.1	552
May 22		Dekalb DKC4628	144	19.7	57	305	30.7	210	30368	30616	30.9	384
May 22		DeKalb DKC5334	185	22.8	54	384	3.8	210	30948	31197	34.2	445
June 10		Dekalb DKC4628	126	25.5	52	257	13.4	220	30202	31197	39.0	268
June 10		DeKalb DKC5334	125	32.1	51	241	0.3	220	30699	31778	40.2	250
May 07	15 inches		172	20.9	56	360	13.2	208	23315	23647	33.1	569
May 07	30 inches		178	20.9	56	374	9.6	208	29870	30119	32.1	469
May 22	15 inches		155	21.4	56	324	16.5	210	28708	29123	32.9	408
May 22	30 inches		174	21.2	55	365	18.0	210	32608	32691	32.2	421
June 10	15 inches		126	28.7	51	250	9.4	220	27629	29206	40.3	274
June 10	30 inches		125	28.9	51	248	4.2	220	33272	33769	38.9	244

continued

**Table C-35. Date of Planting and Row Spacing Influence on Grain Yield**

(continued) **Arlington, WI - 2002**

Planting date	Row spacing	Hybrid	Yield Components @ 15.5% moisture									
			Yield	Moisture	Test wt.	Grower return	Lodged	Silk date	Plant number	Ear number	100 Kernel wt.	Kernel no./ear
			bu/A	%	lbs/bu	\$/A	%	doy	plants/A	ears/A	grams	kernels/ear
May 07	15 inches	Dekalb DKC4628	155	19.6	57	329	26.3	207	24560	24891	31.3	518
May 07	15 inches	DeKalb DKC5334	188	22.1	55	392	0.0	209	22070	22402	34.8	620
May 07	30 inches	Dekalb DKC4628	167	19.6	57	355	18.5	207	30368	30533	30.8	454
May 07	30 inches	DeKalb DKC5334	188	22.2	55	392	0.6	209	29372	29704	33.4	484
May 22	15 inches	Dekalb DKC4628	125	19.9	57	265	31.8	209	28874	29372	30.8	352
May 22	15 inches	DeKalb DKC5334	184	22.8	54	382	1.1	210	28542	28874	35.0	464
May 22	30 inches	Dekalb DKC4628	162	19.5	57	344	29.6	210	31861	31861	31.1	416
May 22	30 inches	DeKalb DKC5334	186	22.9	54	386	6.4	211	33355	33520	33.4	426
June 10	15 inches	Dekalb DKC4628	125	25.2	52	254	18.3	219	26883	28376	41.3	272
June 10	15 inches	DeKalb DKC5334	127	32.1	51	246	0.6	220	28376	30036	39.2	275
June 10	30 inches	Dekalb DKC4628	128	25.7	52	259	8.5	220	33520	34018	36.8	263
June 10	30 inches	DeKalb DKC5334	122	32.0	51	236	0.0	220	33023	33520	41.1	225
Mean			155	23.6	54	320	11.8	213	29234	29759	34.9	397
<b>Probability(%)</b>												
Planting Date (D)			0.8	0.0	0.1	0.4	11.3	0.0	2.9	0.9	0.2	0.2
Row Spacing (S)			5.4	85.3	64.3	4.5	30.9	5.4	0.0	0.0	21.1	0.9
D x S			13.3	71.4	80.0	10.8	46.9	63.5	37.5	27.6	94.9	1.0
Hybrid (H)			0.0	0.0	0.0	0.0	0.0	0.0	77.6	82.1	0.5	1.4
D x H			0.1	0.0	0.1	0.0	6.9	1.0	39.1	36.6	47.8	3.3
S x H			3.2	97.9	90.3	2.7	8.5	61.2	77.6	70.7	47.8	1.5
D x S x H			36.0	55.9	71.9	29.4	98.7	93.6	54.0	42.9	9.1	64.5
<b>LSD (0.10)</b>												
Planting Date (D)			17	0.7	1	34	7.9	1.1	2202	1753	1.8	56
Row Spacing (S)			6.8	NS	NS	NS	NS	0.4	1326	1255	NS	23.1
D x S			NS	NS	NS	24	NS	NS	NS	NS	NS	40.0
Hybrid (H)			6.8	0.4	0	14	3.9	0.4	NS	NS	1.4	23
D x H			12	0.6	1	24	6.9	0.6	NS	NS	NS	40
S x H			9.7	NS	NS	20	5.6	NS	NS	NS	NS	32.7
D x S x H			NS	NS	NS	NS	NS	NS	NS	NS	3.3	NS
<b>CV(%)</b>												
			8	3	1	7	58	0	8	7	7	10

## FIELD EXPERIMENT HISTORY

**Title:** Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Experiment:** 08SeedFungicide **Trial ID** 2260 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Gustufson

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/1 /02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	46-0-0	325	N/A
<b>Starter</b>	6-24-24	150	4 /24/02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	None	N/A	

**Herbicide:** Harness 2.5 oz/A Insecticide: None  
Hornet 3.0 oz/A

**Irrigation:** None **Hybrid:** See Factors

**Planting Date:** 4/24/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 10/3/02 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23' x10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 23' x 5' **Harvest Plant Density:** 23860 plants per acre

### Factors/Treatments:

#### Seed Treatments:

Control;  
Maxim XL @ 0.167 fl oz/cwt;  
Vortex @ 0.04 fl oz/cwt & Allegiance (2.65 FL) @ 0.2 oz/cwt;  
Captan 400C (4 FL) @ 1.75 oz/cwt & Allegiance (2.65 FL) @ 0.2 oz/cwt & CTS @ 1.0 oz/cwt;  
Maxim XL @ 0.167 oz/cwt & Gaucho 600 FS (x-1Gg) @ 0.16 mg ai/seed;  
Maxim XL @ 0.167 oz/cwt & Clothianidin @ 0.25 mg ai/seed;

#### Hybrids:

Pioneer 38P05  
Pioneer 39F06

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**Results: TableC-36.**

**Table C-36. Corn Seed Decay and Seedling Blight in Difficult Emergence Environments  
Arlington, WI - 2002**

Hybrid	Seed treatment	Population at V6 plants/A	Harvest population plants/A	Lodging %	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Grower return \$/A
	Control	18434	17740	7	139	23.4	54	286
	Captan+Allegiance+CTS	23106	24242	9	154	23.0	55	318
	Maxim XL	23485	23800	9	163	22.6	55	339
	Maxim XL+Clothianidin	26894	26389	4	172	22.5	55	358
	Maxim XL+Gaucho	26199	25631	13	173	22.1	55	361
	Vortex+Allegiance	24747	25378	11	170	22.8	55	353
Pioneer 38P05		25463	24705	12	184	23.4	55	380
Pioneer 39F06		22159	23022	5	140	22.1	55	292
Pioneer 38P05	Control	20075	19697	9	161	24.4	54	329
Pioneer 38P05	Captan+Allegiance+CTS	24873	24368	16	181	23.8	55	372
Pioneer 38P05	Maxim XL	24621	24495	9	184	23.4	55	380
Pioneer 38P05	Maxim XL+Clothianidin	28030	27651	7	193	22.8	55	400
Pioneer 38P05	Maxim XL+Gaucho	27146	26136	16	187	22.6	55	387
Pioneer 38P05	Vortex+Allegiance	28030	25883	16	199	23.3	55	412
Pioneer 39F06	Control	16793	15783	4	117	22.4	54	243
Pioneer 39F06	Captan+Allegiance+CTS	21338	24116	2	127	22.2	55	264
Pioneer 39F06	Maxim XL	22348	23106	9	142	21.7	55	297
Pioneer 39F06	Maxim XL+Clothianidin	25757	25126	1	152	22.1	55	317
Pioneer 39F06	Maxim XL+Gaucho	25252	25126	10	160	21.7	55	335
Pioneer 39F06	Vortex+Allegiance	21464	24873	5	142	22.3	55	294
Mean		23811	23863	9	162	22.7	55	336
<b>Probability (%)</b>								
	Seed treatment (S)	0.1	0.0	54.2	0.3	9.7	29.8	0.2
	Hybrid (H)	0.0	12.1	0.2	0.0	0.0	39.4	0.0
	S x H	36.8	91.2	34.9	8.5	56.9	92.8	9.4
<b>LSD (0.10)</b>								
	Seed treatment (S)	2385	2522	NS	12	0.7	NS	25
	Hybrid (H)	1145	NS	3	5	0.4	NS	18
	S x H	NS	NS	NS	12	NS	NS	NS
<b>CV (%)</b>								
		8	13	63	5	3	1	6

## FIELD EXPERIMENT HISTORY

**Title:** Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Experiment:** 08SeedFungicide **Trial ID** 2261 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Marshfield, WI **County:** Wood  
**Supported By:** Gustufson

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### Site Information

**Field:** **Previous Crop:** Soybean **Soil Type:** Loyal  
**Soil Test:** **Date:** 11/1 /02 **pH** 6.4 **OM (%)** 3.1 **P (ppm)** 62 **K (ppm)** 172

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	N/A	N/A	N/A
<b>Starter</b>	6-24-24	150	5 /15/02
<b>Post plant</b>	46-0-0	46	7 /1 /02
<b>Manure:</b>	None	N/A	

**Herbicide:** Harness 1.0 qt/A Insecticide: None  
Hornet 2.4 oz/A

**Irrigation:** None **Hybrid:** See Factors

**Planting Date:** 5/15/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 10/31/02 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23' x10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 23' x 5' **Harvest Plant Density:** 26894 plants per acre

### Factors/Treatments:

#### Seed Treatments:

Control;  
Maxim XL @ 0.167 fl oz/cwt;  
Vortex @ 0.04 fl oz/cwt & Allegiance (2.65 FL) @ 0.2 oz/cwt;  
Captan 400C (4 FL) @ 1.75 oz/cwt & Allegiance (2.65 FL) @ 0.2 oz/cwt & CTS @ 1.0 oz/cwt;  
Maxim XL @ 0.167 oz/cwt & Gaucho 600 FS (x-1Gg) @ 0.16 mg ai/seed;  
Maxim XL @ 0.167 oz/cwt & Clothianidin @ 0.25 mg ai/seed;

#### Hybrids:

Pioneer 38P05  
Pioneer 39F06

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**Results: TableC-37.**



**Table C-37. Corn Seed Decay and Seedling Blight in Difficult Emergence Environments  
Marshfield, WI - 2002**

Hybrid	Seed treatment	Population	Harvest	Grain	Grain	Test	Grower	
		at V6	population	Lodging	yield	moisture	weight	return
		plants/A	plants/A	%	bu/A	%	lb/bu	\$/A
	Control	28030	25631	1	192	26.8	52	386
	Captan+Allegiance+CTS	29293	26894	2	197	26.3	52	398
	Maxim XL	30176	26641	1	203	26.7	52	409
	Maxim XL+Clothianidin	30618	27714	3	199	26.5	52	401
	Maxim XL+Gaucho	30176	27209	0	202	26.2	52	409
	Vortex+Allegiance	29166	27272	0	203	26.1	52	410
Pioneer 38P05		30008	27272	1	206	26.9	52	414
Pioneer 39F06		29145	26515	2	192	26.0	52	390
Pioneer 38P05	Control	28409	25631	1	199	27.5	52	399
Pioneer 38P05	Captan+Allegiance+CTS	29545	28282	0	205	26.8	52	412
Pioneer 38P05	Maxim XL	31439	26641	0	214	26.7	52	431
Pioneer 38P05	Maxim XL+Clothianidin	30555	28661	1	205	27.3	52	410
Pioneer 38P05	Maxim XL+Gaucho	30429	27399	1	204	26.6	52	411
Pioneer 38P05	Vortex+Allegiance	29671	27020	0	209	26.2	52	423
Pioneer 39F06	Control	27651	25631	0	185	26.1	52	374
Pioneer 39F06	Captan+Allegiance+CTS	29040	25505	4	189	25.8	52	384
Pioneer 39F06	Maxim XL	28914	26641	2	192	26.6	52	387
Pioneer 39F06	Maxim XL+Clothianidin	30681	26767	5	193	25.6	52	391
Pioneer 39F06	Maxim XL+Gaucho	29924	27020	0	200	25.9	52	406
Pioneer 39F06	Vortex+Allegiance	28661	27525	0	196	26.0	52	397
Mean		29577	26894	1	199	26.4	52	402
<b>Probability (%)</b>								
	Seed treatment (S)	0.2	13.9	29.2	34.4	61.8	83.3	32.0
	Hybrid (H)	1.1	15.8	20.4	0.0	0.0	71.6	0.1
	S x H	23.0	41.6	56.8	58.0	5.8	92.0	57.5
<b>LSD (0.10)</b>								
	Seed treatment (S)	820	NS	NS	NS	NS	NS	NS
	Hybrid (H)	514	NS	NS	5	0.3	NS	25
	S x H	NS	NS	NS	NS	0.7	NS	NS
<b>CV (%)</b>								
		3	6	220	4	2	1	4

## FIELD EXPERIMENT HISTORY

**Title:** Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Experiment:** 08SeedFungicide **Trial ID** 2262 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Seymour, WI **County:** Outagamie  
**Supported By:** Gustufson

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:**  
**Soil Test:** **Date:** 11/1 /02 **pH** 7.4 **OM (%)** 2.9 **P (ppm)** 41 **K (ppm)** 165

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	N/A	N/A	N/A
<b>Starter</b>	6-24-24	150	5 /16/02
<b>Post plant</b>	82-0-0	150A	7 /2 /02
<b>Manure:</b>	None	N/A	

**Herbicide:** Accent 0.33 oz/A  
Northstar 4.5 oz/A  
Effective 2.5 pt/A **Insecticide:** Force @ 4.4 lbs/A

**Irrigation:** None **Hybrid:** See Factors

**Planting Date:** 5/16/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 10/23/02 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23' x10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 23' x 5' **Harvest Plant Density:** 21180 plants per acre

### Factors/Treatments:

#### Seed Treatments:

Control;  
Maxim XL @ 0.167 fl oz/cwt;  
Vortex @ 0.04 fl oz/cwt & Allegiance (2.65 FL) @ 0.2 oz/cwt;  
Captan 400C (4 FL) @ 1.75 oz/cwt & Allegiance (2.65 FL) @ 0.2 oz/cwt & CTS @ 1.0 oz/cwt;  
Maxim XL @ 0.167 oz/cwt & Gaucho 600 FS (x-1Gg) @ 0.16 mg ai/seed;  
Maxim XL @ 0.167 oz/cwt & Clothianidin @ 0.25 mg ai/seed;

#### Hybrids:

Pioneer 38P05  
Pioneer 39F06

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**Results: TableC-38.**

**Table C-38. Corn Seed Decay and Seedling Blight in Difficult Emergence Environments  
Seymour, WI - 2002**

Hybrid	Seed treatment	Harvest		Grain	Grain	Test	Grower
		population	Lodging	yield	moisture	weight	return
		plants/A	%	bu/A	%	lb/bu	\$/A
	Control	18371	0	131	29.1	52	258.6
	Captan+Allegiance+CTS	22222	0	142	30.3	52	277.8
	Maxim XL	18560	0	150	28.9	52	296.7
	Maxim XL+Clothianidin	21022	0	141	29.0	51	280.1
	Maxim XL+Gaucho	23926	0	144	29.6	52	283.2
	Vortex+Allegiance	22979	0	145	28.5	53	289.1
Pioneer 38P05		21170	0	150	29.5	52	297.1
Pioneer 39F06		21191	0	134	29.0	52	264.7
Pioneer 38P05	Control	19697	0	144	29.2	52	285.8
Pioneer 38P05	Captan+Allegiance+CTS	20707	0	138	31.4	52	267.7
Pioneer 38P05	Maxim XL	16919	0	165	29.3	52	326.4
Pioneer 38P05	Maxim XL+Clothianidin	26641	0	175	28.4	51	348.7
Pioneer 38P05	Maxim XL+Gaucho	22979	1	150	29.8	52	295.6
Pioneer 38P05	Vortex+Allegiance	20075	0	135	28.9	52	267.9
Pioneer 39F06	Control	17045	0	117	28.9	52	231.4
Pioneer 39F06	Captan+Allegiance+CTS	23737	0	146	29.2	53	287.9
Pioneer 39F06	Maxim XL	20202	0	139	28.6	52	276.9
Pioneer 39F06	Maxim XL+Clothianidin	15404	0	107	29.6	52	211.4
Pioneer 39F06	Maxim XL+Gaucho	24873	0	137	29.3	52	270.7
Pioneer 39F06	Vortex+Allegiance	25883	0	155	28.1	53	310.2
Mean		21180	0	142	29.2	52	280.4
<b>Probability (%)</b>							
	Seed treatment (S)	48.2	46.5	96.1	26.4	29.7	95.8
	Hybrid (H)	99.2	33.7	26.8	13.8	23.6	29.7
	S x H	22.8	45.8	44.9	29.6	24.4	43.1
<b>LSD (0.10)</b>							
	Seed treatment (S)	NS	NS	NS	NS	NS	NS
	Hybrid (H)	NS	NS	NS	NS	NS	NS
	S x H	NS	NS	NS	NS	NS	NS
<b>CV (%)</b>							
		28	600	26	4	1	27

## FIELD EXPERIMENT HISTORY

**Title:** Corn Seed Decay and Seedling Blight in Reduced Tillage Systems  
**Experiment:** 08SeedFungicide **Trial ID** 2263 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Valders, WI **County:** Manitowoc  
**Supported By:** Gustufson

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### Site Information

**Field:** **Previous Crop:** Corn **Soil Type:** Kewanee  
**Soil Test:** **Date:** 11/1 /02 **pH** 6.8 **OM (%)** 2.8 **P (ppm)** 40 **K (ppm)** 105

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### Plot Management

**Tillage Operations:** Moldboard Plow Field Cultivator Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	N/A	N/A	N/A
<b>Starter</b>	6-24-24	150	5 /15/02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	Manure	7500 gal/A	

**Herbicide:** Surpass 1.0 pt/A  
Accent Gold 2.0 oz/A  
Banvel 2.0 oz/A **Insecticide:** Force @ 4.4 lbs/A

**Irrigation:** None **Hybrid:** See Factors

**Planting Date:** 5/15/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 10/17/02 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 23' x10' **Experiment Size:** 0.17 A  
**Harvest Plot Size:** 23' x 5' **Harvest Plant Density:** 26536 plants per acre

### Factors/Treatments:

#### Seed Treatments:

Control;  
Maxim XL @ 0.167 fl oz/cwt;  
Vortex @ 0.04 fl oz/cwt & Allegiance (2.65 FL) @ 0.2 oz/cwt;  
Captan 400C (4 FL) @ 1.75 oz/cwt & Allegiance (2.65 FL) @ 0.2 oz/cwt & CTS @ 1.0 oz/cwt;  
Maxim XL @ 0.167 oz/cwt & Gaucho 600 FS (x-1Gg) @ 0.16 mg ai/seed;  
Maxim XL @ 0.167 oz/cwt & Clothianidin @ 0.25 mg ai/seed;

#### Hybrids:

Pioneer 38P05  
Pioneer 39F06

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**Results: TableC-39.**

**Table C-39. Corn Seed Decay and Seedling Blight in Difficult Emergence Environments  
Valders, WI - 2002**

Hybrid	Seed treatment	Population at V6 plants/A	Harvest population plants/A	Lodging %	Grain yield bu/A	Grain moisture %	Test weight lb/bu	Grower return \$/A
	Control	30303	25820	2	134	22.6	55	277
	Captan+Allegiance+CTS	30618	25063	3	129	22.6	56	269
	Maxim XL	31060	26957	1	133	22.6	56	277
	Maxim XL+Clothianidin	31060	27083	1	141	22.5	56	292
	Maxim XL+Gaucho	30808	27083	2	139	22.8	56	288
	Vortex+Allegiance	30871	27209	2	148	23.1	56	307
Pioneer 38P05		31207	26473	2	146	23.4	56	302
Pioneer 39F06		30366	26599	2	128	22.0	56	268
Pioneer 38P05	Control	31565	26515	1	145	23.0	56	301
Pioneer 38P05	Captan+Allegiance+CTS	30808	25000	2	138	23.1	56	285
Pioneer 38P05	Maxim XL	31060	26262	2	140	24.0	56	287
Pioneer 38P05	Maxim XL+Clothianidin	31060	26894	1	152	23.4	55	314
Pioneer 38P05	Maxim XL+Gaucho	31818	27777	1	149	23.4	55	308
Pioneer 38P05	Vortex+Allegiance	30934	26389	4	154	23.5	56	317
Pioneer 39F06	Control	29040	25126	4	122	22.2	55	253
Pioneer 39F06	Captan+Allegiance+CTS	30429	25126	4	121	22.0	56	252
Pioneer 39F06	Maxim XL	31060	27651	1	127	21.1	56	267
Pioneer 39F06	Maxim XL+Clothianidin	31060	27272	0	129	21.7	56	270
Pioneer 39F06	Maxim XL+Gaucho	29798	26389	3	128	22.2	56	267
Pioneer 39F06	Vortex+Allegiance	30808	28030	0	143	22.7	56	296
Mean		30787	26536	2	137	22.7	56	285
<b>Probability (%)</b>								
	Seed treatment (S)	65.8	7.0	77.7	11.2	95.9	83.8	11.2
	Hybrid (H)	0.7	77.7	87.8	0.5	1.4	32.7	0.6
	S x H	4.9	26.0	31.4	96.7	79.8	2.1	95.5
<b>LSD (0.10)</b>								
	Seed treatment (S)	NS	1326	NS	NS	NS	NS	NS
	Hybrid (H)	464	NS	NS	9	1	NS	19
	S x H	1136	NS	NS	NS	NS	1	NS
<b>CV (%)</b>								
		3	5	126	11	6	1	10

## FIELD EXPERIMENT HISTORY

Year: 2002

**Title:** Ten year Corn/Soybean/Wheat Rotation Study  
**Experiment:** 09 Ten year Corn/Soybean/Wheat Rotation  
**Personnel:** J.G. Lauer, R. Borges, J.M. Gaska, K.D. Kohn and P.J. Flannery  
**Organization:** UW Madsion, Dept. of Agronomy  
**Location:** Arlington Agricultural Research Station, Arlington, WI

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### FIELD INFORMATION

Field: ARS 335  
 Soil Type: Plano Silt Loam  
 Soil Test Results: Date:10/99 pH: 6.5 P: 35 ppm K: 203 ppm O.M.: 3.2%  
 Fertilizer Applied: Soybean: None  
 Wheat: None  
 Corn: 180 lb/a nitrogen preemerge  
 Tillage Operations: No-till  
 Previous Crop: Corn  
 Previous Herbicide: Roundup  
 Irrigation: None

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### EXPERIMENTAL PROCEDURE

Exp. Design: RCB  
 Replicates: 4  
 Variables: Factors/Treatments:

<u>System</u>	<u>Rotation</u>
Continuous	Corn, Soybean or Winter Wheat
Alternating	Corn/Soybean
Grain system I	Corn/Soybean(early)/Winter Wheat(red clover)
Grain system II	Corn(early)/Winter Wheat(red clover)/Soybean
Livestock system	Corn(silage)/Winter Wheat(straw removed )/Soybean

	<u>Corn</u>	<u>Soybean</u>	<u>Wheat</u>
Area Planted:	60' x 60'	60' x 60'	60' x 60'
Area Harvested:	5' x 60'	5' x 60'	5' x 60'
Row Spacing:	30"	30"	7.5"
Seeding Rate (spa)	35,000 seeds/acre	130,000 seeds/acre	100 lb/acre
Hybrid/Variety:	DeKalb DKC5334	Kaltenberg KB121 and KB231	Stoa spring
Planting Date:	6-May-02	3-May-02	1-May-02
Planting Equip:	Kinze 2000 Interplant planter	Kinze 2000 Interplant planter	JD 750 No-Till Drill
Harvesting Date:	1-Oct and 7-Oct	23-Sept and 14-Oct	8-Aug
Harvesting Equip:	Kincaid plot combine	Almaco plot combine	Almaco plot combine
	<u>Material</u>	<u>Crop</u>	<u>Rate</u>
Herbicides:	Roundup	Corn and Soybean	1.5 qt/a
Insecticides:	Force	Corn only	5.0 lb/a

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**Results: Tables C-40, C-41, and C-42.**

**Table C-40. Corn, Soybean and Wheat Rotation. - Setup Year  
Arlington, WI - 2002.**

Crop	Rotation	Yield	Moisture	Grower return	Test weight	Lodging	Population
		bu/A	%	\$/A	lbs/bu	%	no./A
Corn	1	186	24.6	381	53	1	27878
Corn	4	183	24.6	374	53	2	28556
Corn	6	178	22.6	370	53	2	29814
Corn	9	177	26.4	358	51	0	30589
Mean		181	24.6	371	53	1	29209
<b><u>Probability(%)</u></b>							
Rotation (R)		55.6	13.9	34.9	3.2	17.8	60.6
<b><u>LSD (0.10)</u></b>							
Rotation (R)		NS	NS	NS	1	NS	NS
<b><u>CV(%)</u></b>							
		5	6	4	1	83	9

  

Crop	Rotation	Yield	Moisture	Population	Kernel milk	Crude protien	ADF	NDF	<i>In Vitro</i> Digest	NDFD	Starch	Milk per	
		T/A	%	no./A	%	%	%	%	%	%	%	lbs/T	lbs/A
Corn Silage	12	7.2	55.0	29333	41.7	6.3	26.0	51.9	83.1	67.3	31.0	3467	24987

**Table C-41. Corn, Soybean and Wheat Rotation. - Setup Year  
Arlington, WI - 2002.**

Crop	Rotation	Yield	Moisture	Grower return
		bu/A	%	\$/A
Soybean	2	51	14.2	272
Soybean	5	49	14.5	263
Soybean	7	52	14.9	279
Soybean	11	47	14.1	250
Soybean	14	50	14.4	270
Mean		50	14.4	267
<b><u>Probability(%)</u></b>				
Rotation (R)		79.5	0.1	80.3
<b><u>LSD (0.10)</u></b>				
Rotation (R)		NS	0.2	NS
<b><u>CV(%)</u></b>				
		11	1	11



**Table C-42. Corn, Soybean and Wheat Rotation. - Setup Year  
Arlington, WI - 2002.**

Crop	Rotation	Yield	Moisture	Grower return
		bu/A	%	\$/A
Wheat	3	33	13.2	94
Wheat	8	40	13.4	113
Wheat	10	31	13.0	88
Wheat	13	37	14.1	103
Mean		35	13.4	100
<b><u>Probability(%)</u></b>				
Rotation (R)		18	57	18
<b><u>LSD (0.10)</u></b>				
Rotation (R)		NS	NS	NS
<b><u>CV(%)</u></b>				
		12	7	12

## FIELD EXPERIMENT HISTORY

**Title:** Twenty year Corn/Soybean Rotation Study **Year: 2002**  
**Experiment:** 09 Twenty year Corn/Soybean Rotation  
**Personnel:** J.G. Lauer, R. Borges, J.M. Gaska, and K.D. Kohn  
**Organization:** UW Madsion, Dept. of Agronomy  
**Location:** Arlington Agricultural Research Station, Arlington, WI

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### FIELD INFORMATION

**Field:** ARS 334W  
**Soil Type:** Plano Silt Loam  
**Soil Test Results:** Date:10/99                      pH: 6.5   P: 35 ppm   K: 203 ppm   O.M.: 3.2%  
**Fertilizer Applied:** Soybean : None  
                                   Corn: 210 lb/a nitrogen preemerge  
**Tillage Operations:** No-till and fall chisel plowed  
                                   Spring field cultivated and cultumulched  
**Previous Crop:** Corn and soybean  
**Previous Herbicide:** Roundup  
**Irrigation:** None

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### EXPERIMENTAL PROCEDURE

**Exp. Design:** RCB Split-Split Plot  
**Replicates:** 4  
**Variables:** A: Tillage, B: Rotation Sequence, C: Subsample

	<u>Corn</u>	<u>Soybean</u>
Area Planted:	10' x 35'	10' x 35'
Area Harvested:	5' x 31'	5' x 31'
Row Spacing:	30"	30"
Seeding Rate (spa)	35,000 seeds/acre	130,000 seeds/acre
Hybrid/Variety:	DeKalb DKC5334	Asgrow AG2601
Planting Date:	3-May-02	3-May-02
Planting Equip:	Kinze 2000 Interplant planter	Kinze 2000 Interplant planter
Harvesting Date:	7-Oct	14-Oct and 15-Oct
Harvesting Equip:	Kincaid plot combine	Almaco plot combine #1

  

	<u>Date</u>	<u>Material</u>	<u>Rate</u>	
Herbicides:	23-Apr	Roundup	1.5 qt/a	
	23-Apr	2,4-D	1.0 pt/a	
	1-May	Dual	2.0 pt/a	
	17-Jun	Roundup	1.0 qt/a	
Insecticides:	At planting	Force	4.4 lb/a	corn only

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**Results: Table C-43 and C-44.**

**Table C-43. 20 Year Corn/Soybean Rotation Study - Corn.  
Arlington, WI - 2002**

Tillage	Rotation 20th year	Plot position	Yield bu/A	Moisture %	Test wt. lbs/bu	Grower return \$/A	Lodged %	Harvest population plants/A	Ear density ears/A
		East	211	24.2	52	434	1	30321	30663
		Center	206	23.9	52	425	2	29910	30211
		West	211	23.9	52	433	2	29639	29870
	1st Year Corn		237	23.7	52	487	2	30679	31312
	2nd Year Corn		208	23.1	52	429	2	30211	30398
	3rd Year Corn		207	24.4	52	424	0	29766	29953
	4th Year Corn		192	23.6	52	396	1	29462	29672
	5th Year Corn		208	25.4	52	423	1	30234	30609
	Continuous Corn		189	23.6	52	390	3	29181	29368
	Rotated Corn		227	24.2	52	465	2	30164	30422
	1st Year Corn	East	241	23.6	52	496	2	30984	31616
	1st Year Corn	Center	234	23.8	52	482	2	30703	31476
	1st Year Corn	West	235	23.8	52	484	3	30351	30843
	2nd Year Corn	East	207	23.1	52	428	1	29789	30000
	2nd Year Corn	Center	209	23.1	52	432	3	29649	29789
	2nd Year Corn	West	207	23.1	52	428	1	31195	31405
	3rd Year Corn	East	208	24.6	52	427	0	30703	30914
	3rd Year Corn	Center	202	24.2	51	415	0	29438	29719
	3rd Year Corn	West	210	24.5	52	430	1	29157	29227
	4th Year Corn	East	195	23.8	52	401	0	29789	30000
	4th Year Corn	Center	189	23.5	52	390	0	28876	29157
	4th Year Corn	West	192	23.5	52	397	2	29719	29860
	5th Year Corn	East	212	25.9	52	431	0	30351	30914
	5th Year Corn	Center	200	25.1	52	408	2	30914	31195
	5th Year Corn	West	212	25.4	52	431	2	29438	29719
	Continuous Corn	East	193	23.8	52	398	3	30141	30422
	Continuous Corn	Center	188	23.5	52	386	4	29368	29579
	Continuous Corn	West	187	23.5	52	386	3	28033	28103
	Rotated Corn	East	224	24.8	52	457	2	30492	30773
	Rotated Corn	Center	224	23.9	52	460	2	30422	30562
	Rotated Corn	West	233	23.9	52	479	2	29579	29930
Conventional			212	23.0	52	439	2	29441	29743
No-Till			207	25.0	52	423	1	30472	30753
Conventional		East	214	23.1	52	443	2	30231	30572
Conventional		Center	209	22.9	52	433	3	29107	29468
Conventional		West	213	23.1	53	440	3	28986	29187
No-Till		East	209	25.3	52	425	1	30412	30753
No-Till		Center	204	24.8	51	416	1	30713	30954
No-Till		West	209	24.8	52	427	2	30291	30552

continued

**Table C-43. 20 Year Corn/Soybean Rotation Study - Corn.**  
(continued) **Arlington, WI - 2002**

Tillage	Rotation 20th year	Plot position	Yield		Test	Grower	Lodged	Harvest	Ear
			bu/A	Moisture %	wt. lbs/bu	return \$/A		population plants/A	density ears/A
Conventional	1st Year Corn		239	24.6	52	489	1	29743	30305
Conventional	2nd Year Corn		207	21.9	53	432	3	29368	29555
Conventional	3rd Year Corn		211	22.3	53	439	1	29368	29555
Conventional	4th Year Corn		198	22.8	52	410	1	29087	29368
Conventional	5th Year Corn		216	23.1	52	446	2	29930	30305
Conventional	Continuous Corn		190	22.2	52	395	5	28431	28712
Conventional	Rotated Corn		224	24.3	52	460	3	30164	30398
No-Till	1st Year Corn		234	22.9	53	486	3	31616	32319
No-Till	2nd Year Corn		208	24.3	52	427	0	31054	31241
No-Till	3rd Year Corn		202	26.5	51	408	0	30164	30351
No-Till	4th Year Corn		186	24.4	51	382	0	29836	29977
No-Till	5th Year Corn		200	27.7	51	400	1	30539	30914
No-Till	Continuous Corn		189	24.9	52	386	1	29930	30024
No-Till	Rotated Corn		229	24.2	52	471	1	30164	30445
Conventional	1st Year Corn	East	247	24.3	52	506	1	30633	31054
Conventional	1st Year Corn	Center	239	24.6	52	488	1	29508	30492
Conventional	1st Year Corn	West	231	24.9	52	472	1	29087	29368
Conventional	2nd Year Corn	East	208	21.9	53	433	1	29649	29789
Conventional	2nd Year Corn	Center	208	21.8	53	433	6	28384	28525
Conventional	2nd Year Corn	West	206	22.0	53	429	2	30070	30351
Conventional	3rd Year Corn	East	214	22.6	53	443	0	30773	31054
Conventional	3rd Year Corn	Center	205	21.8	52	428	0	28665	28806
Conventional	3rd Year Corn	West	215	22.6	53	446	2	28665	28806
Conventional	4th Year Corn	East	200	22.6	52	415	0	29227	29508
Conventional	4th Year Corn	Center	197	23.0	53	407	0	27963	28384
Conventional	4th Year Corn	West	197	22.9	53	408	4	30070	30211
Conventional	5th Year Corn	East	221	23.5	52	457	0	31476	32038
Conventional	5th Year Corn	Center	208	22.9	52	431	3	30070	30492
Conventional	5th Year Corn	West	218	23.1	52	450	3	28244	28384
Conventional	Continuous Corn	East	192	22.3	52	398	5	29227	29649
Conventional	Continuous Corn	Center	188	22.2	53	391	6	29227	29649
Conventional	Continuous Corn	West	190	22.2	53	395	4	26839	26839
Conventional	Rotated Corn	East	220	24.6	52	450	3	30633	30914
Conventional	Rotated Corn	Center	221	24.0	52	453	3	29930	29930
Conventional	Rotated Corn	West	233	24.2	52	478	2	29930	30351

continued

**Table C-43. 20 Year Corn/Soybean Rotation Study - Corn.**  
(continued) **Arlington, WI - 2002**

Tillage	Rotation 20th year	Plot position	Yield		Test	Grower		Harvest	Ear
			bu/A	Moisture %	wt. lbs/bu	return \$/A	Lodged %	population plants/A	density ears/A
No-Till	1st Year Corn	East	235	23.0	52	486	2	31335	32178
No-Till	1st Year Corn	Center	230	23.0	53	475	2	31897	32459
No-Till	1st Year Corn	West	239	22.7	53	495	6	31616	32319
No-Till	2nd Year Corn	East	206	24.3	51	423	0	29930	30211
No-Till	2nd Year Corn	Center	210	24.3	52	431	0	30914	31054
No-Till	2nd Year Corn	West	209	24.3	52	428	0	32319	32459
No-Till	3rd Year Corn	East	203	26.6	51	410	0	30633	30773
No-Till	3rd Year Corn	Center	199	26.6	51	401	0	30211	30633
No-Till	3rd Year Corn	West	204	26.3	51	413	0	29649	29649
No-Till	4th Year Corn	East	190	25.1	51	387	1	30351	30492
No-Till	4th Year Corn	Center	182	24.0	51	374	0	29789	29930
No-Till	4th Year Corn	West	188	24.1	52	385	0	29368	29508
No-Till	5th Year Corn	East	203	28.2	51	405	0	29227	29789
No-Till	5th Year Corn	Center	192	27.3	51	385	1	31757	31897
No-Till	5th Year Corn	West	205	27.7	51	411	2	30633	31054
No-Till	Continuous Corn	East	195	25.2	52	398	0	31054	31195
No-Till	Continuous Corn	Center	187	24.9	52	382	3	29508	29508
No-Till	Continuous Corn	West	184	24.7	51	377	1	29227	29368
No-Till	Rotated Corn	East	227	25.0	51	464	1	30351	30633
No-Till	Rotated Corn	Center	227	23.9	52	467	0	30914	31195
No-Till	Rotated Corn	West	234	23.7	52	481	3	29227	29508
Mean			210	24.0	52	431	2	29957	30248
<b>Probability(%)</b>									
Tillage (T)			21.8	0.6	0.4	9.6	38.9	2.1	1.7
Rotation (R)			0.0	20.9	62.6	0.0	57.0	69.9	47.7
T x R			88.0	1.2	1.3	60.3	46.6	94.5	94.8
Plot Position (P)			0.3	4.7	5.2	0.8	23.8	23.6	16.8
T x P			80.0	15.1	69.7	66.2	74.2	18.0	23.0
R x P			11.7	74.1	29.3	14.1	90.4	59.4	63.4
T x R x P			63.1	85.7	85.2	70.9	71.6	76.3	73.1
<b>LSD(0.10)</b>									
Tillage (T)			NS	0.6	0.8	16	NS	541	496
Rotation (R)			14	NS	NS	26	NS	NS	NS
T x R			NS	2.1	0.8	NS	NS	NS	NS
Plot Position (P)			2.6	0.2	0.2	5	NS	NS	NS
T x P			NS	NS	NS	NS	NS	NS	NS
R x P			NS	NS	NS	NS	NS	NS	NS
T x R x P			NS	NS	NS	NS	NS	NS	NS
<b>CV(%)</b>									
			4	3	1	4	210	7	7

**Table C-44. 20 Year Corn/Soybean Rotation Study - Soybean.  
Arlington, WI**

Tillage	Rotation 20th year	Plot location	Yield bu/a	Moist. %	Plant height in	Lodge score 1-5	Seeds/ lb
Notill			54.7	13.9	30.7	1.0	2844
Conventional			50.0	14.0	29.7	1.0	2899
	5th year soybean		48.6	13.9	28.9	1.0	2966
	4th year soybean		49.5	14.0	29.5	1.0	2885
	3rd year soybean		52.6	14.1	30.5	1.0	2868
	2nd year soybean		54.6	14.1	31.2	1.0	2854
	1st year soybean		58.5	14.1	32.4	1.0	2801
	S/C rotation		54.7	14.1	31.3	1.0	2820
	Continuous soybean		48.0	13.7	27.5	1.0	2908
Notill	5th year soybean		51.1	13.8	28.4	1.0	2952
Notill	4th year soybean		51.8	14.0	31.1	1.0	2848
Notill	3rd year soybean		56.3	14.1	31.3	1.0	2812
Notill	2nd year soybean		57.3	14.0	31.2	1.0	2817
Notill	1st year soybean		60.3	13.9	33.0	1.0	2800
Notill	S/C rotation		56.8	14.0	31.7	1.0	2798
Notill	Continuous soybean		49.3	13.6	28.2	1.0	2881
Conventional	5th year soybean		46.1	13.9	29.3	1.0	2979
Conventional	4th year soybean		47.3	14.1	27.8	1.0	2921
Conventional	3rd year soybean		48.9	14.0	29.8	1.0	2925
Conventional	2nd year soybean		51.9	14.1	31.3	1.0	2890
Conventional	1st year soybean		56.7	14.2	31.8	1.0	2802
Conventional	S/C rotation		52.5	14.2	31.0	1.0	2842
Conventional	Continuous soybean		46.8	13.8	26.8	1.0	2935
		East	52.1	14.0	30.7	1.0	2857
		Center	53.6	14.0	30.0	1.0	2867
		West	51.4	14.0	29.9	1.0	2891
Notill		East	54.4	13.9	31.3	1.0	2851
Notill		Center	56.3	14.0	30.5	1.0	2830
Notill		West	53.3	13.9	30.3	1.0	2852
Conventional		East	49.7	14.0	30.1	1.0	2863
Conventional		Center	50.9	14.0	29.5	1.0	2905
Conventional		West	49.5	14.1	29.5	1.0	2930
	5th year soybean	East	48.8	13.8	29.4	1.0	2953
	5th year soybean	Center	49.4	13.9	28.6	1.0	2938
	5th year soybean	West	47.7	13.9	28.6	1.0	3006
	4th year soybean	East	49.7	14.0	29.6	1.0	2886
	4th year soybean	Center	50.3	14.2	28.4	1.0	2894
	4th year soybean	West	48.6	14.0	30.4	1.0	2874
	3rd year soybean	East	53.0	14.0	31.8	1.0	2867
	3rd year soybean	Center	54.2	14.1	30.6	1.0	2858
	3rd year soybean	West	50.6	14.1	29.3	1.0	2880

**Table C-44. 20 Year Corn/Soybean Rotation Study - Soybean.  
Arlington, WI**

Tillage	Rotation 20th year	Plot location	Yield bu/a	Moist. %	Plant height in	Lodge score 1-5	Seeds/ lb
	2nd year soybean	East	53.4	14.1	32.1	1.0	2849
	2nd year soybean	Center	55.6	14.1	31.0	1.0	2854
	2nd year soybean	West	54.8	14.1	30.5	1.0	2857
	1st year soybean	East	57.4	14.1	33.0	1.0	2784
	1st year soybean	Center	59.7	14.1	32.0	1.0	2797
	1st year soybean	West	58.5	14.0	32.1	1.0	2822
	S/C rotation	East	54.7	14.2	31.9	1.0	2783
	S/C rotation	Center	56.5	14.1	31.5	1.0	2849
	S/C rotation	West	52.7	14.1	30.6	1.0	2829
	Continuous soybean	East	47.6	13.7	27.3	1.0	2874
	Continuous soybean	Center	49.5	13.8	27.8	1.0	2882
	Continuous soybean	West	47.0	13.6	27.5	1.0	2969
Notill	5th year soybean	East	52.6	13.7	29.5	1.0	2998
Notill	5th year soybean	Center	51.8	13.9	28.3	1.0	2864
Notill	5th year soybean	West	49.0	13.9	27.5	1.0	2995
Notill	4th year soybean	East	51.7	13.9	31.3	1.0	2880
Notill	4th year soybean	Center	53.3	14.3	30.3	1.0	2867
Notill	4th year soybean	West	50.4	13.9	31.8	1.0	2799
Notill	3rd year soybean	East	56.6	14.1	32.8	1.0	2848
Notill	3rd year soybean	Center	58.4	14.2	31.3	1.0	2756
Notill	3rd year soybean	West	53.8	14.1	29.8	1.0	2832
Notill	2nd year soybean	East	57.1	14.2	31.8	1.0	2798
Notill	2nd year soybean	Center	58.2	14.0	30.5	1.0	2843
Notill	2nd year soybean	West	56.4	14.0	31.3	1.0	2811
Notill	1st year soybean	East	57.9	13.9	33.8	1.0	2758
Notill	1st year soybean	Center	62.7	14.0	32.3	1.0	2811
Notill	1st year soybean	West	60.3	13.9	33.0	1.0	2829
Notill	S/C rotation	East	55.9	14.0	32.0	1.0	2792
Notill	S/C rotation	Center	59.0	14.1	32.3	1.0	2818
Notill	S/C rotation	West	55.7	13.9	30.8	1.0	2784
Notill	Continuous soybean	East	49.3	13.6	28.0	1.0	2882
Notill	Continuous soybean	Center	50.8	13.6	28.8	1.0	2851
Notill	Continuous soybean	West	47.7	13.6	27.8	1.0	2911
Conventional	5th year soybean	East	44.9	13.8	29.3	1.0	2909
Conventional	5th year soybean	Center	47.1	14.0	29.0	1.0	3012
Conventional	5th year soybean	West	46.4	14.0	29.8	1.0	3016
Conventional	4th year soybean	East	47.7	14.1	28.0	1.0	2892
Conventional	4th year soybean	Center	47.3	14.1	26.5	1.0	2922
Conventional	4th year soybean	West	46.8	14.0	29.0	1.0	2949

Continued

**Table C-44. 20 Year Corn/Soybean Rotation Study - Soybean.  
Arlington, WI**

Tillage	Rotation 20th year	Plot location	Yield bu/a	Moist. %	Plant height in	Lodge score 1-5	Seeds/ lb
Conventional	3rd year soybean	East	49.3	14.0	30.8	1.0	2887
Conventional	3rd year soybean	Center	50.0	14.0	30.0	1.0	2960
Conventional	3rd year soybean	West	47.4	14.1	28.8	1.0	2927
Conventional	2nd year soybean	East	49.7	14.1	32.5	1.0	2900
Conventional	2nd year soybean	Center	52.9	14.1	31.5	1.0	2866
Conventional	2nd year soybean	West	53.2	14.2	29.8	1.0	2904
Conventional	1st year soybean	East	56.8	14.4	32.3	1.0	2810
Conventional	1st year soybean	Center	56.7	14.1	31.8	1.0	2783
Conventional	1st year soybean	West	56.7	14.2	31.3	1.0	2814
Conventional	S/C rotation	East	53.6	14.3	31.8	1.0	2774
Conventional	S/C rotation	Center	54.1	14.1	30.8	1.0	2879
Conventional	S/C rotation	West	49.8	14.2	30.5	1.0	2873
Conventional	Continuous soybean	East	45.9	13.7	26.5	1.0	2865
Conventional	Continuous soybean	Center	48.1	14.0	26.8	1.0	2914
Conventional	Continuous soybean	West	46.3	13.7	27.3	1.0	3026
<b>Means</b>			<b>52.4</b>	<b>14.0</b>	<b>30.2</b>	<b>1.0</b>	<b>2872</b>
<b><u>Probability</u></b>							
Tillage (T)			3.8	28.2	1.1	>50	11.4
Rotation (R)			<0.1	0.1	<0.1	>50	0.2
T x R			>50	43.4	>50	>50	>50
Plot location (L)			<0.1	24.7	1.5	>50	9.1
T x L			32.6	14.4	>50	>50	6.4
R x L			>50	36.2	21.1	>50	>50
T x R x L			>50	21.7	>50	>50	22.6
<b><u>LSD 10%</u></b>							
Tillage (T)			3.1	NS	0.4	NS	NS
Rotation (R)			3.3	0.2	1.8	NS	62.3
T x R			NS	NS	NS	NS	NS
Plot location (L)			0.9	NS	0.5	NS	26.2
T x L			NS	NS	NS	NS	65.2
R x L			NS	NS	NS	NS	NS
<b>CV %</b>			<b>5</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>3</b>



## FIELD EXPERIMENT HISTORY

**Title:** Effect of Cutting Height on Corn Forage  
**Experiment:** 11 Cutting Hght **Trial ID** 2345 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:**

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### Site Information

**Field:** 406 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
Preplant :	46-0-0	325	N/A
Starter :	6-24-24	150	4 /25/02
Post plant :	N/A	N/A	N/A
Manure:	N/A	None	N/A

**Herbicide:** Harness 2.5 pt/A Insecticide: None  
Hornet 3.0 oz/A Hybrid:

**Irrigation:** None

**Planting Date:** 4/25/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/25/02 **Harvest Method:** New Holland 707 Plot Chopper

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### Experimental Design

**Design:** RCB **Replications:** 4  
**Plot Size Seeded:** 25' x 10" **Experiment Size:** 0.14 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 27588 plants per acre

### Factors/Treatments:

<u>Hybrid</u>	<u>Cutting Height</u>
Cargill F657	6"
NK N48V8	24"
Pioneer 35R57	

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**Results:** Table C-45.

**Table C-45. Effect of Cutting Height on Corn Forage.  
Arlington, WI - 2002**

Treatment	Hybrid	Harvest Population plants/A	Yield T/A	Moist %	Kernel							Milk per	
					Milk %	CP %	ADF %	NDF %	IVD %	NDFD %	Starch %	Ton lb/T	Acre lb/A
	Cargill F657	27324	6.2	59.5	38.8	7.9	21.8	45.4	87.1	71.6	35.0	3850	23804
	NK N48V8	26631	9.5	50.4	26.3	7.0	23.2	47.1	84.2	66.4	33.4	3455	32683
	Pioneer 35R57	28809	8.4	49.9	28.1	7.1	22.2	45.4	84.9	66.9	35.4	3492	29265
06 inch		28248	8.8	55.1	30.4	7.2	24.4	49.0	84.1	67.5	32.3	3531	30887
24 inch		26928	7.2	51.4	31.7	7.4	20.3	42.9	86.7	69.1	36.9	3667	26280
06 inch	Cargill F657	28512	7.0	60.5	38.8	7.7	24.0	48.7	85.9	71.1	33.3	3797	26702
06 inch	NK N48V8	26532	10.1	52.3	23.8	7.0	24.7	49.4	83.2	66.0	31.2	3411	34253
06 inch	Pioneer 35R57	29700	9.4	52.5	28.8	7.0	24.6	48.9	83.1	65.5	32.4	3385	31706
24 inch	Cargill F657	26136	5.4	58.5	38.8	8.0	19.6	42.0	88.3	72.1	36.6	3903	20905
24 inch	NK N48V8	26730	8.9	48.4	28.8	7.0	21.6	44.7	85.2	66.8	35.6	3500	31112
24 inch	Pioneer 35R57	27918	7.4	47.4	27.5	7.3	19.7	42.0	86.7	68.3	38.4	3598	26823
Mean		27588	8.0	53.3	31.0	7.3	22.4	46.0	85.4	68.3	34.6	3599	28584
<b>Probability (%)</b>													
	Hybrid (H)	26.8	0.0	0.0	0.0	0.2	12.4	20.5	0.0	0.0	46.6	0.0	0.0
	Treatment (T)	59.7	0.0	1.1	44.9	19.3	0.0	0.0	0.0	3.2	0.7	0.2	0.3
	H x T	58.9	62.4	57.3	28.1	61.6	39.2	51.2	26.3	39.1	71.3	28.9	64.5
<b>LSD (0.10)</b>													
	Hybrid (H)	NS	0.7	2.5	8.2	0.4	NS	NS	0.9	0.7	NS	62	2644
	Treatment (T)	NS	0.6	2.1	NS	NS	0.9	1.5	0.7	1.1	2.4	60	2104
	H x T	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
<b>CV (%)</b>													
		9	10	5	12	5	6	4	1	2	9	2	10

## FIELD EXPERIMENT HISTORY

**Title:** Corn Silage Response to Hail Damage  
**Experiment:** 11 Hail **Trial ID** 2346 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** National Crop Insurance Service

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### Site Information

**Field:** ARS 406 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated

**Fertilizer:**

	<u>Analysis</u>	<u>Rate</u>	<u>Date</u>
<b>Preplant</b>	46-0-0	325	N/A
<b>Starter</b>	6-24-24	150	4 /25/02
<b>Post plant</b>	N/A	N/A	N/A
<b>Manure:</b>	N/A	None	

**Herbicide:** Harness 2.5 pt/A  
Hornet 3.0 oz/A **Insecticide:** None

**Irrigation:** None **Hybrid:** Pioneer 34G82

**Planting Date:** 04/25/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 9/19/02 **Harvest Method:** New Holland 707 Plot Chopper

**Notes:** V7 treatments conducted on 6/28/02  
V10 treatments conducted on 7/8/02  
R1 treatments conducted on 7/29/02  
R4 treatments conducted on 8/21/02

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### Experimental Design

**Design:** RCB **Replications:** 4  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 0.23 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 27027 plants per acre

**Factors/Treatments:**

Treatments

100% @ V7	100% @ R1
50% @ V10	25% @ R4
100% @ V10	50% @ R4
25% @ R1	100% @ R4
50% @ R1	Untreated Check

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**Results: Table C-46.**

**Table C-46. Corn Silage Response to Hail Damage  
Arlington, WI 2002.**

Leaf Removal treatment	Dry Matter yield	Moisture	Kernel milk	Plant population
	T/A	%	%	plants/A
100% @ V7	8.0	59.8	39	27918
50% @ V10	8.2	60.3	29	27126
100% @ V10	5.7	61.9	25	27522
25% @ R1	8.1	64.0	33	24750
50% @ R1	7.6	64.8	35	27522
100% @ R1	3.1	69.3	23	25542
25% @ R4	8.8	60.4	33	27324
50% @ R4	7.9	64.3	25	26730
100% @ R4	5.9	52.1	5	27918
Check	9.4	58.8	31	27918
Mean	7.3	61.6	28	27027
<u>Probability (%)</u>				
Treatment	0.0	0.0	0.0	49.7
<u>LSD (0.10)</u>				
Treatment	0.8	3.5	7.0	NS
<u>CV (%)</u>				
	9	5	22	8

## FIELD EXPERIMENT HISTORY

**Title:** Corn Silage Response to Hail Damage  
**Experiment:** 11Hail **Trial ID** 2370 **Year:** 2002  
**Personnel:** M.G. Bertram, J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Marshfield, WI **County:** Wood  
**Supported By:** National Crop Insurance Service

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### Site Information

**Field:** W5-02C57 **Previous Crop:** Corn **Soil Type:** Loyal Silt Loam  
**Soil Test:** **Date:** 10/25/00 **pH** 7.1 **OM (%)** 3.2 **P (ppm)** 24 **K (ppm)** 60

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Cultivated

<b>Fertilizer:</b>	<b>Analysis</b>	<b>Rate</b>	<b>Date</b>
Preplant	N/A	N/A	N/A
Starter	17-17-17+S+Zn	142	5 /15/02
Post plant	46-0-0	250	7 /03/02
Manure:	N/A	None	

**Herbicide:** Harness 2.0 pt/A Insecticide: None  
Hornet 2.4 oz/A

**Irrigation:** None **Hybrid:** Pioneer 37J99

**Planting Date:** 5/15/02 **Planting Depth:** 1.5" **Row Width:** 30"

**Target Plant Density:** 33000 plants per acre **Planting Method:** John Deere 7000

**Harvest Date:** 9/24/02 **Harvest Method:** Hand Harvested

**Notes:** V7 treatments conducted on 7/9/02  
V10 treatments conducted on 7/16/02  
R1 treatments conducted on 8/8/02  
R4 treatments conducted on 8/28/02

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### Experimental Design

**Design:** RCB **Replications:** 4  
**Plot Size Seeded:** 25' x 10' **Experiment Size:** 0.25 A  
**Harvest Plot Size:** 22' x 2.5' **Harvest Plant Density:** 33125 plants per acre

#### **Factors/Treatments:**

##### Treatments

100% @ V7	100% @ R1
50% @ V10	25% @ R4
100% @ V10	50% @ R4
25% @ R1	100% @ R4
50% @ R1	Untreated Check

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**Results: Table C-47.**

**Table C-47. Corn Silage Response to Hail Damage  
Marshfield, WI 2002.**

Leaf Removal treatment	Dry Matter		Plant population
	yield	Moisture	
	T/A	%	plants/A
100% @ V7	6.3	69.8	34151
50% @ V10	6.8	69.0	33106
100% @ V10	4.4	71.5	33454
25% @ R1	8.4	68.2	33628
50% @ R1	7.2	69.4	32757
100% @ R1	2.8	77.9	32931
25% @ R4	8.5	67.8	33106
50% @ R4	7.5	69.0	33106
100% @ R4	4.9	66.0	32583
Check	8.6	66.8	32409
Mean	6.5	69.5	33123
<u>Probability (%)</u>			
Treatment	0.0	0.0	70.2
<u>LSD (0.10)</u>			
Treatment	0.5	1.7	NS
<u>CV (%)</u>			
	6	5	4

## FIELD EXPERIMENT HISTORY

**Title:** Harvest Timing  
**Experiment:** 15Harvest **Trial ID** 2357 **Year:** 2001  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** 372 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/1 /01 **pH** 6.6 **OM (%)** 2.4 **P (ppm)** 46 **K (ppm)** 185

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### Plot Management

**Tillage Operations:** Chisel Plow Soil Finisher Cultivated

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
Preplant :	46-0-0	325	N/A
Starter :	6-24-24	150	5 /9 /01
Post plant :	N/A	N/A	N/A
Manure:	N/A	None	

**Herbicide:** Harness 2.5 pt/A  
Permitt 0.66 oz/A **Insecticide:** None  
**Hybrid:** See Factors

**Irrigation:** None

**Planting Date:** 5/9/01 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Plot Planter  
**Harvest Date:** See Factors **Harvest Method:** Hand Harvest

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### Experimental Design

**Design:** RCB **Replications:** 3  
**Plot Size Seeded:** 25' x 5' **Experiment Size:** 0.12 A  
**Harvest Plot Size:** 22' x 2.5'

### Factors/Treatments:

#### Harvest Dates:

October 18  
November 27  
December 21  
January 23  
February 22  
March 22  
April 19

#### Hybrids:

Pioneer 34G82  
Pioneer 37M34

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**Results:** Table C-48.

**Table C-48. Harvest Timing Effects on Grain Yield  
Arlington, WI - 2001**

Harvest Date	Hybrid	Grain yield bu/A	Grain moisture %	Lodging %	Harvested plant population plants/A	Ear weight g/ear	Grower return \$/A
	Pioneer 34G82	212	16.9	15	28927	226	454
	Pioneer 37M34	194	14.6	24	29417	212	419
October		220	25.4	8	29700	219	448
November		208	17.2	12	29172	222	448
December		208	16.9	16	28908	216	446
January		201	15.2	23	29700	212	438
February		181	14.9	20	28908	215	395
March		205	12.8	26	28644	222	448
April		199	7.9	34	29172	227	434
October	Pioneer 34G82	233	27.9	8	29832	233	465
October	Pioneer 37M34	207	22.8	7	29568	206	430
November	Pioneer 34G82	202	17.9	11	28776	223	434
November	Pioneer 37M34	213	16.6	14	29568	221	462
December	Pioneer 34G82	208	20.6	11	28776	217	438
December	Pioneer 37M34	209	13.1	21	29040	215	454
January	Pioneer 34G82	219	15.7	17	29568	226	476
January	Pioneer 37M34	183	14.7	28	29832	198	399
February	Pioneer 34G82	204	15.3	14	29568	218	444
February	Pioneer 37M34	158	14.5	26	28248	211	346
March	Pioneer 34G82	203	12.9	17	27984	228	443
March	Pioneer 37M34	207	12.7	35	29304	216	452
April	Pioneer 34G82	219	7.7	30	27984	239	477
April	Pioneer 37M34	179	8.1	38	30360	215	390
Mean		203	15.7	20	29172	219	437
<b>Probability(%)</b>							
Harvest Date (D)		1.4	0.0	0.0	4.0	36.5	9.2
Hybrid (H)		0.2	1.7	0.5	32.3	0.1	0.7
D x H		3.3	17.1	56.4	54.6	21.6	3.3
<b>LSD(0.10)</b>							
Harvest Date (D)		14	1.1	5	567	NS	31
Hybrid (H)		9	1.5	5	NS	6	20
D x H		23	NS	NS	NS	NS	52
<b>CV(%)</b>							
		8	17	44	5	5	8



## FIELD EXPERIMENT HISTORY

**Title:** Influence of Clipping Timing on Corn Grain Yield  
**Experiment:** 16Clip **Trial ID** 2353 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** 371 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 5.8 **OM (%)** 2.8 **P (ppm)** 36 **K (ppm)** 128

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator Soil Finisher Cultivated

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

**Herbicide:** Harness 2.5 pt/A **Insecticide:** None  
Hornet 4.5 oz/A **Hybrid:** Pioneer 35R57

**Irrigation:** None

**Planting Date:** 5/7/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 10/22/02 **Harvest Method:** Kincaid Plot Combine

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### Experimental Design

**Design:** RCB Factorial **Replications:** 3  
**Plot Size Seeded:** 23' x 10' **Experiment Size:** 0.24 Acre  
**Harvest Plot Size:** 22' x 5' **Harvest Plant Density:** 29500 plants per acre

### Factors/Treatments:

<u>Growth Stage at Time of Clipping:</u>	<u>Date of Clipping:</u>
V2 - 2 plant pattern	V2 - June 10
V2 - 4 plant pattern	V4 - June 18
V2 - 8 plant pattern	V6 - June 26
V2 - All plants	
V4 - 2 plant pattern	
V4 - 4 plant pattern	
V4 - 8 plant pattern	
V4 - All plants	

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**Results: Table C-49.**

**Table C-49. Influence of Clipping on Corn Grain Yield  
Arlington, WI - 2002**

Treatment	Grain yield bu/A	Grain moisture %	Test weight lbs/bu	Lodging %	Grower return \$/A
V2 - 2 plant	176	20.5	52	3	371
V2 - 4 plant	173	20.9	53	4	364
V2 - 8 plant	179	20.4	53	3	377
V2 - Clip entire plot	163	21.7	52	2	341
V4 - 2 plant	171	21.0	53	6	359
V4 - 4 plant	171	21.0	53	9	359
V4 - 8 plant	168	20.9	53	4	354
V4 - Clip entire plot	176	22.0	53	3	367
V6 - 2 plant	169	20.1	53	7	357
V6 - 4 plant	173	19.8	52	6	367
V6 - 8 plant	175	20.9	53	3	368
V6 - Clip entire plot	168	22.4	52	3	349
Control A - UTC	194	19.6	53	3	413
Control B - UTC	198	20.9	55	1	415
Mean	175	20.9	53	4	368
<b><u>Probability(%)</u></b>					
Treatment (T)	3.8	18.2	4.2	9.0	3.1
<b><u>LSD(0.10)</u></b>					
Treatment (T)	14	NS	1	4	30
<b><u>CV(%)</u></b>					
	6	5	2	64	6

## FIELD EXPERIMENT HISTORY

**Title:** Cohorts  
**Experiment:** 16Cohorts **Trial ID** 2352 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** 371 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** **Date:** 11/01/02 **pH** 5.8 **OM (%)** 2.8 **P (ppm)** 36 **K (ppm)** 128

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### Plot Management

**Tillage Operations:** Fall Chisel Plow Field Cultivator Soil Finisher Cultivated

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

**Herbicide:** Harness 2.5 pt/A **Insecticide:** None  
Hornet 4.5 oz/A **Hybrid:** Pioneer 35R57

**Irrigation:** None

**Planting Date:** 5/7/02 **Planting Depth:** 1.5" **Row Width:** 30"  
**Target Plant Density:** 30000 plants per acre **Planting Method:** Kinze Inter-Row Planter  
**Harvest Date:** 10/25/02 **Harvest Method:** Hand Harvest

**Notes:**

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### Experimental Design

**Design:** RCB Factorial **Replications:** 3  
**Plot Size Seeded:** 10' x 25' **Experiment Size:** 0.31 Acre  
**Harvest Plot Size:** Single Plants  
**Factors/Treatments:**

#### Treatments:

A = Plant clipped completely at V3 on 6/8  
B = Emerged leaves clipped at V3 on 6/8  
C = Control - No clipping

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**Results:** Table C-50.

**Table C-50. Cohorts  
Arlington, WI - 2002**

Treatment	Five Neighboring plants east	Plant	Five Neighboring plants west	Yield Components @ 0% Moisture		
				Kernels per ear no./ear	Yield per ear grams	100 Kernel weight grams
1	All leaves clipped	A	All leaves clipped	512	131	26.2
2	All leaves clipped	B	All leaves clipped	563	149	26.4
3	All leaves clipped	C	All leaves clipped	547	133	24.9
4	All leaves clipped	A	Emerged leaves clipped	365	78	22.2
5	All leaves clipped	B	Emerged leaves clipped	538	136	24.6
6	All leaves clipped	C	Emerged leaves clipped	560	140	23.6
7	All leaves clipped	A	Control	372	76	20.5
8	All leaves clipped	B	Control	524	130	24.4
9	All leaves clipped	C	Control	605	153	25.1
10	Emerged leaves clipped	A	Emerged leaves clipped	361	76	22.7
11	Emerged leaves clipped	B	Emerged leaves clipped	549	129	26.2
12	Emerged leaves clipped	C	Emerged leaves clipped	575	131	23.7
13	Emerged leaves clipped	A	Control	418	95	26.7
14	Emerged leaves clipped	B	Control	490	113	24.3
15	Emerged leaves clipped	C	Control	618	147	26.2
16	Control	A	Control	320	66	27.5
17	Control	B	Control	533	120	25.5
18	Control	C	Control	596	149	25.4
Mean				503	120	24.8
<b><u>Probability(%)</u></b>						
Treatment (T)				2.0	0.1	96.2
<b><u>LSD(0.10)</u></b>						
Treatment (T)				148	36	NS
<b><u>CV(%)</u></b>						
				21	22	19

A = All leaves clipped  
 B = Emerged leaves clipped  
 C = Control

## FIELD EXPERIMENT HISTORY

**Title:** Effect of Primed Seed on Corn Grain Performance  
**Experiment:** 16Prime **Trial ID** 2356 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** 406 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/01/02 **pH** 6.2 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Chisel Plow Field Cultivator Soil Finisher Cultivated

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
Preplant :	46-0-0	325	N/A
Starter :	6-24-24	150	5 /17/02
Post plant :	N/A	N/A	N/A
Manure:	N/A	N/A	N/A

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

**Irrigation:** None

**Planting Date:** 5/17/02 **Planting Depth:** 1.5" **Row Width:** 30"

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

**Harvest Date:** 10/21/02 **Harvest Method:** Kincaid Plot Combine

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

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### Experimental Design

**Design:** RCB Factorial **Replications:** 3  
**Plot Size Seeded:** 23' x 10' **Experiment Size:** 0.34 Acre  
**Harvest Plot Size:** 23' x 5' **Harvest Plant Density:** 28800 plants per acre

#### **Factors/Treatments:**

##### Primed Seed:

0%  
25%  
50%  
75%  
100%

##### Hybrids:

Dekalb DKC4442  
Pioneer 35R58

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**Results:** Table C-51.

**Table C-51. Effect of Primed Seed On Corn Grain Performance  
Arlington, WI - 2002.**

Primed seed	Hybrid	Yield	Moisture	Test wt	Lodged	Harvest pop	Seeds planted	Grower return
		bu/A	%	lbs/bu	%	plants/A	seeds/A	\$/A
	Dekalb DKC4442	196	19.4	56	9	29318	30303	416
	Pioneer 35R58	212	22.5	55	0	28282	30303	442
0% primed seed		201	21.1	55	5	28661	30303	422
25% primed seed		199	20.9	55	4	28724	30303	419
50% primed seed		206	21.3	55	7	28409	30303	431
75% primed seed		209	20.7	56	3	28977	30303	439
100% primed seed		206	20.7	56	4	29229	30303	433
0% primed seed	Dekalb DKC4442	200	19.9	55	10	29798	30303	422
0% primed seed	Pioneer 35R58	203	22.2	56	0	27525	30303	422
25% primed seed	Dekalb DKC4442	186	19.1	56	8	29040	30303	397
25% primed seed	Pioneer 35R58	212	22.7	55	0	28409	30303	441
50% primed seed	Dekalb DKC4442	188	19.2	56	13	28661	30303	400
50% primed seed	Pioneer 35R58	223	23.4	54	0	28156	30303	461
75% primed seed	Dekalb DKC4442	207	19.4	56	5	28914	30303	440
75% primed seed	Pioneer 35R58	210	22.1	56	0	29040	30303	438
100% primed seed	Dekalb DKC4442	197	19.3	56	8	30176	30303	419
100% primed seed	Pioneer 35R58	214	22.0	55	0	28282	30303	446
Mean		204	20.9	55	4	28800	30303	429
<b><u>Probability(%)</u></b>								
Primed (P)		17.9	22.3	36.1	40.3	45.5	-	12.0
Hybrid (H)		0.1	0.0	0.1	0.0	0.9	-	0.4
P x H		4.9	6.3	0.0	36.9	17.0	-	6.3
<b><u>LSD (0.10)</u></b>								
Primed (P)		NS	NS	NS	NS	NS	-	NS
Hybrid (H)		6	0.6	0.3	2	577	-	13
P x H		14	0.8	0.6	NS	NS	-	28
<b><u>CV(%)</u></b>								
		5	3	1	74	3	-	4

continued

**Table C-51. Effect of Primed Seed On Corn Grain Performance**  
 (continued) **Arlington, WI - 2002.**

Primed seed	Hybrid	Emergence on Day of Year				Silks on Day of Year					
		149	151	154	157	203	206	210	213	217	220
		----- % -----		----- % -----		----- % -----		----- % -----		----- % -----	
	Dekalb DKC4442	17	92	97	96	11	88	99	100	100	100
	Pioneer 35R58	8	82	92	91	0	9	90	97	99	100
0% primed seed		0	83	93	93	6	47	93	100	100	100
25% primed seed		6	87	94	94	2	39	96	100	100	100
50% primed seed		13	83	94	93	3	46	93	98	100	100
75% primed seed		18	90	95	95	9	57	95	100	100	100
100% primed seed		27	92	96	94	8	53	95	97	98	98
0% primed seed	Dekalb DKC4442	0	90	98	96	13	92	99	100	100	100
0% primed seed	Pioneer 35R58	0	76	88	89	0	2	88	100	100	100
25% primed seed	Dekalb DKC4442	8	93	97	97	4	72	100	100	100	100
25% primed seed	Pioneer 35R58	3	80	90	90	0	5	91	96	97	100
50% primed seed	Dekalb DKC4442	17	89	94	94	5	87	97	100	100	100
50% primed seed	Pioneer 35R58	8	77	93	91	0	4	89	96	98	99
75% primed seed	Dekalb DKC4442	24	94	96	96	17	93	100	100	100	100
75% primed seed	Pioneer 35R58	13	87	94	94	0	21	90	100	100	100
100% primed seed	Dekalb DKC4442	38	96	98	96	16	94	98	99	99	99
100% primed seed	Pioneer 35R58	16	88	93	92	0	12	93	95	97	97
Mean		13	87	94	94	6	48	95	99	100	100
<b><u>Probability(%)</u></b>											
Primed (P)		0.0	0.0	6.3	8.3	16.6	1.6	72.8	7.9	25.9	28.8
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	11.6	17.4
P x H		1.3	19.5	0.5	15.0	22.3	18.8	77.8	24.8	57.6	83.7
<b><u>LSD (0.10)</u></b>											
Primed (P)		3	2	2	1	NS	7	NS	2	NS	NS
Hybrid (H)		3	2	1	1	4	5	3	2	NS	NS
P x H		6	NS	2	3	NS	NS	NS	NS	NS	NS
<b><u>CV(%)</u></b>											
		34	3	2	2	107	17	5	3	3	3

## FIELD EXPERIMENT HISTORY

**Title:** Influence of Thinning Timing on Corn Grain Yield  
**Experiment:** 16Thin **Trial ID** 2355 **Year:** 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI **County:** Columbia  
**Supported By:** Hatch

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### Site Information

**Field:** 406 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam  
**Soil Test:** **Date:** 11/01/02 **pH:** 7.0 **OM (%)** 3.3 **P (ppm)** 79 **K (ppm)** 247

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### Plot Management

**Tillage Operations:** Chisel Plow      Field Cultivator      Soil Finisher      Cultivated

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b> <b>Preplant :</b>	46-0-0	325	N/A
<b>Starter :</b>	6-24-24	150	4 /25/02
<b>Post plant :</b>	N/A	N/A	N/A
<b>Manure:</b>	N/A	N/A	N/A

**Herbicide:**      Harness 2.5 pt/A      **Insecticide:**      None  
                  Hornet 3.0 oz/A      **Hybrid:**      Pioneer 35R57

**Irrigation:**      None

**Planting Date:**      04/25/02      **Planting Depth:**      1.5"      **Row Width:**      30"

**Target Plant Density:**      30000 plants per acre      **Planting Method:**      Kinze Plot Planter

**Harvest Date:**      10/15/02      **Harvest Method:**      Kincaid Plot Combine

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### Experimental Design

**Design:** RCB Factorial      **Replications:**      3  
**Plot Size Seeded:**      23' x 10'      **Experiment Size:**      0.1 Acre  
**Harvest Plot Size:**      22' x 5'      **Harvest Plant Density:**      22700 plants per acre

### Factors/Treatments:

<u>Stage of Thinning:</u>	<u>Date of Thinning:</u>
V2	June 5
V4	June 11
V6	June 20
V8	June 28
V10	July 8
V12	July 15

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**Results: Table C-52.**



**Table C-52. Influence of Thinning Timing on Corn Grain Yield.  
Arlington, WI - 2002**

Treatment	Population	Grain yield	Grain moisture	Test weight	Lodging	Grower return
growth stage	plants/A	bu/A	%	lbs/bu	%	\$/A
V2	25212	198	22.7	55	2	412
V4	24552	204	23.1	55	2	423
V6	21516	192	23.2	55	2	396
V8	21648	193	23.2	54	2	400
V10	20856	175	23.1	55	1	362
V12	22572	183	23.0	55	1	378
Mean	22726	191	23.1	55	1	395
<b><u>Probability(%)</u></b>						
Treatment (T)	5.8	3.0	94.4	11.0	88.0	3.3
<b><u>LSD(0.10)</u></b>						
Treatment (T)	2555	14	NS	NS	NS	29
<b><u>CV(%)</u></b>						
	8	5	3	1	98	5

# FIELD EXPERIMENT HISTORY

Year: 2002

**Title:** Kinze Planter Evaluation Study on Corn - No-till  
**Experiment:** 16 Kinze Planter Evaluation  
**Personnel:** R. Borges, J. Gaska, K. Kohn and J. Lauer  
**Organization:** Univ. of WI-Madison, Dept. of Agronomy  
**Location:** Arlington Ag Research Station, Arlington, WI

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## FIELD INFORMATION

Field: ARS 372  
Soil type: Plano silt loam  
Fertilizer Applied: None  
Tillage Operations: None  
Previous Crop: Corn  
Previous Herbicide: Roundup  
Irrigation: None

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## EXPERIMENTAL PROCEDURE

Exp. Design: RCB  
Replicates: 4  
Variables: Row number 1 to 7  
Plot Size: Planted: 10' x 75'  
Area Counted: each 15" row x 70' long  
Row Spacing: 15"  
Cultivar: Pioneer 37J99  
Planting: Date: 23-May  
Equipment: Kinze Interplant planter  
Rate: 35000 seeds/acre  
Depth: 1.5"

	<u>Material</u>	<u>Rate</u>	<u>Method</u>	<u>Date</u>
Herbicides:	Dual	2 pt/a	pre-plant	1-May
	Pursuit	1.44 oz/a	pre-plant	1-May

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**Results: Table C-53.**

**Table C-53. Kinze Planter Evaluation Study on Corn - Notill  
Arlington, WI**

Row Position	Plant Population	
	17-Jun-02	% of planted
Row 1 Left	32.1	91.6
Row 2 Wheel row	27.5	78.7
Row 3	27.4	78.2
Row 4 Middle	21.6	61.7
Row 5	29.6	84.6
Row 6 Wheel row	29.6	84.6
Row 7 Right	28.2	80.7
Means	28.0	80.0
<b>Probability %</b>	0.84	0.84
<b>LSD 10%</b>	2.3	6.4
<b>C.V. %</b>	11	11

# FIELD EXPERIMENT HISTORY

Year: 2002

**Title:** Kinze Planter Evaluation Study on Corn - Conv. Tillage  
**Experiment:** 16 Kinze Planter Evaluation  
**Personnel:** R. Borges, J. Gaska, K. Kohn and J. Lauer  
**Organization:** Univ. of WI-Madison, Dept. of Agronomy  
**Location:** Arlington Ag Research Station, Arlington, WI

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## FIELD INFORMATION

Field: ARS 371  
Soil type: Plano silt loam  
Fertilizer Applied: None  
Tillage Operations: fall chisel plow, spring field cultivate and soil finish  
Previous Crop: Corn  
Previous Herbicide: Roundup  
Irrigation: None

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## EXPERIMENTAL PROCEDURE

Exp. Design: RCB  
Replicates: 4  
Variables: Row number 1 to 7  
Plot Size: Planted: 10' x 75'  
Area Counted: each 15" row x 70' long  
Row Spacing: 15"  
Cultivar: Pioneer 35R57  
Planting: Date: 23-May  
Equipment: Kinze Interplant planter  
Rate: 35000 seeds/acre  
Depth: 1.5"

	<u>Material</u>	<u>Rate</u>	<u>Method</u>	<u>Date</u>
Herbicides:	Harness	2.5 pt/a	preemergence	1-May
	Hornet	4.5 oz/a	preemergence	1-May

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**Results: Table C-54.**

**Table C-54. Kinze Planter Evaluation Study on Corn - Conv. Tillage  
Arlington, WI**

Row Position	Plant Population 17-Jun-02	% of planted
Row 1 Left	27.5	78.7
Row 2 Wheel row	27.2	77.7
Row 3	29.8	85.1
Row 4 Middle	19.5	55.8
Row 5	31.0	88.6
Row 6 Wheel row	29.8	85.1
Row 7 Right	28.8	82.1
Means	27.7	79.0
<b>Probability %</b>	0.34	0.35
<b>LSD 10%</b>	2.4	6.9
<b>C.V. %</b>	12	12

## FIELD EXPERIMENT HISTORY

Year: 2002

**Title:** Kinze Planter Evaluation Study on Soybeans - No-till  
**Experiment:** 16 Kinze Planter Evaluation  
**Personnel:** R. Borges, J. Gaska, and J. Lauer  
**Organization:** Univ. of WI-Madison, Dept. of Agronomy  
**Location:** Arlington Ag Research Station, Arlington, WI

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### FIELD INFORMATION

Field: ARS 372  
Soil type: Plano silt loam  
Fertilizer Applied: None  
Tillage Operations: None  
Previous Crop: Corn  
Previous Herbicide: Roundup  
Irrigation: None

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### EXPERIMENTAL PROCEDURE

Exp. Design: RCB  
Replicates: 4  
Variables: Row number 1 to 7  
Plot Size: Planted: 10' x 75'  
Area Counted: each 15" row x 70' long  
Row Spacing: 15"  
Cultivar: KB 121 RR  
Planting: Date: 6-May-02  
Equipment: Kinze Interplant planter  
Rate: 175,000 seeds/acre  
Depth: 1"

	<u>Material</u>	<u>Rate</u>	<u>Method</u>	<u>Date</u>
Herbicides:	Dual	2 pt/a	pre-plant	1-May
	Pursuit	1.44 oz/a	pre-plant	1-May

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**Results: Table C-55.**

**Table C-55. Kinze Planter Evaluation Study on Soybeans - Notill  
Arlington, WI**

Row Position	Plant Population	
	12-Jun-02	% of planted
Row 1 Left	129.1	73.8
Row 2 Wheel row	132.7	75.8
Row 3	131.9	75.4
Row 4 Middle	83.4	47.7
Row 5	63.7	36.4
Row 6 Wheel row	132.7	75.8
Row 7 Right	73.8	42.2
Means	106.7	61.0
<b>Probability %</b>	<0.1	<0.1
<b>LSD 10%</b>	3.71	2.1
<b>C.V. %</b>	5	5

# FIELD EXPERIMENT HISTORY

Year: 2002

**Title:** Kinze Planter Evaluation Study on Soybeans - Conv. Tillage  
**Experiment:** 16 Kinze Planter Evaluation  
**Personnel:** R. Borges, J. Gaska, and J. Lauer  
**Organization:** Univ. of WI-Madison, Dept. of Agronomy  
**Location:** Arlington Ag Research Station, Arlington, WI

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## FIELD INFORMATION

Field: ARS 358  
Soil type: Plano silt loam  
Fertilizer Applied: None  
Tillage Operations: fall chisel plow, spring field cultivate and soil finish  
Previous Crop: wheat  
Previous Herbicide: None  
Irrigation: None

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## EXPERIMENTAL PROCEDURE

Exp. Design: RCB  
Replicates: 4  
Variables: Row number 1 to 7  
Plot Size: Planted: 10' x 75'  
Area Counted: each 15" row x 60' long  
Row Spacing: 15"  
Cultivar: KB 121 RR  
Planting: Date: 6-May-02  
Equipment: Kinze Interplant planter  
Rate: 175,000 seeds/acre  
Depth: 1"

	<u>Material</u>	<u>Rate</u>	<u>Method</u>	<u>Date</u>
Herbicides:	Dual	2 pt/a	pre-plant	1-May
	Pursuit	1.44 oz/a	pre-plant	1-May

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Results: Table C-56.



**Table C-56. Kinze Planter Evaluation Study on Soybeans - Conv. Till  
Arlington, WI**

Row Position	Plant Population 12-Jun-02	% of planted
Row 1 Left	107.2	61.2
Row 2 Wheel row	97.7	55.8
Row 3	83.4	47.7
Row 4 Middle	42.3	24.2
Row 5	34.1	19.5
Row 6 Wheel row	83.1	47.5
Row 7 Right	67.8	38.8
Means	73.7	42.1
<b>Probability %</b>	<0.1	<0.1
<b>LSD 10%</b>	10.5	6.0
<b>C.V. %</b>	20	20

## FIELD EXPERIMENT HISTORY

**Title:** Tillage in Corn and Soybean Production Systems  
**Experiment:** 17Tillage Trial ID 2358 Year: 2002  
**Personnel:** J.G. Lauer, P.J. Flannery, and K.D. Kohn  
**Location:** Arlington, WI County: Columbia  
**Supported By:** HATCH

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### Site Information

**Field:** 396 **Previous Crop:** Soybean **Soil Type:** Plano  
**Soil Test:** Date: 11/1 /02 pH 6.0 OM (%) 2.4 P (ppm) 28 K (ppm) 106

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### Plot Management

**Tillage Operations:** See Factors

	<u>Analysis:</u>	<u>Rate lbs/A:</u>	<u>Date:</u>
<b>Fertilizer:</b>			
<b>Preplant :</b>	34-0-0	- 961 lbs/A CS - 814 lb:	N/A
<b>Starter :</b>	N/A	N/A	N/A
<b>Post plant :</b>	N/A	N/A	N/A
<b>Manure:</b>	N/A	N/A	N/A
<b>Herbicide:</b>	Roundup 1.5 qt/A 4/23 - All 2,4-D 1.0 pt/A - All Roundup 1.5 qt/A 6/12 - corn Roundup 1.5 qt/A 7/8-soybean	<b>Insecticide:</b> Force @ 5.0 lb/A	
<b>Irrigation:</b>	None	<b>Hybrid/Variety:</b> Dekalb DKC5073 Asgrow 2501RR	
<b>Planting Date:</b> C & S: 5/10/02		<b>Row Width:</b> 30"	
<b>Planting Method:</b> Kinze Inter-Row Planter		<b>Planting Depth:</b> 1.5"	
<b>Harvest Date:</b> C: 10/8 S: 10/16		<b>Harvest Method:</b> C: Kincaid Plot Combine S: Almaco Plot Combine	

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### Experimental Design

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

### **Factors/Treatments:**

#### Rotations

Continuous Corn  
Corn / Soybean  
Soybean / Corn

#### Tillage

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

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**Results: Tables C-57 and C-58.**

**Table C-57. Tillage in Corn and Soybean Production Systems - Corn.**

**Arlington, WI - 2002.**

Rotation	Tillage treatment	Residue cover	Yield	Moisture	Test weight	Lodged	Harvest population	Grower return
		%	bu/A	%	lbs/bu	%	plants/A	\$/A
	CP	12	157	22.3	53	1	29375	344
	NT	59	157	23.0	52	5	32875	342
	T1	37	162	22.4	53	3	30375	354
	T2	41	166	23.1	53	2	33875	363
	T3	51	170	23.3	53	1	32625	371
	T4	18	162	22.2	53	2	29250	353
CC		53	152	24.2	52	1	31417	333
SC		20	172	21.3	54	4	31375	377
CC	CP	18	155	22.5	53	1	31250	338
CC	NT	84	142	24.9	51	0	31500	310
CC	T1	57	148	24.2	51	2	29500	323
CC	T2	63	155	25.1	51	0	35250	338
CC	T3	68	158	25.4	52	1	32000	346
CC	T4	30	156	22.9	53	2	29000	341
SC	CP	7	160	22.0	54	2	27500	350
SC	NT	35	172	21.0	54	11	34250	375
SC	T1	17	177	20.7	55	4	31250	385
SC	T2	20	178	21.2	54	3	32500	388
SC	T3	34	181	21.1	54	1	33250	395
SC	T4	7	167	21.6	54	3	29500	365
Mean		36	162	22.7	53	2	31396	355
<b>Probability(%)</b>								
Rotation (R)		0.1	21.6	3.3	8.9	29.2	95.8	21.6
Tillage (T)		0.0	5.0	0.6	2.2	41.2	0.9	5.0
R x T		4.5	6.0	0.0	0.0	23.1	17.6	6.0
<b>LSD (0.10)</b>								
Rotation (R)		3	NS	0.9	1	NS	NS	NS
Tillage (T)		5	4	0.3	0	NS	1721	8
R x T		7	5	0.4	0	NS	NS	12
<b>CV(%)</b>								
		34	5	3	1	198	9	5

**Table C-58. Tillage in Corn and Soybean Production Systems - Soybean.  
Arlington, WI - 2002.**

Rotation	Tillage treatment	Residue cover	Yield	Moisture	Grower return
		%	bu/A	%	\$/A
CS	CP	24	47	12.7	250
CS	NT	81	50	12.8	269
CS	T1	56	51	12.8	270
CS	T2	51	51	12.8	271
CS	T3	70	50	12.8	267
CS	T4	22	50	12.8	267
Mean		50	50	12.8	266
<b><u>Probability(%)</u></b>					
Tillage (T)		0.0	16.6	94.5	16.7
<b><u>LSD (0.10)</u></b>					
Tillage (T)		11	NS	NS	NS
<b><u>CV(%)</u></b>					
		17	4	1	4

## **Printing for Spine of Book**

**2002 Annual Research Report – Lauer, Kohn, and Flannery**