2006
Wisconsin Research Report of

STUDIES ON CULTURAL PRACTICES AND MANAGEMENT SYSTEMS FOR CORN

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2006 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 2006. 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 This information is **NOT FOR PUBLICATION** unless prior approval is received.

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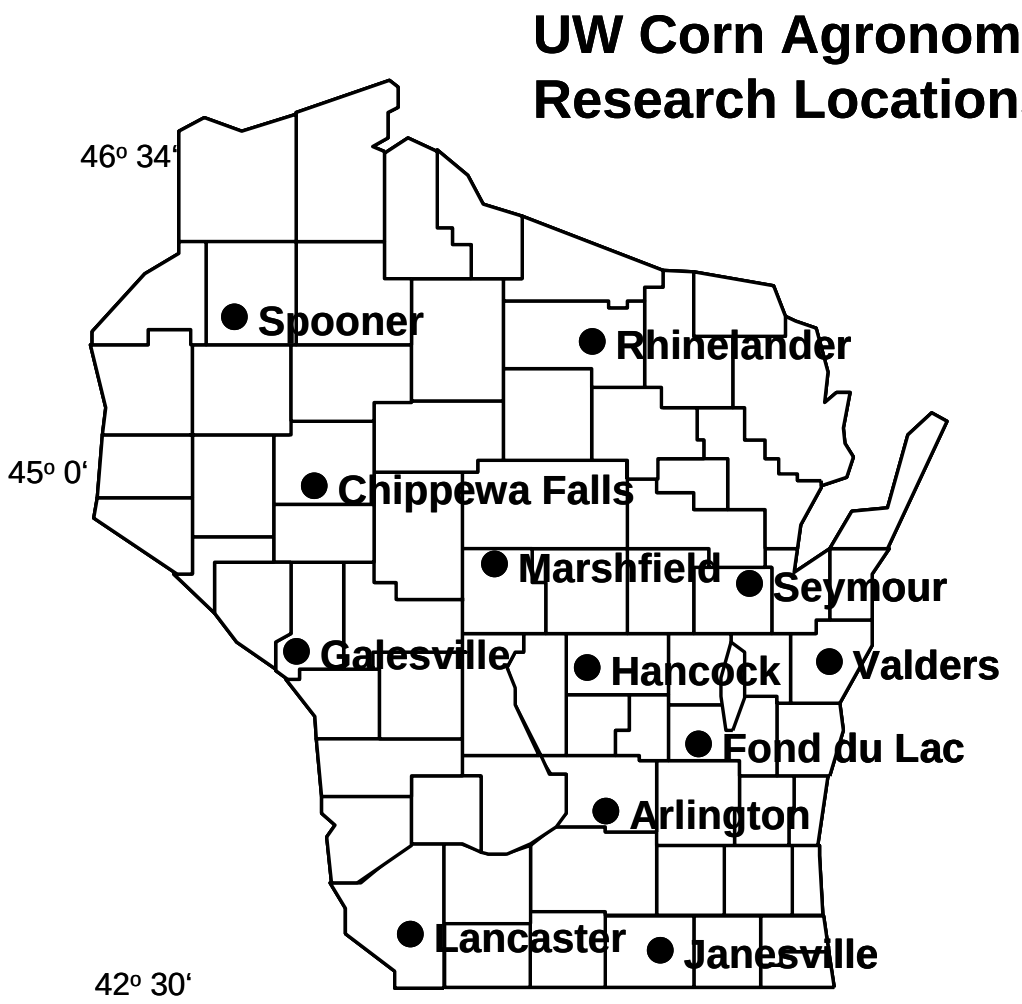

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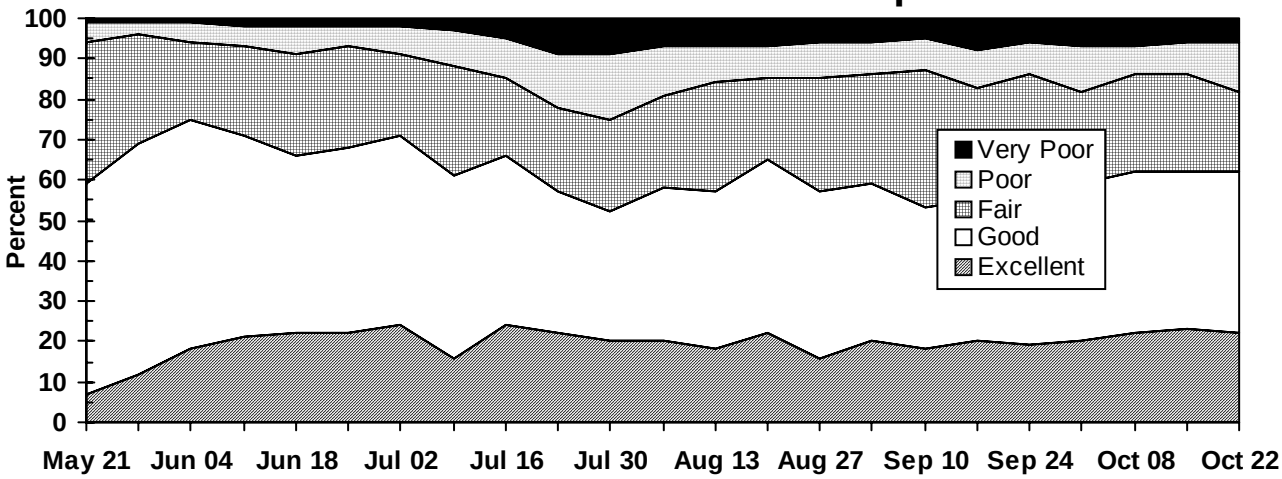
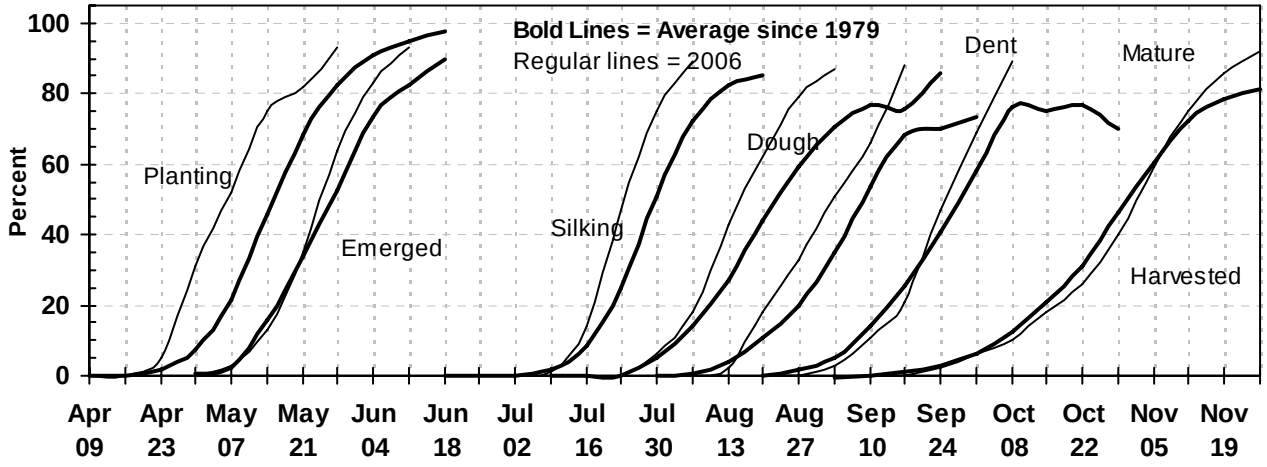
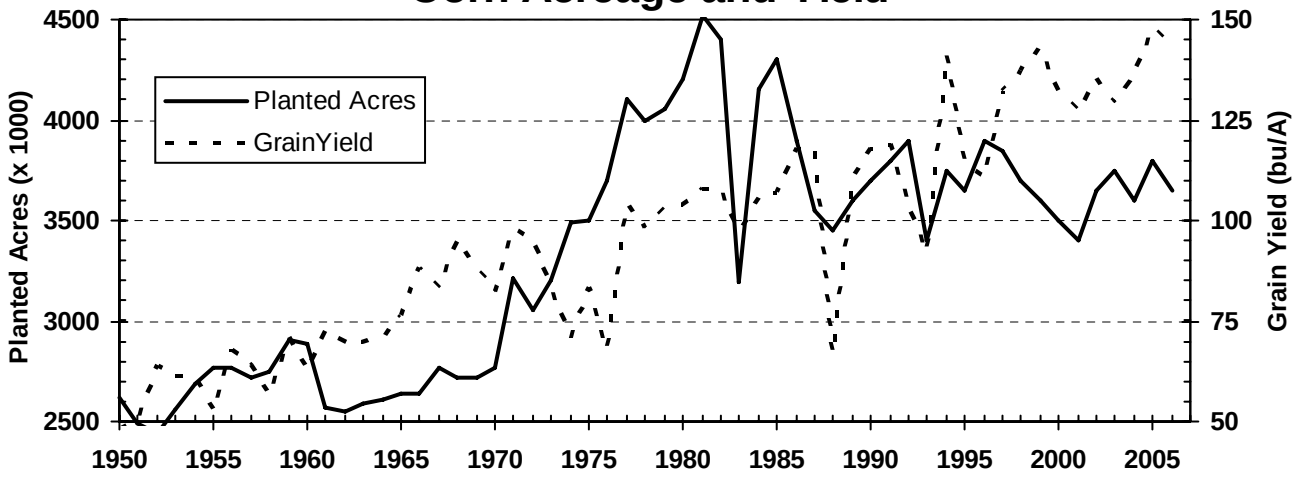


Progress of Corn Crop



Corn Acreage and Yield



2006 Wisconsin Growing Season
(derived from USDA weekly reports)

2006 - Warm Growing Season
Warm temperatures were the highlight of the 2006 growing season. Weather patterns allowed for an extremely fast start to spring planting. Early planting and above normal growing degree days helped crops mature at a rapid pace. However, cool and moist weather in the fall kept harvest progress at or behind normal levels. Rains during the second half of the growing season improved soil moisture and the conditions for pasture, hay, and the fall-seeded wheat.

Temperatures from June to September were 1.4 degrees above normal in 2006. This was the second straight growing season with above normal temperatures. However, 2006 was not quite as warm as 2005 when temperatures averaged 3 degrees above normal. The growing season ended with September and October cooler than normal.

Precipitation in 2006 was sporadic in Wisconsin. Moisture levels varied across the state and within counties. Total precipitation for April through September was at 20.5 inches, 1.8 inches below normal. Conditions were not as dry as 2005 when the state received only 17.8 inches during the same time period. Moisture levels were lowest in northwestern and east central counties. The lack of rain in those areas caused many crops to struggle. Other areas got rain at important stages of crop development. Rains came in May, just after many crops were planted. Precipitation returned in late summer during the critical pollination stage for several major crops. Timely rains and adequate growing degree days led to many reports of better than anticipated yields.

Multiple snow storms hit the state during the first three weeks of **December** 2005. At the end of the month, warmer temperatures arrived and rain was received in many areas. The warmer temperatures and rain reduced snow cover in the southern half of the state. Moderate snow cover was still present in the northern half of the state at the end of December. Temperatures averaged 1 degree above to 3 degrees below normal during the month. Precipitation ranged between 0.32 and 1.19 inches. Abnormally warm temperatures highlighted **January's** weather. Temperatures averaged 13 to 16 degrees above normal during the month. Most areas of the state received normal to above normal precipitation for the month. Light snow cover was reported in northern counties. Warmer temperatures and rain melted most snow cover in central and southern parts of the state.

Temperatures averaged 2 degrees below to 1 degree above normal during **February**. Snow cover was present in northern counties during most of February. Storms during the middle of the month brought snow cover to central and southern counties. Overall for the winter, many areas experienced below normal precipitation. Temperatures in Wisconsin were slightly above normal for **March**. Average high temperatures during the month reached the low 40's. Northern areas of the state received 1.03 to 2.33 inches of precipitation; southern areas received 2.19 to 3.56 inches. Snow cover could still be found in northern areas of the state.

April weather was 5.9 degrees warmer than normal and precipitation was 0.13 inches below normal. Warm temperatures in early April melted any remaining snow and allowed farmers to get started with spring tillage and oat planting. Low temperatures were in the 20s early in the month. Highs reached into the 70s across the state at the end of the month. Scattered rains were reported each week. Soil moisture conditions were at 6 percent very short, 30 percent short, 55 percent adequate, and 9 percent surplus at the end of April.

Temperatures were 0.9 degrees above normal and rainfall was 0.95 inches above normal in **May**. Rains delayed fieldwork during the month. Storms moved across the state during the second week of May as rain totals ranged from 1.64 inches in Madison to 2.82 inches in La Crosse. Conditions were a little drier by the last week of the month when there were 5.1 days suitable for fieldwork. Soil moisture conditions improved to 2 percent very short, 8 percent short, 72 percent adequate, and 18 percent surplus by month's end.

June's weather was warmer and drier than normal. Temperatures were 0.8 degrees above normal, while precipitation was 1.67 inches below normal. Farmers were able to finish spring fieldwork rapidly in early June. The weather also allowed for a quick first hay cutting and a good start on the second cutting. Rains that did come were scattered and offered little relief for crops starting to show stress. Soil moisture conditions declined during the month. Conditions were rated as 13 percent very short, 34 percent short, 47 percent adequate, and 6 percent surplus on June 25.

July weather was 3.8 degrees hotter than normal and precipitation was 0.59 inches below normal. High

temperatures hit 100 degrees in many parts of the state during the month. The lack of rain impacted crop conditions and lowered soil moisture levels. Conditions were worse for farmers in northern Wisconsin. Soil moisture levels hit a low point in early July when the largest percentage of the state's cropland was rated in very poor to poor condition. On July 9, soil moisture was at 30 percent very short, 37 percent short, 32 percent adequate, and 1 percent surplus. Shortly thereafter, rains brought relief for many crops which were starting to pollinate. Unfortunately, only limited rain fell in the northwestern district, negatively impacting crops for the remainder of the growing season. The rest of the state experienced improved soil moisture levels by the end of the month.

Temperatures in **August** were 1.6 degrees above normal and precipitation was near normal. Rains were steady throughout the first week in the north, giving crops a boost. Temperatures in western parts of the state topped 100 during the first week as well. Things cooled down for the remaining weeks and several storms moved across Wisconsin. A powerful hail storm hit west central counties on August 23. The storm caused isolated but significant damage to many crops. Soil moisture levels were 5 percent very short, 19 percent short, 65 percent adequate, and 11 percent surplus on August 27.

September was the only month during the growing season that had below normal temperatures. Temperatures were 0.5 degrees below normal and rainfall was 0.36 inches below normal. Rains during the second and third week of the month slowed corn and soybean harvest progress. Several counties in northern and central Wisconsin reported light frost during the third week of the month. Minimal crop damage was reported from the frost. Farmers continued harvesting between storms during the month.

Weather during the first week of **October** was warm and humid. High temperatures reached the 80s and rainfall totals ranged from 0.28 in La Crosse to 1.77 inches in Eau Claire and Green Bay. During the second week, temperatures 6 to 9 degrees below normal brought frost to many areas of the state. Below average temperatures and additional rain during the second and third weeks of the month caused harvest delays. Drier weather at the end of the month allowed farmers to get back into the fields on a more consistent basis.

November's weather was more conducive for fieldwork than October's. While temperatures varied, minimal rainfall helped keep tractors and combines working in the fields. Temperatures were 4 to 6 degrees below normal during the first week of the month, but 4 to 8 degrees above normal the second week. November ended with another week of temperatures 6 to 9 degrees above normal bringing a close to most fieldwork. Soil moisture conditions finished the growing year at 5 percent very short, 13 percent short, 71 percent adequate, and 11 percent surplus.

CORN

Warm April weather allowed farmers to get a quick start to corn planting. Planting activity started in southern Wisconsin by the middle of April. Corn growers in northern counties started planting on lighter soils by the third week of April, despite the concern over low soil temperatures. Early planting progress levels were ahead of previous years. Thirty-one percent of the corn was planted by April 30, compared to 23 percent the previous year and the 5-year average of 15 percent. Planting corn at a rapid pace continued during May. A few farmers had finished corn and switched to soybeans the first week of May. Storms towards the end of May slowed progress. However, farmers were able to find enough dry days to complete planting by the end of May. Ninety-three percent of the corn was planted on May 28, compared to 91 percent in 2005 and the 5-year average of 83 percent. The majority of remaining fields would be planted for corn silage after a forage crop was harvested.

Corn was emerging at the start of May. Persistent cool, wet weather during the month delayed corn emergence. Producers in eastern and northern counties had to replant several fields due to the rain. Hard rains crusted fields in eastern counties, causing some farmers to use a rotary hoe to improve emergence. Although the weather caused a few problems for growers, 64 percent of the crop was emerged on May 28, while the 5-year average was at 47 percent. Warmer, drier weather arrived at the end of May and beginning of June, quickly improving corn conditions. Corn greened-up and the majority of the crop was rated as good to excellent. Unfortunately, weeds also thrived in the warm, humid weather. Farmers started spraying corn fields in early June. Emergence was 93 percent complete on June 11, compared to the 5-year average of 83 percent. At that time the corn crop was in good shape in most of the state. Producers in eastern counties were not as lucky. Storms continually brought rains during May and June. Several farmers in those counties struggled to get corn planted and achieve good stands with the wet fields. Those that dodged

most of the storms were able to get their crop in on time and by mid-June it looked good.

June and July were hot and dry across much of the state, stressing the crop. Corn was silking by mid-July. Several storms brought rain to southern Wisconsin during the second half of July. Precipitation came at the critical pollination stage for corn and bolstered the crop in the southern half of the state. While the major corn growing areas received rain at an important time, corn in many northern and central counties did not fare as well. Crops were stressed during pollination in the northern half of the state, especially the northwestern district. August brought more timely rain to southern Wisconsin and beneficial precipitation to producers in northern counties. Conditions improved for the state's corn crop and silking was 95 percent complete on August 13.

Silage choppers got moving the last two weeks of August though progress slowed due to several storms. As fields dried in September, most of the fields were harvested. Silage harvest was 87 percent complete on October 1, 23 percentage points ahead of the 5-year average.

Harvesting corn for grain began in southern counties by the middle of September. Early harvest pace was comparable to historic trends. Six percent of the crop was harvested on October 1, close to the 5-year average of 5 percent. Most of the early harvested corn was high moisture corn. Weather in early October helped dry down the crop, and farmers started harvesting dry corn. However, progress lagged behind recent years because many farmers had the crop dry in the fields as much as possible to save on drying costs. Harvest was only 40 percent complete on October 29, compared to the previous year's 55 percent and the 5-year average of 46 percent. Fields dried out in November allowing the rest of the crop to be harvested. Yields in southern counties were better than anticipated for many growers. Variable yields were reported in the northern and eastern portions of the state. Ninety-two percent of the corn crop was harvested by November 26, behind the 96 percent reported in 2005 and the 5-year average of 93 percent.

SOYBEANS

Farmers took advantage of field conditions in late April, getting a jump on soybean planting. Progress moved slowly in early May, due to rainy, cold weather and producers concentrating on finishing corn planting. After the corn planters were parked, bean planting activities intensified. Seventy-two percent of the crop was planted on May 28, even with the previous year, but ahead of the 5-year average of 57 percent. Warm, dry weather in early June provided ample planting days and farmers finished planting by mid-June.

Getting soybeans in the ground early did not lead to early emergence in 2006. Cooler temperatures slowed emergence and caused concerns about plant populations in May. As things warmed-up in early June, plants started growing faster. Fiftynine percent had emerged by June 4, compared to 55 percent in 2005 and the 5-year average of 44 percent. Spraying started in early June as farmers tried to stay ahead of weeds. Most areas were able to achieve effective weed control by the time all the crop had emerged at the end of June.

Soybeans started blooming in early July and began setting pods by the middle of the month. Dry weather stressed bean fields during the critical pollination phase in the northern two-thirds of the state. Producers in southern counties received a big rain in the middle of July helping the crop. At the end of July, 78 percent of the soybeans had bloomed, ahead of the 5-year average of 64 percent. Forty-eight percent of soybeans had set pods by July 30, compared to the 5-year average of 25 percent. At this same time, 18 percent of beans were rated very poor to poor, 28 percent fair, and 54 percent good to excellent.

Aphids became an issue for many growers in southern Wisconsin during the first week of August. All fields had bloomed and the majority had set pods by the middle of August. At the same time, several areas in central and southern Wisconsin had soybean leaves turning color. Soybean plants started dropping leaves by the start of September, comparable to recent years.

Timely rains during July and August led to crops in southern Wisconsin that were tall and in good condition. Soybeans in northern counties showed stress for much of the summer. However, the August rains also improved conditions for those soybeans.

A few farmers began to start harvesting soybeans by the middle of September. A light frost towards the end of September had little impact on beans. Leaves had already changed color and most were being shed. Rain, mist, and cool weather hindered early harvest progress. On October 1 only 9 percent of the crop had been harvested, behind the previous year's 21 percent and the 5-year average of 12 percent. Weather continued to keep combines out of fields for at least a

few days each week during October. At the end of October 77 percent had been harvested, behind 2005's 89 percent and the 5-year average of 81 percent. Soybean harvest had wrapped up by the middle of November. Reporters indicated that the sporadic summer rains caused highly variable yields across the state and within counties.

OATS

Oat planting on lighter soils in southern and central counties started during the first week of April. However, many farmers waited for warmer weather in the middle of April before getting their drills into the fields. Planting progress jumped quickly during the middle of April. Farmers were eager to get their oats seeded and start on corn. Oats planted reached 80 percent complete on April 30, well ahead of 2005's 66 percent and the 5- year average of 52 percent. Planting the remaining oat acres was finished by mid-May. Early planted oats in southern and central Wisconsin were emerging by April 23. Emergence was not far behind in other areas of the state, as warm, wet April conditions aided crops. Oat fields were in great shape by the end of May. On May 28, 97 percent of the crop was emerged, compared to the 5-year average of 84 percent. On that date 91 percent of the crop was rated as good to excellent, 8 percent was rated as fair, and only 1 percent was rated as poor. Early planted fields were heading by the first week of June. At the end of June, most of the crop was headed, and the majority of fields were rated as good to excellent. Harvest for grain started in mid-July; early progress was comparable to the previous 5 years. Harvesters increased the pace and on August 13, 86 percent was combined, in front of the 5-year average of 64 percent.

HAY

Alfalfa was greening-up and new fields were being seeded by early April. Spring seeding of alfalfa was completed by the third week of the month. Winter weather was gentle on most fields. Freeze damage to alfalfa was rated at 78 percent none, 19 percent light, 2 percent moderate, and 1 percent severe. The worst of the winterkill was reported in east central and southeast Wisconsin. Warm, wet conditions and the lack of significant winterkill helped the state's hay crop get off to a good start. First hay cutting started earlier than normal, 17 percent of the crop was cut on May 28, compared to the 5-year average of 7 percent. Yields and quality of the first crop were above average in southern portions of the state. Growers in northern Wisconsin reported average yields. Rains in eastern Wisconsin slowed progress during the entire first cutting. Hay cutting on the first crop was finished by the end of June. At the same time, harvest on the second crop began in southern areas. Dry summer weather in northern counties hindered regrowth and reduced yields. The quality of hay in the rest of the state was good and the lack of rain allowed for a rapid harvest. Second cutting hay was reported at 93 percent complete by July 30, compared to the 5-year average of 75 percent.

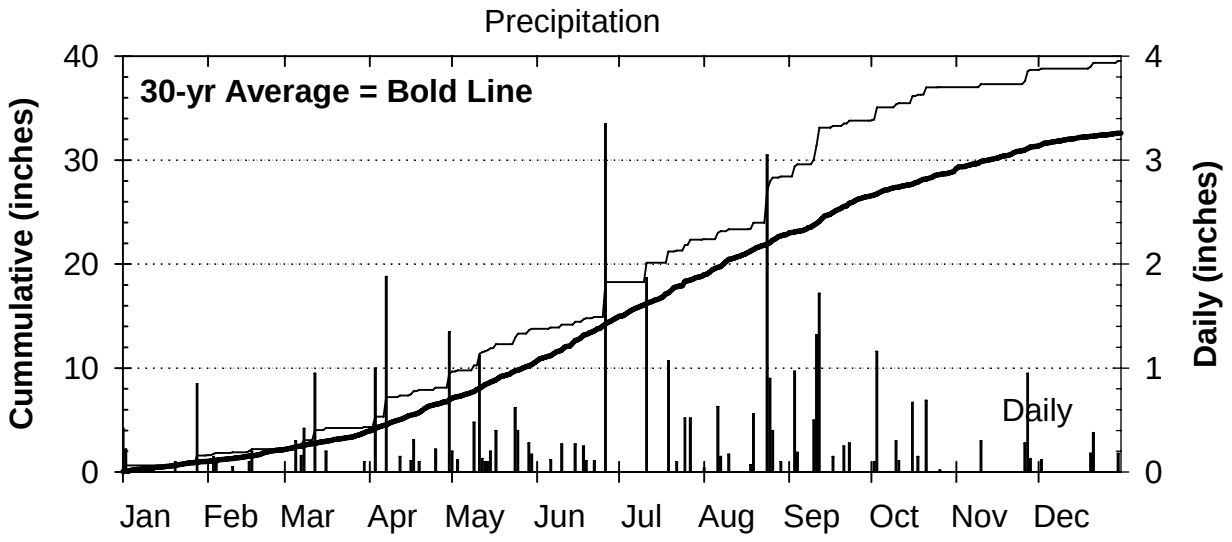
The third cutting started during the last week of July, ahead of the normal starting time. Regrowth on the third cutting was slow until several storms brought rain at the end of July and beginning of August. Third crop hay produced good quality and yields in most parts of the state. Harvest progress of the third crop was also faster than normal. On August 27, 75 percent of the hay was harvested, ahead of the 5-year average of 59 percent. The fourth cutting started coming off the fields by the end of August. Cutting progressed ahead of normal harvesting patterns during September and yields were good. Rain impacted the quality of the hay cut in early October. Variable precipitation during the growing season caused hay supplies to vary across Wisconsin. Some farmers in northern and central areas of the state reported shortages of hay supplies. Many farmers in southern Wisconsin had surplus hay at the end of the growing season. Hay and roughage supplies were rated at 9 percent short, 60 percent adequate, and 31 percent surplus in Wisconsin.

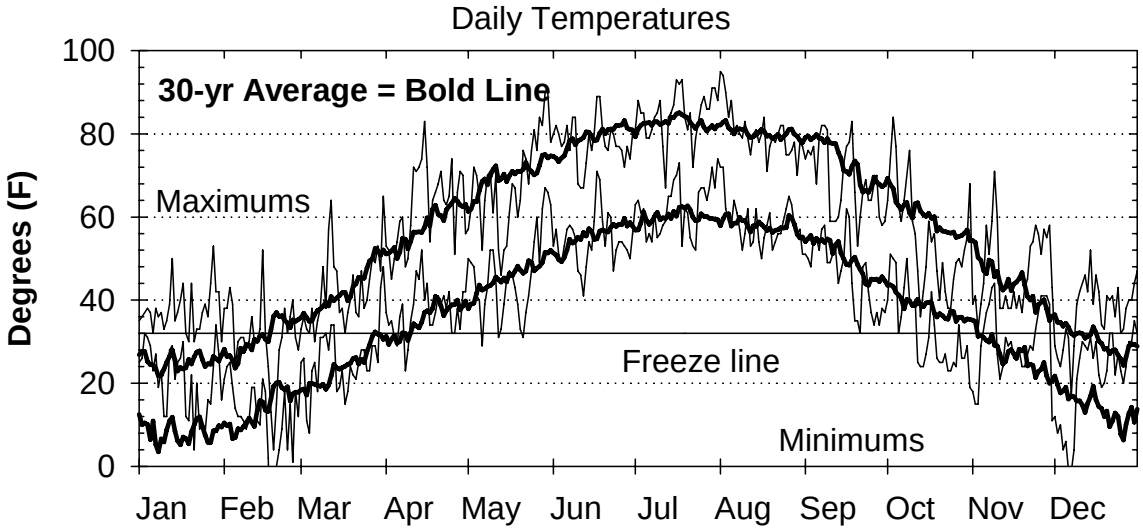
WINTER WHEAT

Winter wheat broke dormancy and got off to a fast start with rain and warm April weather. At the end of April, 88 percent of the crop was rated as good to excellent. Wheat survived the winter with minor freeze damage. Winter freeze damage to winter wheat was rated as 80 percent none, 18 percent light, and 2 percent moderate. Limited winterkill and good spring weather helped the wheat crop remain in good to excellent condition during the summer. Harvest started during the middle of July, slightly behind the normal pace. Combines easily caught up during the first two weeks of harvest. At the end of July, 65 percent of the crop was cut, well ahead of the 5-year average of 51 percent. Most of the crop was off the fields by the middle of August. Many farmers had an excellent wheat crop in 2006. Yield indications showed Wisconsin's farmers achieved a record yield.

Source: http://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/Crop_Progress_&_Condition/index.asp

2006 Weather Summary for Arlington, WI





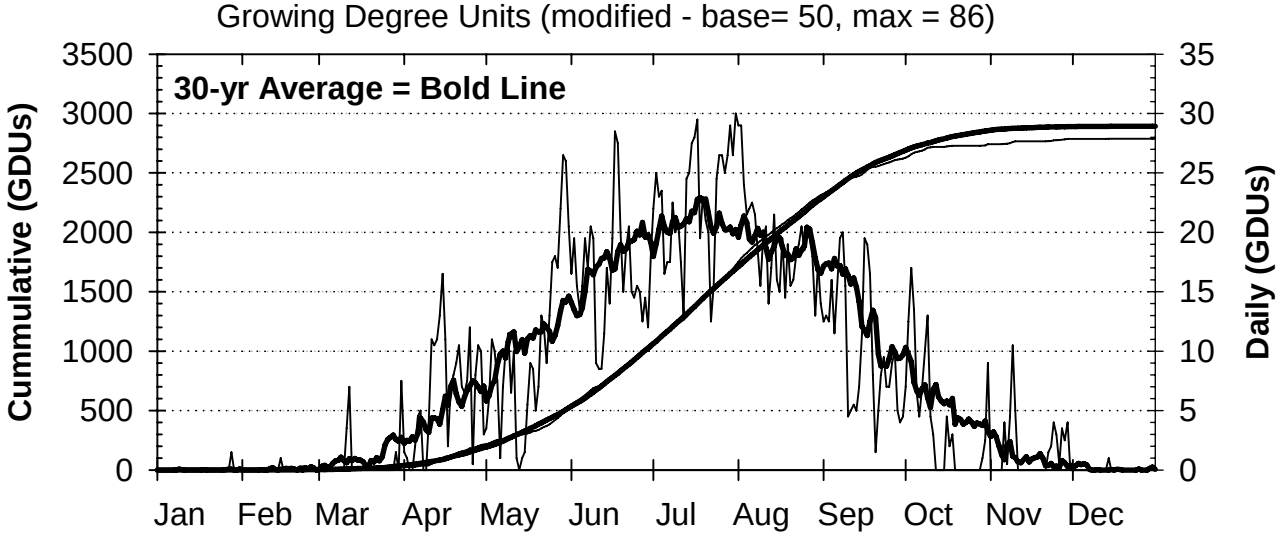


Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2006.

Day of year		Daily	Total	Daily Solar	Soil Temperature		Air		Growing Degree	
				Radiation	Max	Min	Max	Min	Daily	Total
		inches		W m^{-2}	^{o}F		^{o}F			
91	1-Apr	0.00	4.3	63	45	40	53	37	2	24
92	2-Apr	0.00	4.3	23	44	39	52	34	1	25
93	3-Apr	1.00	5.3	185	49	37	45	35	0	25
94	4-Apr	0.00	5.3	245	51	35	50	31	0	25
95	5-Apr	0.00	5.3	161	51	33	54	29	2	27
96	6-Apr	0.00	5.3	112	51	39	59	36	5	31
97	7-Apr	1.88	7.2	46	47	36	60	39	5	36
98	8-Apr	0.00	7.2	248	51	34	48	23	0	36
99	9-Apr	0.00	7.2	224	53	34	50	28	0	36
100	10-Apr	0.00	7.2	238	58	40	58	35	4	40
101	11-Apr	0.00	7.2	136	58	46	72	39	11	51
102	12-Apr	0.15	7.4	217	66	51	71	47	11	62
103	13-Apr	0.00	7.4	134	61	48	72	45	11	73
104	14-Apr	0.00	7.4	193	68	51	74	52	13	86
105	15-Apr	0.00	7.4	206	66	46	83	40	17	102
106	16-Apr	0.11	7.5	38	53	49	72	44	11	113
107	17-Apr	0.31	7.8	260	59	44	54	34	2	115
108	18-Apr	0.00	7.8	255	61	45	64	34	7	122
109	19-Apr	0.10	7.9	165	61	49	66	37	8	130
110	20-Apr	0.00	7.9	228	64	46	68	41	9	139
111	21-Apr	0.00	7.9	165	63	47	71	39	11	150
112	22-Apr	0.00	7.9	169	60	48	64	41	7	157
113	23-Apr	0.00	7.9	172	63	46	63	38	7	163
114	24-Apr	0.00	7.9	218	67	45	65	42	8	171
115	25-Apr	0.22	8.1	211	57	45	74	32	12	183
116	26-Apr	0.00	8.1	270	65	42	51	32	1	183
117	27-Apr	0.00	8.1	262	66	46	66	38	8	191
118	28-Apr	0.00	8.1	220	62	43	71	33	11	202
119	29-Apr	0.00	8.1	56	53	50	70	42	10	212
120	30-Apr	1.35	9.5	19	55	52	56	42	3	215
121	1-May	0.20	9.7	66	59	53	57	50	4	218
122	2-May	0.00	9.7	254	71	53	62	49	6	224
123	3-May	0.12	9.8	148	64	54	72	48	11	235
124	4-May	0.00	9.8	251	69	52	70	41	10	245
125	5-May	0.00	9.8	69	57	47	65	40	8	253
126	6-May	0.00	9.8	276	65	43	52	29	1	254
127	7-May	0.00	9.8	279	68	47	64	39	7	261
128	8-May	0.00	9.8	143	63	48	70	43	10	271
129	9-May	0.48	10.3	41	60	55	71	52	12	282
130	10-May	0.00	10.3	151	65	56	61	52	7	289
131	11-May	1.12	11.4	38	58	46	70	45	10	299
132	12-May	0.13	11.5	79	51	46	52	31	1	300
133	13-May	0.10	11.6	94	55	48	46	33	0	300
134	14-May	0.10	11.7	57	54	50	52	39	1	301
135	15-May	0.20	11.9	116	60	51	53	45	2	302
136	16-May	0.00	11.9	184	70	53	61	47	6	308
137	17-May	0.40	12.3	125	64	53	68	46	9	317
138	18-May	0.00	12.3	240	65	50	67	43	9	325
139	19-May	0.00	12.3	186	63	49	60	39	5	330
140	20-May	0.00	12.3	251	69	47	64	33	7	337
141	21-May	0.00	12.3	266	70	49	76	31	13	350
142	22-May	0.00	12.3	299	72	48	74	37	12	362
143	23-May	0.00	12.3	284	73	50	68	41	9	371
144	24-May	0.62	12.9	188	72	56	76	47	13	384

Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2006.

Day of year		Daily	Total	Daily Solar Radiation	Soil Temperature Max	Soil Temperature Min	Air Max	Air Min	Growing Degree Daily	Growing Degree Total
		inches		W m^{-2}	°F		°F			
145	25-May	0.40	13.3	117	70	62	81	54	18	402
146	26-May	0.00	13.3	239	78	63	76	60	18	420
147	27-May	0.00	13.3	171	74	65	84	49	17	437
148	28-May	0.00	13.3	283	83	68	82	62	22	459
149	29-May	0.28	13.6	236	81	69	90	67	27	485
150	30-May	0.17	13.8	100	76	69	90	66	26	511
151	31-May	0.00	13.8	254	81	67	78	63	21	532
152	1-Jun	0.00	13.8	264	80	64	80	53	17	548
153	2-Jun	0.00	13.8	285	80	63	82	57	20	568
154	3-Jun	0.00	13.8	268	78	62	80	51	16	583
155	4-Jun	0.00	13.8	303	77	59	77	49	14	597
156	5-Jun	0.00	13.8	289	77	59	78	53	16	612
157	6-Jun	0.12	13.9	86	70	62	82	57	20	632
158	7-Jun	0.00	13.9	253	77	65	76	58	17	649
159	8-Jun	0.00	13.9	283	78	62	84	57	21	669
160	9-Jun	0.00	13.9	91	70	62	84	55	20	689
161	10-Jun	0.27	14.2	262	72	60	68	47	9	698
162	11-Jun	0.00	14.2	214	69	58	67	46	9	706
163	12-Jun	0.00	14.2	303	72	54	67	41	9	715
164	13-Jun	0.00	14.2	271	85	57	73	48	12	726
165	14-Jun	0.00	14.2	139	79	63	80	54	17	743
166	15-Jun	0.27	14.4	169	80	63	76	52	14	757
167	16-Jun	0.00	14.4	226	88	69	80	59	20	777
168	17-Jun	0.00	14.4	256	91	72	89	71	29	805
169	18-Jun	0.25	14.7	146	87	72	89	69	28	833
170	19-Jun	0.11	14.8	241	84	69	81	59	20	853
171	20-Jun	0.00	14.8	171	80	65	77	53	15	868
172	21-Jun	0.00	14.8	127	82	70	76	61	19	886
173	22-Jun	0.11	14.9	220	88	68	81	60	21	907
174	23-Jun	0.00	14.9	285	89	65	80	47	15	922
175	24-Jun	0.00	14.9	148	83	66	77	52	15	936
176	25-Jun	0.00	14.9	149	86	62	77	54	16	952
177	26-Jun	3.35	18.3	157	82	64	76	54	15	967
178	27-Jun	0.00	18.3	275	89	63	72	53	13	979
179	28-Jun	0.00	18.3	190	82	64	77	52	15	994
180	29-Jun	0.00	18.3	293	90	61	74	50	12	1006
181	30-Jun	0.00	18.3	271	92	65	80	56	18	1024
182	1-Jul	0.00	18.3	242	91	71	81	63	22	1046
183	2-Jul	0.00	18.3	209	92	72	88	64	25	1071
184	3-Jul	0.00	18.3	194	92	70	85	61	23	1094
185	4-Jul	0.00	18.3	268	92	71	85	62	24	1117
186	5-Jul	0.00	18.3	281	92	66	79	54	17	1134
187	6-Jul	0.00	18.3	278	94	66	79	56	18	1151
188	7-Jul	0.00	18.3	262	93	66	81	54	18	1169
189	8-Jul	0.00	18.3	225	92	66	84	61	23	1191
190	9-Jul	0.00	18.3	282	97	69	85	55	20	1211
191	10-Jul	0.00	18.3	247	94	70	88	56	21	1232
192	11-Jul	1.87	20.1	42	74	68	77	58	18	1250
193	12-Jul	0.00	20.1	235	92	69	67	59	13	1263
194	13-Jul	0.00	20.1	254	94	70	84	65	25	1287
195	14-Jul	0.00	20.1	226	96	74	85	65	25	1312
196	15-Jul	0.00	20.1	293	101	73	87	69	28	1340
197	16-Jul	0.00	20.1	275	99	76	93	70	28	1368
198	17-Jul	0.00	20.1	242	99	78	92	73	30	1397

Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2006.

Day of year		Precipitation		Daily Solar	Soil Temperature		Air		Growing Degree	
		Daily	Total	Radiation	Max	Min	Max	Min	Daily	Total
		inches		W m^{-2}	^{o}F		^{o}F			
199	18-Jul	0.00	20.1	280	96	72	93	53	20	1417
200	19-Jul	1.07	21.2	112	85	69	84	62	23	1440
201	20-Jul	0.00	21.2	176	93	70	81	61	21	1461
202	21-Jul	0.00	21.2	96	79	68	85	55	20	1481
203	22-Jul	0.10	21.3	188	91	66	72	53	13	1493
204	23-Jul	0.00	21.3	273	95	65	79	52	16	1509
205	24-Jul	0.00	21.3	253	94	72	83	66	25	1533
206	25-Jul	0.52	21.8	224	95	74	87	67	27	1560
207	26-Jul	0.00	21.8	227	98	75	89	67	27	1586
208	27-Jul	0.52	22.4	129	96	74	86	64	25	1611
209	28-Jul	0.00	22.4	268	100	71	86	67	27	1638
210	29-Jul	0.00	22.4	195	94	75	91	72	29	1667
211	30-Jul	0.00	22.4	161	92	76	91	67	27	1693
212	31-Jul	0.00	22.4	264	100	76	88	74	30	1723
213	1-Aug	0.04	22.4	230	103	78	95	72	29	1752
214	2-Aug	0.00	22.4	185	101	79	94	72	29	1781
215	3-Aug	0.00	22.4	243	96	74	90	62	24	1805
216	4-Aug	0.00	22.4	263	99	70	84	59	22	1827
217	5-Aug	0.00	22.4	147	88	70	88	58	22	1849
218	6-Aug	0.63	23.0	88	86	72	81	64	23	1871
219	7-Aug	0.15	23.2	243	93	69	82	61	22	1893
220	8-Aug	0.00	23.2	251	93	67	80	57	19	1911
221	9-Aug	0.00	23.2	212	93	65	79	52	16	1927
222	10-Aug	0.17	23.3	113	84	70	83	56	20	1946
223	11-Aug	0.00	23.3	157	84	67	79	62	21	1967
224	12-Aug	0.00	23.3	230	92	63	75	53	14	1981
225	13-Aug	0.00	23.3	175	88	65	80	54	17	1998
226	14-Aug	0.00	23.3	244	91	69	81	62	22	2019
227	15-Aug	0.00	23.3	258	95	64	78	54	16	2035
228	16-Aug	0.00	23.3	242	95	63	80	50	15	2050
229	17-Aug	0.00	23.3	60	77	67	84	55	20	2070
230	18-Aug	0.07	23.4	87	83	69	71	58	15	2084
231	19-Aug	0.56	24.0	144	85	66	77	61	19	2103
232	20-Aug	0.00	24.0	250	92	61	79	52	16	2119
233	21-Aug	0.00	24.0	228	92	63	78	54	16	2135
234	22-Aug	0.00	24.0	231	94	65	80	56	18	2153
235	23-Aug	0.00	24.0	143	89	65	82	56	19	2172
236	24-Aug	3.05	27.0	78	82	68	82	59	21	2192
237	25-Aug	0.90	27.9	37	77	69	75	62	19	2211
238	26-Aug	0.40	28.3	71	83	71	75	65	20	2231
239	27-Aug	0.00	28.3	185	89	68	76	63	20	2250
240	28-Aug	0.00	28.3	62	77	67	78	58	18	2268
241	29-Aug	0.10	28.4	187	89	62	70	56	13	2281
242	30-Aug	0.00	28.4	169	88	62	78	57	18	2299
243	31-Aug	0.00	28.4	177	83	57	77	51	14	2313
244	1-Sep	0.00	28.4	221	86	58	74	51	13	2325
245	2-Sep	0.00	28.4	194	87	59	76	50	13	2338
246	3-Sep	0.97	29.4	169	89	57	75	48	13	2351
247	4-Sep	0.19	29.6	53	74	63	77	55	16	2367
248	5-Sep	0.00	29.6	203	90	62	68	55	12	2378
249	6-Sep	0.00	29.6	209	91	61	79	52	16	2394
250	7-Sep	0.00	29.6	191	89	61	82	57	20	2413
251	8-Sep	0.00	29.6	172	89	64	82	58	20	2433
252	9-Sep	0.00	29.6	49	65	60	81	49	16	2449

Table A-1. Daily Precipitation, Solar Radiation, Soil and Air Temperatures and Growing Degree Units at the Arlington Research Station during 2006.

Day of year		Daily	Total	Daily Solar Radiation	Soil Temperature Max	Soil Temperature Min	Air Max	Air Min	Growing Degree Daily	Growing Degree Total
		inches		W m^{-2}	°F		°F			
253	10-Sep	0.50	30.1	38	65	58	59	49	5	2453
254	11-Sep	1.32	31.4	15	62	58	59	51	5	2458
255	12-Sep	1.72	33.1	24	65	59	59	52	6	2464
256	13-Sep	0.00	33.1	70	70	55	60	44	5	2469
257	14-Sep	0.00	33.1	195	82	52	64	47	7	2476
258	15-Sep	0.00	33.1	165	81	55	73	50	12	2487
259	16-Sep	0.00	33.1	151	78	61	77	62	20	2507
260	17-Sep	0.15	33.3	120	84	62	78	60	19	2526
261	18-Sep	0.00	33.3	168	73	55	83	44	17	2542
262	19-Sep	0.00	33.3	75	66	50	66	35	8	2550
263	20-Sep	0.00	33.3	188	74	45	53	35	2	2552
264	21-Sep	0.25	33.5	106	67	45	60	32	5	2557
265	22-Sep	0.00	33.5	64	68	55	66	48	8	2565
266	23-Sep	0.28	33.8	46	66	55	69	49	10	2574
267	24-Sep	0.00	33.8	178	74	52	64	42	7	2581
268	25-Sep	0.00	33.8	168	76	49	64	37	7	2588
269	26-Sep	0.00	33.8	177	72	46	68	34	9	2597
270	27-Sep	0.00	33.8	.	67	49	70	37	10	2607
271	28-Sep	0.00	33.8	169	69	45	60	34	5	2612
272	29-Sep	0.00	33.8	65	58	46	58	38	4	2616
273	30-Sep	0.00	33.8	149	71	45	59	37	5	2621
274	1-Oct	0.00	33.8	195	74	44	64	40	7	2628
275	2-Oct	0.10	33.9	168	80	55	74	51	13	2640
276	3-Oct	1.16	35.1	154	79	57	84	50	17	2657
277	4-Oct	0.00	35.1	95	66	49	77	49	14	2671
278	5-Oct	0.00	35.1	190	70	44	63	32	7	2677
279	6-Oct	0.00	35.1	193	69	41	59	36	5	2682
280	7-Oct	0.00	35.1	181	69	44	64	43	7	2689
281	8-Oct	0.00	35.1	146	69	46	70	50	10	2699
282	9-Oct	0.00	35.1	68	65	50	76	40	13	2712
283	10-Oct	0.30	35.4	73	62	48	59	39	5	2716
284	11-Oct	0.11	35.5	64	53	39	56	40	3	2719
285	12-Oct	0.00	35.5	132	48	36	47	25	0	2719
286	13-Oct	0.00	35.5	69	47	35	36	24	0	2719
287	14-Oct	0.00	35.5	141	52	34	42	24	0	2719
288	15-Oct	0.00	35.5	156	57	33	48	27	0	2719
289	16-Oct	0.67	36.2	30	53	45	59	31	5	2724
290	17-Oct	0.00	36.2	49	58	49	54	42	2	2726
291	18-Oct	0.15	36.3	30	55	42	56	34	3	2729
292	19-Oct	0.00	36.3	34	47	39	47	26	0	2729
293	20-Oct	0.00	36.3	63	51	34	40	25	0	2729
294	21-Oct	0.69	37.0	26	46	37	49	25	0	2729
295	22-Oct	0.00	37.0	123	47	35	42	27	0	2729
296	23-Oct	0.00	37.0	44	43	33	38	23	0	2729
297	24-Oct	0.00	37.0	119	48	32	38	23	0	2729
298	25-Oct	0.00	37.0	144	51	32	45	25	0	2729
299	26-Oct	0.02	37.0	43	45	34	49	24	0	2729
300	27-Oct	0.00	37.0	46	48	36	50	34	0	2729
301	28-Oct	0.00	37.0	144	49	34	48	26	0	2729
302	29-Oct	0.00	37.0	142	52	33	52	26	1	2730
303	30-Oct	0.00	37.0	110	59	34	55	29	3	2732
304	31-Oct	0.00	37.0	141	48	32	68	19	9	2741

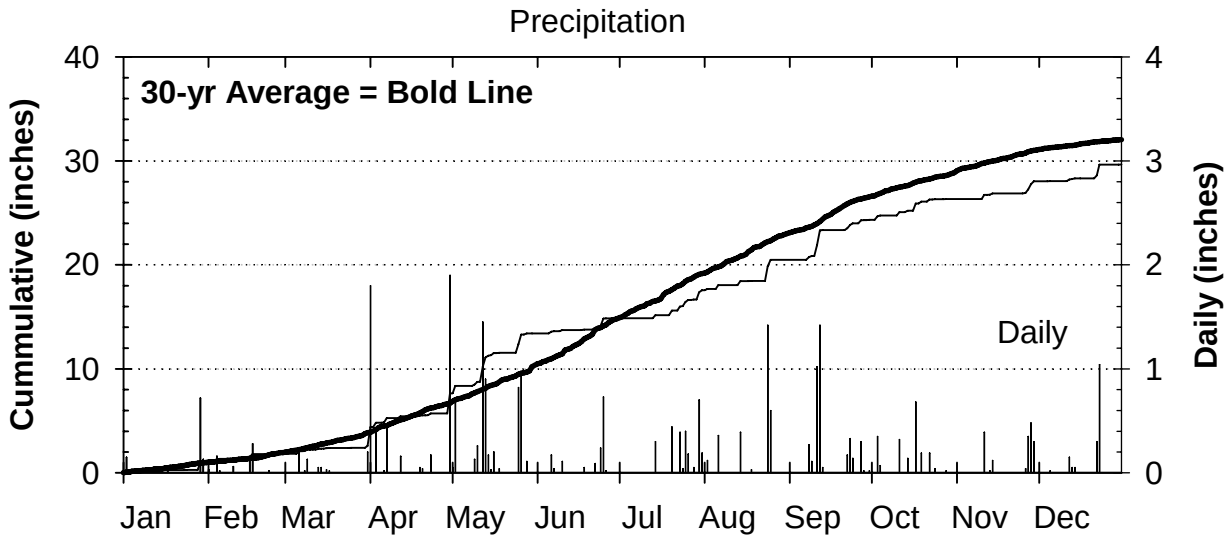
Table A-2. Monthly and total precipitation (inches) data for the Arlington Research Station.

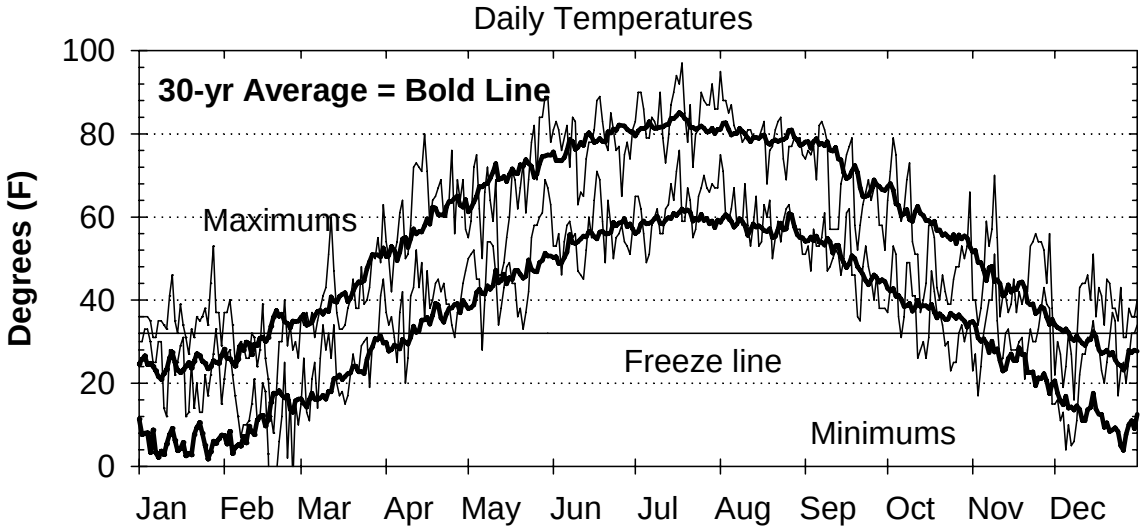
Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1977	0.5	1.4	3.1	2.6	2.4	2.7	5.4	2.7	2.6	2.3	2.3	1.0	28.9
1978	0.5	0.2	0.2	3.0	7.1	8.0	4.1	1.0	5.3	1.7	3.2	1.0	35.2
1979	1.2	0.7	3.1	1.7	2.7	3.8	2.7	7.7	0.2	2.9	1.8	1.5	29.8
1980	1.2	0.2	0.5	1.8	2.1	3.6	2.1	12.9	9.8	1.1	1.2	0.7	37.2
1981	0.1	2.7	0.6	3.7	0.3	3.6	7.0	4.5	3.4	3.1	1.1	0.9	31.0
1982	1.4	0.1	2.3	3.8	4.0	3.1	2.6	3.2	1.0	1.3	4.8	4.1	31.5
1983	0.4	1.8	2.4	2.0	3.9	2.1	4.5	4.5	3.1	3.6	3.1	2.4	33.8
1984	0.7	1.5	1.2	4.1	3.2	7.6	2.9	1.8	3.6	5.9	2.5	1.5	36.4
1985	1.4	1.8	2.1	2.4	2.8	3.5	5.9	3.6	6.9	3.1	5.3	1.4	40.1
1986	1.2	1.0	1.5	2.7	2.1	4.2	4.6	4.9	10.7	1.9	1.3	0.5	36.7
1987	0.5	0.0	1.9	2.6	4.7	0.6	4.0	4.9	4.9	1.6	4.9	1.4	32.2
1988	2.1	1.0	1.3	3.3	1.0	1.5	1.6	2.9	3.9	2.2	1.5	1.2	23.4
1989	0.7	0.9	1.5	1.4	1.8	2.0	3.8	4.3	3.8	2.4	1.3	0.5	24.3
1990	1.8	0.9	3.7	2.5	4.3	6.3	1.6	5.4	1.2	2.3	1.7	2.4	34.2
1991	1.0	0.4	3.0	4.5	1.9	2.6	3.8	1.8	4.7	6.8	3.6	1.4	35.4
1992	0.5	1.6	1.7	4.0	1.2	1.2	5.8	1.9	7.5	1.3	5.2	2.8	34.6
1993	1.6	1.0	2.3	7.1	4.5	6.1	9.4	3.2	4.2	1.2	1.6	0.2	42.3
1994	0.9	2.0	0.1	2.3	2.0	7.9	6.1	4.0	4.7	0.5	2.8	0.8	34.0
1995	1.3	0.1	2.2	3.4	6.0	2.2	2.8	5.0	1.8	4.2	2.4	0.7	31.9
1996	1.8	0.5	0.3	2.6	3.2	7.8	2.4	2.8	0.9	3.3	0.8	1.6	28.0
1997	0.7	2.8	2.2	2.0	3.3	4.9	6.3	3.2	1.6	1.4	1.0	0.8	30.0
1998	1.2	0.9	3.3	4.0	4.1	6.8	2.1	6.7	3.0	3.4	1.6	0.3	37.4
1999	2.8	1.2	0.6	6.0	3.9	5.3	3.4	2.5	1.4	1.4	1.3	1.0	30.9
2000	1.0	2.3	1.4	3.4	10.5	7.2	3.4	3.3	3.1	0.7	1.5	1.5	39.3
2001	0.8	1.4	0.4	3.1	4.7	7.0	2.9	5.3	5.2	1.7	1.7	1.4	35.8
2002	0.5	1.1	0.8	3.4	3.2	4.3	2.9	3.7	1.9	4.0	2.1	0.6	28.7
2003	0.4	0.2	1.4	2.2	3.8	3.3	3.3	1.8	4.0	1.3	5.3	1.9	28.9
2004	0.3	1.2	2.7	1.9	10.3	4.1	4.3	3.0	0.5	3.3	1.6	1.6	34.8
2005	1.5	1.2	1.8	0.8	3.4	1.5	4.4	3.1	4.7	0.6	3.8	1.0	27.6
2006	1.6	0.6	2.1	5.1	4.3	4.5	4.1	6.1	5.4	3.2	1.7	0.9	39.6
30-year Average	1.1	1.1	1.7	3.1	3.8	4.3	4.0	4.1	3.8	2.4	2.5	1.3	33.1

Table A-3. Average monthly and annual temperature (^{o}F) data for the Arlington Research Station.

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1977	3	22	40	53	66	66	74	66	62	49	35	18	46
1978	10	12	28	45	58	67	70	70	66	48	35	20	44
1979	6	11	30	42	56	66	70	67	62	48	35	29	44
1980	17	17	28	47	60	66	73	71	61	45	37	22	45
1981	20	25	37	49	56	67	70	69	59	47	38	22	47
1982	8	19	29	41	62	62	72	68	60	52	36	30	45
1983	23	27	34	43	53	67	75	74	62	51	38	10	46
1984	15	30	27	46	55	69	69	72	61	52	36	26	46
1985	12	17	38	52	62	64	71	66	62	50	32	12	45
1986	18	19	36	50	59	66	72	64	62	51	32	25	46
1987	23	31	38	51	61	71	74	68	62	45	40	27	49
1988	13	18	35	47	63	72	75	75	64	45	37	24	47
1989	28	15	30	46	57	66	73	70	60	51	33	13	45
1990	28	26	37	49	55	68	70	69	64	49	40	21	48
1991	14	26	36	50	63	70	71	70	59	49	29	24	47
1992	24	28	33	43	58	64	66	64	59	47	31	22	45
1993	19	19	29	42	57	64	69	69	55	46	33	23	44
1994	6	13	33	46	56	68	67	67	64	53	40	28	45
1995	20	23	37	44	57	72	73	76	60	52	29	21	47
1996	16	22	29	44	55	68	69	70	62	51	30	23	45
1997	17	24	33	42	51	68	69	65	61	50	32	27	45
1998	23	33	33	48	62	66	71	71	65	51	39	30	50
1999	15	30	35	48	60	68	75	67	59	48	43	25	48
2000	20	29	41	45	61	65	69	71	62	54	34	10	47
2001	20	17	30	51	59	67	72	71	59	48	46	31	48
2002	26	27	29	46	54	69	75	70	64	44	34	27	47
2003	17	17	32	44	56	66	71	72	61	49	35	28	46
2004	14	22	37	47	56	65	69	64	65	50	39	24	46
2005	17	27	30	50	54	72	73	70	65	50	36	17	47
2006	29	21	34	50	57	66	73	69	58	44	38	29	48
30-year Average	17	22	33	47	58	67	71	69	61	49	36	23	46

2006 Weather Summary for Hancock, WI





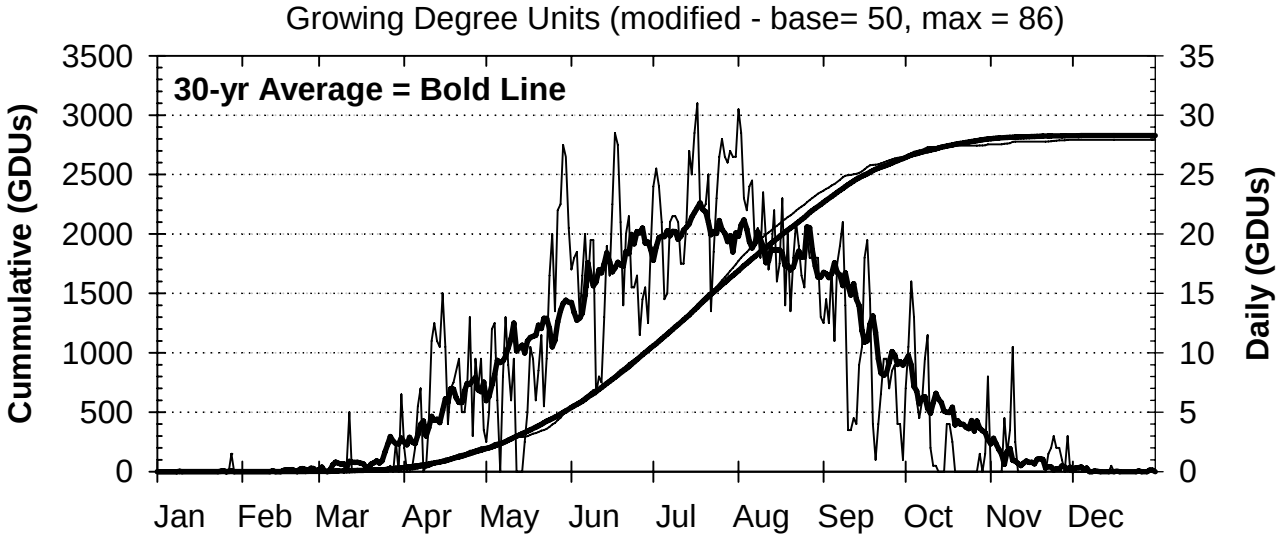


Table A-4. Monthly and total precipitation (inches) data for the Hancock Research Station.

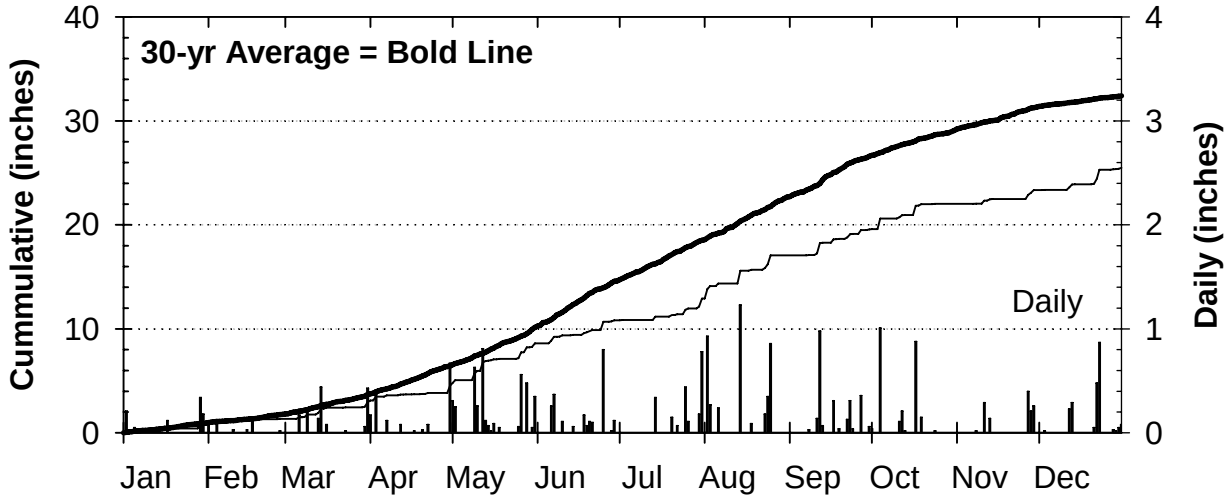
Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1977	0.4	1.1	3.4	3.0	2.5	2.7	6.0	2.8	4.4	2.2	3.0	2.0	33.5
1978	0.9	0.3	0.2	4.3	2.6	3.7	6.2	4.2	7.4	1.9	2.1	0.9	34.6
1979	1.4	1.1	3.8	1.4	4.3	2.8	3.8	6.5	0.6	2.8	2.7	0.7	32.0
1980	1.6	0.2	0.7	2.0	3.6	5.0	1.9	9.2	3.8	2.1	0.6	0.7	31.4
1981	0.1	2.6	0.6	5.1	0.7	2.4	2.7	2.8	2.5	3.1	0.4	0.7	23.6
1982	1.0	0.1	1.9	3.5	3.3	4.1	5.4	3.6	1.9	1.5	5.4	2.1	33.9
1983	0.7	1.4	2.2	1.0	5.5	1.4	3.2	7.5	5.5	2.5	2.4	1.0	34.3
1984	0.4	1.2	1.4	3.5	2.6	4.7	3.2	4.4	5.4	4.9	3.1	1.5	36.2
1985	0.5	1.5	2.2	1.8	2.3	3.4	4.4	0.1	4.9	1.9	3.8	0.9	27.8
1986	0.3	1.3	2.2	2.2	1.8	4.3	5.1	2.3	10.8	2.0	1.2	0.3	33.7
1987	0.6	0.3	1.5	2.8	2.9	6.7	2.3	1.4	3.1	1.8	3.4	1.2	28.1
1988	1.4	0.3	1.4	1.9	1.0	1.2	5.5	4.0	4.8	1.9	3.3	0.7	27.3
1989	0.3	0.4	1.8	0.5	7.3	2.1	3.0	1.7	1.5	4.3	1.4	0.3	24.6
1990	1.0	0.6	2.9	2.0	4.8	8.1	3.9	6.4	2.9	2.7	1.0	2.1	38.6
1991	0.7	0.4	2.8	4.6	6.5	1.3	3.9	1.8	3.3	3.6	4.4	1.5	34.6
1992	0.7	0.6	2.4	2.8	2.5	1.7	4.2	3.2	8.0	1.4	4.4	2.2	34.0
1993	1.1	0.6	0.9	5.0	5.7	6.9	9.0	5.3	2.7	2.0	2.0	0.3	41.5
1994	1.4	1.1	0.8	5.1	1.5	3.7	6.8	3.8	2.8	0.9	1.6	0.3	29.9
1995	0.7	0.3	2.7	2.8	3.1	2.0	2.3	7.8	2.5	4.7	1.9	0.5	31.2
1996	2.6	1.1	1.2	3.7	1.7	6.9	4.6	2.1	1.2	2.8	1.1	1.3	30.3
1997	1.1	0.9	2.0	0.9	4.5	3.5	8.3	3.6	3.4	1.5	0.4	0.6	30.7
1998	1.7	1.3	4.5	1.6	3.0	6.4	2.5	5.1	2.3	1.8	1.9	0.4	32.5
1999	2.1	1.7	0.3	5.9	3.3	3.7	10.7	4.5	1.3	2.4	1.4	0.6	37.8
2000	1.2	0.9	1.1	3.8	5.1	6.9	2.3	4.6	3.5	0.6	2.6	1.5	34.1
2001	1.3	1.4	0.8	3.6	7.2	4.1	2.7	4.6	4.6	2.1	2.0	0.8	35.1
2002	0.4	2.2	2.2	4.1	2.9	16.5	3.2	4.3	3.0	3.3	0.2	0.4	42.7
2003	0.7	0.6	2.0	1.5	5.3	3.4	2.3	0.7	2.9	1.1	3.6	1.5	25.5
2004	0.9	1.1	3.0	1.5	7.2	7.7	2.7	3.6	0.5	3.3	1.9	1.2	34.5
2005	1.4	1.5	1.1	1.4	3.0	3.9	5.9	3.5	4.0	1.6	3.2	0.6	31.0
2006	2.3	1.4	0.8	5.0	5.8	1.5	2.7	2.9	3.9	2.0	1.7	1.6	31.5
30-year Average	1.0	1.0	1.8	2.9	3.8	4.4	4.4	3.9	3.6	2.3	2.3	1.0	32.5

Table A-5. Average monthly and annual temperature (^{o}F) data for the Hancock Research Station.

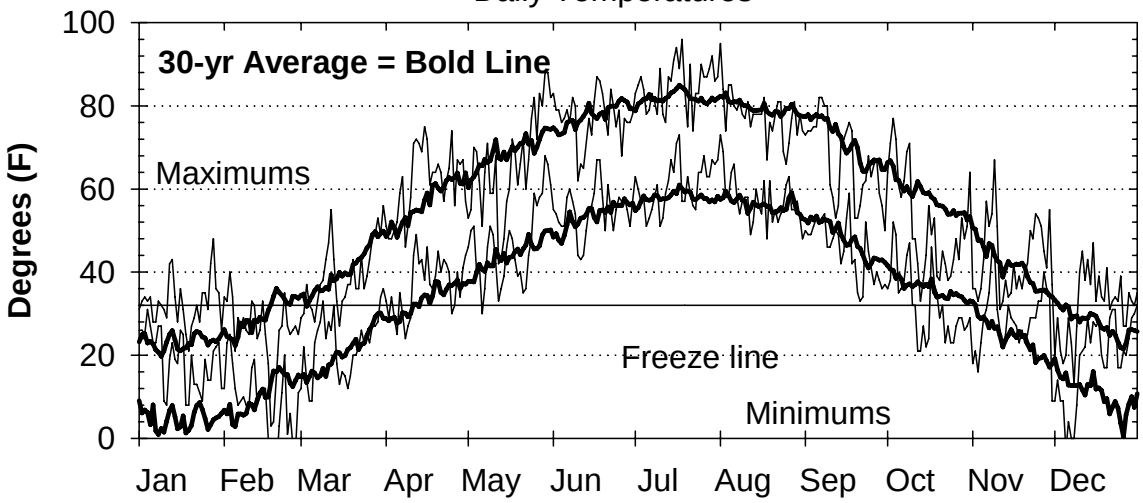
Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1977	3	21	39	52	67	65	74	66	61	48	35	16	46
1978	9	10	27	44	59	66	68	69	65	48	34	18	43
1979	6	11	30	42	55	66	70	67	63	48	33	27	43
1980	16	16	27	48	60	66	73	70	60	44	36	21	45
1981	18	24	36	49	56	67	71	69	58	47	38	20	46
1982	6	18	29	42	62	61	71	67	60	50	35	28	44
1983	22	27	33	42	52	68	75	73	62	50	37	9	46
1984	14	30	25	47	55	68	69	71	59	52	35	23	46
1985	13	18	36	51	62	64	70	66	61	49	30	10	44
1986	17	18	35	51	60	67	73	65	61	50	30	24	46
1987	21	29	37	51	62	70	74	68	61	43	38	26	48
1988	12	14	32	46	63	72	74	74	63	44	37	20	46
1989	25	14	27	44	56	66	73	69	60	51	31	11	44
1990	28	24	36	49	55	68	70	69	64	49	40	19	48
1991	13	25	34	49	63	70	70	70	58	49	29	23	46
1992	22	28	31	42	59	64	65	65	59	47	31	21	45
1993	17	18	30	41	58	64	69	70	55	48	32	23	44
1994	6	14	34	47	59	69	68	66	63	52	38	27	45
1995	19	20	34	41	57	71	72	74	59	50	26	18	45
1996	12	19	25	42	54	67	67	69	61	49	26	20	43
1997	14	23	31	43	50	67	68	65	61	49	31	26	45
1998	20	31	31	48	63	64	70	69	66	49	38	26	48
1999	12	27	33	47	59	66	73	66	59	47	41	22	46
2000	15	27	38	43	59	64	68	69	60	53	31	6	44
2001	19	16	29	50	57	66	71	70	58	46	45	28	46
2002	26	25	26	45	52	68	73	69	63	43	32	25	46
2003	14	14	30	43	55	65	70	72	62	48	34	26	45
2004	11	21	35	46	55	64	69	64	65	50	39	23	45
2005	15	26	28	50	54	71	72	70	65	50	36	19	46
2006	30	20	33	51	58	67	74	70	58	45	39	29	45
30-year Average	16	21	32	46	58	67	71	69	61	48	34	21	45

2006 Weather Summary for Marshfield, WI

Precipitation



Daily Temperatures



Growing Degree Units (modified - base= 50, max = 86)

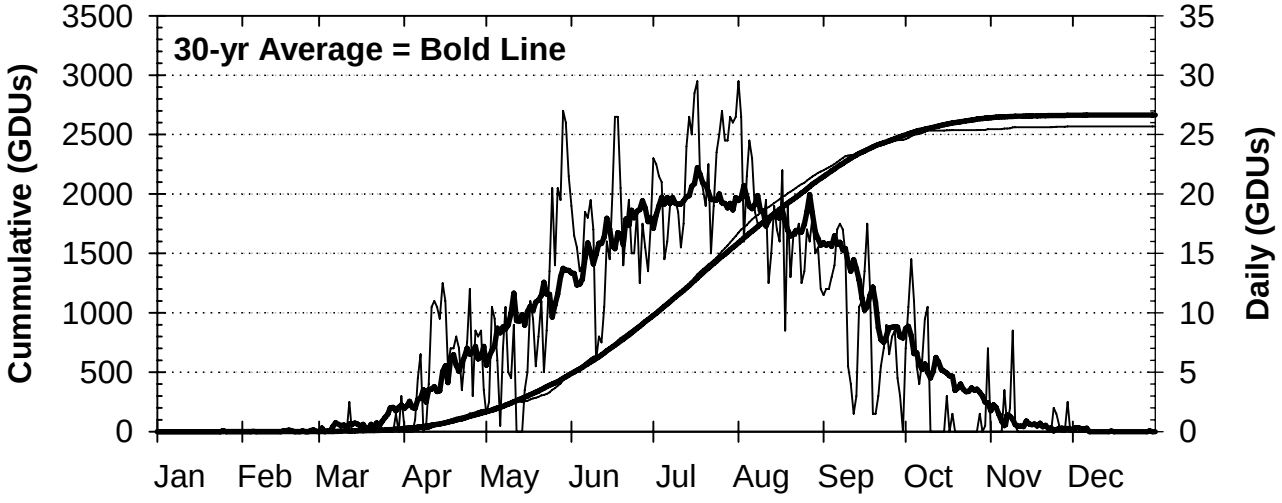


Table A-6. Monthly and total precipitation (inches) data for the Marshfield Research Station.

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1977	0.5	0.9	3.3	2.0	3.0	5.2	3.0	3.4	4.1	3.7	3.1	2.3	34.4
1978	0.6	0.1	0.1	4.0	5.5	4.3	6.9	5.0	5.2	1.6	2.1	1.3	36.7
1979	1.1	1.5	3.4	1.1	6.1	5.4	2.7	4.1	0.3	4.9	2.7	0.5	33.8
1980	1.4	0.4	0.6	1.7	3.7	4.7	2.1	9.6	7.6	2.5	0.2	0.7	35.2
1981	0.1	2.4	0.7	4.7	2.4	6.4	3.3	6.3	2.9	3.4	0.6	1.0	34.1
1982	1.4	0.1	1.3	3.4	3.0	3.2	7.4	3.0	6.1	1.9	3.5	2.6	36.9
1983	1.1	1.3	1.6	1.8	4.2	0.7	2.8	5.7	4.7	3.2	5.5	1.3	33.7
1984	0.4	2.0	1.0	4.3	2.1	9.6	4.3	2.5	3.1	5.6	2.5	2.7	40.2
1985	0.3	0.7	4.2	2.5	2.9	3.3	2.1	5.8	6.1	1.8	4.4	1.9	36.1
1986	0.6	1.4	1.9	2.2	1.4	5.4	10.5	3.9	9.8	3.0	0.8	0.6	41.4
1987	0.7	0.0	1.4	1.4	1.9	3.0	6.1	2.6	2.5	1.3	2.8	1.5	25.1
1988	1.1	0.2	1.5	1.9	3.2	1.2	2.4	3.7	3.2	1.4	3.5	0.6	23.8
1989	0.5	0.4	2.5	0.8	7.0	1.9	2.5	3.1	1.1	2.6	1.5	0.3	24.2
1990	0.8	0.6	4.2	3.4	3.9	5.5	2.6	6.9	2.9	2.6	1.0	1.9	36.3
1991	0.4	0.7	2.5	4.4	6.5	2.2	5.7	2.2	5.1	1.8	5.8	1.5	38.6
1992	0.5	0.7	2.1	2.8	3.8	1.8	4.0	2.7	8.0	1.0	4.0	1.5	33.1
1993	1.4	0.2	1.6	4.1	5.2	8.7	3.5	6.5	3.8	2.0	1.7	0.4	39.2
1994	0.8	0.6	0.3	4.4	1.0	2.3	7.7	2.1	4.9	1.5	2.5	0.3	28.3
1995	0.6	0.4	2.5	2.3	2.8	1.1	2.2	8.9	2.2	5.1	1.8	0.5	30.2
1996	2.5	0.5	1.8	3.1	2.6	8.6	2.0	2.0	2.8	3.1	2.8	1.4	33.1
1997	1.8	0.4	2.0	0.5	3.0	3.4	5.1	6.5	3.1	3.2	0.3	0.6	29.9
1998	1.8	1.7	2.2	1.9	3.1	8.6	0.5	3.2	0.6	2.8	1.5	0.3	27.9
1999	1.9	1.0	0.2	5.7	3.5	1.8	8.3	3.7	1.4	1.2	1.8	0.4	30.9
2000	1.4	0.5	2.0	1.9	3.7	7.5	2.3	4.0	4.7	0.3	2.0	1.3	31.5
2001	0.9	1.2	0.6	3.6	5.7	6.1	3.2	3.9	4.1	1.9	2.5	1.1	34.7
2002	0.3	1.9	2.7	3.3	3.1	9.0	2.7	6.0	6.5	3.8	0.1	0.3	39.8
2003	0.4	0.8	1.9	3.1	3.9	2.8	1.5	0.9	2.2	1.1	2.1	1.5	22.3
2004	0.7	1.4	2.8	1.3	8.7	4.2	1.9	2.5	1.6	4.2	1.6	1.8	32.6
2005	0.8	1.2	1.2	1.8	1.9	3.3	1.7	3.2	6.7	0.9	2.9	0.7	26.3
2006	0.9	0.4	1.6	1.6	4.1	2.2	2.1	4.2	2.5	2.5	1.3	2.1	25.5
30-year Average	0.9	0.8	1.9	2.7	3.8	4.4	3.8	4.3	4.0	2.5	2.3	1.2	32.5

Table A-7. Average monthly and annual temperature (^{o}F) data for the Marshfield Research Station.

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Annual
1977	1	20	37	51	64	64	72	63	59	46	32	16	44
1978	8	12	27	42	58	64	67	68	62	46	30	14	42
1979	3	9	28	41	52	63	68	65	60	44	31	25	41
1980	13	15	24	46	59	65	70	67	58	43	35	19	43
1981	18	22	35	46	55	65	68	67	57	45	37	18	44
1982	4	16	27	40	60	59	70	66	57	48	32	26	42
1983	20	26	32	41	51	65	73	72	60	48	35	8	44
1984	13	28	25	46	54	67	68	70	57	50	33	21	44
1985	12	17	35	49	61	63	69	66	60	49	28	8	43
1986	16	17	34	49	59	66	71	65	60	49	29	23	45
1987	21	28	36	51	60	69	72	68	61	42	38	26	48
1988	12	14	31	46	60	69	74	73	61	43	35	19	45
1989	22	12	26	43	55	65	72	69	59	50	29	9	43
1990	25	21	34	47	54	67	69	68	62	47	38	19	46
1991	12	23	33	49	61	70	69	69	57	47	27	20	45
1992	20	26	30	42	59	64	66	.	59	48	32	21	43
1993	17	19	30	42	57	63	70	70	55	48	32	22	44
1994	6	15	34	46	59	69	69	66	63	52	38	27	46
1995	19	20	35	41	57	71	73	74	59	49	26	18	45
1996	12	18	25	42	54	68	68	70	60	49	27	19	43
1997	13	23	28	42	50	67	68	64	60	48	30	26	43
1998	20	31	32	48	62	64	71	69	64	49	37	25	48
1999	12	26	32	48	59	67	73	67	58	46	40	22	46
2000	15	24	38	43	58	63	68	68	58	51	32	8	44
2001	19	13	27	45	56	63	71	70	57	46	43	27	45
2002	23	26	24	43	51	67	73	67	62	42	32	23	44
2003	13	11	29	43	55	64	69	71	60	46	32	25	43
2004	10	20	32	45	53	62	68	62	64	48	36	19	43
2005	13	24	27	48	53	70	71	68	63	50	33	17	45
2006	26	17	31	49	56	66	73	68	56	42	36	25	46
30-year Average	15	20	31	45	57	66	70	68	60	47	33	20	44

Observations and Data Collected

STATISTICAL ANALYSIS

All data are analyzed using generally accepted statistical tests. In most cases the probabilities of main effects and interactions are shown. The number listed is a percent probability that the effect difference is 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 percent or less.

Table B-1. Observations and Data Collected

Corn Measurements

Grower Return	Units	$/acre
	Formula	(weighted price per bushel x yield) - (yield x (handling + hauling + trucking)) -(storage x 0.02) - (yield x (grain moisture-15.5) x drying).
	Determination	Handling cost = $0.02 per bushel Hauling cost = $0.04 per bushel Trucking cost = $0.11 $ per bushel (100 miles) On-farm drying cost = $0.02 per point per bushel Storage = (yield*0.25 *4) + (yield*0.25*8); On-farm $0.02/bu. 30days Weighted Price per Bushel = $1.86 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/(plot width * plot length in feet)) * weight of sample in lbs.* ((100-sample moisture)/(100-15.5{moisture standard}))/56 lb/bu
Moisture	Units	%
	Determination	GRAIN: determined by Harvest Master unit on combine or wet weight method and adjusted to standard corn moisture 15.5% 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 leaf (flag) 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%

Table B-1. Observations and Data Collected

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)
Ear Density	Units	Ears per acre
	Determination	Just prior to harvest
	Observations	Ear counts are taken from whole plot (22' x 2 rows)
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
Starch (Grain)	Units	%
	Determination	Near Infra-Red Transmittance Spectroscopy using a global calibration equation from Foss
	Observations	Plot subsample
Protein (Grain)	Units	%
	Determination	Near Infra-Red Transmittance Spectroscopy using a global calibration equation from Foss
	Observations	Plot subsample
Oil (Grain)	Units	%
	Determination	Near Infra-Red Transmittance Spectroscopy using a global calibration equation from Foss
	Observations	Plot subsample
Ethanol (Grain)	Units	%
	Determination	Near Infra-Red Transmittance Spectroscopy using a global calibration equation from Pioneer
	Observations	Plot subsample
Diseases ratings	Units	Rating score = 1-9 1,2,3= Worst; 4,5,6= Mid; 7,8,9= Best
	Determination	Based on amount of disease on plant part of interest
	Observations	Plot measured in the field
Forage Yield (Whole Plant)	Units	Tons of dry mater per acre
	Formula	weight of sample in lbs.* (43560/(2000*plot width * plot length in feet)).* ((100-sample moisture)/100)
Kernel Milk	Units	%
	Determination	percent milk remaining in kernel at harvest
	Observations	visual average of three ears from a non-harvest row
Kernel Milk Rating (KMR)	Formula	% Kernel Milk x 5
	Scale	0-5
Stover Moisture	Formula	% Greenness x Leaf Rating (Leaf Rating scale 1-5, Based on % of

Table B-1. Observations and Data Collected

Rating (SMR)	Scale	upright leaves) 0-5
Visual Moisture Rating (VMR)	Formula Scale	KMR + SMR 0-10
Crude Protein (CP)	Units Determination	% wet lab or NIRS procedure on plot sub sample
Neutral Detergent Fiber	Units Determination	% wet lab or NIRS procedure on plot sub sample
Neutral Detergent Fiber Digestibility	Units Determination	% wet lab or NIRS procedure on plot sub sample
Acid Detergent Fiber	Units Determination	% wet lab or NIRS procedure on plot sub sample
***In Vitro* Digestibility**	Units Determination	% In vitro wet lab or NIRS procedure on plot sub sample
Starch content	Units Determination	% wet lab or NIRS on plot sub sample
Kernel Rot	Units Determination Scale	none visual average of 5 plants at V2-V4 1=deterioration 2=no deterioration
Emergence	Units Formula	% Early stand / late stand count x 100%
Residue cover	Units Determination	% Point transects centered on row.
% Survival	Units Formula	% Early stand / late stand count x 100%
Root Rating	Determination Scale	The ISU 0 to 3 node-injury root rating scale was used. A rating of 0.50 or below is considered acceptable economic root protection. 0-3
Soybean Measurements		
Grower Return	Units Formula Determination	$/acre (weighted price per bushel x yield) - (yield x (handling + hauling + trucking)) -(storage x 0.02). Handling cost = $0.02 per bushel Hauling cost = $0.04 per bushel Trucking cost = $0.11 $ per bushel (100 miles) Storage = (yield*0.25*4)+ (yield*0.25*8); On-farm $0.02/bu. 30days. Weighted Price per Bushel = $5.54 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 Formula	Bu/acre (43560/(plot width * plot length in feet)) * weight of sample in lbs.* ((100-sample moisture)/(100-13{moisture standard}))/60 lb/bu
Grain Moisture	Units Determination	% determined by detector on combine 13% is standard soybean moisture
Plant Height	Units Determination Observations	inches plant height from soil surface to tip of main stem average of several plants in each plot
Plant Lodging	Units Determination Observations Scale	none based on average erectness of main stem of plant whole plot is assessed 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 Determination	seeds/lb weight of 300 seeds converted to seeds/lb
Plant Density	Units Determination Observations	plants per acre early = plants at V3 to V5 stage late = just prior to harvest plants counts are taken from 5 linear feet of plot X the harvested area
% Survival	Units Formula	% Early stand / late stand count x 100%
Wheat Measurements		
Grower Return	Units Formula Determination	$/acre (weighted price per bushel x yield) – (yield x (handling + hauling + trucking)) -(storage x 0.02). Handling cost = $0.02 per bushel Hauling cost = $0.04 per bushel Trucking cost = $0.11 $ per bushel (100 miles) Storage = (yield*0.25*4)+ (yield*0.25*8); On-farm $0.02/bu. 30days. Weighted Price per Bushel = $3.07 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 Formula	Bu/acre (43560/(plot width * plot length in feet)) * weight of sample in lbs.* ((100-sample moisture)/(100-13.5{moisture standard}))/60 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
	Channahon silt loam	Loamy, mixed, mesic	Lithic Argiudoll
Hancock ARS 44 ° 7 ‘ - 89 ° 32 ‘	Plainfield loamy sand (Predominant soil)	Mixed, mesic	Typic Udipsamment
	Sparta loamy sand	Sandy, mixed, mesic	Entic Hapludoll
Lancaster ARS 42 ° 50 ‘ - 90 ° 47 ‘	Fayette silt loam	Fine-silty, mixed, mesic	Typic Hapludalf
	Rozetta silt loam	Fine-silty, mixed, mesic	Typic Hapludalf
	Dubuque silt loam	Fine-silty, mixed, mesic	Typic Hapludalf
Marshfield ARS 44 ° 39 ‘ - 90 ° 8 ‘	Withee silt loam (Predominant soil)	Fine-loamy, mixed	Aquic Glossoboralf
	Marshfield silt loam	Fine-loamy, mixed, frigid	Typic Ochraqualf
Rhinelander ARS 45 ° 39 ‘ - 89 ° 22 ‘	Vilas loamy sand	Sandy, mixed, frigid	Entic Haplorthod
	Au Gres loamy sand	Sandy, mixed, frigid	Entic Haplaquod
Spooner 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: 01 Growth and Development **Trial ID:** 2905 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS427 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/1 /06 **pH** 7.1 **OM (%)** 4 **P (ppm)** 88 **K (ppm)** 278

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/14/06

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:** N/A	**Date:**	N/A
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	5 /22/06
Post plant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Manure: N/A				

Herbicide: Outlook 20 oz/A
Hornet 4 oz/A

Insecticide: None

Hybrid: See Factors

Irrigation: None

Planting Date: 5/22/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/23/06 **Harvest Method:** Massey Ferguson 8XP

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.28 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 29848 **plants per acre**

Factors/Treatments:

Hybrids:

Brunner S3403RRBt
Carharts Blue Top CX1956B
Cornelius C635YG4
Croplan 691BtLL
Dahlman D4515
Dekalb DKC58-78
Gold Country GCS9401CB
High Cycle 7560Bt
Kruger K5504YG
Lemke 3081Bt
NK Brand N16-M1
NK Brand N17-R3
NK Brand N58-D1
Pioneer 34N44
Pioneer 37R71
Pioneer 39D82

Results: Table C-1 and C-2.

Table C-1. Determining Corn Hybrid Maturity - Comparison of Hybrids
Arlington, WI - 2006

Hybrid	Relative maturity	Grain yield	Grain moisture	Test weight	Lodging	Grower return	Silking Date	Early dent	Kernel Milk 75%	Kernel Milk 50%	Kernel Milk 25%	Black layer	Plant height	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
		bu/A	%	lb/bu	%	$/A	----------doy----------						inches	%	%	%	gallons	gallons
NK Brand N16-M1	82	194	18.9	58.9	1	605	197	229	235	242	251	262	109	3.2	57.6	8.1	2.89	563
NK Brand N17-R3	82	195	18.3	57.8	1	599	198	229	237	244	255	262	107	3.0	58.6	7.6	2.93	567
Brunner S3403RRBt	84	190	18.8	59.2	1	587	197	234	241	248	256	270	105	3.6	57.8	8.2	2.87	546
Pioneer 39D82	87	204	18.9	56.9	0	629	197	231	239	248	256	262	108	3.3	58.6	7.9	2.87	584
Dahlman D4515	90	212	19.3	56.5	14	654	199	235	243	253	261	271	118	2.9	59.4	7.3	2.93	621
Lemke 3081Bt	90	211	18.9	56.9	9	652	201	234	242	257	263	275	114	3.0	59.4	7.1	2.93	618
Carharts Blue Top CX1956B	95	213	20.0	55.8	3	698	201	236	246	255	265	275	110	3.4	58.9	7.2	2.91	619
Gold Country GCS9401CB	95	227	19.7	55.9	2	653	202	235	243	254	264	275	118	3.4	58.8	7.1	2.91	662
Pioneer 37R71	99	216	21.5	52.7	1	658	202	232	243	253	261	269	121	3.4	58.1	7.9	2.87	620
High Cycle 7560Bt	100	246	22.7	52.7	9	742	203	234	243	257	269	279	105	3.6	58.9	7.2	2.90	712
Kruger K5504YG	103	227	24.8	53.9	3	674	206	246	255	261	271	283	122	3.3	58.1	7.7	2.89	655
NK Brand N58-D1	107	229	28.1	54.0	7	667	204	245	255	261	270	282	118	2.7	59.6	7.3	2.90	665
Dekalb DKC58-78	108	252	27.5	52.9	1	735	205	246	258	266	274	287	113	3.5	58.2	7.9	2.85	718
Pioneer 34N44	109	250	28.2	55.0	5	726	205	238	252	263	275	283	121	2.9	58.9	7.4	2.89	721
Croplan 691BtLL	112	252	30.9	52.4	3	717	206	242	253	262	274	282	125	3.1	59.0	7.1	2.88	739
Cornelius C635YG4	112	238	31.6	52.3	11	677	206	245	256	262	274	285	128	3.1	58.8	7.1	2.87	685
Mean		223	23.0	55.2	4	669	202	237	246	256	265	276	115	3.2	58.7	7.5	2.90	643
Probability(%)																		
Hybrid (H)		0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
LSD(0.10)																		
Hybrid (H)		16	0.8	0.7	6	48	2	3	4	4	4	4	7	0.2	0.4	0.2	0.02	46
CV(%)		5	3	1	101	5	1	1	1	1	1	1	4	4	0	2	0	5

Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids Arlington, WI - 2006

Hybrid	Relative maturity	Day of year	Leaf Development: Leaf collars	Leaf Development: Hail adjusters method	Leaf Development: Total leaves	Plant height
			no./plant	no./plant	no./plant	inches
		153	3.0	4.5	5.3	5.5
		167	5.1	7.4	8.3	12.1
		181	8.2	11.3	13.2	37.1
		195	14.0	15.7	16.7	84.5
		208	19.1	19.1	19.1	114.6
NK N17-R3	82		9.7	11.3	12.3	52.1
NK N16-M1	82		9.7	11.5	12.3	49.3
Brunner S3403RRBt	84		10.4	12.1	13.1	51.6
Pioneer 39D82	87		9.4	11.2	12.1	51.9
Dahlman D4515	90		9.8	11.5	12.4	50.8
Lemke 3081Bt	90		10.2	12.0	12.8	50.5
Gold Country GCS9401CB	95		10.3	12.0	13.0	50.9
Carharts Blue Top CX1956B	95		10.1	11.8	12.6	47.2
Pioneer 37R71	99		9.6	11.1	12.1	52.0
High Cycle 7560Bt	100		10.1	11.9	12.7	49.1
Kruger K5504YG	103		9.8	11.8	12.6	52.2
NK Brand N58-D1	107		9.7	11.7	12.4	48.9
Dekalb DKC58-78	108		10.1	11.8	12.7	49.0
Pioneer 34N44	109		9.9	11.0	12.2	52.9
Croplan 691BtLL	112		9.8	11.6	12.4	52.2
Cornelius C635YG4	112		9.1	11.0	11.8	53.7
NK N17-R3	82	153	3.0	5.0	5.8	6.0
NK N17-R3	82	167	5.5	7.7	8.7	12.6
NK N17-R3	82	181	8.7	11.5	13.5	40.4
NK N17-R3	82	195	14.3	15.2	16.2	94.7
NK N17-R3	82	208	17.2	17.2	17.2	107.0
NK N16-M1	82	153	3.0	5.0	5.8	5.8
NK N16-M1	82	167	5.5	8.0	9.0	12.3
NK N16-M1	82	181	8.8	12.2	13.7	37.3
NK N16-M1	82	195	13.8	14.8	15.7	86.8
NK N16-M1	82	208	17.3	17.3	17.3	104.5
Brunner S3403RRBt	84	153	3.0	5.0	6.0	5.3
Brunner S3403RRBt	84	167	5.3	8.0	9.0	13.0
Brunner S3403RRBt	84	181	8.8	11.8	13.8	41.0
Brunner S3403RRBt	84	195	15.5	16.5	17.3	92.5
Brunner S3403RRBt	84	208	19.3	19.3	19.3	106.0

continued

Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids (continued) Arlington, WI - 2006

Hybrid	Relative maturity	Day of year	Leaf Development: Leaf collars	Leaf Development: Hail adjusters method	Leaf Development: Total leaves	Plant height
			no./plant	no./plant	no./plant	inches
Pioneer 39D82	87	153	3.0	4.5	5.5	5.8
Pioneer 39D82	87	167	4.5	7.3	8.3	12.4
Pioneer 39D82	87	181	8.0	11.0	13.0	39.4
Pioneer 39D82	87	195	14.0	15.5	16.3	91.8
Pioneer 39D82	87	208	17.5	17.5	17.5	110.3
Dahlman D4515	90	153	3.0	4.7	5.0	6.0
Dahlman D4515	90	167	5.0	7.2	8.0	12.3
Dahlman D4515	90	181	8.2	11.2	13.0	36.5
Dahlman D4515	90	195	13.5	15.2	16.3	83.0
Dahlman D4515	90	208	19.5	19.5	19.5	116.2
Lemke 3081Bt	90	153	3.0	4.7	5.3	5.8
Lemke 3081Bt	90	167	5.0	7.3	8.5	12.7
Lemke 3081Bt	90	181	8.7	12.0	13.7	36.2
Lemke 3081Bt	90	195	15.0	16.3	17.2	83.2
Lemke 3081Bt	90	208	19.5	19.5	19.5	114.5
Gold Country GCS9401CB	95	153	3.0	4.7	5.5	5.2
Gold Country GCS9401CB	95	167	5.0	7.3	8.7	12.0
Gold Country GCS9401CB	95	181	8.5	11.7	13.7	36.8
Gold Country GCS9401CB	95	195	14.8	16.3	17.2	82.3
Gold Country GCS9401CB	95	208	20.0	20.0	20.0	118.2
Carharts Blue Top CX1956B	95	153	3.3	4.2	5.0	4.7
Carharts Blue Top CX1956B	95	167	5.0	7.3	8.0	10.6
Carharts Blue Top CX1956B	95	181	8.3	11.7	13.2	32.8
Carharts Blue Top CX1956B	95	195	14.3	16.2	17.2	78.2
Carharts Blue Top CX1956B	95	208	19.7	19.7	19.7	110.0
Pioneer 37R71	99	153	3.0	4.0	5.0	4.9
Pioneer 37R71	99	167	5.0	7.3	8.3	11.5
Pioneer 37R71	99	181	8.0	11.0	13.3	36.1
Pioneer 37R71	99	195	14.0	15.3	16.3	86.8
Pioneer 37R71	99	208	17.8	17.8	17.8	120.8
High Cycle 7560Bt	100	153	3.0	4.0	5.0	4.8
High Cycle 7560Bt	100	167	5.5	8.5	8.5	13.5
High Cycle 7560Bt	100	181	8.5	11.5	13.5	36.5
High Cycle 7560Bt	100	195	14.0	16.0	17.0	82.0
High Cycle 7560Bt	100	208	19.5	19.5	19.5	108.5
Kruger K5504YG	103	153	3.0	4.0	5.0	5.8
Kruger K5504YG	103	167	5.2	7.5	8.2	13.3
Kruger K5504YG	103	181	8.0	11.8	13.3	37.6
Kruger K5504YG	103	195	13.3	16.0	17.0	83.2
Kruger K5504YG	103	208	19.5	19.5	19.5	121.0

continued

Table C-2. Determining Corn Hybrid Maturity - Comparison of Hybrids
(continued) **Arlington, WI - 2006**

Hybrid	Relative maturity	Day of year	Leaf Development: Leaf collars	Leaf Development: Hail adjusters method	Leaf Development: Total leaves	Plant height
			no./plant	no./plant	no./plant	inches
NK Brand N58-D1	107	153	3.0	4.2	4.8	4.4
NK Brand N58-D1	107	167	4.7	7.0	7.7	10.7
NK Brand N58-D1	107	181	7.7	11.0	12.7	33.2
NK Brand N58-D1	107	195	13.3	16.5	17.3	78.5
NK Brand N58-D1	107	208	19.7	19.7	19.7	117.8
Dekalb DKC58-78	108	153	3.0	4.3	5.3	5.3
Dekalb DKC58-78	108	167	5.5	7.7	8.5	11.7
Dekalb DKC58-78	108	181	8.0	11.2	12.7	35.5
Dekalb DKC58-78	108	195	13.8	16.0	16.8	79.7
Dekalb DKC58-78	108	208	20.0	20.0	20.0	113.0
Pioneer 34N44	109	153	3.0	4.0	5.0	5.9
Pioneer 34N44	109	167	5.0	6.7	8.0	11.6
Pioneer 34N44	109	181	8.2	9.8	12.2	41.9
Pioneer 34N44	109	195	13.5	15.0	16.2	85.5
Pioneer 34N44	109	208	19.7	19.7	19.7	119.5
Croplan 691BtLL	112	153	3.0	4.5	5.0	5.9
Croplan 691BtLL	112	167	5.0	7.0	8.0	12.6
Croplan 691BtLL	112	181	7.5	11.0	13.0	36.3
Croplan 691BtLL	112	195	13.5	15.5	16.3	82.3
Croplan 691BtLL	112	208	19.8	19.8	19.8	124.0
Cornelius C635YG4	112	153	3.0	4.0	5.0	6.3
Cornelius C635YG4	112	167	4.0	6.5	7.0	13.0
Cornelius C635YG4	112	181	7.0	10.0	12.0	36.0
Cornelius C635YG4	112	195	12.5	15.5	16.0	84.5
Cornelius C635YG4	112	208	19.0	19.0	19.0	128.5
Mean			9.9	11.6	12.5	50.7
Probability(%)						
Hybrid (H)			8.1	9.0	18.5	14.2
Day Of Year (D)			0.0	0.0	0.0	0.0
H x D			0.0	0.0	0.0	0.0
LSD(0.10)						
Hybrid (H)			0.3	0.3	NS	NS
Day Of Year (D)			0.3	0.3	0.3	1.6
H x D			0.6	0.7	0.6	3.5
CV(%)			4	4	4	5

FIELD EXPERIMENT HISTORY

Title: **Determining Corn Hybrid Maturity**

Experiment: 01 Growth and Development **Trial ID:** 2906 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Marshfield, WI **County:** Wood

Supported By: HATCH

Site Information

Field: W5 **Previous Crop:** Soybean **Soil Type:** Withee Silt Loam

Soil Test: **Date:** 10/1 /06 **pH** 6.6 **OM (%)** 2.5 **P (ppm)** 39 **K (ppm)** 125

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/15/06

Fertilizer:					
	Preplant Analysis: N/A	**Rate lbs/A:** N/A	**Date:** N/A
	Starter Analysis: 9-23-30	**Rate lbs/A:** 150	**Date:** 5 /4 /06
	Post plant Analysis: 28-0-0	**Rate lbs/A:** 27 gal/A	**Date:** 6 /15/06
	Manure: N/A		

Herbicide: Outlook 14 oz/A
Hornet 2.4 oz/A
Outlook 14 oz/A
Accent 0.67 oz/A
Northstar 5.0 oz/A

Insecticide: None

Hybrid: See Factors

Irrigation: None

Planting Date: 5/4/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/20/06 **Harvest Method:** Massey Ferguson 8XP

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.28 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 30096 **plants per acre**

Factors/Treatments:

Hybrids:

Brunner S3403RRBt
Carharts Blue Top CX1956B
Cornelius C635YG4
Croplan 691BtLL
Dahlman D4515
Dekalb DKC58-78
Gold Country GCS9401CB
High Cycle 7560Bt
Kruger K5504YG
Lemke 3081Bt
NK Brand N16-M1
NK Brand N17-R3
NK Brand N58-D1
Pioneer 34N44
Pioneer 37R71
Pioneer 39D82

Results: Table C-3.

Table C-3. Determining Corn Hybrid Maturity - Comparison of Hybrids
Marshfield, WI - 2006

Hybrid	Relative maturity	Grain yield	Grain moisture	Test weight	Lodging	Grower return	Grain Composition			Ethanol	
							Oil	Starch	Protein	per bu	per A
		bu/A	%	lb/bu	%	$/A	%	%	%	gallons	gallons
NK Brand N16-M1	82	144	24.9	54.4	0	430	3.1	60.1	8.6	2.86	411
NK Brand N17-R3	82	146	25.9	55.5	0	427	3.4	59.1	9.2	2.82	411
Brunner S3403RRBt	84	143	28.5	52.9	0	415	3.3	59.1	9.2	2.80	400
Pioneer 39D82	87	147	26.9	52.3	0	431	3.5	58.8	8.9	2.79	410
Dahlman D4515	90	181	31.6	51.6	0	514	3.1	60.5	7.7	2.86	532
Lemke 3081Bt	90	181	32.2	51.4	0	512	3.1	60.8	7.8	2.86	519
Carharts Blue Top CX1956B	95	176	31.5	51.6	3	533	3.4	60.6	7.5	2.85	501
Gold Country GCS9401CB	95	187	31.0	51.7	1	499	3.4	61.0	7.5	2.85	533
Pioneer 37R71	99	163	32.8	49.5	0	458	3.4	59.1	8.5	2.80	457
High Cycle 7560Bt	100	183	35.6	50.1	0	504	3.7	60.0	7.3	2.84	529
Kruger K5504YG	103	178	38.1	51.7	0	483	3.5	60.4	7.4	2.86	511
NK Brand N58-D1	107	162	39.6	51.4	9	434	-	-	-	-	-
Dekalb DKC58-78	108	176	38.5	50.9	0	474	3.6	59.9	8.0	2.79	506
Pioneer 34N44	109	174	39.8	51.7	1	465	-	-	-	-	-
Croplan 691BtLL	112	161	44.8	50.5	1	415	3.8	60.2	7.5	2.82	475
Cornelius C635YG4	112	150	46.1	49.7	0	381	-	-	-	-	-
Mean		166	34.2	51.7	1	461	3.4	59.9	8.2	2.83	470
Probability(%)											
Hybrid (H)		0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
LSD(0.10)											
Hybrid (H)		8	1.4	0.7	2	26	0	0.6	0.2	0.01	24
CV(%)		4	3	1	156	4	3	1	2	0	4

FIELD EXPERIMENT HISTORY

Title: **Determining Corn Hybrid Maturity**

Experiment: 01 Growth and Development **Trial ID:** 2907 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Valders, WI **County:** Manitowoc

Supported By: HATCH

Site Information

Field: **Previous Crop:** Corn **Soil Type:** Kewaunee Silt Loa

Soil Test: **Date:** 10/1 /06 **pH** 6.9 **OM (%)** 2.6 **P (ppm)** 51 **K (ppm)** 90

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/21/06

Fertilizer:

Preplant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:** N/A
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:** 5 /5 /06
Post plant Analysis:	34-0-0	**Rate lbs/A:** 150	**Date:** 6 /21/06
Manure:	12000 gal		

Herbicide: Dual II Mag 0.75 pt/A
Accent Gold WDG 2.5 oz/A
Callisto 1.5 oz/A
Atrazine 0.25lb/A

Insecticide: Force 3G 4.4lb/A

Hybrid: See Factors

Irrigation: None

Planting Date: 5/5/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/25/06 **Harvest Method:** Massey Ferguson 8XP

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.28 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 29375 **plants per acre**

Factors/Treatments:

Hybrids:

Brunner S3403RRBt
Carharts Blue Top CX1956B
Cornelius C635YG4
Croplan 691BtLL
Dahlman D4515
Dekalb DKC58-78
Gold Country GCS9401CB
High Cycle 7560Bt
Kruger K5504YG
Lemke 3081Bt
NK Brand N16-M1
NK Brand N17-R3
NK Brand N58-D1
Pioneer 34N44
Pioneer 37R71
Pioneer 39D82

Results: Table C-4.

Table C-4. Determining Corn Hybrid Maturity - Comparison of Hybrids
Valders, WI - 2006

Hybrid	Relative maturity	Grain yield	Grain moisture	Test weight	Lodging	Grower return	Grain Composition			Ethanol	
							Oil	Starch	Protein	per bu	per A
		bu/A	%	lb/bu	%	$/A	%	%	%	gallons	gallons
NK Brand N16-M1	82	167	18.8	57.8	0	510	3.3	60.9	7.7	2.92	488
NK Brand N17-R3	82	165	19.1	58.3	1	517	3.6	60.7	7.8	2.89	478
Brunner S3403RRBt	84	173	20.1	56.4	0	530	3.5	60.0	8.2	2.85	492
Pioneer 39D82	87	167	19.0	57.1	1	515	3.5	60.5	7.6	2.87	478
Dahlman D4515	90	205	20.1	55.4	3	629	3.4	61.0	7.0	2.93	601
Lemke 3081Bt	90	210	21.0	54.2	0	639	3.4	61.2	6.8	2.93	615
Carharts Blue Top CX1956B	95	211	22.9	53.6	0	663	3.5	61.0	6.6	2.93	617
Gold Country GCS9401CB	95	219	21.8	53.7	0	635	3.5	61.1	6.8	2.92	640
Pioneer 37R71	99	207	24.4	50.9	0	618	3.5	60.2	7.8	2.86	592
High Cycle 7560Bt	100	210	25.0	51.5	1	622	3.7	60.3	6.9	2.90	607
Kruger K5504YG	103	223	26.6	52.9	0	655	3.5	60.2	7.1	2.91	648
NK Brand N58-D1	107	219	31.1	52.7	0	624	3.2	60.8	6.6	2.90	636
Dekalb DKC58-78	108	222	31.6	50.8	0	631	3.4	59.8	7.1	2.87	637
Pioneer 34N44	109	224	31.5	53.4	0	637	3.2	60.4	6.8	2.90	651
Croplan 691BtLL	112	222	34.6	50.5	0	616	3.7	59.9	7.1	2.86	632
Cornelius C635YG4	112	210	33.9	50.5	1	586	3.6	59.9	6.7	2.88	604
Mean		206	25.5	53.4	0	608	3.5	60.5	7.1	2.89	595
Probability(%)											
Hybrid (H)		0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
LSD(0.10)											
Hybrid (H)		12	1.2	0.6	1	37	0	0.4	0.3	0.02	36
CV(%)		4	3	1	193	5	3	0	3	0	4

Table C-5. Determining Corn Hybrid Maturity - Comparison of Hybrids Arlington, WI - 2005

Brand	Hybrid	Relative maturity	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
Brunner	S2055RR	82	3.8	59.2	7.9	2.86	527
NK Brand	N17-R3	82	3.6	58.7	8.5	2.87	519
Pioneer	39D82	85	3.4	58.9	8.3	2.85	532
Renk	RK232	85	3.3	59.3	8.2	2.87	546
NK Brand	N2555Bt	88	3.8	59.2	7.9	2.86	530
Dahlman	D4515	90	3.1	60.5	7.1	2.95	624
Dekalb	DKC44-42	94	3.5	59.9	7.0	2.92	580
NK Brand	NK32-L9	94	3.9	59.0	8.0	2.88	620
Pioneer	37R71	97	3.6	58.9	8.3	2.86	614
Kaltenberg	K5151Bt	102	3.7	59.3	7.6	2.91	678
Pioneer	35R58	105	3.7	59.4	7.6	2.89	661
AgriGold	A6333Bt	106	3.4	59.4	7.4	2.89	725
Dekalb	DKC58-78	108	3.9	58.7	7.8	2.86	691
Pioneer	34N44	109	3.0	60.1	7.3	2.93	719
Jung	6710RRYGCB	112	3.5	59.6	7.0	2.91	637
High Cycle	8B524	114	4.0	58.7	8.0	2.87	586
Mean			3.6	59.3	7.7	2.89	612
Probability(%)							
Hybrid (H)			0.0	0.0	0.0	0.0	0.0
LSD(0.10)							
Hybrid (H)			0.1	0.4	0.2	0.08	51
CV(%)			3	1	2	0	6

Table C-6. Determining Corn Hybrid Maturity - Comparison of Hybrids Hancock, WI - 2005

Brand	Hybrid	Relative maturity	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
Brunner	S2055RR	82	3.6	59.8	7.5	2.88	577
NK Brand	N17-R3	82	3.4	59.8	7.8	2.90	490
Pioneer	39D82	85	3.1	60.1	7.5	2.86	562
Renk	RK232	85	3.3	58.6	8.5	2.84	566
NK Brand	N2555Bt	88	3.9	60.0	7.4	2.88	574
Dahlman	D4515	90	3.1	60.6	6.9	2.95	738
Dekalb	DKC44-42	94	3.3	60.5	6.8	2.94	701
NK Brand	NK32-L9	94	3.8	59.9	7.5	2.89	709
Pioneer	37R71	97	3.4	60.3	7.2	2.90	599
Kaltenberg	K5151Bt	102	3.7	60.0	7.0	2.93	722
Pioneer	35R58	105	3.6	59.7	7.5	2.88	658
AgriGold	A6333Bt	106	3.5	59.8	7.5	2.87	743
Dekalb	DKC58-78	108	3.8	59.3	7.5	2.88	741
Pioneer	34N44	109	3.1	60.3	7.2	2.92	797
Jung	6710RRYGCB	112	3.6	60.1	6.8	2.90	736
High Cycle	8B524	114	4.1	58.9	7.9	2.85	697
Mean			3.5	59.9	7.4	2.89	665
Probability(%)							
Hybrid (H)			0.0	0.0	0.0	0.0	0.0
LSD(0.10)							
Hybrid (H)			0.1	0.6	0.2	0.02	77
CV(%)			3	1	2	0	8

Table C-7. Determining Corn Hybrid Maturity - Comparison of Hybrids Marshfield, WI - 2005

Brand	Hybrid	Relative maturity	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
Brunner	S2055RR	82	3.9	57.1	8.9	2.80	478
NK Brand	N17-R3	82	3.4	56.8	9.3	2.84	458
Pioneer	39D82	85	3.7	57.1	9.0	2.77	419
Renk	RK232	85	3.4	57.2	9.1	2.80	484
NK Brand	N2555Bt	88	3.7	57.2	8.9	2.81	423
Dahlman	D4515	90	3.4	58.2	8.7	2.84	559
Dekalb	DKC44-42	94	3.6	58.6	8.0	2.86	592
NK Brand	NK32-L9	94	3.9	57.5	8.9	2.81	570
Pioneer	37R71	97	3.5	57.8	9.0	2.81	523
Kaltenberg	K5151Bt	102	3.9	57.6	8.6	2.83	541
Pioneer	35R58	105	3.5	57.5	8.6	2.81	528
AgriGold	A6333Bt	106	3.4	58.6	8.3	2.81	525
Dekalb	DKC58-78	108	3.8	57.6	8.7	2.78	478
Pioneer	34N44	109	3.0	58.9	8.2	2.84	598
Jung	6710RRYGCB	112	3.6	58.0	8.7	2.79	386
High Cycle	8B524	114	3.8	58.2	8.6	2.81	460
Mean			3.6	57.7	8.7	2.81	501
Probability(%)							
Hybrid (H)			0.0	0.0	0.0	0.1	0.0
LSD(0.10)							
Hybrid (H)			0.2	0.7	0.4	0.03	54
CV(%)			5	1	3	1	8

Table C-8. Determining Corn Hybrid Maturity - Comparison of Hybrids

Hancock, WI - 2004

Hybrid	Relative maturity	Grain Composition			Ethanol	
		Oil	Starch	Protein	per bu	per A
		%	%	%	gallons	gallons
Brunner S2055RR	82	3.5	59.6	6.8	2.90	483
NK Brand N17R3	82	3.6	59.7	7.3	2.91	509
Carharts Blue Top CX8500A	85	3.4	60.3	7.8	2.85	580
Renk RK232	85	3.4	59.7	7.7	2.86	548
Dahlman D4515	90	3.2	60.2	6.7	2.96	621
NK Brand N2555Bt	90	3.7	59.3	7.0	2.89	623
Dekalb DKC4442	94	3.3	60.5	6.4	2.94	601
NK Brand N32L9	94	3.7	60.7	7.0	2.88	637
Pioneer 37R71	97	3.7	61.1	7.2	2.85	625
Pioneer 36B08	103	3.2	60.6	7.5	2.88	612
AgriGold A6333Bt	105	3.3	60.5	6.8	2.87	629
Pioneer 35R58	104	3.5	59.8	7.3	2.87	608
Dekalb DKC5878	108	3.5	59.0	7.3	2.87	630
DynaGro DG5467	109	3.4	59.6	6.9	2.89	638
Jung 2710	112	3.5	60.5	6.9	2.87	625
Pioneer 33R78	115	3.4	61.0	8.0	2.84	456
Mean		3.5	60.1	7.2	2.88	589
Probability(%)						
Hybrid (H)		0.0	42.3	0.0	0.0	0.0
LSD(0.10)						
Hybrid (H)		0.2	NS	0.3	0.02	46
CV(%)		3	2	3	0	6

Table C-9. Determining Corn Hybrid Maturity - Comparison of Hybrids

Marshfield, WI - 2004

Hybrid	Relative maturity	Grain Composition			Ethanol	
		Oil	Starch	Protein	per bu	per A
		%	%	%	gallons	gallons
Brunner S2055RR	82	3.6	61.1	7.9	2.82	429
NK Brand N17R3	82	3.6	60.7	8.6	2.80	381
Carharts Blue Top CX8500A	85	3.5	60.8	8.1	2.81	412
Renk RK232	85	3.4	60.7	8.2	2.80	389
Dahlman D4515	90	3.3	61.3	7.7	2.86	463
NK Brand N2555Bt	90	3.7	61.2	8.0	2.80	433
Dekalb DKC4442	94	3.4	61.2	7.3	2.85	447
NK Brand N32L9	94	3.5	60.5	8.4	2.79	450
Pioneer 37R71	97	3.7	60.3	8.4	2.77	462
Pioneer 36B08	103	2.7	60.6	8.2	2.84	417
AgriGold A6333Bt	105	3.2	60.3	7.7	2.80	411
Pioneer 35R58	104	2.9	60.2	8.6	2.80	391
Dekalb DKC5878	108	3.1	60.1	8.0	2.80	403
DynaGro DG5467	109	3.2	59.9	7.9	2.81	364
Jung 2710	112	3.2	59.7	7.6	2.82	361
Pioneer 33R78	115	3.3	60.9	7.3	2.86	294
Mean		3.3	60.6	8.0	2.81	407
Probability(%)						
Hybrid (H)		0.0	0.0	0.0	0.0	0.0
LSD(0.10)						
Hybrid (H)		0.1	0.4	0.3	0.02	22
CV(%)		3	0	3	0	4

FIELD EXPERIMENT HISTORY

Title: **Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot.**

Experiment: 01 Silage vs Grain **Trial ID:** 2908 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS413 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/15/06 **pH** 7.1 **OM (%)** 3.6 **P (ppm)** 37 **K (ppm)** 115

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/14/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325 lbs	4 /20/06
	Starter :	9-23-30	150	4 /27/06
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Outlook 20 oz/A
Hornet 4.0 oz/A
Callisto 3.0 oz/A

Insecticide: Force 4.4 lb/A

Hybrid: See Factors

Irrigation: None

Planting Date: 4/27/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/14/06
G: 10/17/06

Harvest Method: G: Massey Ferguson 8XP
S: NH 707 Plot Chopper

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 20' **Experiment Size:** 0.21 A

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

Harvest Plant Density: 29964 **plants per acre**

Factors/Treatments:

Hybrids:

Croplan Genetics 566TS
Crows 4843X
Mycogen F2F566
NK Brand N49-E3
Pioneer 34A18
Pioneer 35F38

Results: Table C-10.

Table C-10. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Arlington, WI - 2006

			Grain					Whole Plant												Milk 2006	
					Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
Brand	Hybrid	Traits	Yield	Moist	weight	stalks	return	Yield	Moist	milk	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
			bu/A	%	lbs/bu	%	$/A	tons/A	%	%				%	%	%	%	%	%	lbs/T	lbs/A
Pioneer	35F38		189	24.8	53.5	16	564	8.9	64.1	43.3	2.2	2.8	5.0	6.8	21.6	42.1	80.5	53.6	36.5	3211	28476
Mycogen	F2F566	BMR	184	24.8	54.0	45	548	8.2	64.8	21.7	1.1	1.2	2.3	7.8	24.0	48.5	80.8	60.4	27.1	3156	25993
Pioneer	34A18	CB,CR,LL	199	26.6	52.1	17	584	9.3	66.5	61.7	3.1	3.2	6.3	7.4	24.5	47.4	78.9	55.5	28.4	3071	28690
Croplan Genetics	566TS	CB,CR,RR	181	23.9	55.1	10	542	8.7	65.7	31.7	1.6	2.3	3.9	7.5	22.9	46.2	79.5	55.5	29.9	3113	27129
Crows	4843X	CR,RR	183	22.7	55.4	25	552	8.4	69.4	50.0	2.5	3.1	5.6	7.7	25.5	48.1	76.5	51.1	27.6	2932	24592
NK Brand	N49E3	Leafy	195	26.4	53.1	22	575	8.6	65.5	41.7	2.1	2.0	4.1	7.7	24.0	46.6	79.2	55.3	28.8	3091	26543
Mean			189	24.9	53.9	22	561	8.7	66.0	41.7	2.1	2.4	4.5	7.5	23.8	46.5	79.2	55.3	29.7	3096	26904
Probability(%)																					
Hybrid (H)			94.9	74.3	21.8	36.1	98.9	92.7	0.1	0.0	0.0	0.0	0.0	14.3	3.7	3.3	0.3	0.0	0.5	1.2	83.0
LSD(0.10)																					
Hybrid (H)			NS	NS	NS	NS	NS	NS	1.4	10.1	0.5	0.4	0.8	NS	1.8	3.1	1.4	1.4	3.5	107	NS
CV(%)			14	14	3	87	15	15	1	17	17	12	12	6	5	4	1	2	8	2	16

FIELD EXPERIMENT HISTORY

Title: **Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot.**

Experiment: 01 Silage vs Grain **Trial ID:** 2909 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Galesville, WI **County:** Trempealeau

Supported By: HATCH

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Downs Silt Loam

Soil Test: **Date:** 10/15/06 **pH** 5.9 **OM (%)** 4 **P (ppm)** 25 **K (ppm)** 140

Plot Management

Tillage Operations: Zone Builder Cultivated 6/13/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	9-23-30	150	4 /26/06
	Post plant :	28-0-0	40 gal/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Cinch 2.0 pt/A
Callisto 3.0 oz/A

Insecticide: None

Hybrid: See Factors

Irrigation: None

Planting Date: 4/26/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/15/06
G: 10/19/06

Harvest Method: G: Massey Ferguson 8XP
S: NH 707 Plot Chopper

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 20' **Experiment Size:** 0.21 A

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

Harvest Plant Density: 30888 **plants per acre**

Factors/Treatments:

Hybrids:

Croplan Genetics 591CRWRR
Mycogen F2F444
NK Brand N49-E3
Pioneer 35Y61
Renk RK632RRYGPL
Renk RK669

Results: Table C-11.

Table C-11. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Galesville, WI - 2006

			Grain					Whole Plant												Milk 2006	
					Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
Brand	Hybrid	Traits	Yield	Moist	weight	stalks	return	Yield	Moist	milk	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
			bu/A	%	lbs/bu	%	$/A	tons/A	%	%				%	%	%	%	%	%	lbs/T	lbs/A
Renk	RK669		216	19.9	56.3	15	664	10.3	59.4	58.3	2.9	1.7	4.6	6.0	21.1	42.1	81.1	55.2	37.9	3253	33665
Mycogen	F2F444	BMR	174	21.6	59.3	1	529	8.4	62.7	45.0	2.3	2.5	4.8	7.3	20.7	43.5	83.9	62.9	32.4	3386	28471
Renk	RK632RRYGPL	CB,CR,RR	205	18.8	57.4	1	634	10.0	57.1	43.3	2.2	2.5	4.7	6.7	22.9	45.2	78.9	53.3	33.1	3098	30983
NK Brand	N49E3	Leafy	204	26.5	51.0	1	601	10.4	62.0	45.0	2.3	2.7	4.9	6.7	23.6	46.2	79.3	55.2	30.7	3110	32254
Croplan Genetics	591CRWRR	CR,RR	232	22.6	57.3	6	699	10.6	62.3	36.7	1.8	2.5	4.4	6.5	23.4	46.2	78.4	53.2	31.7	3061	32319
Pioneer	35Y61	CB,CR,LL,RR	223	23.5	55.0	0	669	10.5	61.9	58.3	2.9	2.4	5.3	6.1	23.6	45.3	79.6	55.0	31.9	3140	32854
Mean			209	22.1	56.1	4	632	10.0	60.9	47.8	2.4	2.4	4.8	6.6	22.5	44.8	80.2	55.8	32.9	3175	31758
Probability(%)																					
Hybrid (H)			0.0	0.0	0.0	0.2	0.0	1.4	0.3	13.3	13.3	0.1	56.4	1.8	23.5	38.7	0.1	0.0	5.8	0.6	25.7
LSD(0.10)																					
Hybrid (H)			11	0.3	1.1	5	32	0.9	2.1	NS	NS	0.3	NS	0.5	NS	NS	1.6	1.5	3.8	125	NS
CV(%)			4	1	1	86	4	6	2	22	22	8	13	6	8	6	1	2	8	3	8

FIELD EXPERIMENT HISTORY

Title: **Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot.**

Experiment: 01 Silage vs Grain **Trial ID:** 2910 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Lancaster, WI **County:** Grant

Supported By: HATCH

Site Information

Field: Sid's **Previous Crop:** Soybean **Soil Type:** Fayette Silt Loam

Soil Test: **Date:** 10/15/06 **pH** 7.5 **OM (%)** 2.9 **P (ppm)** 75 **K (ppm)** 104

Plot Management

Tillage Operations: Soil Finisher Cultivated 6/15/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	350	5 /6 /06
	Starter :	9-23-30	150	5 /6 /06
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Harness 1.0 qt/A
Atrazine 4L 1.0 qt/A
Glyphosate 1.0 qt/A

Insecticide: None

Hybrid: See Factors

Irrigation: None

Planting Date: 5/16/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/7/06
G: 10/12/06

Harvest Method: G: Massey Ferguson 8XP
S: NH 707 Plot Chopper

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 20' **Experiment Size:** 0.21 A

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

Harvest Plant Density: 29964 **plants per acre**

Factors/Treatments:

Hybrids:

Croplan Genetics 566TS
Crows 4843X
Mycogen F2F566
NK Brand N49-E3
Pioneer 34A18
Pioneer 35F38

Results: Table C-12.

Table C-12. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Lancaster, WI - 2006

			Grain					Whole Plant									
																Milk 2006	
					Test	Broken	Grower			Crude			In Vitro			Milk per	
Brand	Hybrid	Traits	Yield	Moist	weight	stalks	return	Yield	Moist	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
			bu/A	%	lbs/bu	%	$/A	tons/A	%	%	%	%	%	%	%	lbs/T	lbs/A
Pioneer	35F38		229	20.2	57.6	2	701	9.0	62.1	5.9	21.6	41.2	80.5	52.7	38.6	3213	29006
Mycogen	F2F566	BMR	161	24.2	55.4	22	480	7.8	66.0	7.1	23.0	45.8	82.8	62.5	30.5	3283	25653
Pioneer	34A18	CB,CR,LL	228	24.8	56.1	1	680	8.7	67.3	6.5	28.2	50.8	76.2	53.1	27.6	2872	25051
Croplan Genetics	566TS	CB,CR,RR	235	21.9	56.2	3	714	8.9	66.1	6.7	25.9	48.4	77.0	52.5	29.8	2943	26159
Crows	4843X	CR,RR	233	27.2	54.2	4	680	9.0	66.3	6.1	24.9	46.6	77.4	51.5	31.7	2987	26800
NK Brand	N49E3	Leafy	178	26.6	52.9	9	522	9.4	65.2	6.6	25.3	46.8	77.5	52.0	30.7	2990	28202
Mean			209	24.2	55.4	7	626	8.8	65.5	6.5	24.8	46.6	78.6	54.0	31.5	3048	26812
Probability(%)																	
Hybrid (H)			0.0	0.0	0.0	0.0	0.0	37.3	5.9	1.3	1.6	1.6	0.0	0.0	0.8	0.1	58.5
LSD(0.10)																	
Hybrid (H)			19	0.8	0.5	3	55	NS	2.6	0.5	2.7	3.8	1.9	1.9	4.0	138	NS
CV(%)			6	2	1	28	6	10	3	5	7	6	2	2	9	3	11

FIELD EXPERIMENT HISTORY

Title: **Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot.**

Experiment: 01 Silage vs Grain **Trial ID:** 2911 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Marshfield, WI **County:** Wood

Supported By: HATCH

Site Information

Field: W5 **Previous Crop:** Soybean **Soil Type:** Withee Silt Loam

Soil Test: **Date:** 10/15/06 **pH** 6.6 **OM (%)** 2.5 **P (ppm)** 39 **K (ppm)** 125

Plot Management

Tillage Operations: Chisel Plow Soil Finisher Cultivated 6/15/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	9-23-30	150	5 /4 /06
	Post plant :	28-0-0	27 gal/A	6 /15/06
	Manure:	N/A	N/A	N/A

Herbicide: Hornet 2.4 oz/A
Atrazine 1.0 qt/A
Outlook 14 oz/A
Accent 0.67oz/A
Northstar 5.0 oz/A

Insecticide: None
Hybrid: See Factors

Irrigation: None

Planting Date: 5/4/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/20/06
G: 10/20/06

Harvest Method: G: Massey Ferguson 8XP
S: NH 707 Plot Chopper

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 20' **Experiment Size:** 0.21 A

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

Harvest Plant Density: 30888 **plants per acre**

Factors/Treatments:

Hybrids:

Brown Seed 4989RRLfy
Croplan Genetics 355TS
Golden Harvest H6466CBGT
Mycogen F2F485
Pioneer 38H65
Pioneer 38K46

Results: Table C-13.

Table C-13. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Marshfield, WI - 2006

			Grain					Whole Plant												Milk 2006	
					Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
Brand	Hybrid	Traits	Yield	Moist	weight	stalks	return	Yield	Moist	milk	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
			bu/A	%	lbs/bu	%	$/A	tons/A	%	%				%	%	%	%	%	%	lbs/T	lbs/A
Pioneer	38K46		164	30.1	50.6	1	471	6.2	58.0	31.7	1.6	2.7	4.3	8.1	15.7	36.7	85.9	61.4	40.1	3611	22448
Mycogen	F2F485	BMR	144	31.1	54.8	7	411	6.7	62.5	46.7	2.3	3.2	5.5	8.2	19.0	42.2	85.9	66.6	34.1	3567	23917
Croplan Genetics	355TS	CB,CR,RR	180	34.3	53.0	1	501	7.4	61.2	65.0	3.3	2.9	6.2	7.8	18.5	40.6	84.7	62.3	35.7	3517	25947
Golden Harvest	H6466CBGT	CB,LL,RR	165	25.2	54.8	0	488	6.6	56.5	30.0	1.5	2.5	4.0	7.8	18.6	41.4	82.8	58.5	36.0	3405	22537
Pioneer	38H65	CB,LL,RR	171	32.9	51.1	0	482	6.8	59.0	40.0	2.0	2.3	4.3	7.8	17.6	39.4	84.5	60.7	37.8	3516	24068
Brown Seed	4989RRLfy	Leafy,RR	134	36.6	51.8	2	366	6.2	66.3	68.3	3.4	3.2	6.6	7.4	22.8	46.8	81.7	60.9	28.6	3302	20356
Mean			160	31.7	52.7	2	453	6.7	60.6	46.9	2.3	2.8	5.2	7.8	18.7	41.2	84.3	61.7	35.4	3486	23212
Probability(%)																					
Hybrid (H)			0.0	0.0	0.0	0.2	0.0	5.8	0.0	0.0	0.0	5.8	0.0	8.0	0.7	1.5	0.5	0.0	1.7	0.9	6.0
LSD(0.10)																					
Hybrid (H)			11	1.5	0.8	2	32	0.6	2.1	8.0	0.4	0.5	0.8	0.5	2.4	3.9	1.7	1.4	4.6	123	2773
CV(%)			5	3	1	88	5	7	2	12	12	13	10	4	9	6	1	2	9	2	8

FIELD EXPERIMENT HISTORY

Title: **Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot.**

Experiment: 01 Silage vs Grain **Trial ID:** 2912 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Rhinelander, WI **County:** Oneida

Supported By: HATCH

Site Information

Field: **Previous Crop:** Potato **Soil Type:** Vilas Loamy Sand

Soil Test: **Date:** 10/15/06 **pH** 5.8 **OM (%)** 2.3 **P (ppm)** 311 **K (ppm)** 127

Plot Management

Tillage Operations: Offset Disk Vibra Shank

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325 lbs	5 /10/06
	Starter :	9-23-30	150	5 /18/06
	Post plant :	46-0-0	185 lbs/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Lumax 2.5 qts/A **Insecticide:** None

Irrigation: 5.17" **Hybrid:** See Factors

Planting Date: 5/18/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/26/06
G: 11/1/06

Harvest Method: G: Massey Ferguson 8XP
S: NH 707 Plot Chopper

Experimental Design

Design: RCB **Replications:** 2

Plot Size Seeded: 25' x 20' **Experiment Size:** 0.18 A

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

Harvest Plant Density: 28776 **plants per acre**

Factors/Treatments:

Hybrids:

Carharts Blue Top CR6585RR
Kussmaul SB2983RRYGPlus
Mycogen F2F485
NK Brand N27-W8
NK Brand N33H6
Pioneer 38K46

Results: Table C-14.

Table C-14. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Rhinelander, WI - 2006

			Grain					Whole Plant												Milk 2006	
					Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
Brand	Hybrid	Traits	Yield	Moist	weight	stalks	return	Yield	Moist	milk	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
			bu/A	%	lbs/bu	%	$/A	tons/A	%	%				%	%	%	%	%	%	lbs/T	lbs/A
Pioneer	38K46		172	23.2	49.4	3	518	6.9	64.6	35.0	1.8	1.6	3.4	7.3	23.6	46.6	79.7	56.4	32.7	3151	21781
Mycogen	F2F485	BMR	94	30.2	49.8	1	268	6.5	70.4	65.0	3.3	1.8	5.0	7.6	27.8	54.7	81.0	65.2	23.1	3137	20317
Kussmaul	SB2983RRYGPlus	CB,CR,RR	178	23.2	50.0	1	534	8.1	63.9	75.0	3.8	2.2	6.0	7.4	23.5	46.1	80.3	57.2	32.7	3187	25831
NK Brand	N27W8	CB,LL	214	23.1	51.5	0	645	8.9	66.0	50.0	2.5	2.4	4.9	6.4	24.9	47.6	78.5	54.9	31.8	3084	27457
NK Brand	N33H6	Leafy	146	26.1	47.0	1	432	7.8	68.2	85.0	4.3	2.0	6.3	8.1	26.1	50.5	78.0	56.5	26.1	3021	23647
Carharts Blue Top	CR6585RR	RR	195	23.2	50.8	0	587	7.5	67.3	60.0	3.0	2.0	5.0	8.1	23.4	47.2	80.5	58.6	29.1	3186	24003
Mean			167	24.8	49.7	1	497	7.6	66.7	61.7	3.1	2.0	5.1	7.5	24.9	48.8	79.6	58.1	29.2	3128	23839
Probability(%)																					
Hybrid (H)			0.2	0.0	0.8	38.7	0.2	4.5	6.8	0.3	0.3	47.9	1.4	9.3	70.2	49.1	75.3	0.1	24.9	89.2	15.8
LSD(0.10)																					
Hybrid (H)			26	1.1	1.3	NS	75	0.8	3.3	11.6	0.6	NS	0.9	0.9	NS	NS	NS	1.7	NS	NS	NS
CV(%)			8	2	1	124	8	7	2	9	9	20	9	6	13	9	3	1	14	5	10

FIELD EXPERIMENT HISTORY

Title: **Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot.**

Experiment: 01 Silage vs Grain **Trial ID:** 2913 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Valders, WI **County:** Manitowoc

Supported By: HATCH

Site Information

Field: **Previous Crop:** Corn **Soil Type:** Kewaunee Clay Loam

Soil Test: **Date:** 10/15/06 **pH** 6.9 **OM (%)** 2.6 **P (ppm)** 51 **K (ppm)** 90

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/21/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	9-23-30	150	5 /5 /06
	Post plant :	34-0-0	150 lbs/A	6 /21/
	Manure:	Dairy	12000 gal/A	Fall

Herbicide: Dual II Mag 0.75 pt/A
Accent Gold WDG 2.5 oz/A
Callisto 1.5 oz/A
Atrazine 0.25 lb/A

Insecticide: Force 4.4 lb/A
Hybrid: See Factors

Irrigation: None

Planting Date: 5/5/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/21/06
G: 10/25/06

Harvest Method: G: Massey Ferguson 8XP
S: NH 707 Plot Chopper

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 20' **Experiment Size:** 0.21 A

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

Harvest Plant Density: 29700 **plants per acre**

Factors/Treatments:

Hybrids:

Brown Seed 4989RRLfy
Croplan Genetics 355TS
Golden Harvest H6466CBGT
Mycogen F2F485
Pioneer 38H65
Pioneer 38K46

Results: Table C-15.

Table C-15. Corn Silage and Grain Evaluation of Hybrids Grown in the Same Plot. Valders, WI - 2006

			Grain					Whole Plant												Milk 2006	
					Test	Broken	Grower			Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per	
Brand	Hybrid	Traits	Yield	Moist	weight	stalks	return	Yield	Moist	milk	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
			bu/A	%	lbs/bu	%	$/A	tons/A	%	%				%	%	%	%	%	%	lbs/T	lbs/A
Pioneer	38K46		202	22.6	52.3	0	611	8.3	51.7	28.3	1.4	1.7	3.1	6.1	18.2	38.8	83.3	57.1	40.3	3432	28557
Mycogen	F2F485	BMR	153	27.3	55.8	0	449	7.9	56.9	18.3	0.9	2.3	3.2	7.1	19.1	41.1	85.3	64.1	34.8	3515	27836
Croplan Genetics	355TS	CB,CR,RR	213	24.4	55.0	0	634	8.6	55.5	41.7	2.1	1.8	3.9	6.6	20.7	43.4	82.1	58.8	35.2	3322	28430
Golden Harvest	H6466CBGT	CB,LL,RR	180	20.3	55.7	1	550	8.1	49.2	16.7	0.8	1.4	2.2	6.8	19.3	41.4	82.1	56.7	36.5	3336	27058
Pioneer	38H65	CB,LL,RR	208	25.7	52.3	0	615	8.2	54.9	33.3	1.7	2.2	3.9	6.6	18.7	39.8	83.1	57.6	38.1	3409	28002
Brown Seed	4989RRLfy	Leafy,RR	175	28.9	52.1	3	506	8.7	53.9	40.0	2.0	1.7	3.7	6.2	21.8	43.9	80.5	55.6	34.4	3227	28101
Mean			189	24.9	53.9	1	561	8.3	53.7	29.7	1.5	1.9	3.3	6.6	19.7	41.4	82.7	58.3	36.5	3373	27997
Probability(%)																					
Hybrid (H)			0.0	0.0	0.0	11.8	0.0	49.0	0.1	0.6	0.6	9.0	1.3	0.2	4.5	6.5	0.3	0.0	2.7	1.0	95.4
LSD(0.10)																					
Hybrid (H)			13	1.8	1.0	NS	35	NS	2.4	11.0	0.5	0.6	0.7	0.3	1.9	3.0	1.5	1.8	2.9	109	NS
CV(%)			5	5	1	188	4	6	3	25	25	20	15	3	7	5	1	2	5	2	7

FIELD EXPERIMENT HISTORY

Title: **Monsanto Corn Roundup Ready 2 System Trial.**

Experiment: Monsanto Corn Roundup Ready 2 System Trial. **Trial ID:** 2934 **Year:** 2006

Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery

Location: Arlington, WI **County:** Columbia

Supported By: Monsanto

Site Information

Field: ARS413 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 7.1 **OM (%)** 3.8 **P (ppm)** 44 **K (ppm)** 120

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/26/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325 lbs/A	4 /20/06
	Starter :	9-23-30	150	5 /22/06
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: See Factors: **Insecticide:** N/A

Irrigation: None **Hybrid:** See Factors

Planting Date: 5/22/06 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32000 **Planting Method:** Kinze Plot Planter

Harvest Date: 10/2/06 **Harvest Method:** New Holland 707

Notes: All seed treated with Poncho 250.
Sample analysis compiled by Dairy One Forge Laboratory, Ithaca, NY.

Experimental Design

Design: RCB Factorial **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.15 Acre

Harvest Plot Size: 2.5' x 22' **Harvest Plant Density:** 32000

Factors/Treatments:

Hybrids:	Herbicide System:
A115RRBTCRW	Conventional Post-emerge:
B115RRBTCRW	Bicep II Mag @ 2.0 qt/A fb Steadfast 75 DF @ 0.75 oz/A & Clarity @ 4.0 oz/A.
C115RRBTCRW	Roundup Ready:
	Degree Xtra 2.0 qt/A fb Roundup Original Max @ 22.0oz/A.

Results: Table C-16.

Table C-16. Monsanto Corn Roundup Ready 2 System Trial.

Arlington, WI - 2006.

Hybrid	Herbicide System	Yield	Moist	Dry matter	Crude protein	ADF	NDF	NDFD 24 hrs	NDFD 30 hrs	NDFD 48 hrs	In Vitro Digest 24 hrs	In Vitro Digest 30 hrs	In Vitro Digest 48 hrs	Starch	Digestable starch	Milk per Ton	Milk per Acre
		tons/A	%	%	%	%	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
	Post-Emerge	11.4	61.7	38.3	7.6	20.9	37.4	45.9	50.3	60.0	79.8	81.4	84.9	38.4	80.9	3282	37276
	RR2 System	11.2	62.1	37.9	7.7	22.0	39.2	45.1	50.3	59.4	78.4	80.6	84.2	35.7	81.5	3236	36318
A115RRBTCRW		10.8	58.9	41.1	7.5	22.0	39.2	42.3	47.7	58.8	77.3	79.3	83.8	37.6	76.1	3036	32728
B115RRBTCRW		10.9	64.9	35.2	7.4	20.0	35.4	49.2	52.3	61.7	82.0	83.2	86.5	38.5	86.1	3518	38276
C115RRBTCRW		12.2	62.0	38.0	8.0	22.3	40.2	45.0	51.0	58.7	78.0	80.5	83.3	35.1	81.4	3225	39386
A115RRBTCRW	Post-Emerge	10.7	59.2	40.8	7.6	21.2	37.8	43.0	51.0	60.3	78.3	81.3	85.0	38.9	76.7	3124	33468
A115RRBTCRW	RR2 System	10.8	58.6	41.4	7.4	22.8	40.6	41.7	44.3	57.3	76.3	77.3	82.7	36.3	75.6	2947	31988
B115RRBTCRW	Post-Emerge	10.8	64.6	35.4	7.1	20.1	35.6	48.7	51.0	62.0	81.7	82.7	86.3	38.7	85.6	3505	37824
B115RRBTCRW	RR2 System	11.0	65.1	34.9	7.6	19.9	35.2	49.7	53.7	61.3	82.3	83.7	86.7	38.2	86.5	3531	38727
C115RRBTCRW	Post-Emerge	12.6	61.4	38.6	8.0	21.4	38.7	46.0	49.0	57.7	79.3	80.3	83.3	37.5	80.3	3218	40535
C115RRBTCRW	RR2 System	11.8	62.7	37.3	8.1	23.3	41.7	44.0	53.0	59.7	76.7	80.7	83.3	32.7	82.4	3231	38238
Mean		11.3	61.9	38.1	7.6	21.4	38.3	45.5	50.3	59.7	79.1	81.0	84.6	37.1	81.2	3259	36797
Probability(%)																	
Hybrid (H)		21.3	0.5	0.5	2.1	45.3	28.1	1.5	52.7	42.2	3.7	21.3	18.5	63.4	0.5	0.0	13.6
Herbicide (B)		82.5	73.2	73.2	43.8	50.6	48.4	63.4	100.0	78.8	35.2	61.1	64.3	39.1	74.4	38.2	72.5
H x B		83.3	78.1	78.1	35.1	83.7	81.4	72.7	40.1	61.2	59.1	45.3	70.6	84.3	77.9	22.9	87.9
LSD (0.10)																	
Hybrid (H)		NS	2.5	2.5	0.4	NS	NS	3.5	NS	NS	3.0	NS	NS	NS	4.2	111	NS
Herbicide (B)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
H x B		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		13	4	6	5	15	14	7	14	7	4	4	4	17	5	3	15

continued.

Table C-16. Monsanto Corn Roundup Ready 2 System Trial.

(continued) **Arlington, WI - 2006.**

Hybrid	Herbicide System	Ash	Crude fat	Non Fiber Carbo	Sugar	Lignin	TDN	NEL	NEG	Herbicide Injury Rating (14 DAT) Growth reduction	Chlorosis	Epinasty
		%	%	%	%	%	%	Mcal/lb	Mcal/lb	%	%	%
	Post-Emerge	3.6	3.0	49.8	11.4	3.1	75.6	0.7	0.5	0.0	0.0	0.8
	RR2 System	3.8	3.0	47.9	12.2	3.3	74.7	0.7	0.5	0.0	0.0	0.0
A115RRBTCRW		3.5	2.8	48.4	10.8	3.3	74.2	0.7	0.5	0.0	0.0	0.7
B115RRBTCRW		3.6	3.0	52.0	13.5	3.1	76.8	0.8	0.5	0.0	0.0	0.0
C115RRBTCRW		4.0	3.2	46.2	11.1	3.1	74.3	0.7	0.5	0.0	0.0	0.5
A115RRBTCRW	Post-Emerge	3.6	2.9	49.4	10.5	2.9	75.3	0.7	0.5	0.0	0.0	1.3
A115RRBTCRW	RR2 System	3.4	2.8	47.4	11.1	3.7	73.0	0.7	0.5	0.0	0.0	0.0
B115RRBTCRW	Post-Emerge	3.4	3.1	52.1	13.3	3.1	77.0	0.8	0.5	0.0	0.0	0.0
B115RRBTCRW	RR2 System	3.7	3.0	51.9	13.7	3.1	76.7	0.8	0.5	0.0	0.0	0.0
C115RRBTCRW	Post-Emerge	3.9	3.1	47.9	10.5	3.2	74.3	0.7	0.5	0.0	0.0	1.0
C115RRBTCRW	RR2 System	4.2	3.2	44.5	11.7	3.1	74.3	0.7	0.5	0.0	0.0	0.0
Mean		3.7	3.0	48.9	11.8	3.2	75.1	0.7	0.5	0.0	0.0	0.4
Probability(%)												
Hybrid (H)		40.2	29.2	21.4	4.5	85.6	37.1	0.2	39.0	-	-	47.3
Herbicide (B)		70.7	84.3	47.6	39.2	40.4	60.2	55.7	62.2	-	-	11.0
H x B		81.2	77.5	86.9	91.1	36.6	82.6	52.1	87.5	-	-	47.3
LSD (0.10)												
Hybrid (H)		NS	NS	NS	1.8	NS	NS	0.0	NS	-	-	NS
Herbicide (B)		NS	NS	NS	NS	NS	NS	NS	NS	-	-	NS
H x B		NS	NS	NS	NS	NS	NS	NS	NS	-	-	NS
CV(%)		20	12	11	15	20	5	4	10	-	-	244

FIELD EXPERIMENT HISTORY

Title: **Monsanto Yield Guard Silage Trial.**

Experiment: 01 Monsanto Yield Guard Silage Trial. **Trial ID:** 2933 **Year:** 2006

Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery

Location: Arlington, WI **County:** Columbia

Supported By: Monsanto

Site Information

Field: ARS413 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 7.1 **OM (%)** 3.8 **P (ppm)** 44 **K (ppm)** 120

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/26/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325 lbs/A	4 /20/06
	Starter :	9-23-30	150	5 /22/06
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Outlook @ 20.0 oz/A
Hornet @ 4.0 oz/A

Insecticide: See Factors

Irrigation: None

Hybrid: See Factors

Planting Date: 5/22/06 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 32000 **Planting Method:** Kinze Plot Planter

Harvest Date: 10/2/06 **Harvest Method:** New Holland 707

Notes: The ISU 0 to 3 node-injury root rating scale was used. A rating of 0.50 or below is considered acceptable economic root protection. 5 roots per replicate were evaluated.
Sample analysis compiled by Dairy One Forge Laboratory, Ithaca, NY.

Experimental Design

Design: RCB Factorial **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.29 Acre

Harvest Plot Size: 2.5' x 22' **Harvest Plant Density:** 32000

Factors/Treatments:

Hybrids:	Seed Insecticide:	Soil Insecticide:
A115RRBTCRW	Poncho 250	Force 3G @ 4.4 lbs/A
A115RRBT	Poncho 1250	UTC
A115RR		
B115RRBTCRW		
B115RRBT		
B115RR		
C115RRBTCRW		
C115RRBT		
C115RR		

Results: Table C-17.

Table C-17. Monsanto Yield Guard Silage Trial.

Arlington, WI - 2006.

Treatment	Hybrid	Seed Insecticide	Soil Insecticide	Yield	Moist	Dry matter	Crude protein	ADF	NDF	NDFD 24 hrs	NDFD 30 hrs	NDFD 48 hrs	In Vitro Digest 24 hrs	In Vitro Digest 30 hrs	In Vitro Digest 48 hrs	Starch	Digestable starch	Milk per Ton	Milk per Acre
				tons/A	%	%	%	%	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
1	A115RRBTCRW	Poncho 250	None	8.9	59.4	40.6	8.1	22.0	39.5	39.0	45.3	55.7	76.0	78.0	82.7	35.0	77.0	2930	26105
2	A115RRBT	Poncho 250	Force 3G	9.2	60.3	39.7	7.8	21.0	36.6	44.0	46.7	59.3	79.0	80.3	84.7	40.5	79.1	3150	28925
3	A115RRBT	Poncho 1250	None	10.3	59.7	40.3	7.4	22.2	39.8	39.7	45.7	58.3	76.3	78.3	83.7	37.9	77.5	3021	30889
4	A115RRBT	Poncho 250	None	9.7	56.5	43.5	7.2	20.4	36.9	40.0	45.7	58.7	78.0	79.7	84.7	42.0	74.0	3033	29449
5	A115RR	Poncho 250	None	8.8	57.1	42.9	7.4	20.2	36.9	41.0	44.7	58.0	78.3	79.7	84.3	42.0	73.7	3002	26494
6	B115RRBTCRW	Poncho 250	None	9.8	64.3	35.7	7.5	20.9	37.5	46.7	50.0	57.7	80.0	81.3	84.0	36.2	85.2	3431	33761
7	B115RRBT	Poncho 250	Force 3G	9.6	65.6	34.4	7.4	20.8	37.3	46.0	50.7	60.7	80.0	81.3	85.3	36.1	87.4	3452	32911
8	B115RRBT	Poncho 1250	None	10.8	64.7	35.3	7.3	20.1	35.7	48.0	50.7	59.0	81.7	82.7	85.3	38.4	85.8	3488	37512
9	B115RRBT	Poncho 250	None	10.7	66.5	33.5	7.3	22.0	38.9	47.0	51.0	59.3	79.3	81.3	84.3	35.3	88.9	3462	37167
10	B115RR	Poncho 250	None	11.1	65.2	34.8	7.0	20.1	36.3	44.3	47.3	60.0	79.7	80.7	85.7	39.0	86.7	3530	39327
11	C115RRBTCRW	Poncho 250	None	12.6	61.2	38.8	7.6	21.7	38.2	40.3	45.0	56.3	77.3	79.0	83.0	36.3	79.9	3165	39676
12	C115RRBT	Poncho 250	Force 3G	11.0	61.2	38.8	8.0	20.0	36.9	40.0	43.3	54.0	78.0	79.0	83.0	38.8	79.9	3190	34926
13	C115RRBT	Poncho 1250	None	9.7	63.5	36.5	7.6	23.5	41.2	35.7	40.0	51.0	73.7	75.3	79.7	34.1	83.9	3079	29887
14	C115RRBT	Poncho 250	None	10.4	62.0	38.0	8.0	22.8	41.0	40.0	43.3	54.3	75.3	77.0	81.3	33.7	81.4	3112	32398
15	C115RR	Poncho 250	None	10.2	62.1	37.9	7.7	21.3	38.9	39.7	44.0	53.3	76.3	78.3	82.0	36.6	81.6	3187	32428
Mean				10.2	62.0	38.0	7.6	21.3	38.1	42.1	46.2	57.0	77.9	79.5	83.6	37.5	81.4	3215	32790
Probability(%)																			
Treatment (T)				3.6	0.0	0.0	2.5	93.9	91.7	0.2	0.2	0.0	12.4	11.3	7.8	81.3	0.0	0.0	0.2
LSD (0.10)																			
Treatment (T)				1.6	3.4	3.4	0.5	NS	NS	4.6	4.0	2.2	NS	NS	2.9	NS	5.2	191	5401
CV(%)				11	4	6	5	13	11	8	6	3	4	3	3	15	5	4	12

continued.

Table C-17. Monsanto Yield Guard Silage Trial.

(continued) **Arlington, WI - 2006.**

														ECB Tunneling			ECB Tunnels			Live ECB Larvae		
		Seed	Soil	Crude Non Fiber								Root Injury	Below	Above		Below	Above		Below	Above	
Treatment	Hybrid	Insecticide	Insecticide	Ash	fat	Carbo	Sugar	Lignin	TDN	NEL	NEG	rating	ear	ear	Shank	ear	ear	Shank	ear	ear	Shank
				%	%	%	%	%	%	Mcal/lb	Mcal/lb	0 to 3	inches	inches	inches	#	#	#	#	#	#
1	A115RRBTCRW	Poncho 250	None	4.0	2.8	47.0	12.1	3.6	72.3	0.7	0.5	-	-	-	-	-	-	-	-	-	-
2	A115RRBT	Poncho 250	Force 3G	3.8	3.1	50.1	9.5	3.2	75.3	0.7	0.5	-	-	-	-	-	-	-	-	-	-
3	A115RRBT	Poncho 1250	None	3.3	2.8	48.3	10.3	3.5	74.0	0.7	0.5	-	-	-	-	-	-	-	-	-	-
4	A115RRBT	Poncho 250	None	2.8	3.1	51.3	9.3	3.3	76.0	0.7	0.5	-	-	-	-	-	-	-	-	-	-
5	A115RR	Poncho 250	None	3.0	3.3	50.7	8.7	3.1	75.7	0.7	0.5	1.0	1.0	0.0	1.3	1.0	0.0	1.3	0.3	0.0	0.7
6	B115RRBTCRW	Poncho 250	None	3.5	3.0	49.8	13.6	3.5	75.0	0.8	0.5	-	-	-	-	-	-	-	-	-	-
7	B115RRBT	Poncho 250	Force 3G	3.6	3.0	50.1	14.0	3.4	76.0	0.8	0.5	-	-	-	-	-	-	-	-	-	-
8	B115RRBT	Poncho 1250	None	3.7	3.1	51.5	13.1	3.2	76.3	0.8	0.5	-	-	-	-	-	-	-	-	-	-
9	B115RRBT	Poncho 250	None	3.6	3.0	48.6	13.4	3.6	75.0	0.8	0.5	-	-	-	-	-	-	-	-	-	-
10	B115RR	Poncho 250	None	3.4	3.2	51.3	12.2	3.3	76.7	0.8	0.5	0.3	3.3	0.3	2.2	2.0	0.3	1.3	1.0	0.3	0.3
11	C115RRBTCRW	Poncho 250	None	3.4	3.2	49.0	12.7	4.1	74.7	0.7	0.5	-	-	-	-	-	-	-	-	-	-
12	C115RRBT	Poncho 250	Force 3G	3.4	3.3	49.9	11.1	3.4	74.3	0.7	0.5	-	-	-	-	-	-	-	-	-	-
13	C115RRBT	Poncho 1250	None	3.5	3.1	46.3	12.1	4.0	71.0	0.7	0.5	-	-	-	-	-	-	-	-	-	-
14	C115RRBT	Poncho 250	None	3.6	3.4	45.7	12.0	4.0	72.7	0.7	0.5	-	-	-	-	-	-	-	-	-	-
15	C115RR	Poncho 250	None	3.2	3.2	48.4	11.8	3.9	73.0	0.7	0.5	0.5	3.0	0.2	2.0	2.3	0.3	1.3	0.7	0.3	1.0
Mean				3.4	3.1	49.2	11.7	3.6	74.5	0.7	0.5	0.6	2.4	0.2	1.8	1.8	0.2	1.3	0.7	0.2	0.7
Probability(%)																					
Treatment (T)				55.1	79.2	86.2	2.8	46.9	32.2	0.2	47.6	19.8	43.9	62.0	89.8	66.0	64.7	100.0	57.2	64.7	36.3
LSD (0.10)																					
Treatment (T)				NS	NS	NS	2.6	NS	NS	0.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)				16	11	8	16	15	3	4	8	60	91	239	125	100	217	91	110	217	77

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2836 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Arlington, WI **County:** Columbia

Supported By: AgReliant Genetics, LLC

Site Information

Field: 413 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 7.1 **OM (%)** 3.6 **P (ppm)** 37 **K (ppm)** 115

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	325	N/A
Starter	9-23-30	150	4 /27/06
Post plant	N/A	N/A	N/A
Manure:		N/A	N/A

Herbicide: Hornet 4.0 oz/A
Outlook 20 oz/A
Callisto 3.0 oz/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 04/27/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9-14-60 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 5' **Experiment Size:** 0.07

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 31482 **plants per acre**

Factors/Treatments:

Hybrid	
S510	S609
S512	S611
S513	S612
S514	S620

Results: Table C-18.

Table C-18. AgReliant Hybrid Corn Silage Evaluation Study. Arlington, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
S510	8.9	63.2	3	0	7.9	21.6	42.8	79.9	53.1	34.8	3137	27883
S512	9.1	66.1	0	0	7.0	22.7	44.0	79.6	53.6	34.3	3109	28270
S513	8.4	69.5	7	0	7.4	25.4	48.1	77.2	52.5	28.7	2931	24588
S514	8.9	60.1	0	0	6.5	21.3	41.2	79.7	50.7	38.3	3146	27926
S609	8.7	66.5	8	0	7.3	23.8	45.5	78.0	51.5	31.8	3004	25985
S611	9.1	64.5	12	0	7.5	22.5	43.9	80.0	54.3	32.7	3129	28432
S612	8.4	69.7	0	8	7.3	27.8	50.6	74.8	50.2	25.5	2777	23277
S620	7.6	66.2	10	0	7.7	23.4	44.9	78.2	51.4	31.5	3020	22958
Mean	8.6	65.7	5	1	7.3	23.6	45.1	78.4	52.2	32.2	3032	26165
Probability (%)												
Genotype	60.9	0.1	72.6	47.1	11.3	1.5	1.8	0.7	1.8	0.3	0.8	19.7
LSD (0.10)												
Genotype	NS	3.1	NS	NS	NS	2.7	3.9	2.0	1.9	4.1	151	NS
CV (%)	11	3	210	490	7	8	6	2	2	9	3	12

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2837 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Lancaster, WI **County:** Grant

Supported By: AgReliant Genetics, LLC

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Fayette Silt Loam

Soil Test: **Date:** N/A **pH** 7.5 **OM (%)** 2.9 **P (ppm)** 75 **K (ppm)** 104

Plot Management

Tillage Operations: Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	160	N/A
Starter	9-23-30	150	5 /6 /06
Post plant	N/A	N/A	N/A
Manure:		N/A	N/A

Herbicide: Harness 1.0 qt/A
Atrazine XL 1.0 qt/A
Glyphosate 1.0 qt/A

Insecticide: None

Irrigation: None

Planting Date: 05/06/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9-7-06 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 5' **Experiment Size:** 0.07

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 30096 **plants per acre**

Factors/Treatments:

Hybrid	
S510	S609
S512	S611
S513	S612
S514	S620

Results: Table C-19.

Table C-19. AgReliant Hybrid Corn Silage Evaluation Study. Lancaster, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
S510	8.3	63.6	0	0	6.9	21.7	41.9	79.8	51.7	37.9	3137	25906
S512	8.8	65.7	0	0	6.8	26.0	48.1	77.1	52.4	31.1	2923	25718
S513	8.5	69.7	0	0	6.7	25.0	46.8	77.7	52.4	31.8	2972	25530
S514	9.1	65.2	0	0	6.8	25.0	46.3	77.5	51.3	32.9	2963	27054
S609	8.3	66.1	0	0	6.4	25.4	47.2	77.3	51.9	32.0	2945	24477
S611	9.4	64.4	0	0	6.5	23.5	44.6	78.6	51.9	34.6	3044	28492
S612	9.0	68.7	0	0	6.7	27.6	49.3	74.9	49.1	29.5	2791	25042
S620	8.1	68.7	0	0	6.8	26.2	48.6	76.4	51.4	29.4	2878	23414
Mean	8.7	66.5	0	0	6.7	25.1	46.6	77.4	51.5	32.4	2956	25704
Probability (%)												
Genotype	54.3	4.9	-	-	41.2	7.3	11.4	3.4	9.8	6.7	4.8	58.4
LSD (0.10)												
Genotype	NS	3.3	-	-	NS	2.9	NS	2.0	1.8	4.4	154	NS
CV (%)	9	3	-	-	4	8	6	2	2	9	4	12

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2838 **Year:** 2006

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

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Virgil Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 7.1 **OM (%)** 5.5 **P (ppm)** 14 **K (ppm)** 113

Plot Management

Tillage Operations: No Till Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	9-23-30	150	5 /8 /06
Post plant	28-0-0	120	N/A
Manure:		N/A	N/A

Herbicide: Basis 0.33 oz/A
Cinch 0.8 oz/A
Glyphosate 1.5 pt/A
Steadfast 0.5 oz/A
Callisto 1.5 oz/A
Atrazine 0.66 oz/A

Insecticide: None

Irrigation: None

Planting Date: 05/08/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9-16-06 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 5' **Experiment Size:** 0.1

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 21978 **plants per acre**

Factors/Treatments:

Hybrid

S508	S608	S623
S510	S609	S624
S606	S610	S625
S607	S622	

Results: Table C-20.

Table C-20. AgReliant Hybrid Corn Silage Evaluation Study. Fond du Lac, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
S508	6.7	66.1	0	0	6.6	24.7	47.4	78.3	54.4	31.6	3046	19840
S606	6.8	61.9	0	0	6.6	22.1	44.0	80.6	56.0	33.7	3206	21677
S607	8.1	62.8	0	0	6.7	21.4	43.2	79.4	52.3	35.5	3142	25593
S608	8.7	61.1	0	0	5.9	23.1	45.3	78.4	52.2	36.0	3072	26733
S609	7.1	68.8	0	0	6.6	24.1	47.7	79.3	56.7	30.8	3098	22067
S610	9.5	61.6	0	0	5.4	22.0	43.2	80.2	54.0	35.0	3192	30374
S622	8.4	64.3	0	0	6.3	21.5	43.1	81.2	56.5	35.5	3249	27425
S623	7.6	65.5	0	0	6.7	24.7	48.7	78.8	56.5	28.8	3055	23185
S624	6.1	66.6	0	0	6.9	23.9	47.7	80.5	59.1	30.9	3161	19086
S625	7.6	62.5	0	0	5.8	22.1	44.2	81.3	57.6	37.0	3242	24676
Mean	7.7	64.0	0	0	6.3	22.9	45.3	79.8	55.4	33.6	3150	24394
Probability (%)												
Genotype	57.2	6.9	-	-	46.4	48.2	31.6	22.3	2.3	28.0	26.8	35.9
LSD (0.10)												
Genotype	NS	3.4	-	-	NS	NS	NS	NS	2.5	NS	NS	NS
CV (%)	14	4	-	-	7	9	6	2	3	10	3	15

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2839 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Galesville, WI **County:** Trempealeau

Supported By: AgReliant Genetics, LLC

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Downs Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 5.9 **OM (%)** 4.0 **P (ppm)** 25 **K (ppm)** 140

Plot Management

Tillage Operations: Fall Zone Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	9-23-30	150	4 /26/06
Post plant	28-0-0	120	N/A
Manure:		N/A	N/A

Herbicide: Cinch 2.0 pt/A
Callisto 3.0 oz/A

Insecticide: None

Irrigation: None

Planting Date: 04/26/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9-15-06 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 5' **Experiment Size:** 0.1

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 30888 **plants per acre**

Factors/Treatments:

Hybrid		
S508	S608	S623
S510	S609	S624
S606	S610	S625
S607	S622	

Results: Table C-21.

Table C-21. AgReliant Hybrid Corn Silage Evaluation Study. Galesville, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
S508	9.6	65.8	0	0	6.9	24.4	47.0	78.0	53.2	32.1	2990	28542
S510	8.5	64.1	0	0	7.2	24.4	46.3	77.6	51.6	32.7	2971	25096
S606	8.1	60.8	0	0	7.4	22.8	44.2	79.0	52.5	35.4	3074	24955
S607	9.2	58.2	0	0	7.0	20.3	40.8	79.9	50.8	39.0	3162	29031
S608	9.9	57.0	0	0	7.0	20.7	41.7	79.3	50.4	38.1	3117	30769
S609	10.6	66.6	0	0	7.0	23.8	45.4	78.6	52.8	33.2	3036	32241
S610	9.7	62.6	0	0	6.8	22.3	43.2	78.9	51.2	36.2	3082	30013
S622	8.4	63.8	0	0	7.1	24.6	46.7	77.5	51.8	31.3	2962	24845
S623	10.3	64.0	0	0	6.7	25.2	48.6	76.8	52.2	29.4	2904	29939
S624	8.8	63.3	0	0	6.9	24.7	46.8	77.9	52.9	32.9	2985	26382
S625	8.9	59.7	0	0	6.9	21.6	43.3	79.5	52.7	35.9	3115	27693
Mean	9.3	62.4	0	0	7.0	23.2	44.9	78.5	52.0	34.2	3036	28137
Probability (%)												
Genotype	3.4	0.1	-	-	70.8	5.9	6.5	31.4	12.2	0.6	22.5	10.8
LSD (0.10)												
Genotype	1.2	3.3	-	-	NS	2.8	4.1	NS	NS	3.7	NS	NS
CV (%)	9	4	-	-	6	9	6	2	2	8	4	11

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2840 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Chippewa Falls, WI **County:** Chippewa

Supported By: AgReliant Genetics, LLC

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Sattre Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 6.4 **OM (%)** 2.3 **P (ppm)** 28 **K (ppm)** 69

Plot Management

Tillage Operations: Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	9-23-30	150	4 /26/06
Post plant	28-0-0	150	N/A
Manure:		N/A	N/A

Herbicide: Harness 1.6 pt/A
Hornet 3.0 oz/A

Insecticide: None

Irrigation: None

Planting Date: 04/26/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9-6-06 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 5' **Experiment Size:** 0.05

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 28512 **plants per acre**

Factors/Treatments:

Hybrid	
S503	S603
S601	S604
S602	S605

Results: Table C-22.

Table C-22. AgReliant Hybrid Corn Silage Evaluation Study. Chippewa Falls, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
S503	5.3	68.7	0	0	9.1	26.2	53.4	79.0	60.7	18.4	3038	15976
S601	4.5	68.8	0	0	9.3	26.4	53.2	78.2	59.1	17.5	3000	13511
S602	5.9	69.7	0	0	9.1	24.6	50.1	79.6	59.3	21.0	3107	18260
S603	6.1	66.5	0	0	8.9	21.1	42.8	80.3	54.0	34.6	3214	19705
S604	5.7	66.8	0	0	8.5	24.6	49.3	78.7	56.8	24.5	3070	17490
S605	5.7	69.3	0	0	8.6	24.7	49.7	79.3	58.4	22.2	3096	17668
Mean	5.5	68.3	0	0	8.9	24.6	49.7	79.2	58.0	23.0	3088	17102
Probability (%)												
Genotype	1.4	10.9	-	-	0.6	0.4	0.1	14.8	0.1	0.0	3.0	0.5
LSD (0.10)												
Genotype	0.7	NS	-	-	0.3	1.8	3.0	1.3	1.8	3.9	94	2069
CV (%)	8	2	-	-	2	5	4	1	2	11	2	8

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2841 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Marshfield, WI **County:** Wood

Supported By: AgReliant Genetics, LLC

Site Information

Field: W5 **Previous Crop:** Soybean **Soil Type:** Loyal Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 6.6 **OM (%)** 2.5 **P (ppm)** 39 **K (ppm)** 125

Plot Management

Tillage Operations: Fall Chisel Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	9-23-30	150	5 /4 /06
Post plant	28-0-0	80	6 /15/06
Manure:		N/A	N/A

Herbicide: Hornet 2.4 oz/A
Atrazine 1.0 qt/A
Outlook 14 oz/A
Accent 0.66 oz/A
Northstar 5.0 oz/A

Insecticide: None

Irrigation: None

Planting Date: 05/04/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9/20/06 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' X 5' **Experiment Size:** 0.05

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 29304 **plants per acre**

Factors/Treatments:

Hybrid	
S503	S603
S601	S604
S602	S605

Results: Table C-23.

Table C-23. AgReliant Hybrid Corn Silage Evaluation Study. Marshfield, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
S503	7.3	59.8	0	0	7.0	18.5	40.8	84.1	61.2	37.4	3472	25322
S601	6.0	60.4	0	0	7.0	19.6	42.3	83.3	60.7	35.7	3414	20436
S602	6.6	57.9	0	0	7.1	17.8	39.3	84.1	59.6	38.6	3484	23046
S603	6.8	60.7	0	0	7.4	17.7	38.9	83.7	58.2	39.4	3462	23632
S604	6.1	61.7	0	0	6.9	19.0	41.6	83.5	60.3	36.1	3427	20991
S605	6.7	63.9	0	0	7.5	22.5	46.6	81.6	60.4	27.9	3277	22088
Mean	6.6	60.7	0	0	7.1	19.2	41.6	83.4	60.1	35.8	3423	22586
Probability (%)												
Genotype	0.5	2.0	-	-	5.5	0.2	0.4	1.0	1.2	0.1	0.7	1.1
LSD (0.10)												
Genotype	0.5	2.4	-	-	0.3	1.5	2.6	1.0	1.1	3.3	78	1957
CV (%)	5	3	-	-	3	5	4	1	1	6	2	6

FIELD EXPERIMENT HISTORY

Title: **AgReliant Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2842 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Valders, WI **County:** Manitowoc

Supported By: AgReliant Genetics, LLC

Site Information

Field: **Previous Crop:** Corn **Soil Type:** Kewaunee Clay Loam

Soil Test: **Date:** 11/01/06 **pH** 6.9 **OM (%)** 2.6 **P (ppm)** 51 **K (ppm)** 90

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	9-23-30	150	5 /5 /06
Post plant	34-0-0	150	6 /21/06
Manure:	Dairy	12000 gal/A	Fall

Herbicide: Dual II Magnum 0.75 pt/a
Accent Gold WDG 2.5 oz/A
Callisto 1.5 oz/A
Atrazine 0.25 lb/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 05/05/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9/21/06 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 5' **Experiment Size:** 0.5

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 29034 **plants per acre**

Factors/Treatments:

Hybrid	
S503	S603
S601	S604
S602	S605

Results: Table C-24.

Table C-24. AgReliant Hybrid Corn Silage Evaluation Study. Valders, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
S503	9.1	55.4	0	0	6.1	20.8	42.3	81.2	55.7	37.8	3260	29773
S601	7.7	48.1	0	0	6.2	20.5	43.0	81.3	56.6	37.6	3258	25236
S602	8.3	52.4	0	0	6.6	18.9	39.9	82.5	56.2	39.8	3353	27657
S603	8.6	54.4	0	0	6.6	20.9	42.4	80.3	53.6	38.2	3208	27608
S604	7.6	53.4	0	0	5.7	23.1	46.7	79.8	56.7	33.5	3139	23930
S605	8.1	57.9	0	0	6.4	22.3	44.7	80.7	56.8	32.2	3205	25859
Mean	8.2	53.6	0	0	6.3	21.1	43.2	81.0	55.9	36.5	3237	26677
Probability (%)												
Genotype	0.4	0.1	-	-	3.0	3.5	6.2	3.4	33.7	2.0	3.4	0.4
LSD (0.10)												
Genotype	0.5	2.6	-	-	0.4	1.9	3.4	1.2	2.7	3.6	94	1984
CV (%)	4	3	-	-	5	6	5	1	3	7	2	5

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2843 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Arlington, WI **County:** Columbia

Supported By: BASF Plant Science

Site Information

Field: 413 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 7.1 **OM (%)** 3.6 **P (ppm)** 37 **K (ppm)** 115

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	325	N/A
Starter	9-23-30	150	4 /27/06
Post plant	N/A	N/A	N/A
Manure:		N/A	N/A

Herbicide: Hornet 4.0 oz/A
Outlook 20 oz/A
Callisto 3.0 oz/A

Insecticide: Force 3G 4.4 lb/A

Irrigation: None

Planting Date: 04/27/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9-14-60 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 5' **Experiment Size:** 0.19

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 30690 **plants per acre**

Factors/Treatments:

Hybrid

156 819	554 729	806 148	827 268	866 221
299 565	554 730	806 171	827 278	866 222
299 582	771 326	807 329	832 707	
554 709	780 937	827 074	864 973	
554 723	780 943	827 121	866 220	

Results: Table C-25.

Table C-25. BASF Hybrid Corn Silage Evaluation Study. Arlington, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
156 819	9.0	62.6	13	0	7.1	22.3	43.1	80.2	54.1	35.9	3168	28418
299 565	8.9	60.4	3	0	6.9	23.8	45.2	78.7	52.9	33.9	3063	27111
299 582	9.8	65.5	35	0	7.8	22.8	43.7	78.1	49.8	35.0	3043	29951
554 709	9.7	66.1	3	0	7.7	22.5	43.8	80.0	54.2	34.7	3148	30642
554 723	8.8	60.8	5	0	8.0	25.3	49.9	76.3	52.5	29.7	2881	24737
554 729	8.6	65.6	7	0	7.1	24.4	46.8	79.4	56.0	32.0	3084	26494
554 730	9.6	68.7	0	3	7.7	26.3	49.3	76.3	52.0	27.2	2889	27756
771 326	9.6	67.7	17	0	7.4	24.3	47.0	78.4	54.0	28.2	3027	29182
780 937	10.2	69.3	7	0	8.2	25.1	47.6	77.5	52.6	28.7	2965	30098
780 943	8.3	65.9	40	0	8.2	26.0	51.2	77.2	55.4	21.1	2911	24173
806 148	8.9	68.8	20	0	7.7	25.0	47.7	78.1	54.2	30.1	3005	26869
806 171	8.1	61.1	13	0	8.3	22.3	44.3	79.0	52.7	35.3	3085	25058
807 329	9.1	62.9	8	0	7.8	23.0	44.6	78.9	52.6	33.9	3077	27937
827 074	8.2	56.3	7	0	7.4	21.7	43.1	78.8	50.7	37.8	3087	25578
827 121	9.7	64.9	10	0	7.3	21.6	42.0	80.0	52.5	36.6	3169	30793
827 268	10.2	65.0	0	0	7.5	23.0	44.3	79.2	53.0	33.3	3098	31536
827 278	8.6	68.0	17	0	7.7	25.2	47.6	77.6	52.9	30.0	2975	25501
832 707	10.0	66.9	0	0	7.8	23.9	45.8	78.9	53.9	30.1	3065	30575
864 973	9.0	65.6	30	0	8.1	24.0	46.7	77.7	52.3	27.6	2991	27015
866 220	6.4	65.9	8	0	8.5	22.5	46.7	81.1	59.5	29.7	3172	20348
866 221	6.0	72.1	68	0	8.7	24.4	49.4	80.9	61.2	24.8	3125	20086
866 222	9.9	62.7	10	0	7.5	23.4	45.9	78.9	53.8	32.0	3063	30354
Mean	8.9	65.1	15	0	7.7	23.7	46.1	78.7	53.7	31.4	3051	27435
Probability (%)												
Genotype	0.0	0.0	0.0	48.3	0.0	28.3	20.7	4.6	0.0	0.7	15.6	0.5
LSD (0.10)												
Genotype	1.2	3.1	17	NS	0.5	NS	NS	2.1	2.0	6.1	NS	4475
CV (%)	10	3	83	812	4	9	8	2	3	14	4	12

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2844 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Lancaster, WI **County:** Grant

Supported By: BASF Plant Science

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Fayette Silt Loam

Soil Test: **Date:** N/A **pH** 7.5 **OM (%)** 2.9 **P (ppm)** 75 **K (ppm)** 104

Plot Management

Tillage Operations: Field Cultivator Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	46-0-0	160	N/A
Starter	9-23-30	150	5 /6 /06
Post plant	N/A	N/A	N/A
Manure:		N/A	N/A

Herbicide: Harness 1.0 qt/A
Atrazine XL 1.0 qt/A
Glyphosate 1.0 qt/A

Insecticide: None

Irrigation: None

Planting Date: 05/06/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9-7-06 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 5' **Experiment Size:** 0.19

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 30888 **plants per acre**

Factors/Treatments:

Hybrid

156 819	554 729	806 148	827 268	866 221
299 565	554 730	806 171	827 278	866 222
299 582	771 326	807 329	832 707	
554 709	780 937	827 074	864 973	
554 723	780 943	827 121	866 220	

Results: Table C-26.

Table C-26. BASF Hybrid Corn Silage Evaluation Study. Lancaster, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
156 819	9.2	65.8	0	0	6.9	23.3	44.5	79.8	54.7	33.5	3124	28778
299 565	10.4	62.9	0	0	6.5	21.7	41.5	80.5	53.0	36.2	3195	33387
299 582	9.6	68.5	0	0	7.0	24.3	45.5	76.8	49.1	32.9	2949	28420
554 709	9.1	68.1	0	0	6.9	23.9	44.5	78.4	51.5	33.6	3045	27705
554 723	8.0	64.1	0	0	7.6	21.6	43.1	79.8	53.1	34.7	3133	25186
554 729	9.4	66.2	0	0	6.8	22.9	43.7	79.8	53.9	34.2	3133	29616
554 730	9.4	69.7	0	0	6.8	25.0	46.9	76.7	50.4	30.1	2927	27629
771 326	9.4	70.8	0	0	7.3	26.4	48.2	76.3	50.8	28.0	2890	27153
780 937	8.8	69.0	0	0	7.0	25.8	48.0	76.9	51.9	28.6	2926	25817
780 943	9.8	66.7	8	0	6.7	29.3	53.8	74.7	53.0	19.6	2712	26668
806 148	9.8	69.3	0	0	7.3	23.2	44.3	78.4	51.2	32.7	3046	29903
806 171	8.4	61.2	0	0	7.6	22.1	43.5	79.4	52.7	35.1	3111	26111
807 329	9.0	64.7	0	0	6.9	23.0	44.2	78.4	51.2	33.9	3051	27483
827 074	8.9	59.5	0	0	6.6	21.8	42.9	79.2	51.6	36.6	3111	27568
827 121	8.7	69.3	0	0	7.0	25.8	48.1	76.8	51.9	30.2	2922	25521
827 268	9.3	69.0	0	0	7.4	25.7	47.9	77.0	52.0	29.6	2929	27419
827 278	8.8	68.9	0	0	6.9	26.6	48.4	76.4	51.2	29.6	2895	25454
832 707	9.8	68.8	0	0	7.1	24.6	46.0	78.0	52.2	28.5	3006	29378
864 973	9.5	66.9	0	0	6.6	24.6	46.3	77.8	52.0	32.1	2997	28591
866 220	7.7	67.3	0	0	7.3	22.0	44.0	82.5	60.2	32.8	3274	25741
866 221	7.6	70.4	13	0	7.2	23.2	45.6	82.3	61.2	30.6	3244	24614
866 222	9.1	66.5	3	0	6.8	26.0	48.7	76.7	52.0	29.0	2907	26551
Mean	9.1	67.0	1	0	7.0	24.2	45.9	78.3	52.8	31.5	3024	27513
Probability (%)												
Genotype	0.5	0.0	56.5	-	16.9	0.5	0.8	0.0	0.0	0.0	0.0	9.4
LSD (0.10)												
Genotype	1.0	2.1	NS	-	NS	2.9	4.2	2.2	1.8	4.2	162	3729
CV (%)	8	2	525	-	6	9	7	2	2	10	4	10

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2845 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Fond du Lac, WI **County:** Fond du Lac

Supported By: BASF Plant Science

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Virgil Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 7.1 **OM (%)** 5.5 **P (ppm)** 14 **K (ppm)** 113

Plot Management

Tillage Operations: No Till Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	9-23-30	150	5 /8 /06
Post plant	28-0-0	120	N/A
Manure:		N/A	N/A

Herbicide: Basis 0.33 oz/A
Cinch 0.8 oz/A
Glyphosate 1.5 pt/A
Steadfast 0.5 oz/A
Callisto 1.5 oz/A
Atrazine 0.66 oz/A

Insecticide: None

Irrigation: None

Planting Date: 05/08/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9-16-06 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' X 5' **Experiment Size:** 0.19

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 25019 **plants per acre**

Factors/Treatments:

Hybrid

156 819	554 729	806 148	827 268	866 221
299 565	554 730	806 171	827 278	866 222
299 582	771 326	807 329	832 707	
554 709	780 937	827 074	864 973	
554 723	780 943	827 121	866 220	

Results: Table C-27.

Table C-27. BASF Hybrid Corn Silage Evaluation Study. Fond du Lac, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
156 819	7.6	65.7	0	0	6.2	23.1	45.3	81.7	59.5	30.7	3266	24815
299 565	6.3	64.2	0	0	5.6	23.0	44.3	80.6	56.2	34.0	3220	20479
299 582	10.3	66.9	0	0	5.6	24.0	45.4	78.2	52.0	33.8	3076	31665
554 709	7.4	66.2	0	0	6.1	23.0	45.8	78.7	53.5	35.7	3099	22982
554 723	9.6	62.2	0	0	6.2	21.9	44.2	80.0	54.7	37.7	3183	30526
554 729	7.1	67.6	0	0	6.5	24.1	47.3	80.0	57.7	31.4	3151	22275
554 730	8.1	69.2	0	0	4.9	25.6	50.5	77.0	54.8	28.3	2971	23962
771 326	9.4	69.5	0	0	6.3	25.2	47.8	79.3	56.6	27.4	3112	29171
780 937	10.1	69.3	0	0	5.2	26.1	50.5	77.8	56.1	28.1	3010	30445
780 943	9.0	64.9	0	0	5.3	26.2	50.2	77.9	56.0	24.3	2999	26998
806 148	10.7	66.5	0	0	5.1	24.2	46.8	78.4	53.9	33.9	3079	32991
806 171	6.6	61.1	0	0	6.9	21.5	44.3	80.7	56.5	35.0	3220	21149
807 329	8.6	65.7	0	0	5.7	23.1	45.6	79.6	55.2	33.6	3153	27111
827 074	6.7	58.3	0	0	6.5	21.7	44.6	81.1	57.6	33.8	3239	21790
827 121	6.9	65.9	0	0	6.3	22.3	44.9	80.8	57.3	33.7	3224	22305
827 268	8.3	66.1	0	0	6.0	23.4	45.7	80.0	56.2	32.5	3170	26227
827 278	7.6	64.6	0	0	6.7	20.4	41.4	82.3	57.2	34.9	3337	25466
832 707	7.4	64.6	0	0	5.3	20.2	40.3	82.8	57.4	35.3	3381	25179
864 973	7.4	66.8	0	0	4.9	24.4	48.0	78.3	54.9	29.9	3062	23093
866 220	7.5	63.9	0	0	6.4	20.8	42.4	84.6	63.7	35.1	3456	26016
866 221	5.9	70.1	0	0	6.0	24.1	47.5	83.9	66.2	26.2	3298	19568
Mean	8.1	65.9	0	0	5.9	23.5	46.2	80.0	56.8	31.8	3163	25612
Probability (%)												
Genotype	46.5	0.0	-	-	0.0	2.4	2.0	0.4	0.0	0.0	2.0	57.7
LSD (0.10)												
Genotype	NS	2.5	-	-	0.5	2.4	3.8	2.3	2.0	3.8	165	NS
CV (%)	13	3	-	-	7	7	6	2	3	9	4	15

FIELD EXPERIMENT HISTORY

Title: **BASF Hybrid Corn Silage Trial**

Experiment: Private Silage Evaluation **Trial ID:** 2846 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Galesville, WI **County:** Trempealeau

Supported By: BASF Plant Science

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Downs Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 5.9 **OM (%)** 4.0 **P (ppm)** 25 **K (ppm)** 140

Plot Management

Tillage Operations: Fall Zone Cultivate

Fertilizer:

	Analysis	Rate	Date
Preplant	N/A	N/A	N/A
Starter	9-23-30	150	4 /26/06
Post plant	28-0-0	120	N/A
Manure:		N/A	N/A

Herbicide: Cinch 2.0 pt/A
Callisto 3.0 oz/A

Insecticide: None

Irrigation: None

Planting Date: 04/26/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 9-15-06 **Harvest Method:** New Holland 707 Plot Chopper

Notes: Planted adjacent to public silage trial

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 25' x 5' **Experiment Size:** 0.19

Harvest Plot Size: 22' x 2.5' **Harvest Plant Density:** 30753 **plants per acre**

Factors/Treatments:

Hybrid

156 819	554 729	806 148	827 268	866 221
299 565	554 730	806 171	827 278	866 222
299 582	771 326	807 329	832 707	
554 709	780 937	827 074	864 973	
554 723	780 943	827 121	866 220	

Results: Table C-28.

Table C-28. BASF Hybrid Corn Silage Evaluation Study. Galesville, WI 2006.

Genotype	Dry Matter Yield	Moisture	Root Lodging	Stalk Lodging	CP	ADF	NDF	IVD	NDFD	Starch	Milk Per Ton	Milk Per Acre
	T/A	%	%	%	%	%	%	%	%	%	lbs/T	lbs/A
156 819	10.2	63.2	0	0	6.7	25.2	48.4	78.8	56.1	29.4	3038	31128
299 565	11.2	61.7	0	0	7.0	21.0	41.7	81.4	55.3	35.9	3252	36463
299 582	9.4	67.3	0	0	7.5	24.6	47.0	76.9	50.8	31.3	2949	27773
554 709	9.8	65.5	0	0	7.4	22.9	44.6	79.7	54.5	34.1	3127	30586
554 723	8.7	60.1	0	0	8.0	22.9	45.3	78.0	51.5	34.8	3025	26419
554 729	10.2	66.2	0	0	7.3	22.6	44.6	80.5	56.1	33.5	3170	32461
554 730	9.5	69.1	0	0	7.3	26.8	50.6	75.6	51.9	26.5	2843	27201
771 326	8.5	72.6	0	0	8.4	26.1	48.9	77.1	53.1	29.4	2937	25029
780 937	10.0	69.6	0	0	7.3	26.1	50.0	76.7	53.4	27.9	2909	29232
780 943	9.7	65.0	0	0	6.4	27.1	50.4	76.9	54.1	23.3	2916	28168
806 148	10.1	69.2	0	0	7.4	26.0	49.3	76.7	52.7	30.2	2913	29351
806 171	8.9	58.8	0	0	7.8	23.0	45.8	77.5	51.0	35.1	2995	26746
807 329	9.8	64.2	0	0	7.5	24.0	47.5	76.9	51.4	31.5	2944	28986
827 074	8.7	56.6	0	0	7.0	20.6	41.6	79.8	51.5	39.5	3165	27566
827 121	9.2	66.9	0	0	7.1	26.5	49.4	76.7	52.8	29.4	2914	26813
827 268	11.1	64.8	0	0	7.7	24.1	47.2	78.5	54.5	30.7	3034	33835
827 278	9.8	67.7	0	0	7.9	25.9	49.4	77.5	54.3	29.9	2952	28941
832 707	9.5	69.4	0	0	7.6	24.7	47.7	78.4	54.7	28.1	3022	28681
864 973	10.6	64.3	0	0	6.7	24.8	47.7	77.4	52.7	29.1	2973	31440
866 220	6.8	67.9	0	0	8.3	24.8	49.6	80.7	61.0	27.7	3122	21139
866 221	7.3	72.0	0	0	7.7	26.1	50.5	80.7	61.8	24.6	3112	22676
866 222	9.9	63.9	0	0	7.4	25.6	49.0	77.2	53.5	28.6	2947	29179
Mean	9.5	65.7	0	0	7.4	24.6	47.6	78.2	54.0	30.5	3012	28628
Probability (%)												
Genotype	0.0	0.0	-	-	0.0	0.6	0.4	0.0	0.0	0.0	0.1	0.1
LSD (0.10)												
Genotype	1.2	3.4	-	-	0.6	2.7	3.9	1.9	1.4	4.0	146	4539
CV (%)	9	4	-	-	6	8	6	2	2	10	4	12

FIELD EXPERIMENT HISTORY

Title: **Plant Density and Hybrid Influence on Corn Grain and Silage Performance**

Experiment: 02 Plant Density **Trial ID:** 2922 **Year:** 2006

Personnel: J. G. Lauer, P. J. Flannery and K. D. Kohn

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS413 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/1 /06 **pH** 7.2 **OM (%)** 3.6 **P (ppm)** 41 **K (ppm)** 141

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/14/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	324 lbs/A	4 /20/06
	Starter :	9-23-30	150 lbs/A	4 /27/06
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Outlook 20 oz/A
Hornet 4 oz/A
Callisto 3oz/A

Insecticide: Force 3G 4.4 lb/A

Hybrid: See Factors

Irrigation: None

Planting Date: 4/27/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: S: 9/18/06
G: 10/17/06

Harvest Method: S: New Holland 707
G: Massey Ferguson 8XP

Notes:

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 20' x 25' **Experiment Size:** 0.92 Acre

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

Harvest Plant Density: N/A **plants per acre**

Factors/Treatments:

Target Plant Density: (plants/A)

14000 20000 26000
32000 38000 44000
50000 56000

Hybrids:

Dekalb DKC58-78
Pioneer 37R71

Results: Tables C-29.

Table C-29. Plant Density and Hybrid Influence on Corn Grain. Arlington, WI - 2006.

		Grain																	
Target				Test	Lodged			Grower	Harvest		Seeds	Plants	Plant	Silk	Grain Composition			Ethanol	
Density	Hybrid	Yield	Moisture	Weight	Total	Stalk	Root	Return	plants	ears	planted	emerged	height	Date	Oil	Starch	Protein	per bu	per A
plants/A		bu/A	%	lbs/bu	%	%	%	$/A	plants/A	ears/A	seeds/A	plants/A	inches	doy	%	%	%	gallons	gallons
	Dekalb DKC58-78	208	26.0	52	1	0	1	615	26961	28133	47619	28512	96	201	3.5	58.9	7.9	2.84	592
	Pioneer 37R71	159	20.5	52	4	0	4	487	23315	24338	47619	25340	94	198	3.6	59.4	7.8	2.86	455
14000		120	23.3	52	0	0	0	360	13266	17094	19008	15048	91	200	3.4	59.4	8.1	2.85	343
20000		150	23.1	52	0	0	0	450	14586	18150	26928	17391	97	200	3.5	58.2	8.0	2.83	424
26000		159	22.8	52	0	0	0	477	18480	22110	35640	18711	96	200	3.6	59.1	8.0	2.85	452
32000		175	23.4	52	2	0	2	523	23298	23760	43560	23694	96	200	3.6	59.1	7.8	2.86	499
38000		210	22.9	52	2	0	2	630	27786	28248	51480	28215	99	200	3.6	59.7	7.9	2.85	597
44000		218	23.4	52	5	0	5	654	31878	30690	60192	30525	95	200	3.6	59.0	7.8	2.86	634
50000		217	23.6	52	3	0	3	648	33462	32736	68112	38544	95	200	3.6	59.8	7.7	2.85	613
56000		222	23.5	52	8	1	7	663	38346	37092	76032	43280	94	201	3.6	59.1	7.4	2.86	634
14000	Dekalb DKC58-78	148	25.7	53	0	0	0	438	13464	19800	19008	15873	90	201	3.4	59.2	7.9	2.86	423
14000	Pioneer 37R71	92	20.9	52	1	0	1	282	13068	14388	19008	14223	91	198	3.5	59.5	8.2	2.84	262
20000	Dekalb DKC58-78	178	25.9	52	0	0	0	527	15840	21120	26928	17028	102	201	3.5	57.8	8.1	2.81	501
20000	Pioneer 37R71	121	20.3	52	0	0	0	372	13332	15180	26928	17754	91	198	3.6	58.6	7.9	2.86	347
26000	Dekalb DKC58-78	193	25.4	52	0	0	0	571	20592	23364	35640	20691	98	201	3.5	58.1	8.1	2.84	548
26000	Pioneer 37R71	125	20.1	51	0	0	0	384	16368	20856	35640	16731	94	198	3.6	60.0	8.0	2.85	356
32000	Dekalb DKC58-78	205	25.8	52	3	0	2	605	25740	25872	43560	26433	95	201	3.6	58.8	7.9	2.85	583
32000	Pioneer 37R71	145	21.1	52	2	0	2	441	20856	21648	43560	20955	97	199	3.7	59.5	7.6	2.87	415
38000	Dekalb DKC58-78	228	25.6	52	3	0	3	676	28908	28908	51480	31416	99	201	3.6	59.9	7.8	2.84	650
38000	Pioneer 37R71	191	20.3	52	0	0	0	585	26664	27588	51480	25014	98	198	3.7	59.5	8.0	2.85	544
44000	Dekalb DKC58-78	229	26.5	53	0	0	0	672	31944	31020	60192	28446	95	201	3.6	58.5	7.9	2.86	692
44000	Pioneer 37R71	208	20.3	52	10	0	10	637	31812	30360	60192	32604	95	199	3.6	59.3	7.8	2.86	596
50000	Dekalb DKC58-78	239	26.4	53	0	0	0	702	37224	34848	68112	42174	97	202	3.6	59.7	7.8	2.84	696
50000	Pioneer 37R71	194	20.7	51	6	0	6	594	29700	30624	68112	34914	93	199	3.7	59.8	7.7	2.86	557
56000	Dekalb DKC58-78	248	27.0	52	4	0	3	727	41976	40128	76032	46035	95	203	3.6	59.1	7.5	2.85	706
56000	Pioneer 37R71	195	19.9	52	12	1	11	600	34716	34056	76032	40524	93	199	3.6	59.1	7.4	2.88	562
Mean		184	23.2	52	3	0	2	551	25138	26235	47619	26926	95	200	3.6	59.2	7.8	2.85	520
Probability(%)																			
Plant Density (D)		0.0	60.6	54.0	9.6	4.9	15.7	0.0	0.0	0.0	-	0.0	41.5	0.0	1.2	1.4	65.4	4.8	0.1
Hybrid (H)		0.1	0.0	7.8	0.6	61.3	1.2	0.2	11.8	2.0	-	4.0	51.7	2.9	11.5	1.6	2.6	23.8	0.0
D x H		74.4	21.5	49.0	24.2	28.6	31.5	67.2	83.2	89.3	-	5.1	69.3	94.3	82.5	17.9	71.7	15.5	94.5
LSD (0.10)																			
Plant Density (D)		23	NS	NS	5	0	NS	70	4862	3957	-	3116	NS	0	0.0	0.7	NS	0.01	35
Hybrid (H)		12	0.5	1	1	NS	1	36	NS	2169	-	2259	NS	1	NS	0.3	0.4	NS	66
D x H		NS	NS	NS	NS	NS	NS	NS	NS	NS	-	4407	NS	NS	NS	NS	NS	NS	NS
CV(%)		13	3	1	194	276	206	13	20	15	-	12	6	0	4	1	4	1	13

Table C-29. Plant Density and Hybrid Influence on Silage Preformance. Arlington, WI - 2006.

			Whole Plant														
Target				Kernel	KMR	SMR	VMR	Crude			In Vitro			Milk per		Harvest	
Density	Hybrid	Yield	Moist	milk	0-5	0-5	0-10	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre	plants	ears
plants/A		tons/A	%	%				%	%	%	%	%	%	lbs/T	lbs/A	plants/A	ears/A
	Dekalb DKC58-78	8.0	60.9	53	2.6	2.5	5.2	7.5	21.4	43.2	81.2	56.4	33.2	3241	26038	26169	29898
	Pioneer 37R71	6.4	55.4	17	0.8	1.7	2.5	7.4	18.6	39.6	82.3	55.3	37.1	3340	21274	25311	27423
14000		4.6	57.9	32	1.6	1.7	3.3	7.9	19.2	41.1	82.5	57.4	34.2	3333	15492	11748	17556
20000		6.1	58.8	36	1.8	2.1	3.9	7.7	19.9	42.0	82.1	57.3	34.0	3303	20284	20592	20988
26000		7.1	57.5	34	1.7	2.6	4.3	7.6	19.0	40.5	82.5	56.7	35.7	3339	23842	17688	24024
32000		6.9	59.9	33	1.7	2.5	4.2	7.7	20.8	42.9	81.7	57.3	32.5	3271	22362	22308	26532
38000		7.6	58.4	36	1.8	2.1	3.8	7.3	20.3	41.6	81.1	54.6	35.2	3255	24544	27192	29700
44000		7.9	58.6	34	1.7	2.1	3.8	7.5	19.6	40.4	81.8	55.0	36.5	3304	26114	29304	30624
50000		9.2	56.3	33	1.7	1.9	3.6	7.1	20.4	41.5	81.3	54.7	36.5	3265	29933	39468	40392
56000		8.2	57.4	38	1.9	1.8	3.7	7.0	20.5	41.1	81.1	53.9	36.4	3257	26680	37620	39468
14000	Dekalb DKC58-78	5.9	59.2	50	2.5	2.4	4.9	7.9	19.3	40.7	82.5	57.0	34.6	3341	19557	12408	19008
14000	Pioneer 37R71	3.4	56.6	13	0.7	1.0	1.7	7.9	19.1	41.6	82.4	57.7	33.8	3324	11426	11088	16104
20000	Dekalb DKC58-78	7.4	60.7	57	2.8	2.7	5.5	7.6	20.7	42.4	82.0	57.4	34.3	3292	24236	17688	22704
20000	Pioneer 37R71	4.9	56.9	15	0.8	1.6	2.4	7.9	19.2	41.6	82.2	57.1	33.8	3313	16331	23496	19272
26000	Dekalb DKC58-78	7.6	60.9	57	2.8	2.7	5.5	7.7	20.7	42.7	81.8	57.4	32.9	3281	24894	16368	22440
26000	Pioneer 37R71	6.7	54.0	12	0.6	2.5	3.1	7.5	17.4	38.3	83.1	55.9	38.5	3396	22790	19008	25608
32000	Dekalb DKC58-78	7.9	62.7	47	2.3	2.5	4.8	7.6	23.1	46.4	80.4	57.7	29.1	3167	25016	23760	28248
32000	Pioneer 37R71	5.8	57.1	20	1.0	2.5	3.5	7.7	18.4	39.5	82.9	56.8	35.8	3375	19708	20856	24816
38000	Dekalb DKC58-78	8.0	61.3	50	2.5	2.4	4.9	7.3	22.7	45.0	79.9	55.2	31.9	3155	25273	27456	30096
38000	Pioneer 37R71	7.1	55.5	22	1.1	1.7	2.8	7.3	18.0	38.3	82.4	53.9	38.5	3356	23816	26928	29304
44000	Dekalb DKC58-78	8.7	61.9	55	2.8	2.7	5.4	7.7	20.8	42.1	81.3	55.5	35.1	3257	28228	27456	29568
44000	Pioneer 37R71	7.2	55.4	13	0.7	1.5	2.2	7.3	18.3	38.8	82.4	54.5	38.0	3351	23999	31152	31680
50000	Dekalb DKC58-78	9.9	60.1	55	2.8	2.5	5.3	7.5	22.3	44.1	80.5	55.7	32.7	3193	31503	42768	44088
50000	Pioneer 37R71	8.5	52.6	12	0.6	1.3	1.9	6.7	18.5	38.8	82.1	53.8	40.2	3337	28363	36168	36696
56000	Dekalb DKC58-78	9.1	60.2	50	2.5	2.4	4.9	7.1	21.5	42.2	81.0	55.1	35.0	3246	29600	41448	43032
56000	Pioneer 37R71	7.3	54.6	27	1.3	1.2	2.5	6.8	19.5	40.1	81.1	52.8	37.9	3268	23760	33792	35904
Mean		7.2	58.1	35	1.7	2.1	3.8	7.5	20.0	41.4	81.7	55.9	35.1	3291	23656	25740	28661
Probability(%)																	
Plant Density (D)		1.1	24.7	84.3	84.3	0.1	7.2	0.0	46.0	78.4	9.3	0.0	26.6	40.8	0.0	0.0	0.0
Hybrid (H)		0.8	0.0	0.1	0.1	0.2	0.0	21.0	0.2	0.1	3.4	11.8	0.1	1.4	2.9	61.2	21.5
D x H		86.7	60.3	8.1	8.1	0.6	2.1	16.6	22.0	15.6	14.8	42.3	15.5	14.4	71.4	20.1	27.8
LSD (0.10)																	
Plant Density (D)		0.8	NS	NS	NS	0.3	0.5	0.3	NS	NS	1.0	1.1	NS	NS	3742	4684	4031
Hybrid (H)		1.1	0.6	8	0.4	0.2	0.5	NS	0.6	0.9	0.8	NS	1	51	3042	NS	NS
D x H		NS	NS	10	0.5	0.5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		16	4	21	21	16	14	4	8	6	1	2	9	2	16	19	14

Table C-30. Plant Density and Hybrid Influence on Corn Grain. Arlington, WI - 2005.

Target Density	Hybrid	Trait	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
plants/A			%	%	%	gallons	gallons
	Pioneer 34M94		3.2	59.0	8.1	2.90	584
	Pioneer 34M95	Bt	3.3	58.6	8.1	2.89	603
14000			3.2	57.6	9.1	2.84	441
20000			3.2	58.1	8.7	2.86	554
26000			3.3	58.3	8.3	2.87	628
32000			3.2	58.8	8.1	2.90	644
38000			3.2	59.1	7.9	2.91	648
44000			3.2	59.4	7.7	2.92	594
50000			3.2	59.6	7.5	2.94	628
56000			3.2	59.6	7.5	2.94	611
14000	Pioneer 34M94		3.1	57.8	9.1	2.84	452
14000	Pioneer 34M95	Bt	3.2	57.4	9.2	2.83	431
20000	Pioneer 34M94		3.1	58.1	8.7	2.86	544
20000	Pioneer 34M95	Bt	3.2	58.0	8.7	2.85	563
26000	Pioneer 34M94		3.2	58.3	8.4	2.88	616
26000	Pioneer 34M95	Bt	3.3	58.3	8.3	2.87	639
32000	Pioneer 34M94		3.2	58.9	8.2	2.90	619
32000	Pioneer 34M95	Bt	3.3	58.7	8.1	2.90	669
38000	Pioneer 34M94		3.2	59.1	8.0	2.90	604
38000	Pioneer 34M95	Bt	3.2	59.0	7.8	2.92	691
44000	Pioneer 34M94		3.2	59.6	7.7	2.93	588
44000	Pioneer 34M95	Bt	3.3	59.1	7.7	2.91	600
50000	Pioneer 34M94		3.1	60.1	7.4	2.97	655
50000	Pioneer 34M95	Bt	3.3	59.2	7.7	2.92	602
56000	Pioneer 34M94		3.2	59.7	7.5	2.94	591
56000	Pioneer 34M95	Bt	3.3	59.4	7.6	2.93	631
Mean			3.2	58.8	8.1	2.90	593
Probability(%)							
Plant Density (D)			32.1	0.0	0.0	0.0	0.0
Hybrid (H)			0.5	0.3	81.8	8.4	50.9
D x H			75.6	29.5	13.4	2.0	37.7
LSD (0.10)							
Plant Density (D)			NS	0.3	0.2	0.0	49
Hybrid (H)			0.0	0.1	NS	0.1	NS
D x H			NS	NS	NS	0.0	NS
CV(%)			2	0	2	0	8

FIELD EXPERIMENT HISTORY

Title: **Date of Planting and Hybrid Influence on Corn Forage and Corn Grain Yield**

Experiment: 03 DOP **Trial ID:** 2925 **Year:** 2006

Personnel: J.G. Lauer, P. J. Flannery, and K. D. Kohn

Location: Arlington, WI **County:** Columbia

Supported By: MPCI

Site Information

Field: ARS369 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/1 /06 **pH** 6.2 **OM (%)** 3.1 **P (ppm)** 46 **K (ppm)** 116

Plot Management

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

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325	4 /13/06
	Starter :	9-23-30	150	Each DOP
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Outlook 20 oz/A
Hornet 4.0 oz/A

Insecticide: None

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: 8/31, 9/8, 9/13, 9/25, 9/27, & 10/25
G: 10/24

Harvest Method: S:New Holland 707
G:Massey Ferguson 8XP

Experimental Design

Design: RCB split plot **Replications:** 4

Plot Size Seeded: 25' x 20' **Experiment Size:** 1.3 Acre

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

Harvest Plant Density: S: 30129 **plants per acre**
G: 30967

Factors/Treatments:

Date of Planting:

April 14, April 28, May 22,
June 01 & June 15

Hybrids:

NK Brand N58-D1
Pioneer 37R71

Results: Tables C-31, 32 and 33.

Table C- 31. Planting Date And Hybrid Influence On Corn Grain And Silage Performance Arlington, WI - 2006.

		Grain																						
Planting				Test	Lodged			Grower	Harvest	Plants	Seeds	Silking	Early	Kernel Milk			Black	Grain Composition			Ethanol		MPCI	
Date	Hybrid	Yield	Moisture	weight	Total	Stalk	Root	return	plants	emerged	planted	Date	dent	75%	50%	25%	layer	Oil	Starch	Protein	per bu	per A	yield	Moisture
		bu/A	%	lbs/bu	%	%	%	$/A	plants/A	plants/A	seeds/A	doy	doy	doy	doy	doy	doy	%	%	%	gallons	gallons	bu/A	%
	NK Brand N58-D1	171	31.7	49.1	12	0	11	497	30512	42219	44352	209	248	258	261	272	279	3.1	60.9	7.2	2.91	639	162	28.5
	Pioneer 37R71	181	24.8	52.6	11	1	11	547	31423	40130	44352	206	239	249	256	260	271	3.7	60.2	7.8	2.85	569	209	24.1
April 14		216	20.5	54.1	4	1	3	662	30740	38870	44352	198	230	239	246	257	269	3.5	61.0	7.2	2.90	629	-	-
April 28		232	20.8	54.4	4	1	3	707	32076	36543	44352	199	233	241	249	258	269	3.4	60.9	7.4	2.89	670	214	22.6
May 22		210	23.8	52.8	14	1	13	627	30690	41592	44352	204	239	248	255	265	277	3.4	60.5	7.2	2.89	607	-	-
June 01		142	33.0	49.4	37	1	36	401	30542	42743	44352	213	251	263	272	283	288	3.5	59.8	8.1	2.82	471	157	30.1
June 15		64	45.7	42.2	0	0	0	165	30789	46122	44352	224	266	280	287	-	-	3.3	58.7	10.1	2.75	381	-	-
April 14	NK Brand N58-D1	220	22.3	54.1	2	0	2	665	30393	40739	44352	198	232	241	251	263	277	3.2	61.4	7.0	2.93	644	-	-
April 14	Pioneer 37R71	213	18.6	54.2	5	1	4	660	31086	37001	44352	198	228	237	242	252	262	3.8	60.6	7.3	2.88	614	-	-
April 28	NK Brand N58-D1	234	23.2	54.3	3	1	2	703	30591	35318	44352	199	237	245	254	264	277	3.1	61.1	7.3	2.90	679	201	24.3
April 28	Pioneer 37R71	229	18.5	54.5	5	2	3	711	33561	37769	44352	198	229	237	244	253	261	3.8	60.7	7.5	2.88	662	226	20.9
May 22	NK Brand N58-D1	218	27.2	52.3	20	0	20	639	30690	41704	44352	206	245	255	263	273	283	3.1	60.3	7.1	2.91	635	-	-
May 22	Pioneer 37R71	201	20.4	53.2	7	1	6	615	30690	41481	44352	202	233	240	248	258	272	3.8	60.7	7.4	2.88	578	-	-
June 01	NK Brand N58-D1	117	37.5	48.7	34	1	33	319	30393	43436	44352	214	257	271	279	289	-	3.1	60.1	8.2	2.82	477	123	32.8
June 01	Pioneer 37R71	167	28.4	50.2	40	1	39	483	30690	42050	44352	211	245	256	265	277	288	3.6	59.8	8.0	2.82	469	191	27.4
June 15	NK Brand N58-D1	63	48.1	36.3	0	0	0	159	30492	49896	44352	226	271	286	-	-	-				-	-	-	-
June 15	Pioneer 37R71	64	42.4	50.1	0	0	0	173	31086	42347	44352	223	262	276	287	-	-	3.3	58.7	10.1	2.75	381	-	-
Mean		175	28.3	50.8	12	1	11	521	30967	41174	44352	207	244	253	258	266	274	3.4	60.5	7.6	2.87	599	186	26.3
Probability(%)																								
Date of Planting (D)		0.0	0.0	0.0	3.8	24.3	3.9	0.0	8.1	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.1	0.0	0.0	0.8	0.2
Hybrid (H)		29.2	0.0	0.1	91.3	16.8	83.2	2.8	11.9	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	57.6	0.5	2.6	0.5	0.0
D x H		0.3	2.8	0.1	62.6	85.2	60.3	0.3	47.6	0.0	-	3.0	4.1	3.3	42.5	40.0	28.5	50.0	0.1	22.2	10.9	18.9	9.4	5.1
LSD (0.10)																								
Date of Planting (D)		16	0.8	1.0	11	NS	11	42	554	330	-	0	1	2	2	1	1	0.1	0.1	0.3	0.01	20	9	1.1
Hybrid (H)		NS	1.3	1.9	NS	NS	NS	36	NS	848	-	1	2	3	4	2	9	0.1	0.2	NS	0.01	18	21	0.8
D x H		18	1.9	2.7	NS	NS	NS	52	NS	1199	-	1	3	4	NS	NS	NS	NS	NS	NS	NS	NS	30	1.1
CV(%)		8	5	4	112	142	117	8	6	2	-	1	1	1	2	1	1	2	0	3	0	3	12	3

continued

Table C- 31. Planting Date And Hybrid Influence On Corn Grain And Silage Performance

(continued) **Arlington, WI - 2006.**

		Whole Plant															
Planting		Dry Matter		Kernel	KMR	SMR	VMR	Harvest		Crude	*In Vitro*					Milk per	
Date	Hybrid	yield	Moisture	milk	0-5	0-5	0-10	plants	ears	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
		tons/A	%	%				plants/A	ears/A	%	%	%	%	%	%	lbs/T	lbs/A
	NK Brand N58-D1	8.7	63.5	41.5	2.1	2.9	5.0	29819	30492	6.9	25.6	49.3	77.8	54.8	26.6	2973	26129
	Pioneer 37R71	7.5	57.7	16.5	0.8	1.6	2.4	29660	30848	7.5	22.9	45.7	79.2	54.2	30.8	3085	23372
April 14		9.0	63.1	45.0	2.3	3.1	5.3	29601	31581	7.1	22.9	45.2	78.8	53.2	32.8	3081	27774
April 28		9.6	54.5	12.5	0.6	1.3	2.0	29502	30195	6.6	22.1	44.7	79.4	53.9	33.4	3119	29797
May 22		9.0	58.3	24.4	1.2	1.9	3.1	29898	31086	6.6	21.4	42.8	79.6	52.4	36.5	3150	28362
June 01		7.3	66.1	53.8	2.7	3.2	5.9	30096	30888	7.6	25.4	48.9	78.7	56.4	23.9	3015	22132
June 15		5.6	61.1	9.4	0.5	1.7	2.1	29601	29601	8.2	29.4	55.9	75.7	56.4	17.0	2779	15689
April 14	NK Brand N58-D1	9.6	66.2	58.8	2.9	3.4	6.3	30492	31086	7.0	24.4	47.4	77.7	53.0	30.1	2998	28665
April 14	Pioneer 37R71	8.5	60.0	31.3	1.6	2.7	4.3	28710	32076	7.2	21.3	43.0	80.0	53.4	35.4	3164	26883
April 28	NK Brand N58-D1	10.7	58.8	21.3	1.1	2.3	3.3	30294	31284	6.4	23.7	46.9	78.6	54.4	30.1	3054	32653
April 28	Pioneer 37R71	8.5	50.2	3.8	0.2	0.4	0.6	28710	29106	6.8	20.5	42.5	80.2	53.4	36.7	3184	26941
May 22	NK Brand N58-D1	9.3	62.3	37.5	1.9	2.7	4.6	29304	30492	6.4	22.4	44.2	79.3	53.1	34.1	3119	29144
May 22	Pioneer 37R71	8.7	54.4	11.3	0.6	1.1	1.6	30492	31680	6.8	20.4	41.5	80.0	51.7	38.9	3181	27580
June 01	NK Brand N58-D1	8.0	67.9	71.3	3.6	3.4	7.0	30096	30690	7.4	27.6	52.3	77.6	57.1	19.9	2902	23575
June 01	Pioneer 37R71	6.6	64.2	36.3	1.8	3.0	4.8	30096	31086	7.8	23.2	45.6	79.9	55.8	27.9	3129	20688
June 15	NK Brand N58-D1	5.9	62.5	18.8	0.9	2.7	3.6	28908	28908	7.5	29.7	55.8	75.6	56.3	19.0	2791	16610
June 15	Pioneer 37R71	5.3	59.7	0.0	0.0	0.6	0.6	30294	30294	8.9	29.2	55.9	75.8	56.6	15.0	2767	14768
Mean		8.1	60.6	29.0	1.5	2.2	3.7	29740	30670	7.2	24.2	47.5	78.5	54.5	28.7	3029	24751
Probability(%)																	
Date of Planting (D)		0.1	0.0	0.0	0.0	0.0	0.0	97.0	38.3	0.3	0.1	0.1	0.6	0.7	0.0	0.2	0.1
Hybrid (H)		0.1	0.0	0.0	0.0	0.0	0.0	83.3	61.0	0.1	0.1	0.2	1.5	13.3	0.1	1.5	1.9
D x H		43.0	8.7	11.9	11.9	0.0	13.9	53.4	48.1	6.8	47.5	31.2	59.2	42.4	2.1	38.0	70.8
LSD (0.10)																	
Date of Planting (D)		1	3	6.9	0.3	0.3	0.4	NS	NS	0.6	2.5	4.2	1.6	1.9	5.4	131	4462
Hybrid (H)		1	1	3.8	0.2	0.1	0.2	NS	NS	0	1.2	1.7	0.9	NS	1.9	72	1843
D x H		NS	3	NS	0.4	0.3	NS	NS	NS	1	NS	NS	NS	NS	4.1	NS	NS
CV(%)		11	4	23	23	11	12	8	7	6	9	7	2	2	12	4	13

Table C-32. Planting Date And Hybrid Influence On Corn Grain And Silage Performance
Arlington, WI - 2006.

Planting Date	Hybrid	Harvest Timing	MPCI Grain yield	Whole Plant Dry Matter yield	Moisture	Kernel milk	KMR 0-5	SMR 0-5	VMR 0-10	Harvest plants	Harvest ears	Plant height	Cutting height	Crude protein	ADF	NDF	In Vitro Digest	NDFD	Starch	Milk per Ton	Milk per Acre
			bu/A	tons/A	%	%				plants/A	ears/A	inches	inches	%	%	%	%	%	%	lbs/T	lbs/A
		75% Milk	106	7.6	72.1	84.4	4.2	.	.	29700	30839	99	8.5	7.9	27.9	52.3	76.9	55.7	23.8	2903	22300
		50% Milk	119	8.5	60.3	33.1	1.7	2.3	3.9	29799	30542	99	10.5	7.1	23.7	46.8	79.1	55.2	28.6	3074	26022
		25% Milk	135	8.2	70.5	63.1	3.2	3.4	6.6	30888	31977	99	11.3	8.2	26.6	50.6	77.0	54.3	26.6	2925	24232
	NK Brand N58-D1		110	8.4	70.1	69.8	3.5	3.3	6.4	30195	31119	101	9.7	7.8	28.3	53.2	76.5	55.7	21.6	2866	24371
	Pioneer 37R71		129	7.8	65.1	50.6	2.5	2.3	4.1	30063	31119	97	10.4	7.7	23.9	46.6	78.8	54.5	31.0	3068	23998
	NK Brand N58-D1	75% Milk	98	7.9	73.8	88.8	4.4	.	.	29700	30294	101	8.4	8.0	29.6	55.2	76.1	56.5	19.2	2827	22548
	NK Brand N58-D1	50% Milk	109	9.4	63.4	46.3	2.3	2.8	5.1	30195	30987	101	10.2	6.9	25.7	49.6	78.1	55.8	25.0	2985	28182
	NK Brand N58-D1	25% Milk	124	8.0	73.2	74.4	3.7	3.8	7.6	30690	32076	101	10.6	8.4	29.5	54.8	75.3	54.7	20.7	2786	22384
	Pioneer 37R71	75% Milk	114	7.4	70.3	80.0	4.0	.	.	29700	31383	97	8.6	7.8	26.3	49.5	77.7	55.0	28.4	2978	22052
	Pioneer 37R71	50% Milk	128	7.6	57.2	20.0	1.0	1.7	2.7	29403	30096	98	10.7	7.3	21.8	44.0	80.0	54.6	32.3	3163	23861
	Pioneer 37R71	25% Milk	147	8.5	67.8	51.9	2.6	3.0	5.5	31086	31878	97	12.0	8.0	23.7	46.3	78.7	53.9	32.4	3063	26080
April 28			151	9.2	63.4	41.3	2.1	2.1	3.4	30129	31086	100	9.2	7.1	24.1	47.0	78.4	54.0	31.6	3044	27915
June 01			89	7.0	71.9	79.2	4.0	3.6	7.1	30129	31152	98	11.0	8.4	28.1	52.8	76.9	56.1	21.0	2890	20454
April 28		75% Milk	140	9.1	68.1	70.6	3.5	.	.	29502	30690	100	8.0	7.3	25.1	48.1	78.4	55.1	30.5	3032	27522
April 28		50% Milk	145	9.6	54.5	12.5	0.6	1.3	2.0	29502	30195	100	9.7	6.6	22.1	44.7	79.4	53.9	33.4	3125	29858
April 28		25% Milk	169	8.9	67.5	40.6	2.0	2.9	4.9	31383	32373	100	10.0	7.4	25.1	48.2	77.4	53.0	31.1	2975	26366
June 01		75% Milk	72	6.1	76.0	98.1	4.9	.	.	29898	30987	97	9.0	8.6	30.8	56.6	75.4	56.4	17.1	2773	17078
June 01		50% Milk	93	7.3	66.1	53.8	2.7	3.2	5.9	30096	30888	99	11.3	7.6	25.4	48.9	78.7	56.4	23.9	3023	22185
June 01		25% Milk	102	7.6	73.5	85.6	4.3	3.9	8.2	30393	31581	97	12.6	9.0	28.1	52.9	76.6	55.6	22.1	2874	22099
April 28	NK Brand N58-D1		151	9.8	66.5	49.2	2.5	2.8	4.6	30822	31746	101	9.1	7.1	25.6	49.0	77.6	54.2	28.5	2978	29130
April 28	Pioneer 37R71		151	8.6	60.2	33.3	1.7	1.4	2.3	29436	30426	100	9.4	7.1	22.6	45.0	79.2	53.8	34.7	3110	26701
June 01	NK Brand N58-D1		70	7.0	73.7	90.4	4.5	3.8	8.1	29568	30492	100	10.4	8.4	31.0	57.4	75.4	57.1	14.7	2754	19613
June 01	Pioneer 37R71		108	7.0	70.0	67.9	3.4	3.3	6.0	30690	31812	95	11.5	8.3	25.2	48.2	78.4	55.2	27.3	3026	21295
April 28	NK Brand N58-D1	75% Milk	139	9.4	69.8	77.5	3.9	.	.	30888	31284	101	7.9	7.5	25.8	49.4	77.9	55.3	27.7	2993	28072
April 28	NK Brand N58-D1	50% Milk	144	10.7	58.8	21.3	1.1	2.3	3.3	30294	31284	101	9.5	6.4	23.8	46.9	78.6	54.4	30.1	3061	32725
April 28	NK Brand N58-D1	25% Milk	170	9.2	70.8	48.8	2.4	3.4	5.8	31284	32670	101	9.8	7.4	27.3	50.6	76.1	52.8	27.9	2881	26593
April 28	Pioneer 37R71	75% Milk	141	8.8	66.4	63.8	3.2	.	.	28116	30096	100	8.2	7.1	24.4	46.8	78.9	54.8	33.3	3071	26973
April 28	Pioneer 37R71	50% Milk	145	8.5	50.2	3.8	0.2	0.4	0.6	28710	29106	100	9.8	6.8	20.5	42.5	80.2	53.4	36.7	3190	26990
April 28	Pioneer 37R71	25% Milk	168	8.5	64.1	32.5	1.6	2.3	3.9	31482	32076	100	10.1	7.3	23.0	45.8	78.6	53.3	34.2	3068	26139
June 01	NK Brand N58-D1	75% Milk	58	6.3	77.7	100.0	5.0	.	.	28512	29304	100	9.0	8.6	33.5	61.0	74.2	57.7	10.7	2661	17024
June 01	NK Brand N58-D1	50% Milk	74	8.0	67.9	71.3	3.6	3.4	7.0	30096	30690	100	10.9	7.4	27.6	52.3	77.6	57.1	19.9	2910	23639
June 01	NK Brand N58-D1	25% Milk	78	6.7	75.5	100.0	5.0	4.3	9.3	30096	31482	100	11.4	9.4	31.8	59.0	74.4	56.7	13.6	2691	18176
June 01	Pioneer 37R71	75% Milk	87	5.9	74.2	96.3	4.8	.	.	31284	32670	95	9.1	8.5	28.1	52.2	76.6	55.1	23.6	2885	17131
June 01	Pioneer 37R71	50% Milk	111	6.6	64.2	36.3	1.8	3.0	4.8	30096	31086	97	11.6	7.8	23.2	45.6	79.9	55.8	27.9	3136	20732
June 01	Pioneer 37R71	25% Milk	125	8.5	71.5	71.3	3.6	3.6	7.2	30690	31680	95	13.8	8.7	24.4	46.8	78.7	54.5	30.5	3057	26022
Mean			120	8.1	67.6	60.2	3.0	2.8	5.2	30129	31119	99	10.1	7.7	26.1	49.9	77.6	55.1	26.3	2967	24185
Probability(%)																					
Date of Planting (D)			0.7	0.4	0.0	0.0	0.0	0.0	0.0	100.0	95.4	58.0	4.5	0.5	0.1	0.2	1.7	3.4	0.0	0.6	0.2
Hybrid (H)			0.4	19.4	0.0	0.0	0.0	0.0	0.0	82.3	100.0	0.1	3.9	55.0	0.0	0.0	0.0	0.7	0.0	0.0	80.0
D x H			0.5	20.2	4.7	13.0	13.0	0.0	62.5	4.1	5.4	2.6	26.8	86.6	5.6	1.4	20.6	5.1	0.6	8.0	17.1
Havest Timing (T)			0.2	28.6	0.0	0.0	0.0	0.0	0.0	20.2	18.9	94.6	0.0	0.0	0.0	0.0	0.2	2.6	0.4	0.2	13.4
D x T			49.6	30.3	0.3	0.6	0.6	0.0	12.9	49.4	63.9	94.6	13.0	17.2	22.6	19.0	12.6	38.6	21.7	17.8	24.2
H x T			89.0	11.7	19.0	0.6	0.6	20.6	27.4	70.4	46.9	94.6	34.7	6.3	32.4	41.5	32.1	75.3	27.8	39.3	9.9
D x H x T			73.8	56.3	25.1	3.1	3.1	1.1	31.7	18.9	51.4	94.6	32.9	49.7	68.3	56.4	90.5	46.0	23.1	91.2	59.0
LSD (0.10)																					
Date of Planting (D)			22	0.6	1.1	4.0	0.2	0.1	0.3	NS	NS	NS	1.2	0.4	0.6	1.2	0.7	1.4	1.3	51	1690
Hybrid (H)			10	NS	1.0	3.6	0.2	0.1	0.3	NS	NS	1	0.5	NS	1.2	1.7	0.9	0.7	1.8	66	NS
D x H			15	NS	1.4	NS	NS	0.2	NS	1406	1581	2	NS	NS	1.7	2.4	NS	1.0	2.6	93	NS
Havest Timing (T)			13	NS	1.3	4.5	0.2	0.2	0.3	NS	NS	NS	0.7	0.3	1.5	2.1	1.1	0.8	2.2	81	NS
D x T			NS	NS	1.8	6.3	0.3	0.2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
H x T			NS	NS	NS	6.3	0.3	NS	NS	NS	NS	NS	NS	0.4	NS	NS	NS	NS	NS	NS	4307
D x H x T			NS	NS	NS	8.9	0.4	0.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)			18	19	3	12	12	9	10	7	7	3	11	6	9	7	2	3	14	5	21

Table C-33. Planting Date And Hybrid Influence On Corn Leaf Development Arlington, WI - 2006.

Date of Planting	Hybrid	Observation Date	Leaf Development: Leaf collars	Leaf Development: Hail adjusters method	Leaf Development: Total leaves	Plant height
		day of year	no./plant	no./plant	no./plant	inches
		153	2.5	4.3	5.2	4.9
		167	4.7	6.8	7.7	10.7
		181	6.5	9.0	10.6	25.8
		195	11.1	13.1	14.1	60.1
		208	15.4	16.2	18.0	86.4
		223	17.5	17.6	17.7	104.2
		237	17.7	17.7	17.8	106.5
	NK Brand N58-D1		11.3	12.7	13.6	60.3
	Pioneer 37R71		11.6	12.8	13.7	62.9
	NK Brand N58-D1	153	2.5	4.3	5.1	4.4
	NK Brand N58-D1	167	4.6	6.8	7.5	9.4
	NK Brand N58-D1	181	6.3	8.6	10.2	23.3
	NK Brand N58-D1	195	10.4	12.9	13.9	55.0
	NK Brand N58-D1	208	15.3	16.2	18.4	83.6
	NK Brand N58-D1	223	17.5	17.7	17.9	105.0
	NK Brand N58-D1	237	18.0	18.0	18.0	108.9
	Pioneer 37R71	153	2.5	4.3	5.3	5.4
	Pioneer 37R71	167	4.8	6.8	7.9	12.0
	Pioneer 37R71	181	6.8	9.4	10.9	28.2
	Pioneer 37R71	195	11.8	13.3	14.3	65.1
	Pioneer 37R71	208	15.5	16.3	17.6	89.3
	Pioneer 37R71	223	17.5	17.5	17.6	103.4
	Pioneer 37R71	237	17.5	17.5	17.6	104.1
April 14			11.8	12.9	13.6	61.7
April 28			12.6	14.0	14.7	66.2
May 22			11.0	12.2	13.0	61.6
June 01			11.2	12.6	13.8	61.0
June 15			10.4	11.9	13.1	55.8
April 14		153	3.5	5.3	6.3	5.6
April 14		167	5.9	8.0	9.1	13.2
April 14		181	8.6	11.3	13.3	35.1
April 14		195	13.9	15.0	15.9	78.0
April 14		208	16.9	16.9	16.9	100.1
April 14		223	16.9	16.9	16.9	100.1
April 14		237	16.9	16.9	16.9	100.1
April 28		153	3.1	5.1	6.1	5.8
April 28		167	6.3	8.6	10.0	15.9
April 28		181	9.4	12.8	14.6	41.2
April 28		195	14.9	16.3	16.9	88.9
April 28		208	18.3	18.3	18.3	103.9
April 28		223	18.3	18.3	18.3	103.9
April 28		237	18.3	18.3	18.3	103.9

continued

Table C-33. Planting Date And Hybrid Influence On Corn Leaf Development
(continued) **Arlington, WI - 2006.**

Date of Planting	Hybrid	Observation Date	Leaf Development: Leaf collars	Leaf Development: Hail adjusters method	Leaf Development: Total leaves	Plant height
		day of year	no./plant	no./plant	no./plant	inches
May 22		153	0.9	2.4	3.3	3.2
May 22		167	4.8	6.8	7.7	9.6
May 22		181	7.4	9.9	11.7	31.4
May 22		195	11.8	13.9	15.1	68.0
May 22		208	17.2	17.2	17.8	103.1
May 22		223	17.6	17.6	17.6	108.1
May 22		237	17.6	17.6	17.6	108.1
June 01		153	-	-	-	-
June 01		167	2.0	3.8	4.0	4.1
June 01		181	5.3	7.6	8.8	17.0
June 01		195	9.1	12.3	13.4	47.9
June 01		208	14.8	15.6	20.3	77.9
June 01		223	18.1	18.1	18.1	109.3
June 01		237	18.1	18.1	18.1	109.6
June 15		153	-	-	-	-
June 15		167	-	-	-	-
June 15		181	2.0	3.4	4.4	4.2
June 15		195	5.7	8.2	9.1	17.4
June 15		208	9.8	13.3	16.7	47.0
June 15		223	16.6	16.9	17.6	99.6
June 15		237	17.8	17.8	17.9	110.6
April 14	NK Brand N58-D1		11.3	12.4	13.1	58.7
April 14	Pioneer 37R71		12.3	13.3	14.1	64.8
April 28	NK Brand N58-D1		13.0	14.5	15.2	65.7
April 28	Pioneer 37R71		12.3	13.5	14.1	66.8
May 22	NK Brand N58-D1		10.9	12.2	13.0	60.6
May 22	Pioneer 37R71		11.2	12.2	13.0	62.7
June 01	NK Brand N58-D1		11.0	12.4	14.3	60.3
June 01	Pioneer 37R71		11.5	12.8	13.3	61.6
June 15	NK Brand N58-D1		10.1	11.8	12.5	54.6
June 15	Pioneer 37R71		10.6	12.0	13.7	57.0
April 14	NK Brand N58-D1	153	3.5	5.1	6.0	4.9
April 14	NK Brand N58-D1	167	5.5	7.6	8.5	11.5
April 14	NK Brand N58-D1	181	7.9	10.1	12.3	29.3
April 14	NK Brand N58-D1	195	12.6	14.5	15.5	68.9
April 14	NK Brand N58-D1	208	16.5	16.5	16.5	98.8
April 14	NK Brand N58-D1	223	16.5	16.5	16.5	98.8
April 14	NK Brand N58-D1	237	16.5	16.5	16.5	98.8
April 14	Pioneer 37R71	153	3.5	5.4	6.5	6.2
April 14	Pioneer 37R71	167	6.3	8.4	9.8	14.9
April 14	Pioneer 37R71	181	9.4	12.4	14.4	40.8
April 14	Pioneer 37R71	195	15.1	15.5	16.3	87.1
April 14	Pioneer 37R71	208	17.3	17.3	17.3	101.5
April 14	Pioneer 37R71	223	17.3	17.3	17.3	101.5
April 14	Pioneer 37R71	237	17.3	17.3	17.3	101.5

continued

Table C-33. Planting Date And Hybrid Influence On Corn Leaf Development (continued) Arlington, WI - 2006.

Date of Planting	Hybrid	Observation Date	Leaf Development: Leaf collars	Leaf Development: Hail adjusters method	Leaf Development: Total leaves	Plant height
		day of year	no./plant	no./plant	no./plant	inches
April 28	NK Brand N58-D1	153	3.1	5.1	6.0	5.1
April 28	NK Brand N58-D1	167	6.3	8.9	10.0	14.5
April 28	NK Brand N58-D1	181	9.4	12.6	14.8	38.8
April 28	NK Brand N58-D1	195	14.0	16.1	16.9	85.6
April 28	NK Brand N58-D1	208	19.5	19.5	19.5	105.3
April 28	NK Brand N58-D1	223	19.5	19.5	19.5	105.3
April 28	NK Brand N58-D1	237	19.5	19.5	19.5	105.3
April 28	Pioneer 37R71	153	3.0	5.1	6.3	6.6
April 28	Pioneer 37R71	167	6.3	8.4	10.0	17.4
April 28	Pioneer 37R71	181	9.4	13.0	14.5	43.5
April 28	Pioneer 37R71	195	15.8	16.4	16.9	92.3
April 28	Pioneer 37R71	208	17.1	17.1	17.1	102.6
April 28	Pioneer 37R71	223	17.1	17.1	17.1	102.6
April 28	Pioneer 37R71	237	17.1	17.1	17.1	102.6
May 22	NK Brand N58-D1	153	0.9	2.5	3.4	3.1
May 22	NK Brand N58-D1	167	4.8	6.8	7.5	8.3
May 22	NK Brand N58-D1	181	6.9	9.4	11.0	29.4
May 22	NK Brand N58-D1	195	11.0	13.9	15.1	60.4
May 22	NK Brand N58-D1	208	17.0	17.0	18.1	101.0
May 22	NK Brand N58-D1	223	17.9	17.9	17.9	111.0
May 22	NK Brand N58-D1	237	17.9	17.9	17.9	111.0
May 22	Pioneer 37R71	153	1.0	2.4	3.3	3.3
May 22	Pioneer 37R71	167	4.9	6.9	7.9	10.9
May 22	Pioneer 37R71	181	7.9	10.4	12.4	33.4
May 22	Pioneer 37R71	195	12.5	13.9	15.1	75.6
May 22	Pioneer 37R71	208	17.4	17.4	17.4	105.1
May 22	Pioneer 37R71	223	17.4	17.4	17.4	105.1
May 22	Pioneer 37R71	237	17.4	17.4	17.4	105.1
June 01	NK Brand N58-D1	153	-	-	-	-
June 01	NK Brand N58-D1	167	2.0	3.8	4.0	3.4
June 01	NK Brand N58-D1	181	5.4	7.4	8.8	15.4
June 01	NK Brand N58-D1	195	8.8	12.3	13.3	44.3
June 01	NK Brand N58-D1	208	13.9	15.1	23.5	69.8
June 01	NK Brand N58-D1	223	18.0	18.0	18.0	114.6
June 01	NK Brand N58-D1	237	18.0	18.0	18.0	114.6
June 01	Pioneer 37R71	153	-	-	-	-
June 01	Pioneer 37R71	167	2.0	3.8	4.0	4.8
June 01	Pioneer 37R71	181	5.1	7.9	8.9	18.6
June 01	Pioneer 37R71	195	9.5	12.4	13.5	51.6
June 01	Pioneer 37R71	208	15.8	16.0	17.0	86.1
June 01	Pioneer 37R71	223	18.3	18.3	18.3	103.9
June 01	Pioneer 37R71	237	18.3	18.3	18.3	104.6

continued

Table C-33. Planting Date And Hybrid Influence On Corn Leaf Development

(continued) **Arlington, WI - 2006.**

Date of Planting	Hybrid	Observation Date	Leaf Development: Leaf collars	Leaf Development: Hail adjusters method	Leaf Development: Total leaves	Plant height
		day of year	no./plant	no./plant	no./plant	inches
June 15	NK Brand N58-D1	153	-	-	-	-
June 15	NK Brand N58-D1	167	-	-	-	-
June 15	NK Brand N58-D1	181	2.0	3.6	4.4	3.8
June 15	NK Brand N58-D1	195	5.5	7.9	8.6	16.0
June 15	NK Brand N58-D1	208	9.4	13.0	14.1	43.0
June 15	NK Brand N58-D1	223	15.6	16.4	17.4	95.4
June 15	NK Brand N58-D1	237	18.0	18.0	18.0	114.6
June 15	Pioneer 37R71	153	-	-	-	-
June 15	Pioneer 37R71	167	-	-	-	-
June 15	Pioneer 37R71	181	2.0	3.1	4.4	4.6
June 15	Pioneer 37R71	195	5.9	8.5	9.5	18.8
June 15	Pioneer 37R71	208	10.1	13.5	19.3	51.0
June 15	Pioneer 37R71	223	17.5	17.5	17.8	103.8
June 15	Pioneer 37R71	237	17.5	17.5	17.8	106.6
Mean			11.5	12.8	13.7	61.6
Probability(%)						
Date of Planting (D)			0.0	0.0	0.0	0.0
Hybrid (H)			0.4	28.3	80.9	0.0
D x H			0.0	0.0	2.9	3.2
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	4.9	71.9	0.0
D x H x S			0.0	2.6	28.7	0.0
LSD(0.10)						
Date of Planting (D)			0.4	0.5	1.0	2.5
Hybrid (H)			0.2	NS	NS	1.9
D x H			0.4	0.4	1.1	2.3
Sample DOY (S)			0.3	0.3	0.9	1.9
D x S			0.7	0.7	2.0	4.2
H x S			0.4	0.5	NS	2.7
D x H x S			1.0	1.0	NS	5.9
CV(%)			7	6	17	8

Table C-34. Planting Date And Hybrid Influence On Corn Quality Arlington, WI - 2005.

Planting Date	Brand	Hybrid	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
	Dekalb	DKC58-78(YGCB)	3.9	58.6	8.1	2.85	593
	NK Brand	N32-L9	3.7	58.5	8.3	2.86	544
	NK Brand	N17-R3	3.4	58.1	9.0	2.85	389
April 15			3.8	58.8	8.0	2.87	603
April 29			3.9	58.7	8.1	2.86	595
May 10			3.9	58.7	8.0	2.86	548
May 23			3.9	58.7	8.3	2.84	578
June 01			3.7	58.7	8.2	2.87	564
June 15			3.1	57.3	9.4	2.82	321
April 15	Dekalb	DKC58-78(YGCB)	3.8	58.7	8.0	2.86	623
April 15	NK Brand	N32-L9	3.8	59.0	8.0	2.88	583
April 29	Dekalb	DKC58-78(YGCB)	4.1	58.7	8.0	2.85	619
April 29	NK Brand	N32-L9	3.8	58.7	8.1	2.87	570
May 10	Dekalb	DKC58-78(YGCB)	3.9	58.3	8.1	2.84	571
May 10	NK Brand	N32-L9	3.9	59.0	7.9	2.88	525
May 23	Dekalb	DKC58-78(YGCB)	3.7	58.6	8.2	2.85	559
May 23	NK Brand	N32-L9	4.1	58.7	8.3	2.84	597
June 01	NK Brand	N32-L9	3.8	58.5	8.1	2.86	600
June 01	NK Brand	N17-R3	3.6	58.9	8.3	2.88	528
June 15	NK Brand	N32-L9	3.1	57.2	9.1	2.83	391
June 15	NK Brand	N17-R3	3.1	57.3	9.7	2.82	251
Mean			3.7	58.5	8.3	2.85	535
Probability(%)							
Date of Planting (D)			0.0	0.3	0.1	0.8	0.0
Hybrid (H)			46.0	21.9	0.5	0.2	0.1
D x H			1.8	55.4	18.7	0.7	17.1
LSD (0.10)							
Date of Planting (D)			0.1	0.5	0.3	0.02	47
Hybrid (H)			NS	NS	0.1	0.01	28
D x H			0.2	NS	NS	0.02	NS
CV(%)			4	1	2	0	7

Table C-35. Planting Date And Hybrid Influence On Corn Grain Quality. Arlington, WI - 2004.

Planting Date	Hybrid	Grain Composition			Ethanol	
		Oil	Starch	Protein	per bu	per A
		%	%	%	gallons	gallons
	AgriGold A6333Bt	3.4	61.1	7.8	2.82	468
	NK Brand N32L9	3.6	60.8	8.0	2.83	417
April 12		3.6	60.9	7.3	2.88	569
April 30		3.6	60.7	7.3	2.87	606
May 12		3.6	60.9	7.3	2.86	521
May 20		3.5	60.9	7.6	2.84	472
June 01		3.4	61.2	7.7	2.83	409
June 15		3.1	61.2	9.9	2.67	78
April 12	AgriGold A6333Bt	3.4	61.2	7.0	2.88	631
April 12	NK Brand N32L9	3.8	60.5	7.7	2.87	507
April 30	AgriGold A6333Bt	3.6	60.9	7.0	2.87	672
April 30	NK Brand N32L9	3.7	60.5	7.8	2.87	541
May 12	AgriGold A6333Bt	3.5	61.2	6.9	2.87	553
May 12	NK Brand N32L9	3.7	60.7	7.6	2.85	490
May 20	AgriGold A6333Bt	3.3	61.3	7.3	2.84	492
May 20	NK Brand N32L9	3.6	60.6	7.9	2.84	453
June 01	AgriGold A6333Bt	3.3	61.4	7.5	2.80	413
June 01	NK Brand N32L9	3.4	60.9	7.9	2.85	406
June 15	AgriGold A6333Bt	3.1	60.8	11.1	2.63	50
June 15	NK Brand N32L9	3.1	61.7	8.7	2.71	106
Mean		3.5	61.0	7.9	2.82	443
Probability(%)						
Date of Planting (D)		0.0	50.2	0.0	0.0	0.0
Hybrid (H)		0.1	1.8	23.1	0.9	0.0
D x H		14.9	0.5	0.0	0.0	0.0
LSD (0.10)						
Date of Planting (D)		0.1	NS	0.3	0.02	48
Hybrid (H)		0.1	0.1	NS	0.01	13
D x H		NS	0.4	0.2	0.02	33
CV(%)		2	0	2	0	5

FIELD EXPERIMENT HISTORY

Title: **Date of Planting and Hybrid Influence on Corn Forage**

Experiment: 03 DOP-Silage **Trial ID:** 2926 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS427 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/1 /06 **pH** 6.8 **OM (%)** 4.2 **P (ppm)** 86 **K (ppm)** 249

Plot Management

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

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325	4 /20/06
	Starter :	9-23-30	150	Each DOP
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Outlook 20 oz/A
Hornet 4 oz/A

Insecticide: None

Hybrid: See Factors

Irrigation: None

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

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

Harvest Date: 9/8 & 10/25 **Harvest Method:** New Holland 707 Plot Chopper

Experimental Design

Design: RCB Split Plot **Replications:** 3

Plot Size Seeded: 20' x 25' **Experiment Size:** 0.9 Acre

Harvest Plot Size: 2.5' x 22' **Harvest Plant Density:** 30694 **plants per acre**

Factors/Treatments:

Date of Planting:

April 28
June 1
June 30
July 14
July 31

Hybrids:

Dekalb DKC 58-78 (YGCB)
NK Brand N32-L9
Mycogen F2F444

Results: Tables C-36.

Table C-36. Planting Date And Hybrid Influence On Corn Silage Performance Arlington, WI - 2006.

			Whole Plant																
Planting			Dry Matter		Kernel	KMR	SMR	VMR	Silking	Harvest		Crude	*In Vitro*					Milk per	
Date		Hybrid	yield	Moisture	milk	0-5	0-5	0-10	Date	plants	ears	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
			tons/A	%	%				doy	plants/A	ears/A	%	%	%	%	%	%	lbs/T	lbs/A
	Dekalb	DKC58-78(YGCB)	6.2	67.3	54	2.7	2.7	6.3	217	30782	25186	9.5	29.6	55.9	78.5	60.1	17.7	3049	19282
	NK Brand	N32-L9	5.7	63.0	39	1.9	2.5	4.3	213	30413	25555	9.7	28.8	54.1	78.7	59.3	19.5	3068	17826
	Mycogen	F2F444	4.9	70.4	45	2.3	2.8	5.4	216	30888	25344	9.5	28.7	57.2	84.0	71.0	14.4	3308	16442
April 28			9.1	64.1	53	2.6	2.7	5.3	199	31240	32824	7.7	22.9	45.1	80.6	56.7	32.7	3266	29648
June 01			8.7	49.2	3	0.2	-	-	212	30536	30800	8.4	20.5	42.2	81.5	55.8	35.1	3334	28856
June 30			5.9	68.0	100	5.0	-	-	235	31504	31680	8.9	28.8	55.2	79.4	62.7	17.9	3122	18466
July 14			3.5	76.9	-	-	-	-	-	30976	31504	10.3	36.5	67.7	77.5	66.8	0.4	2819	9974
July 31			0.7	76.4	-	-	-	-	-	29216	0	12.4	36.5	68.3	83.1	75.2	0.0	3167	2306
April 28	Dekalb	DKC58-78(YGCB)	10.2	64.2	72	3.6	2.7	6.3	200	31152	32472	7.6	21.7	42.8	80.3	53.9	36.7	3266	33398
April 28	NK Brand	N32-L9	9.2	60.1	35	1.8	2.5	4.3	197	30624	33792	7.4	23.0	44.5	79.4	53.5	34.5	3205	29597
April 28	Mycogen	F2F444	7.8	68.1	52	2.6	2.8	5.4	199	31944	32208	8.2	24.1	48.2	82.1	62.7	26.8	3325	25950
June 01	Dekalb	DKC58-78(YGCB)	9.8	50.5	7	0.3	-	-	214	31152	31416	7.9	21.2	42.1	79.9	52.1	35.4	3246	31816
June 01	NK Brand	N32-L9	8.7	41.5	2	0.1	-	-	209	29568	29832	8.1	19.4	39.5	80.7	51.1	40.9	3306	28901
June 01	Mycogen	F2F444	7.5	55.7	2	0.1	-	-	214	30888	31152	9.2	20.8	45.1	84.0	64.3	29.1	3449	25852
June 30	Dekalb	DKC58-78(YGCB)	6.4	68.0	100	5.0	-	-	238	30888	31152	8.6	31.5	58.1	75.6	58.0	16.3	2898	18653
June 30	NK Brand	N32-L9	6.1	64.0	100	5.0	-	-	232	32736	32736	9.2	28.0	51.9	77.5	56.5	22.0	3045	18579
June 30	Mycogen	F2F444	5.3	71.9	100	5.0	-	-	236	30888	31152	9.0	27.0	55.6	85.3	73.5	15.3	3423	18167
July 14	Dekalb	DKC58-78(YGCB)	3.7	77.0	-	-	-	-	-	30096	30888	10.5	37.3	68.3	75.5	64.1	0.3	2760	10116
July 14	NK Brand	N32-L9	3.6	74.4	-	-	-	-	-	31152	31416	10.6	37.5	67.7	74.2	62.0	0.3	2665	9533
July 14	Mycogen	F2F444	3.4	79.3	-	-	-	-	-	31680	32208	9.8	34.7	67.1	82.7	74.3	0.8	3032	10273
July 31	Dekalb	DKC58-78(YGCB)	0.8	76.7	-	-	-	-	-	30624	0	12.7	36.6	68.1	81.2	72.3	0.0	3072	2428
July 31	NK Brand	N32-L9	0.8	75.2	-	-	-	-	-	27984	0	13.2	36.2	67.1	81.9	73.0	0.0	3119	2522
July 31	Mycogen	F2F444	0.6	77.2	-	-	-	-	-	29040	0	11.4	36.8	69.8	86.2	80.2	0.0	3309	1968
Mean			5.6	66.9	46	2.3	2.7	5.3	215	30694	25362	9.6	29.0	55.7	80.4	63.4	17.2	3141	17850
Probability(%)																			
Date of Planting (D)			0.0	0.0	0.1	0.1	-	-	0.0	1.3	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Hybrid (H)			0.0	0.0	0.0	0.0	25.0	0.0	0.0	67.9	39.0	31.3	33.3	4.1	0.0	0.0	0.2	0.0	0.0
D x H			0.0	0.1	0.0	0.0	-	-	10.1	25.8	0.9	0.0	11.7	29.7	0.2	0.0	4.9	1.2	0.2
LSD (0.10)																			
Date of Planting (D)			0.8	4.5	10	0.4	-	-	2	932	748	1.1	5.6	2.8	2.0	2.4	2.9	107	2894
Hybrid (H)			0.2	1.0	1	0.1	NS	0.1	1	NS	NS	NS	NS	1.9	3.3	0.8	2.2	56	889
D x H			0.4	2.3	3	0.2	-	-	NS	NS	1018	0.6	NS	NS	1.9	1.9	5.0	125	1989
CV(%)			6	2	5	5	6	1	1	5	3	5	6	5	2	2	20	3	8

FIELD EXPERIMENT HISTORY

Title: **Plant Density, Planting Date, and Hybrid Influence on Corn Grain and Silage**

Experiment: 04 PD x DOP **Trial ID** 2924 **Year:** 2006

Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS427 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/1 /06 **pH:** 6.8 **OM (%)** 4.2 **P (ppm)** 86 **K (ppm)** 249

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Soil Finisher

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325	4 /20/06
	Starter :	9-23-30	150	Each DOP
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Outlook 20.0 oz/A
Hornet 4.0 oz/A

Insecticide: None

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: 9/8/05, 10/3/06 & 10/25/06
G: 10/24/06

Harvest Method: S: New Holland 707
G: Massey Ferguson 8XP

Experimental Design

Design: RCB split plot **Replications:** 3

Plot Size Seeded 20' x 25' **Experiment Size:** 1.2 Acre

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

Harvest Plant Density: Varies

Factors/Treatments:

Planting Dates:	Plant Densities: (plants/A)	Hybrids:
April 29, May 22, and June 09	15000, 30000, and 45000	Dekalb DKC58-78(YGCB) Pioneer 37R71

Results: Table C-37 and 38.

Table C-37. Plant Density and Planting Date Influence on Corn Silage, Grain and Quality - Dekalb DKC58-78(YGCB). Arlington, WI - 2006

Date of planting	Target plant density	Grain Yield	Moisture	Test Wt	Lodged Total	Lodged Stalk	Lodged Root	Grower return	Harvest plants	Harvest ears	Seeds planted	Plants emerged	Plant height	Silk Date	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
		bu/A	%	lbs/bu	%	%	%	$/A	plants/A	ears/A	seeds/A	plants/A	inches	doy	%	%	%	gallons	gallons
	15000	188	30.9	51.5	1	1	2	540	17380	26620	23760	22572	109	208	3.5	58.3	8.4	2.82	531
	30000	233	30.6	52.0	1	18	19	672	31196	31460	43560	40458	109	208	3.7	58.8	8.2	2.82	659
	45000	227	31.3	52.0	4	30	34	650	43692	43516	59400	54967	103	209	3.6	58.1	8.1	2.83	642
April 28		240	24.1	54.0	2	1	3	718	30360	32604	42240	38533	109	200	3.6	58.7	8.0	2.85	683
May 22		235	28.2	52.1	2	11	13	683	31900	34144	42240	39248	110	205	3.7	58.2	8.1	2.83	664
June 09		173	40.5	49.4	1	37	38	462	30008	34848	42240	40216	103	219	3.6	58.4	8.5	2.80	485
April 28	15000	189	23.7	53.8	3	2	5	566	17028	23496	23760	22077	110	200	3.5	58.3	8.2	2.84	536
April 28	30000	267	23.5	54.1	2	1	3	802	31944	32208	43560	39468	113	200	3.7	59.2	8.0	2.84	760
April 28	45000	264	25.1	54.1	1	1	2	785	42108	42108	59400	54054	104	201	3.6	58.5	7.9	2.85	754
May 22	15000	213	28.4	51.8	1	0	1	620	18876	25608	23760	22737	112	204	3.6	58.4	8.4	2.82	602
May 22	30000	246	27.9	52.2	0	3	3	717	31944	31944	43560	40524	109	204	3.8	58.6	8.1	2.82	695
May 22	45000	245	28.2	52.3	6	29	36	713	44880	44880	59400	54483	107	207	3.6	57.6	8.0	2.83	695
June 09	15000	163	40.6	49.0	0	0	0	433	16236	30756	23760	22902	106	219	3.5	58.2	8.6	2.80	456
June 09	30000	187	40.3	49.7	0	51	51	499	29700	30228	43560	41382	105	220	3.7	58.5	8.6	2.79	522
June 09	45000	170	40.6	49.5	4	60	64	453	44088	43560	59400	56364	99	220	3.5	58.4	8.4	2.80	478
Mean		216	30.9	51.8	2	16	18	621	30756	33865	42240	39332	107	208	3.6	58.4	8.2	2.82	611
Probability(%)																			
Date of Planting (P)		0.1	0.0	0.0	87.0	13.0	12.5	0.1	75.6	63.6	-	0.8	10.1	0.0	56.3	78.0	2.0	0.1	0.1
Plant Density (D)		0.1	24.6	4.1	21.1	0.8	0.3	0.1	0.0	0.0	-	0.0	19.3	1.9	5.2	32.4	11.2	24.6	0.1
P x D		8.6	56.5	87.3	55.5	3.8	1.4	7.7	33.5	3.2	-	40.5	90.6	23.4	86.1	74.8	79.1	91.1	7.8
LSD(0.10)																			
Date of Planting (P)		15	2	0.7	NS	NS	NS	48	NS	NS	-	557	NS	2	NS	NS	0.2	0.0	43
Plant Density (D)		17	NS	0.3	NS	14	15	49	1449	1909	-	682	NS	1	0.1	NS	NS	NS	47
P x D		29	NS	NS	NS	24	22	85	NS	3306	-	NS	NS	NS	NS	NS	NS	NS	82
CV(%)		9	3	1	195	100	82	9	6	7	-	2	7	0	2	1	3	1	9

continued.

Table C-37. Plant Density and Planting Date Influence on Corn Silage, Grain and Quality - Dekalb DKC58-78(YGCB).
(continued) **Arlington, WI - 2006**

Date of planting	Target plant density	Whole Plant Dry Matter yield	Moisture	Kernel milk	KMR 0-5	SMR 0-5	VMR 0-10	Harvest plants	Harvest ears	*In Vitro* CP	*In Vitro* ADF	*In Vitro* NDF	*In Vitro* Digest	*In Vitro* NDFD	*In Vitro* Starch	Milk per Ton	Milk per Acre
		tons/A	%	%				plants/A	ears/A	%	%	%	%	%	%	lbs/T	lbs/A
	15000	9.1	63.3	44	2.2	2.6	5.3	19008	30624	8.1	23.1	45.5	79.5	55.0	31.9	3098.2	28046
	30000	10.5	62.1	43	2.1	2.4	5.3	30448	32296	8.0	24.0	46.3	78.4	53.3	32.0	3027.9	31853
	45000	10.2	61.6	38	1.9	2.4	5.4	38544	41096	7.8	25.1	47.8	78.0	53.8	30.9	2991.3	30375
April 28		10.4	66.6	73	3.7	3.0	6.6	30008	35200	7.9	23.3	45.4	79.4	54.6	33.4	3093.1	32067
May 22		10.2	62.7	38	1.9	2.0	4.1	27280	32824	7.8	24.6	47.2	77.7	52.7	30.8	2981.8	30284
June 09		9.2	57.6	13	0.7	1.2	3.2	30712	35992	8.2	24.3	47.0	78.8	54.9	30.7	3042.6	27922
April 28	15000	8.8	66.4	67	3.3	3.2	6.5	16104	27984	8.2	21.4	43.3	80.9	55.9	34.7	3198.2	28094
April 28	30000	10.7	66.4	75	3.8	2.9	6.7	29568	32208	7.9	23.4	45.5	79.0	54.0	33.1	3073.6	32924
April 28	45000	11.7	67.1	78	3.9	2.8	6.7	44352	45408	7.6	25.1	47.3	78.2	53.9	32.3	3007.5	35184
May 22	15000	9.4	66.1	45	2.3	2.4	4.7	15048	24552	8.1	25.1	48.3	77.8	54.1	28.0	2976.6	27958
May 22	30000	11.2	62.5	43	2.2	1.8	4.0	31944	33264	7.7	24.3	46.6	77.3	51.2	32.2	2968.1	33279
May 22	45000	9.9	59.6	25	1.3	1.8	3.4	34848	40656	7.5	24.3	46.7	77.9	52.7	32.2	3000.6	29616
June 09	15000	9.1	57.4	20	1.0	1.2	3.2	25872	39336	8.1	22.7	44.9	79.8	55.0	33.1	3119.9	28087
June 09	30000	9.7	57.3	10	0.5	-	-	29832	31416	8.2	24.2	46.9	78.8	54.8	30.6	3042.1	29355
June 09	45000	8.9	58.1	10	0.5	-	-	36432	37224	8.1	25.9	49.3	77.8	55.0	28.4	2965.9	26326
Mean		9.9	62.3	41	2.1	2.5	5.3	29333	34672	8.0	24.0	46.5	78.6	54.1	31.6	3039.2	30091
Probability(%)																	
Date of Planting (P)		11.4	0.6	0.0	0.0	2.2	0.5	69.6	39.6	24.7	63.6	62.4	31.9	3.3	31.4	40.6	3.0
Plant Density (D)		3.2	46.0	33.8	33.8	0.4	7.7	0.2	0.3	1.7	9.8	19.2	15.8	7.9	56.4	17.4	3.9
P x D		12.8	25.1	6.2	6.2	31.0	2.2	40.9	3.7	28.1	29.6	27.1	66.0	51.3	4.4	56.4	11.9
LSD(0.10)																	
Date of Planting (P)		NS	2.8	7.6	0.4	0.4	0.4	NS	NS	NS	NS	NS	NS	1.2	NS	NS	2867
Plant Density (D)		0.9	NS	NS	NS	0.2	0.3	7252	5392	0.2	2	NS	NS	1.3	NS	NS	2332
P x D		NS	NS	13	1	NS	0	NS	7806	NS	NS	NS	NS	NS	3.4	NS	NS
CV(%)		10	5	22	22	8	6	29	15	3	8	5	2	3	7	4	12

continued.

Table C-38. Plant Density and Planting Date Influence on Corn Silage, Grain and Quality - Pioneer 37R71. Arlington, WI - 2006

Date of planting	Target plant density	Grain Yield	Moisture	Test Wt	Lodged Total	Lodged Stalk	Lodged Root	Grower return	Harvest plants	Harvest ears	Seeds planted	Plants emerged	Plant height	Silk Date	Grain Composition Oil	Grain Composition Starch	Grain Composition Protein	Ethanol per bu	Ethanol per A
		bu/A	%	lbs/bu	%	%	%	$/A	plants/A	ears/A	seeds/A	plants/A	inches	doy	%	%	%	gallons	gallons
	15000	156	24.7	51.6	1	6	6	466	16104	21736	23760	22187	103	205	3.6	58.9	8.4	2.81	440
	30000	207	23.9	52.9	1	25	26	621	31240	31240	43560	42911	108	204	3.7	59.2	8.0	2.83	586
	45000	209	23.9	51.7	5	41	46	628	42152	41492	59400	54406	101	204	3.7	59.6	7.7	2.85	597
April 28		214	18.8	54.2	2	3	5	662	30272	31152	42240	38874	104	197	3.6	59.1	7.7	2.87	614
May 22		187	21.2	52.8	3	21	24	569	29260	30316	42240	40513	106	201	3.8	59.3	8.2	2.84	530
June 09		172	32.6	49.2	1	49	50	484	29964	33000	42240	40117	102	216	3.7	59.3	8.1	2.79	479
April 28	15000	166	19.4	53.4	0	0	0	510	17556	20196	23760	21714	103	197	3.6	58.4	8.2	2.85	472
April 28	30000	226	18.4	54.9	1	3	4	702	34848	34716	43560	45078	110	197	3.6	59.0	7.6	2.87	650
April 28	45000	249	18.6	54.4	5	6	11	773	38412	38544	59400	49830	99	197	3.6	60.0	7.3	2.89	720
May 22	15000	158	21.8	52.0	1	13	14	479	15180	20460	23760	22638	106	200	3.7	59.7	8.5	2.82	445
May 22	30000	215	20.8	53.5	1	5	6	655	29436	29436	43560	42042	108	200	3.9	59.2	8.2	2.84	609
May 22	45000	188	20.8	52.9	7	43	51	573	43164	41052	59400	56859	104	201	3.7	58.9	7.9	2.86	537
June 09	15000	146	33.0	49.5	1	3	4	410	15576	24552	23760	22209	101	216	3.6	58.6	8.4	2.77	404
June 09	30000	179	32.6	50.2	1	68	69	505	29436	29568	43560	41613	105	215	3.7	59.4	8.1	2.79	500
June 09	45000	190	32.3	47.8	2	74	77	537	44880	44880	59400	56529	99	215	3.8	60.0	7.9	2.80	533
Mean		191	24.2	52.1	2	24	26	572	29832	31489	42240	39835	104	204	3.7	59.2	8.0	2.83	541
Probability(%)																			
Date of Planting (P)		0.5	0.0	0.0	75.4	1.7	1.7	0.2	73.4	22.1	-	6.3	55.3	0.0	12.5	93.0	1.4	0.0	0.4
Plant Density (D)		0.0	0.5	1.1	4.2	0.0	0.0	0.0	0.0	0.0	-	0.0	6.7	46.2	15.6	49.2	0.0	0.2	0.0
P x D		1.5	78.6	7.2	75.5	0.1	0.0	1.3	17.2	26.1	-	43.1	85.0	17.8	8.6	55.1	69.5	94.5	1.6
LSD(0.10)																			
Hybrid (H)		13	1	0.8	NS	19	19	104	NS	NS	-	1057	NS	1	NS	NS	0.2	0.0	36
Date of Planting (P)		11	0	0.7	3	10	9	34	3469	3705	-	4218	5	NS	NS	NS	0.2	0.0	32
Plant Density (D)		19	NS	1.2	NS	18	16	59	NS	NS	-	NS	NS	NS	0.1	NS	NS	NS	55
P x D																			
CV(%)		7	2	2	173	52	43	7	14	14	-	13	6	0	1	2	3	1	7

continued.

Table C-38. Plant Density and Planting Date Influence on Corn Silage, Grain and Quality - Pioneer 37R71.
(continued) **Arlington, WI - 2006**

Date of planting	Target plant density	Whole Plant Dry Matter yield	Moisture	Kernel milk	KMR 0-5	SMR 0-5	VMR 0-10	Harvest plants	Harvest ears	*In Vitro* CP	*In Vitro* ADF	*In Vitro* NDF	*In Vitro* Digest	*In Vitro* NDFD	*In Vitro* Starch	Milk per Ton	Milk per Acre
		tons/A	%	%				plants/A	ears/A	%	%	%	%	%	%	lbs/T	lbs/A
	15000	6.6	57.8	12	0.6	2.2	3.1	15400	22352	8.2	20.5	42.4	80.7	54.5	34.5	3195.8	20924
	30000	8.3	56.9	11	0.6	1.7	2.5	29040	29920	7.4	21.1	42.3	80.0	52.7	36.3	3162.5	26170
	45000	8.3	56.3	6	0.3	1.3	1.8	40216	40656	7.4	22.2	43.7	78.7	51.4	34.6	3077.5	25311
April 28		8.6	61.4	27	1.3	2.6	3.9	29128	31240	7.4	22.1	43.6	79.2	52.3	35.0	3106.9	26710
May 22		8.2	57.3	3	0.1	0.8	1.0	28512	31152	7.9	21.8	44.1	78.8	51.9	33.5	3073.2	25251
June 09		6.3	52.2	0	0.0			27016	30536	7.6	19.9	40.8	81.4	54.4	36.9	3255.8	20445
April 28	15000	6.9	63.3	32	1.6	3.2	4.8	16104	21384	8.1	21.8	43.9	79.9	54.1	33.3	3135.1	21518
April 28	30000	9.2	60.8	30	1.5	2.5	4.0	29040	29832	7.2	21.9	43.4	79.4	52.6	35.6	3118.7	28771
April 28	45000	9.7	60.0	18	0.9	2.1	3.0	42240	42504	6.9	22.5	43.3	78.4	50.3	36.2	3066.9	29842
May 22	15000	6.8	57.9	5	0.3	1.2	1.4	14520	21384	8.4	20.7	43.3	80.0	53.8	33.4	3147	21320
May 22	30000	8.7	56.3	3	0.2	0.8	0.9	28776	29304	7.6	21.4	43.0	79.3	51.9	35.5	3115.4	27054
May 22	45000	9.3	57.8	0	0.0	0.5	0.5	42240	42768	7.8	23.4	45.9	77.0	49.9	31.5	2957.1	27379
June 09	15000	6.0	52.1	0	0.0	-	-	15576	24288	8.0	19.0	40.1	82.2	55.7	36.7	3305.4	19934
June 09	30000	7.0	53.6	0	0.0	-	-	29304	30624	7.5	19.9	40.3	81.3	53.5	37.8	3253.4	22687
June 09	45000	5.8	51.0	0	0.0	-	-	36168	36696	7.3	20.7	42.0	80.8	54.1	36.1	3208.4	18713
Mean		7.7	57.0	10	0.5	1.7	2.5	28219	30976	7.6	21.3	42.8	79.8	52.9	35.1	3145.3	24135
Probability(%)																	
Date of Planting (P)		1.1	0.1	0.0	0.0	0.4	0.1	46.7	86.0	2.1	21.2	16.5	5.5	2.9	13.6	6.8	0.7
Plant Density (D)		0.0	44.5	6.4	6.4	0.1	0.0	0.0	0.0	0.0	10.3	30.1	1.2	0.0	33.7	3.2	0.1
P x D		1.1	46.6	26.1	26.1	25.4	10.4	9.2	5.5	38.7	83.4	69.0	64.3	16.3	54.9	68.1	4.5
LSD(0.10)																	
Hybrid (H)		0.9	2	1.9	0.1	0.3	0.2	NS	NS	0	NS	NS	2	1.3	NS	123	2083
Date of Planting (P)		0.5	NS	4.4	0.2	0.2	0.2	1973	2214	0	NS	NS	1	0.9	NS	71	1978
Plant Density (D)		0.9	NS	NS	NS	NS	NS	3418	3835	NS	NS	NS	NS	NS	NS	NS	3426
P x D																	
CV(%)		9	4	53	53	13	13	8	9	4	7	5	1	2	8	3	10

Table C-39. Plant Density, Planting Date, and Hybrid Influence on Corn Grain Quality. Arlington, WI - 2005

Brand	Hybrid	Date of planting	Target plant density	Grain Composition			Ethanol	
				Oil	Starch	Protein	per bu	per A
				%	%	%	gallons	gallons
			15000	3.6	58.9	8.3	2.84	503
			30000	3.6	59.3	7.9	2.86	614
			45000	3.5	59.8	7.6	2.88	604
		April 29		3.6	59.5	7.9	2.87	565
		May 23		3.7	59.2	7.9	2.86	587
		June 10		3.3	59.4	7.9	2.85	576
		April 29	15000	3.6	59.1	8.1	2.86	496
		April 29	30000	3.7	59.3	7.9	2.86	590
		April 29	45000	3.6	60.0	7.6	2.89	609
		May 23	15000	3.7	58.7	8.3	2.84	523
		May 23	30000	3.8	59.1	7.9	2.85	638
		May 23	45000	3.7	59.8	7.6	2.87	599
		June 10	15000	3.5	58.8	8.6	2.82	477
		June 10	30000	3.3	59.6	7.8	2.85	614
		June 10	45000	3.1	59.7	7.5	2.87	604
Dekalb	DKC58-78(YGCB)			3.7	59.2	7.8	2.86	613
Pioneer	37R71			3.5	59.5	8.0	2.86	547
Dekalb	DKC58-78(YGCB)		15000	3.7	58.9	8.0	2.86	587
Dekalb	DKC58-78(YGCB)		30000	3.7	59.3	7.8	2.85	664
Dekalb	DKC58-78(YGCB)		45000	3.6	59.4	7.7	2.87	587
Pioneer	37R71		15000	3.6	58.9	8.4	2.83	447
Pioneer	37R71		30000	3.6	59.2	8.0	2.86	575
Pioneer	37R71		45000	3.4	60.2	7.5	2.89	619
Dekalb	DKC58-78(YGCB)	April 29		3.8	59.3	7.9	2.86	607
Dekalb	DKC58-78(YGCB)	May 23		3.7	59.1	7.8	2.86	620
Dekalb	DKC58-78(YGCB)	June 10		3.1	59.3	7.5	2.87	607
Pioneer	37R71	April 29		3.4	59.6	7.9	2.88	523
Pioneer	37R71	May 23		3.8	59.3	8.0	2.85	553
Pioneer	37R71	June 10		3.4	59.4	8.0	2.85	565

continued.

Table C-39. Plant Density, Planting Date, and Hybrid Influence on Corn Grain Quality.
(continued) **Arlington, WI - 2005**

Brand	Hybrid	Date of planting	Target plant density	Grain Composition			Ethanol	
				Oil	Starch	Protein	per bu	per A
				%	%	%	gallons	gallons
Dekalb	DKC58-78(YGCB)	April 29	15000	3.8	59.1	8.1	2.85	561
Dekalb	DKC58-78(YGCB)	April 29	30000	3.9	59.2	7.9	2.85	651
Dekalb	DKC58-78(YGCB)	April 29	45000	3.9	59.6	7.7	2.87	609
Dekalb	DKC58-78(YGCB)	May 23	15000	3.6	58.6	8.0	2.86	613
Dekalb	DKC58-78(YGCB)	May 23	30000	3.7	59.3	7.8	2.86	670
Dekalb	DKC58-78(YGCB)	May 23	45000	3.6	59.3	7.7	2.86	576
Dekalb	DKC58-78(YGCB)	June 10	15000	-	-	-	-	-
Dekalb	DKC58-78(YGCB)	June 10	30000	3.2	59.8	7.5	2.85	681
Dekalb	DKC58-78(YGCB)	June 10	45000	3.0	59.1	7.5	2.88	570
Pioneer	37R71	April 29	15000	3.5	59.1	8.2	2.86	430
Pioneer	37R71	April 29	30000	3.5	59.4	7.9	2.87	528
Pioneer	37R71	April 29	45000	3.3	60.4	7.5	2.90	609
Pioneer	37R71	May 23	15000	3.7	58.8	8.6	2.82	432
Pioneer	37R71	May 23	30000	3.8	58.9	8.1	2.85	606
Pioneer	37R71	May 23	45000	3.7	60.3	7.5	2.88	621
Pioneer	37R71	June 10	15000	3.5	58.8	8.6	2.82	477
Pioneer	37R71	June 10	30000	3.4	59.5	7.9	2.86	591
Pioneer	37R71	June 10	45000	3.2	60.0	7.5	2.87	627
Mean				3.6	59.3	7.9	2.86	576
Probability(%)								
Hybrid (H)				30.5	9.8	9.1	40.5	15.8
Date of Planting (P)				0.1	4.7	8.6	6.6	7.7
H x P				0.2	72.6	1.9	2.0	42.9
Plant Density (D)				4.6	0.0	0.0	0.0	0.0
P x D				50.2	19.3	3.4	56.3	11.0
H x D				79.9	0.5	0.0	0.0	0.0
H x P x D				72.6	49.7	25.2	0.9	11.7
LSD(0.10)								
Hybrid (H)				NS	0.2	0.1	0.03	NS
Date of Planting (P)				0.1	0.2	0.1	NS	32
H x P				0.1	NS	0.1	0.01	NS
Plant Density (D)				0.1	0.2	0.1	0.00	23
P x D				NS	NS	0.2	NS	NS
H x D				NS	0.3	0.1	0.01	32
H x P x D				NS	NS	NS	0.01	NS
CV(%)				4	1	2	0	7

Table C-40. Plant Density, Planting Date, and Hybrid Influence on Corn Quality. Yield and Quality and Corn Grain - Arlington, WI - 2004

Hybrid	Date of planting	Target plant density	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
		15000	8.3	60.1	3.5	2.81	472
		30000	8.2	60.4	3.6	2.81	548
		45000	7.9	60.5	3.6	2.82	573
	April 30		7.7	60.3	3.7	2.84	574
	May 20		8.4	60.2	3.5	2.79	527
	June 15		9.3	61.1	3.4	2.76	292
	April 30	15000	7.8	60.2	3.6	2.84	524
	April 30	30000	7.8	60.3	3.7	2.83	594
	April 30	45000	7.5	60.5	3.7	2.85	604
	May 20	15000	8.6	60.0	3.4	2.79	458
	May 20	30000	8.4	60.2	3.6	2.79	545
	May 20	45000	8.1	60.4	3.6	2.80	579
	June 15	15000	9.8	60.6	3.4	2.74	240
	June 15	30000	9.4	61.5	3.3	2.78	286
	June 15	45000	8.7	61.3	3.4	2.78	349
Dekalb DKC5878(YGCB)			8.0	60.3	3.4	2.83	538
Pioneer 37R71			8.2	60.4	3.8	2.80	524
Dekalb DKC5878(YGCB)		15000	8.0	60.3	3.4	2.84	531
Dekalb DKC5878(YGCB)		30000	8.1	60.4	3.4	2.83	552
Dekalb DKC5878(YGCB)		45000	8.0	60.3	3.4	2.83	533
Pioneer 37R71		15000	8.6	60.0	3.6	2.79	421
Pioneer 37R71		30000	8.3	60.4	3.8	2.79	544
Pioneer 37R71		45000	7.8	60.7	3.8	2.81	607
Dekalb DKC5878(YGCB)	April 30		7.8	60.1	3.5	2.85	549
Dekalb DKC5878(YGCB)	May 20		8.3	60.5	3.2	2.81	528
Dekalb DKC5878(YGCB)	June 15		-	-	-	-	-
Pioneer 37R71	April 30		7.6	60.6	3.9	2.84	599
Pioneer 37R71	May 20		8.5	59.9	3.8	2.77	526
Pioneer 37R71	June 15		9.3	61.1	3.4	2.76	292

continued

Table C-40. Plant Density, Planting Date, and Hybrid Influence on Corn Quality.

(continued) **Yield and Quality and Corn Grain - Arlington, WI - 2004**

Hybrid	Date of planting	Target plant density	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
Dekalb DKC5878(YGCB)	April 30	15000	7.7	60.2	3.5	2.86	551
Dekalb DKC5878(YGCB)	April 30	30000	7.8	60.2	3.6	2.85	568
Dekalb DKC5878(YGCB)	April 30	45000	7.9	60.0	3.5	2.84	528
Dekalb DKC5878(YGCB)	May 20	15000	8.4	60.3	3.2	2.81	511
Dekalb DKC5878(YGCB)	May 20	30000	8.5	60.6	3.2	2.81	536
Dekalb DKC5878(YGCB)	May 20	45000	8.0	60.6	3.3	2.82	537
Dekalb DKC5878(YGCB)	June 15	15000	-	-	-	-	-
Dekalb DKC5878(YGCB)	June 15	30000	-	-	-	-	-
Dekalb DKC5878(YGCB)	June 15	45000	-	-	-	-	-
Pioneer 37R71	April 30	15000	8.0	60.2	3.8	2.82	497
Pioneer 37R71	April 30	30000	7.8	60.5	3.9	2.82	620
Pioneer 37R71	April 30	45000	7.1	61.1	3.9	2.86	679
Pioneer 37R71	May 20	15000	8.8	59.7	3.6	2.76	405
Pioneer 37R71	May 20	30000	8.4	59.9	4.0	2.77	554
Pioneer 37R71	May 20	45000	8.2	60.1	3.9	2.78	620
Pioneer 37R71	June 15	15000	9.8	60.6	3.4	2.74	240
Pioneer 37R71	June 15	30000	9.4	61.5	3.3	2.78	286
Pioneer 37R71	June 15	45000	8.7	61.3	3.4	2.78	349
Mean			8.1	60.3	3.6	2.81	531
Probability(%)							
Hybrid (H)			86.6	56.0	0.1	2.8	30.3
Date of Planting (P)			0.1	14.0	0.0	0.0	0.1
H x P			10.0	4.8	0.3	2.5	10.6
Plant Density (D)			0.0	0.2	8.0	3.4	0.2
P x D			44.4	12.7	7.3	22.0	42.1
H x D			0.2	0.2	0.7	0.2	0.0
H x P x D			0.4	2.6	2.5	1.9	88.9
LSD(0.10)							
Hybrid (H)			NS	NS	0.0	0.01	NS
Date of Planting (P)			0.2	NS	0.0	0.01	26
H x P			NS	0.6	0.1	0.01	NS
Plant Density (D)			0.1	0.1	0.0	0.01	24
P x D			NS	NS	0.1	NS	NS
H x D			0.2	0.2	0.1	0.01	34
H x P x D			0.3	0.3	0.1	0.01	NS
CV(%)			2	0	2	0	8

FIELD EXPERIMENT HISTORY

Title: **Plant Density and Row Spacing Effects on Corn Grain and Silage**

Experiment: 06 RS x PD **Trial ID:** 2927 **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery and K.D. Kohn

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS427 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/1 /06 **pH** 7.1 **OM (%)** 4 **P (ppm)** 88 **K (ppm)** 278

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Soil Finisher

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325	4 /20/06
	Starter :	N/A	N/A	N/A
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Outlook 20.0 oz/A
Hornet 4.0 oz/A

Insecticide: None

Hybrid: Dekalb DKC50-20(YGRR)

Irrigation: None

Planting Date: 5/22/07 **Planting Depth:** 1.5" **Row Width:** See Factors

Target Plant Density: See Factors **Planting Method:** Kinze 2000 Inter-Row Planter

Harvest Date: S: 9/13/06
G: 10/24/06

Harvest Method: S: NH 707
G: Massey Ferguson 8XP

Notes: Silk DOY for all treatments = 202.

Experimental Design

Design: See Factors **Replications:** 3

Plot Size Seeded: 10' x 100' **Experiment Size:** 0.6 Acre

Harvest Plot Size: S: 5' x 8.75'
G: 5' x 91.25'

Harvest Plant Density: See Factors

Factors/Treatments:

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

Results: Table C-41.

Table C-41. Plant Density and Row Spacing Effects on Corn Grain and Silage Yield and Quality
Arlington, WI - 2006

		Grain													
								Yield Components @ 0% moisture							
Row		Harvest	Broken			Test	Grower	Ear	Kernels	100	Grain Composition			Ethanol	
spacing	Density	population	stalks	Yield	Moisture	weight	return	number	number	Kernel wt	Oil	Starch	Protein	per bu	per A
inches	plants/A	plants/A	%	bu/A	%	lbs/bu	$/A	ears/A	no./ear	grams	%	%	%	gallons	gallons
	25000	28044	0	222	21.7	54	675	28044	676	25.5	3.2	7.2	59.1	2.9	648.0
	30000	31695	1	235	20.9	54	716	31695	675	23.6	3.2	7.0	59.2	2.9	686.4
	35000	36839	3	234	21.1	54	714	36673	581	23.8	3.2	7.1	59.0	2.9	684.1
	40000	41984	6	232	20.8	54	710	42149	506	23.5	3.2	7.2	59.0	2.9	677.2
15 inches		34931	3	232	21.2	54	708	34931	598	24.4	3.2	7.1	59.1	2.9	679.0
30 inches		34350	2	230	21.1	54	700	34350	621	23.8	3.2	7.1	59.1	2.9	668.9
15 inches	25000	28542	0	218	21.8	54	660	28542	611	27.0	3.2	7.2	58.9	2.9	633.5
15 inches	30000	31861	1	242	21.0	54	738	31861	700	23.4	3.2	7.0	59.2	2.9	708.5
15 inches	35000	36839	3	236	21.2	55	719	36507	565	24.7	3.2	7.0	59.1	2.9	691.0
15 inches	40000	42481	8	233	20.9	54	713	42813	517	22.6	3.2	7.1	59.2	2.9	682.9
30 inches	25000	27547	0	227	21.6	54	690	27547	741	24.1	3.2	7.1	59.2	2.9	662.5
30 inches	30000	31529	1	227	20.9	54	693	31529	650	23.8	3.2	7.0	59.2	2.9	664.2
30 inches	35000	36839	3	233	21.0	54	709	36839	596	22.9	3.2	7.1	58.9	2.9	677.3
30 inches	40000	41486	4	232	20.8	54	707	41486	495	24.3	3.3	7.2	58.8	2.9	671.6
Mean		34641	3	231	21.1	54	704	34641	610	24.1	3.2	7.1	59.1	2.9	673.9
Probability(%)															
Row Space (S)		41.1	37.3	49.1	31.6	7.0	53.9	44.3	26.2	19.7	19.3	59.4	61.0	12.8	41.6
Plant Density (D)		0.0	0.1	13.3	0.6	65.0	10.5	0.0	0.0	3.0	77.7	4.1	58.3	35.8	13.6
S x D		93.9	27.1	23.2	97.3	85.6	25.0	86.0	2.4	1.9	40.3	51.9	27.2	20.1	24.3
LSD(0.10)															
Row Space (S)		NS	NS	NS	NS	1	NS	NS	NS	NS	NS	NS	NS	NS	NS
Plant Density (D)		1206	2	NS	0.3	NS	NS	4482	34	0.9	NS	0.1	NS	NS	NS
S x D		NS	NS	NS	NS	NS	NS	NS	67	2	NS	NS	NS	NS	NS
CV(%)		5	84	4	2	1	4	5	8	5	2	2	0	0	4

continued

Table C-41. Plant Density and Row Spacing Effects on Corn Grain and Silage Yield and Quality
(continued) **Arlington, WI - 2006**

		Whole Plant											
Row		Harvest			Kernel	Crude			In Vitro			Milk per	
spacing	Density	population	Yield	Moisture	milk	protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
inches	plants/A	plants/A	tons/A	%	%	%	%	%	%	%	%	lbs/T	lbs/A
	25000	26833	7.6	75.2	52	7.3	27.2	49.2	76.7	52.7	32.7	2895	22102
	30000	30833	7.3	76.9	51	6.7	32.3	56.4	72.6	51.6	25.3	2595	19097
	35000	36500	8.7	74.1	53	7.0	27.3	49.7	76.2	52.4	32.4	2864	25207
	40000	43333	8.8	74.7	54	7.0	29.0	51.8	75.2	52.2	30.2	2785	24761
15 inches		34333	7.8	77.1	53	6.9	31.2	54.5	73.5	51.5	27.8	2664	20915
30 inches		34417	8.4	73.4	52	7.2	26.7	49.1	76.9	53.0	32.5	2906	24668
15 inches	25000	26333	7.3	76.3	52	7.1	28.6	50.7	75.9	52.5	31.5	2837	20902
15 inches	30000	30667	7.2	77.8	52	6.5	34.1	58.8	71.1	50.8	22.8	2486	17863
15 inches	35000	36667	8.2	77.0	52	6.7	30.5	53.7	73.7	51.4	28.6	2685	22443
15 inches	40000	43667	8.5	77.3	55	7.1	31.5	54.8	73.3	51.2	28.1	2647	22451
30 inches	25000	27333	7.9	74.1	52	7.4	25.7	47.7	77.5	52.8	33.8	2952	23302
30 inches	30000	31000	7.4	76.0	50	6.9	30.4	54.1	74.2	52.4	27.8	2704	20330
30 inches	35000	36333	9.2	71.2	53	7.3	24.2	45.7	78.7	53.4	36.2	3043	27971
30 inches	40000	43000	9.2	72.1	53	7.0	26.5	48.9	77.1	53.3	32.3	2923	27070
Mean		34375	8.1	75.2	52	7.0	28.9	51.8	75.2	52.2	30.2	2785	22791
Probability(%)													
Row Space (S)		90.6	13.7	0.4	73.6	7.6	1.9	2.6	2.9	9.6	2.6	2.7	6.0
Plant Density (D)		0.0	3.4	33.5	28.9	13.6	16.4	11.9	20.9	82.0	5.7	17.9	11.6
S x D		83.5	90.5	46.9	73.1	47.9	89.7	86.3	84.3	86.3	79.7	84.7	90.7
LSD(0.10)													
Row Space (S)		NS	NS	2.7	NS	0.4	4.2	5.4	3.5	2.1	4.8	244	4572.5
Plant Density (D)		1219	0.7	NS	NS	NS	NS	NS	NS	NS	3.4	NS	NS
S x D		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		5	12	4	6	6	14	10	5	4	16	9	2

Table C-42. Plant Density and Row Spacing Effects on Corn Grain Quality Arlington, WI - 2005

Row spacing	Density	Grain Composition			Ethanol	
		Oil	Starch	Protein	per bu	per A
inches	plants/A	%	%	%	gallons	gallons
	15000	3.9	59.3	8.3	2.80	456
	25000	3.9	59.6	7.9	2.83	500
	35000	3.9	60.5	7.5	2.84	515
	45000	3.8	60.3	7.5	2.84	476
15 inches		3.9	59.7	7.7	2.83	462
30 inches		3.9	60.2	7.9	2.83	511
15 inches	15000	3.9	59.3	8.2	2.81	452
15 inches	25000	3.9	58.7	7.8	2.84	470
15 inches	35000	3.9	60.4	7.6	2.84	507
15 inches	45000	3.8	60.4	7.3	2.85	420
30 inches	15000	3.9	59.3	8.4	2.79	459
30 inches	25000	3.9	60.6	7.9	2.82	530
30 inches	35000	3.9	60.7	7.4	2.85	522
30 inches	45000	3.8	60.2	7.7	2.84	532
Mean		3.9	59.9	7.8	2.83	487
Probability(%)						
Row Space (S)		62.7	30.1	9.1	20.1	0.4
Plant Density (D)		40.7	19.5	0.0	0.0	5.0
S x D		95.5	36.2	7.3	66.1	7.4
LSD(0.10)						
Row Space (S)		NS	NS	0.1	NS	26
Plant Density (D)		NS	NS	0.2	0.01	36
S x D		NS	NS	0.3	NS	51
CV(%)		3	2	3	1	8

Table C-43. Date of Planting, Row Spacing, and Hybrid Influence on Grain Quality. Arlington, WI - 2005

Planting date	Row spacing	Brand	Hybrid	Grain Composition			Ethanol	
				Oil	Starch	Protein	per bu	per A
				%	%	%	gallons	gallons
		NK Brand	N32-L9	3.4	58.2	7.8	2.89	498
		NK Brand	N50-P5	3.3	58.4	7.8	2.86	484
	15 inches			3.4	58.4	7.7	2.88	487
	30 inches			3.3	58.2	7.8	2.87	495
	15 inches	NK Brand	N32-L9	3.4	58.2	7.7	2.90	488
	15 inches	NK Brand	N50-P5	3.4	58.7	7.7	2.86	487
	30 inches	NK Brand	N32-L9	3.3	58.2	7.8	2.89	509
	30 inches	NK Brand	N50-P5	3.3	58.1	7.9	2.86	482
April 29				3.6	58.5	7.5	2.89	491
May 23				3.4	58.4	7.7	2.88	512
June 10				3.0	58.0	8.1	2.86	471
April 29		NK Brand	N32-L9	3.6	58.3	7.5	2.90	478
April 29		NK Brand	N50-P5	3.6	58.7	7.4	2.87	504
May 23		NK Brand	N32-L9	3.5	58.2	7.7	2.89	525
May 23		NK Brand	N50-P5	3.4	58.5	7.7	2.87	500
June 10		NK Brand	N32-L9	3.0	58.1	8.1	2.89	493
June 10		NK Brand	N50-P5	3.0	58.0	8.2	2.84	449
April 29	15 inches			3.6	58.6	7.4	2.89	466
April 29	30 inches			3.6	58.4	7.5	2.89	515
May 23	15 inches			3.5	58.5	7.7	2.88	517
May 23	30 inches			3.4	58.2	7.8	2.87	508
June 10	15 inches			3.1	58.1	8.0	2.87	479
June 10	30 inches			2.9	57.9	8.2	2.86	463
April 29	15 inches	NK Brand	N32-L9	3.7	58.4	7.5	2.91	447
April 29	15 inches	NK Brand	N50-P5	3.6	58.9	7.4	2.87	485
April 29	30 inches	NK Brand	N32-L9	3.6	58.3	7.6	2.90	508
April 29	30 inches	NK Brand	N50-P5	3.7	58.6	7.4	2.88	522
May 23	15 inches	NK Brand	N32-L9	3.5	58.2	7.7	2.89	525
May 23	15 inches	NK Brand	N50-P5	3.4	58.9	7.6	2.88	509
May 23	30 inches	NK Brand	N32-L9	3.5	58.3	7.7	2.88	525
May 23	30 inches	NK Brand	N50-P5	3.3	58.1	7.8	2.86	492
June 10	15 inches	NK Brand	N32-L9	3.0	58.0	8.0	2.89	492
June 10	15 inches	NK Brand	N50-P5	3.2	58.2	8.0	2.84	466
June 10	30 inches	NK Brand	N32-L9	2.9	58.2	8.1	2.89	494
June 10	30 inches	NK Brand	N50-P5	2.9	57.7	8.3	2.83	433
Mean				3.3	58.3	7.8	2.88	491
Probability(%)								
Planting Date (D)				0.1	2.3	0.1	1.7	37.8
Row Spacing (R)				2.6	5.3	6.4	14.1	33.4
Hybrid (H)				31.2	12.2	96.9	0.0	9.7
R x D				9.3	87.4	77.5	67.1	0.6
R x H				63.7	2.7	36.6	80.9	12.9
D x H				5.1	18.6	26.3	0.8	0.6
R x D x H				4.7	52.7	47.2	27.8	90.1
LSD (0.10)								
Planting Date (D)				0.2	0.3	0.2	0.04	NS
Row Spacing (R)				0.1	0.2	0.1	NS	NS
Hybrid (H)				NS	NS	NS	0.01	14
R x D				0.1	NS	NS	NS	24
R x H				NS	0.3	NS	NS	NS
D x H				0.1	NS	NS	0.01	24
R x D x H				0.1	NS	NS	NS	NS
CV(%)				3	1	3	0	6

Table C-44. Date of Planting, Row Spacing, and Hybrid Influence on Grain Quality.

Arlington, WI - 2004

Planting date	Row spacing	Hybrid	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
		DeKalb DKC3947	3.4	61.2	7.2	2.87	472
		DeKalb DKC5334	3.4	60.9	7.5	2.86	517
	15 inches		3.3	61.0	7.4	2.86	482
	30 inches		3.4	61.0	7.4	2.87	507
	15 inches	DeKalb DKC3947	3.4	61.1	7.2	2.87	447
	15 inches	DeKalb DKC5334	3.3	60.9	7.6	2.86	522
	30 inches	DeKalb DKC3947	3.3	61.2	7.3	2.88	502
	30 inches	DeKalb DKC5334	3.4	60.8	7.4	2.87	512
April 30			3.4	61.2	7.1	2.89	559
May 20			3.3	60.9	7.6	2.85	445
June 15			3.2	61.4	7.9	2.80	300
April 30		DeKalb DKC3947	3.4	61.2	7.1	2.89	523
April 30		DeKalb DKC5334	3.5	61.1	7.1	2.89	594
May 20		DeKalb DKC3947	3.3	61.1	7.3	2.87	451
May 20		DeKalb DKC5334	3.2	60.7	7.9	2.83	440
June 15		DeKalb DKC3947	3.2	61.4	7.9	2.80	300
June 15		DeKalb DKC5334	-	-	-	-	-
April 30	15 inches		3.5	61.1	7.2	2.88	532
April 30	30 inches		3.4	61.2	7.0	2.90	585
May 20	15 inches		3.3	60.9	7.5	2.86	462
May 20	30 inches		3.3	60.8	7.7	2.85	429
June 15	15 inches		3.2	61.4	7.9	2.80	300
June 15	30 inches		-	-	-	-	-
April 30	15 inches	DeKalb DKC3947	3.4	61.2	6.9	2.89	476
April 30	15 inches	DeKalb DKC5334	3.5	61.0	7.4	2.88	588
April 30	30 inches	DeKalb DKC3947	3.4	61.3	7.2	2.89	569
April 30	30 inches	DeKalb DKC5334	3.5	61.2	6.9	2.91	601
May 20	15 inches	DeKalb DKC3947	3.4	61.0	7.2	2.88	466
May 20	15 inches	DeKalb DKC5334	3.2	60.8	7.8	2.84	457
May 20	30 inches	DeKalb DKC3947	3.3	61.1	7.4	2.87	436
May 20	30 inches	DeKalb DKC5334	3.3	60.5	8.0	2.82	423
June 15	15 inches	DeKalb DKC3947	3.2	61.4	7.9	2.80	300
June 15	15 inches	DeKalb DKC5334	-	-	-	-	-
June 15	30 inches	DeKalb DKC3947	-	-	-	-	-
June 15	30 inches	DeKalb DKC5334	-	-	-	-	-
Mean			3.4	61.0	7.4	2.87	494
Probability(%)							
Planting Date (D)			1.2	8.6	8.0	13.0	0.8
Row Spacing (R)			91.5	92.6	78.7	87.6	44.1
Hybrid (H)			81.4	4.1	0.1	2.9	4.0
R x D			17.1	31.1	6.1	11.9	0.7
R x H			4.7	54.4	3.4	56.0	14.2
D x H			0.5	36.4	0.5	0.4	0.9
R x D x H			40.3	26.2	4.1	35.0	17.3
LSD (0.10)							
Planting Date (D)			0.0	0.2	0.4	NS	24
Row Spacing (R)			NS	NS	NS	NS	NS
Hybrid (H)			NS	0.2	0.1	0.01	19
R x D			NS	NS	0.2	NS	33
R x H			0.1	NS	0.2	NS	NS
D x H			0.1	NS	0.2	0.02	33
R x D x H			NS	NS	0.3	NS	NS
CV(%)			2	0	3	1	6

FIELD EXPERIMENT HISTORY

Title: **Corn Inoculant Trial**

Experiment: 08 Corn Inoculant Trial **Trial ID:** 2847 **Year:** 2006

Personnel: J. G. Lauer, K.D.Kohn and P.J. Flannery

Location: Arlington, WI **County:** Columbia

Supported By: Brett-Young Seeds Limited

Site Information

Field: ARS427 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/15/06 **pH** 7.2 **OM (%)** 3.7 **P (ppm)** 75 **K (ppm)** 254

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/14/06

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:** 325	**Date:**	4 /24/06
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	5 /23/06
Post plant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Manure: N/A				

Herbicide: Outlook 20 oz/A
Hornet 4.0 oz/A

Insecticide: N/A

Hybrid: Dekalb DKC53-34(RR2YGCB)

Irrigation: None

Planting Date: 5/23/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 10/23/06 **Harvest Method:** Massey Ferguson 8XP

Notes: Seed treated with Apron XL and Maxim

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 5' x 25' **Experiment Size:** 0.11 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 29898 **plants per acre**

Treatments (Inoculant):

CORN01
CORN02
Untreated Check

Results: Table C-45.

Table C-45. Performance of corn inoculants. Arlington, WI- 2006.

Treatment (inoculant)	Yield	Moisture	Test Weight	Lodging	Grower Return
	bu/A	%	lbs/bu	%	$/A
Check	231	28.5	53	0	670
Corn 01	222	29.7	53	1	639
Corn 02	222	29.0	53	2	640
Mean	225	29.1	53	1	650
Probability(%)					
Treatment	54.8	16.8	72.9	48.8	50.7
LSD (0.10)					
Treatment	NS	NS	NS	NS	NS
CV(%)	5	2	1	201	5

FIELD EXPERIMENT HISTORY

Title: **Corn Inoculant Trial**

Experiment: 08 Corn Inoculant Trial **Trial ID:** 2848 **Year:** 2006

Personnel: J. G. Lauer, K.D.Kohn and P.J. Flannery

Location: Lancaster, WI **County:** Grant

Supported By: Brett-Young Seeds Limited

Site Information

Field: **Previous Crop:** Soybean **Soil Type:** Fayette Silt Loam

Soil Test: **Date:** 10/01/06 **pH** 7.5 **OM (%)** 2.9 **P (ppm)** 75 **K (ppm)** 104

Plot Management

Tillage Operations: Soil Finisher Cultivated 6/15/06

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:** 348	**Date:**	N/A
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	5 /6 /06
Post plant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Manure: N/A				

Herbicide: Aatrex 4L 1.0 qt/A
Harness 1.0 qt/A
Glyphosate 1.0 qt/A

Insecticide: N/A

Hybrid: Dekalb DKC53-34(RR2YGCB)

Irrigation: None

Planting Date: 5/6/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 10/12/06 **Harvest Method:** Massey Ferguson 8XP

Notes: Seed treated with Apron XL and Maxim

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 5' x 25' **Experiment Size:** 0.15 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 28908 **plants per acre**

Treatments (Inoculant):

CORN01
CORN02
Untreated Check

Results: Table C-46.

Table C-46. Performance of corn inoculants. Lancaster, WI - 2006.

Treatment (inoculant)	Yield	Moisture	Test Weight	Lodging	Grower Return
	bu/A	%	lbs/bu	%	$/A
Check	230	19.9	57	3	708
Corn 01	208	20.0	56	2	639
Corn 02	230	19.7	56	4	708
Mean	223	19.9	57	3	685
Probability(%)					
Treatment	9.6	76.2	67.4	78.3	10.3
LSD (0.10)					
Treatment	18	NS	NS	NS	NS
CV(%)	5	3	1	128	5

FIELD EXPERIMENT HISTORY

Title: **Corn Inoculant Trial**

Experiment: 08 Corn Inoculant Trial **Trial ID:** 2849 **Year:** 2006

Personnel: J. G. Lauer, K.D.Kohn and P.J. Flannery

Location: Marshfield, WI **County:** Wood

Supported By: Brett-Young Seeds Limited

Site Information

Field: W5 **Previous Crop:** Soybean **Soil Type:** Loyal Silt Loam

Soil Test: **Date:** 10/1 /05 **pH** 6.6 **OM (%)** 2.5 **P (ppm)** 39 **K (ppm)** 125

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/15/06

Fertilizer:

Preplant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	5 /4 /06
Post plant Analysis:	28-0-0	**Rate lbs/A:** 27 gal	**Date:**	N/A
Manure: N/A				

Herbicide: Hornet 2.4 oz/A
Outlook 14.0 oz/A
Atrazine 1.0 qt/A
Accent 0.67 oz/A
Northstar 5.0 oz/A

Insecticide: N/A

Hybrid: Dekalb DKC40-08(RR2YGCB)

Irrigation: None

Planting Date: 5/4/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 10/20/06 **Harvest Method:** Massey Ferguson 8XP

Notes: Seed treated with Apron XL and Maxim

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 5' x 25' **Experiment Size:** 0.15 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 29818 **plants per acre**

Treatments (Inoculant):

CORN01
CORN02
Untreated Check

Results: Table C-47.

Table C-47. Performance of corn inoculants. Marshfield, WI - 2006.

Treatment (inoculant)	Yield	Moisture	Test Weight	Lodging	Grower Return
	bu/A	%	lbs/bu	%	$/A
Check	142	32.9	53	0	399
Corn 01	140	32.1	53	1	395
Corn 02	136	32.2	53	0	384
Mean	139	32.4	53	0	393
Probability(%)					
Treatment	85.1	63.0	64.8	44.4	87.7
LSD (0.10)					
Treatment	NS	NS	NS	NS	NS
CV(%)	10	3	1	300	10

FIELD EXPERIMENT HISTORY

Title: **Corn Inoculant Trial**

Experiment: 08 Corn Inoculant Trial **Trial ID:** 2850 **Year:** 2006

Personnel: J. G. Lauer, K.D.Kohn and P.J. Flannery

Location: Valders, WI **County:** Manitowoc

Supported By: Brett-Young Seeds Limited

Site Information

Field: **Previous Crop:** Corn **Soil Type:** Kewaunee Clay Loam

Soil Test: **Date:** 10/15/06 **pH** 6.9 **OM (%)** 2.6 **P (ppm)** 51 **K (ppm)** 90

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/21/06

Fertilizer:

Preplant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	5 /5 /06
Post plant Analysis:	34-0-0	**Rate lbs/A:** 147	**Date:**	6 /21/06
Manure:	N/A			

Herbicide: Dual II Mag 0.75 pt/A
Accent Gold WDG 2.5 oz/A
Callisto 1.5 oz/A
Atrazine 0.25 lb

Insecticide: N/A

Hybrid: Dekalb DKC40-08(RR2YGCB)

Irrigation: None

Planting Date: 5/5/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 10/25/06 **Harvest Method:** Massey Ferguson 8XP

Notes: Seed treated with Apron XL and Maxim

Experimental Design

Design: RCB **Replications:** 3

Plot Size Seeded: 5' x 25' **Experiment Size:** 0.15 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 27720 **plants per acre**

Treatments (Inoculant):

CORN01
CORN02
Untreated Check

Results: Table C-48.

Table C-48. Performance of corn inoculants. Valders, WI - 2006.

Treatment (inoculant)	Yield	Moisture	Test Weight	Lodging	Grower Return
	bu/A	%	lbs/bu	%	$/A
Check	196	20.2	56	0	602
Corn 01	196	20.1	56	0	600
Corn 02	205	20.4	56	0	627
Mean	199	20.2	56	0	610
Probability(%)					
Treatment	51.1	69.8	54.5	-	50.3
LSD (0.10)					
Treatment	NS	NS	NS	NS	NS
CV(%)	5	2	1	-	5

FIELD EXPERIMENT HISTORY

Title: **Corn and Soybean Rotation Study** **Est.1983**

Experiment: 09 Corn/Soybean Rotation **Trial ID:** 2916 **Year:** 2006

Personnel: J. G. Lauer, J.M. Gaska, K. D. Kohn, J.H. Hopf

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: 334W **Previous Crop:** Corn/Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 4 /19/03 **pH** 6.42 **OM (%)** 3.6 **P (ppm)** 27 **K (ppm)** 172

Plot Management

Tillage Operations: See Factors

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	N/A	N/A	N/A
	Post plant :	28-0-0 34-0-0	70 gpa 150 lb/a	5/5/06 6/23/06
	Manure:	N/A	N/A	

Herbicide: 2,4-D Ester 12 oz/a 4/26/06 No-Till Only
Dual II Mag 24 oz/a All Plots
Mirage Plus 32 oz/a 6/13/06 All Plots

Insecticide: Force 3G 4.4 lbs/A 4/27/06
Prozap 10 lb/a 4/27/06

Irrigation: None

Hybrid: See Factors

Planting Date: Corn: 4/27/06
Soybean: 5/5/06

Planting Depth: C: 1.5"
S: 1"

Row Width: 30"

Target Plant Density: Corn: 32500
Soybean: 150000

Planting Method: Kinze 2000 Interplant planter

Harvest Date: Corn: 10/24/06
Soybean: 10/8/06

Harvest Method: C: Kincaid plot combine
S: Almaco plot combine #2

Experimental Design

Design: RCB split-split plot

Replications: 4

Plot Size Seeded: 10' x35'

Experiment Size: 2.7 acres

Harvest Plot Size: Corn: 5' x 31'

Factors/Treatments:

Tillage:
No-Till
Conventional

Rotation
Continuous Corn or Soybean
Alternating Corn - Soybean
Corn 5yrs. / Soybean 5 yrs.

Hybrids/Varieties:
C: DekalbDKC5141
Dekalb DKC5020
Pioneer P38H62
S: Asgrow AG2107
Pioneer 91M90
Latham E2412RX

Results: Table C-49 and C-50.

Table C-49. Corn/Soybean Rotation and Tillage Study - Corn. Arlington, WI - 2006.

Tillage	Rotation	Insecticide	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Grain Composition			Ethanol	
							Total	Stalk	Root	plants	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
		Force	224	19.9	54.6	665	9.0	6.7	2.3	31375	3.7	60.6	7.5	2.89	648
		Poncho	220	19.2	54.0	658	3.8	2.0	1.9	29325	3.7	60.7	7.4	2.90	638
		Prescribe	224	20.0	55.3	665	6.0	4.0	2.0	27875	3.7	60.6	7.5	2.89	647
	1st Year Corn		228	19.2	54.9	680	2.7	1.8	0.9	32250	3.6	60.6	7.4	2.90	660
	2nd Year Corn		221	19.8	55.3	657	8.1	5.2	2.9	29750	3.6	60.7	7.5	2.89	640
	3rd Year Corn		223	19.7	54.5	663	8.9	6.1	2.8	29292	3.7	60.6	7.4	2.90	646
	4th Year Corn		227	20.1	54.3	676	7.6	5.3	2.3	28500	3.7	60.5	7.5	2.89	658
	Continuous Corn		213	19.6	54.0	636	4.0	2.7	1.3	27833	3.7	60.7	7.5	2.89	617
	1st Year Corn	Force	228	19.0	55.4	680	2.4	1.6	0.8	38000	3.7	60.4	7.7	2.89	658
	1st Year Corn	Poncho	226	19.4	54.3	673	4.8	3.0	1.8	29625	3.7	60.8	7.3	2.90	655
	1st Year Corn	Prescribe	230	19.4	55.1	686	0.8	0.8	0.0	29125	3.6	60.8	7.3	2.90	668
	2nd Year Corn	Force	217	19.9	54.4	643	9.4	5.3	4.1	30875	3.6	60.7	7.4	2.90	629
	2nd Year Corn	Poncho	217	19.6	54.9	646	4.6	2.6	2.0	30250	3.6	60.7	7.5	2.89	626
	2nd Year Corn	Prescribe	231	19.8	56.8	684	10.4	7.7	2.7	28125	3.7	60.6	7.6	2.89	667
	3rd Year Corn	Force	227	20.1	54.6	673	15.0	11.2	3.8	29750	3.6	60.7	7.4	2.90	658
	3rd Year Corn	Poncho	221	19.2	54.1	661	2.8	0.8	2.1	29250	3.7	60.7	7.4	2.90	642
	3rd Year Corn	Prescribe	220	19.8	54.9	655	8.8	6.4	2.5	28875	3.7	60.5	7.5	2.89	637
	4th Year Corn	Force	226	20.6	54.4	668	10.2	9.3	0.8	29250	3.8	60.5	7.6	2.89	651
	4th Year Corn	Poncho	226	19.0	53.7	677	4.8	3.1	1.7	28625	3.8	60.6	7.4	2.90	656
	4th Year Corn	Prescribe	231	20.7	54.9	682	7.9	3.6	4.3	27625	3.6	60.6	7.5	2.89	666
	Continuous Corn	Force	221	19.8	54.3	658	7.8	6.1	1.8	29000	3.6	60.6	7.5	2.89	640
	Continuous Corn	Poncho	211	18.8	52.9	631	2.2	0.4	1.7	28875	3.7	60.8	7.4	2.89	610
	Continuous Corn	Prescribe	208	20.1	54.8	618	1.9	1.5	0.4	25625	3.7	60.7	7.5	2.89	602
Conv			215	20.6	53.8	636	9.8	7.8	2.0	30550	3.7	60.6	7.5	2.89	623
No-Till			230	18.7	55.4	689	2.7	0.7	2.0	28500	3.6	60.7	7.5	2.89	666
Conv		Force	216	20.9	53.7	637	14.3	12.3	2.0	33350	3.7	60.5	7.6	2.89	623
Conv		Poncho	213	19.8	53.6	634	5.3	3.3	2.0	29550	3.7	60.6	7.5	2.90	617
Conv		Prescribe	217	21.2	54.2	638	9.8	7.6	2.2	28750	3.7	60.6	7.4	2.89	629
No-Till		Force	233	18.9	55.6	695	3.7	1.1	2.6	29400	3.6	60.7	7.4	2.90	674
No-Till		Poncho	227	18.6	54.3	682	2.4	0.7	1.7	29100	3.7	60.7	7.4	2.90	658
No-Till		Prescribe	230	18.7	56.3	689	2.2	0.3	1.8	27000	3.6	60.6	7.5	2.89	665

(continued)

Table C-49. Corn/Soybean Rotation and Tillage Study - Corn.
(continued) **Arlington, WI - 2006.**

					Test	Grower	Lodged			Harvest	Grain Composition			Ethanol	
Tillage	Rotation	Insecticide	Yield	Moisture	Weight	return	Total	Stalk	Root	plants	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
Conv	1st Year Corn		222	19.7	54.4	662	4.0	2.8	1.2	35417	3.6	60.6	7.5	2.90	644
No-Till	1st Year Corn		233	18.8	55.5	698	1.3	0.8	0.6	29083	3.6	60.7	7.4	2.90	677
Conv	2nd Year Corn		208	20.6	54.7	614	13.4	10.4	3.0	30083	3.6	60.6	7.5	2.89	601
No-Till	2nd Year Corn		235	18.9	55.9	701	2.8	0.0	2.8	29417	3.7	60.7	7.5	2.89	679
Conv	3rd Year Corn		219	20.8	53.7	646	14.1	11.6	2.6	29750	3.7	60.6	7.4	2.90	633
No-Till	3rd Year Corn		227	18.6	55.4	680	3.7	0.7	3.0	28833	3.6	60.6	7.5	2.90	658
Conv	4th Year Corn		212	21.5	53.0	625	12.1	10.1	2.0	28917	3.7	60.5	7.6	2.88	612
No-Till	4th Year Corn		243	18.7	55.7	727	3.1	0.6	2.5	28083	3.7	60.6	7.5	2.90	703
Conv	Continuous Corn		214	20.6	53.5	634	5.3	3.9	1.4	28583	3.8	60.6	7.4	2.90	621
No-Till	Continuous Corn		213	18.5	54.5	638	2.6	1.4	1.2	27083	3.6	60.7	7.5	2.89	614
Conv	1st Year Corn	Force	220	19.2	54.9	657	3.8	3.1	0.7	46500	3.7	60.3	7.7	2.89	636
Conv	1st Year Corn	Poncho	217	19.8	53.7	646	7.4	4.6	2.8	28750	3.6	60.6	7.4	2.90	629
Conv	1st Year Corn	Prescribe	230	20.2	54.6	681	0.8	0.8	0.0	31000	3.6	60.7	7.4	2.90	666
No-Till	1st Year Corn	Force	235	18.9	55.9	704	0.9	0.0	0.9	29500	3.6	60.4	7.6	2.89	680
No-Till	1st Year Corn	Poncho	234	18.9	54.8	701	2.3	1.5	0.8	30500	3.7	60.9	7.3	2.91	681
No-Till	1st Year Corn	Prescribe	230	18.6	55.7	690	0.8	0.8	0.0	27250	3.5	60.9	7.2	2.91	670
Conv	2nd Year Corn	Force	206	21.5	53.5	606	15.5	10.6	4.8	32000	3.6	60.6	7.4	2.89	596
Conv	2nd Year Corn	Poncho	208	19.9	55.3	617	6.9	5.2	1.7	29000	3.6	60.6	7.5	2.89	598
Conv	2nd Year Corn	Prescribe	212	20.5	55.5	619	17.9	15.3	2.6	29250	3.6	60.6	7.5	2.89	613
No-Till	2nd Year Corn	Force	232	18.4	55.5	692	3.4	0.0	3.4	29750	3.6	60.8	7.4	2.90	674
No-Till	2nd Year Corn	Poncho	227	19.2	54.4	676	2.3	0.0	2.3	31500	3.6	60.7	7.4	2.89	654
No-Till	2nd Year Corn	Prescribe	245	19.1	57.7	733	2.8	0.0	2.8	27000	3.7	60.6	7.6	2.88	707
Conv	3rd Year Corn	Force	219	21.1	53.7	645	22.0	20.4	1.6	30750	3.7	60.7	7.5	2.90	634
Conv	3rd Year Corn	Poncho	217	20.0	53.3	644	4.1	1.6	2.5	30500	3.7	60.7	7.4	2.90	629
Conv	3rd Year Corn	Prescribe	221	21.2	54.1	650	16.3	12.7	3.6	28000	3.8	60.5	7.4	2.89	637
No-Till	3rd Year Corn	Force	235	19.1	55.6	702	8.1	2.0	6.1	28750	3.6	60.7	7.4	2.90	683
No-Till	3rd Year Corn	Poncho	226	18.3	54.8	677	1.6	0.0	1.6	28000	3.6	60.7	7.5	2.90	654
No-Till	3rd Year Corn	Prescribe	220	18.5	55.8	660	1.4	0.0	1.4	29750	3.7	60.6	7.5	2.89	636
Conv	4th Year Corn	Force	212	22.0	53.0	622	18.7	17.8	0.9	29250	3.8	60.4	7.7	2.87	610
Conv	4th Year Corn	Poncho	212	19.7	52.6	633	6.7	5.2	1.5	29750	3.8	60.5	7.5	2.89	614
Conv	4th Year Corn	Prescribe	213	22.8	53.3	619	10.9	7.2	3.7	27750	3.6	60.5	7.5	2.88	613
No-Till	4th Year Corn	Force	239	19.2	55.7	713	1.7	0.8	0.8	29250	3.7	60.6	7.5	2.90	692
No-Till	4th Year Corn	Poncho	240	18.4	54.8	722	2.9	1.0	1.9	27500	3.7	60.6	7.4	2.90	697
No-Till	4th Year Corn	Prescribe	248	18.6	56.5	745	4.9	0.0	4.9	27500	3.6	60.6	7.5	2.89	719

(continued)

Table C-49. Corn/Soybean Rotation and Tillage Study - Corn.
(continued) **Arlington, WI - 2006.**

Tillage	Rotation	Insecticide	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Grain Composition			Ethanol	
							Total	Stalk	Root	plants	Oil	Starch	Protein	per bu	per A
			bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
Conv	Continuous Corn	Force	221	20.6	53.5	654	11.5	9.7	1.8	28250	3.8	60.4	7.6	2.88	637
Conv	Continuous Corn	Poncho	212	19.7	53.3	630	1.6	0.0	1.6	29750	3.6	60.7	7.5	2.90	614
Conv	Continuous Corn	Prescribe	210	21.6	53.9	618	2.9	2.1	0.8	27750	3.9	60.8	7.3	2.91	611
No-Till	Continuous Corn	Force	221	19.0	55.2	662	4.2	2.5	1.7	29750	3.5	60.9	7.3	2.90	642
No-Till	Continuous Corn	Poncho	210	18.0	52.6	632	2.7	0.9	1.8	28000	3.7	60.8	7.4	2.88	606
No-Till	Continuous Corn	Prescribe	207	18.7	55.7	619	0.9	0.9	0.0	23500	3.6	60.5	7.7	2.88	594
mean			223	19.7	54.6	662	6.3	4.2	2.0	29525	3.7	60.6	7.5	2.89	644
Probability(%)															
Tillage (T)			11.7	0.0	0.6	6.9	0.2	0.2	31.9	14.7	49.5	3.0	61.8	28.3	11.5
Rotation (R)			0.0	0.0	2.7	0.0	0.1	0.2	12.3	4.4	66.6	56.7	83.1	32.4	0.0
T x R			0.5	0.0	23.2	0.2	1.8	0.1	93.4	37.6	41.9	92.8	74.8	28.3	0.5
Insecticide (I)			1.6	0.8	0.1	3.3	0.8	0.5	86.8	0.5	85.1	45.7	60.8	65.7	1.6
T x I			49.6	4.6	19.2	62.6	1.7	0.7	72.5	34.1	96.9	63.5	45.9	29.6	39.5
R x I			1.6	1.1	16.0	1.3	2.2	6.8	2.9	41.8	39.5	33.4	47.3	73.9	1.5
T x R x I			73.5	8.2	77.7	62.2	34.4	34.0	17.4	13.3	55.4	63.6	67.6	78.1	79.6
LSD(0.10)															
Tillage (T)			NS	0.4	0.7	28	2.4	2.4	NS	NS	NS	0.1	NS	NS	NS
Rotation (R)			11	0.4	0.9	33	2.9	2.0	NS	2306	NS	NS	NS	NS	31
T x R			15	0.6	NS	46	4.0	3.0	NS	NS	NS	NS	NS	NS	43
Insecticide (I)			5	0.3	0.5	15	2.1	1.7	NS	1831	NS	NS	NS	NS	14
T x I			NS	0.4	NS	NS	3.0	2.8	NS	NS	NS	NS	NS	NS	NS
R x I			11	0.7	NS	33	4.7	4.4	2.1	NS	NS	NS	NS	NS	31
T x R x I			NS	1.0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)			6	4	3	6	105	148	138	16	4	1	4	1	6

Table C- 50. Corn/Soybean Rotation and Tillage Study - Soybean. Arlington, WI - 2006.

Tillage	Rotation	Hybrid	Yield	Moisture	Grower return	Height	Lodging	Seed Composition Protein	Seed Composition Oil	Protein	Oil	Protein + Oil
			bu/A	%	$/A	inches	1 to 5	%	%	lbs/A	lbs/A	lbs/A
		Asgrow AG2107	57.8	10.9	355	36.5	1	35.1	19.3	1219	669	1888
		Latham E2412R	54.4	11.9	334	42.7	2	36.1	17.2	1179	561	1740
		Pioneer 91M90	53.7	11.1	330	37.8	1	34.0	19.1	1098	615	1713
	1st Year SB		57.1	11.1	350	39.6	2	35.2	18.5	1207	632	1840
	2nd Year SB		53.1	11.4	326	38.4	1	35.0	18.6	1118	593	1711
	3rd Year SB		55.1	11.3	338	38.6	1	34.9	18.6	1155	616	1771
	4th Year SB		53.0	11.3	325	38.8	1	35.0	18.5	1112	590	1702
	5th Year SB		62.2	11.6	382	40.9	1	35.5	18.3	1323	684	2007
	Cont. SB		52.9	11.3	325	37.7	1	35.3	18.4	1121	585	1706
	SB/C		53.9	11.2	331	39.0	2	34.7	18.7	1121	605	1726
	1st Year SB	Asgrow AG2107	59.7	10.7	367	36.8	1	35.2	19.3	1261	690	1951
	1st Year SB	Latham E2412R	56.2	11.6	345	43.4	2	36.4	17.2	1227	580	1806
	1st Year SB	Pioneer 91M90	55.3	10.9	340	38.8	1	34.2	18.9	1135	627	1762
	2nd Year SB	Asgrow AG2107	54.9	11.1	337	35.9	1	35.2	19.3	1158	636	1794
	2nd Year SB	Latham E2412R	55.1	12.0	338	42.5	2	36.0	17.3	1190	573	1762
	2nd Year SB	Pioneer 91M90	49.4	11.2	303	36.9	1	33.9	19.3	1006	571	1577
	3rd Year SB	Asgrow AG2107	58.0	11.0	356	36.1	1	34.9	19.4	1215	675	1889
	3rd Year SB	Latham E2412R	53.8	11.8	330	42.0	2	36.2	17.2	1168	554	1722
	3rd Year SB	Pioneer 91M90	53.5	11.2	329	37.8	1	33.7	19.3	1081	619	1701
	4th Year SB	Asgrow AG2107	56.8	10.8	349	35.3	1	35.1	19.3	1196	658	1855
	4th Year SB	Latham E2412R	51.4	11.9	316	43.0	2	35.9	17.2	1106	531	1637
	4th Year SB	Pioneer 91M90	50.7	11.2	312	38.0	2	34.0	19.0	1034	580	1614
	5th Year SB	Asgrow AG2107	64.2	10.8	394	39.4	1	35.4	19.1	1365	734	2099
	5th Year SB	Latham E2412R	60.6	12.9	372	44.3	2	36.5	16.9	1325	615	1940
	5th Year SB	Pioneer 91M90	61.7	11.1	379	39.0	1	34.5	18.9	1280	701	1981
	Cont. SB	Asgrow AG2107	55.3	11.0	340	35.0	1	35.3	19.3	1173	639	1812
	Cont. SB	Latham E2412R	52.2	11.7	320	41.4	2	36.4	17.1	1141	535	1676
	Cont. SB	Pioneer 91M90	51.1	11.2	314	36.6	1	34.1	19.0	1048	583	1630
	SB/C	Asgrow AG2107	55.9	11.1	343	37.1	1	34.8	19.3	1167	648	1814
	SB/C	Latham E2412R	51.5	11.8	316	42.3	2	35.4	17.5	1095	542	1637
	SB/C	Pioneer 91M90	54.2	10.8	333	37.6	1	33.9	19.2	1101	625	1727
Conv			56.9	11.2	349	38.5	1	35.2	18.5	1203	631	1834
No-Till			53.8	11.4	330	39.5	1	34.9	18.6	1128	599	1727
Conv		Asgrow AG2107	59.3	10.8	364	36.4	1	35.2	19.2	1252	684	1937
Conv		Latham E2412R	55.5	11.9	341	42.0	2	36.3	17.1	1209	570	1779
Conv		Pioneer 91M90	55.8	11.0	343	37.0	1	34.2	19.0	1148	638	1785

(continued)

Table C- 50. Corn/Soybean Rotation and Tillage Study - Soybean.
(continued) **Arlington, WI - 2006.**

Tillage	Rotation	Insecticide	Yield	Moisture	Grower return	Height	Lodging	Seed Composition Protein	Seed Composition Oil	Protein	Oil	Protein + Oil
			bu/A	%	$/A	inches	1 to 5	%	%	lbs/A	lbs/A	lbs/A
No-Till		Asgrow AG2107	56.3	11.0	346	36.6	1	35.1	19.3	1186	653	1839
No-Till		Latham E2412R	53.3	12.0	327	43.4	2	35.9	17.3	1149	552	1701
No-Till		Pioneer 91M90	51.6	11.2	317	38.6	1	33.8	19.1	1048	593	1641
Conv	1st Year SB		60.9	11.0	374	40.3	2	35.4	18.4	1292	673	1964
Conv	2nd Year SB		54.0	11.2	332	37.8	1	35.3	18.5	1146	600	1746
Conv	3rd Year SB		56.6	11.4	347	38.4	2	35.2	18.5	1192	629	1821
Conv	4th Year SB		53.8	11.2	330	38.2	2	34.9	18.6	1125	600	1725
Conv	5th Year SB		65.3	11.7	401	40.0	1	35.5	18.2	1393	715	2108
Conv	Cont. SB		54.1	11.2	332	37.0	1	35.9	18.2	1164	592	1757
Conv	SB/C		53.6	11.0	329	37.8	2	34.5	18.8	1106	606	1713
No-Till	1st Year SB		53.2	11.2	327	39.0	2	35.1	18.5	1123	592	1715
No-Till	2nd Year SB		52.2	11.6	321	39.0	1	34.7	18.7	1090	587	1676
No-Till	3rd Year SB		53.6	11.3	329	38.8	1	34.7	18.7	1117	603	1720
No-Till	4th Year SB		52.2	11.4	321	39.3	1	35.1	18.5	1099	579	1678
No-Till	5th Year SB		59.0	11.5	362	41.8	2	35.4	18.4	1253	652	1905
No-Till	Cont. SB		51.7	11.3	317	38.3	1	34.7	18.6	1077	578	1655
No-Till	SB/C		54.2	11.5	333	40.3	2	34.9	18.5	1136	604	1740
Conv	1st Year SB	Asgrow AG2107	65.5	10.6	402	37.5	1	35.1	19.3	1380	757	2137
Conv	1st Year SB	Latham E2412R	58.5	11.6	359	44.0	2	36.5	17.1	1282	598	1880
Conv	1st Year SB	Pioneer 91M90	58.8	10.8	361	39.3	1	34.4	18.8	1214	663	1877
Conv	2nd Year SB	Asgrow AG2107	55.5	11.0	341	35.3	1	35.4	19.3	1178	643	1820
Conv	2nd Year SB	Latham E2412R	55.8	11.7	343	42.8	1	36.3	17.2	1213	576	1789
Conv	2nd Year SB	Pioneer 91M90	50.8	11.0	312	35.5	1	34.4	19.1	1047	582	1629
Conv	3rd Year SB	Asgrow AG2107	59.5	11.0	365	36.0	1	35.0	19.4	1249	690	1939
Conv	3rd Year SB	Latham E2412R	54.5	11.9	334	41.5	2	36.5	17.0	1194	555	1748
Conv	3rd Year SB	Pioneer 91M90	55.7	11.2	342	37.8	2	33.9	19.2	1134	642	1776
Conv	4th Year SB	Asgrow AG2107	57.0	10.8	350	34.8	1	35.0	19.3	1198	659	1857
Conv	4th Year SB	Latham E2412R	51.9	11.7	319	42.8	2	35.9	17.2	1116	536	1653
Conv	4th Year SB	Pioneer 91M90	52.4	11.0	322	37.0	2	33.8	19.2	1062	605	1666
Conv	5th Year SB	Asgrow AG2107	65.2	10.8	400	39.8	1	35.4	18.9	1383	740	2123
Conv	5th Year SB	Latham E2412R	63.9	13.2	392	43.3	2	36.6	16.9	1403	645	2048
Conv	5th Year SB	Pioneer 91M90	67.0	11.2	411	37.0	1	34.7	18.9	1393	760	2153
Conv	Cont. SB	Asgrow AG2107	57.0	10.9	350	35.3	1	35.8	19.1	1224	652	1876
Conv	Cont. SB	Latham E2412R	53.2	11.7	327	40.0	2	37.1	16.9	1183	538	1721
Conv	Cont. SB	Pioneer 91M90	52.0	11.0	319	35.8	1	34.8	18.8	1086	586	1673
Conv	SB/C	Asgrow AG2107	55.8	10.7	342	36.5	1	34.5	19.4	1154	650	1803
Conv	SB/C	Latham E2412R	50.7	11.5	311	39.8	2	35.2	17.8	1069	542	1611
Conv	SB/C	Pioneer 91M90	54.2	10.8	333	37.0	2	33.7	19.3	1097	627	1724

(continued)

Table C- 50. Corn/Soybean Rotation and Tillage Study - Soybean.

(continued) **Arlington, WI - 2006.**

Tillage	Rotation	Insecticide	Yield	Moisture	Grower return	Height	Lodging	Seed Composition Protein	Seed Composition Oil	Protein	Oil	Protein + Oil
			bu/A	%	$/A	inches	1 to 5	%	%	lbs/A	lbs/A	lbs/A
No-Till	1st Year SB	Asgrow AG2107	53.9	10.8	331	36.0	2	35.3	19.3	1141	624	1765
No-Till	1st Year SB	Latham E2412R	54.0	11.6	331	42.8	3	36.2	17.4	1172	561	1733
No-Till	1st Year SB	Pioneer 91M90	51.8	11.1	318	38.3	1	34.0	19.0	1056	592	1648
No-Till	2nd Year SB	Asgrow AG2107	54.3	11.2	333	36.5	1	35.0	19.3	1138	630	1768
No-Till	2nd Year SB	Latham E2412R	54.4	12.3	334	42.3	2	35.7	17.5	1166	570	1735
No-Till	2nd Year SB	Pioneer 91M90	48.1	11.3	295	38.3	1	33.5	19.5	965	560	1525
No-Till	3rd Year SB	Asgrow AG2107	56.6	11.0	347	36.3	1	34.8	19.4	1180	659	1839
No-Till	3rd Year SB	Latham E2412R	53.1	11.6	326	42.5	2	35.9	17.4	1143	553	1696
No-Till	3rd Year SB	Pioneer 91M90	51.3	11.2	315	37.8	1	33.4	19.4	1028	597	1625
No-Till	4th Year SB	Asgrow AG2107	56.6	10.8	348	35.8	1	35.2	19.4	1195	657	1852
No-Till	4th Year SB	Latham E2412R	50.9	12.0	313	43.3	2	35.8	17.2	1095	526	1621
No-Till	4th Year SB	Pioneer 91M90	49.1	11.4	301	39.0	2	34.2	18.8	1006	555	1561
No-Till	5th Year SB	Asgrow AG2107	63.3	10.9	389	39.0	1	35.5	19.2	1346	728	2075
No-Till	5th Year SB	Latham E2412R	57.3	12.7	352	45.3	3	36.3	17.0	1247	584	1831
No-Till	5th Year SB	Pioneer 91M90	56.5	11.0	347	41.0	1	34.4	19.0	1166	643	1809
No-Till	Cont. SB	Asgrow AG2107	53.7	11.0	330	34.8	1	34.9	19.4	1122	625	1748
No-Till	Cont. SB	Latham E2412R	51.2	11.7	314	42.8	2	35.8	17.3	1099	531	1631
No-Till	Cont. SB	Pioneer 91M90	50.3	11.3	309	37.5	1	33.5	19.2	1009	579	1588
No-Till	SB/C	Asgrow AG2107	56.1	11.5	344	37.8	1	35.1	19.2	1180	646	1826
No-Till	SB/C	Latham E2412R	52.4	12.1	322	44.8	3	35.7	17.2	1122	542	1664
No-Till	SB/C	Pioneer 91M90	54.2	10.9	333	38.3	1	34.0	19.2	1106	623	1730
Mean			55.3	11.3	340	39.0	1	35.1	18.5	1165	615	1780
Probability(%)												
Tillage (T)			1.9	41.4	1.9	10.0	34.5	0.7	3.2	0.9	3.4	1.4
Rotation (R)			0.0	0.8	0.0	4.0	7.9	0.1	0.6	0.0	0.0	0.0
T x R			6.0	10.7	6.3	54.5	31.8	0.1	2.5	5.1	12.2	7.5
Insecticide (I)			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T x I			17.3	79.6	17.3	16.7	2.5	7.6	90.3	20.2	14.8	17.8
R x I			4.8	0.1	4.8	76.9	0.5	22.4	66.8	3.2	9.1	4.7
T x R x I			29.3	82.7	29.3	49.2	33.3	98.1	73.6	38.1	24.8	31.1
LSD(0.10)												
Tillage (T)			1.9	NS	12	NS	NS	0.1	0.1	38	22	60
Rotation (R)			2.3	0.2	14	1.5	0	0.3	0.2	52	26	77
T x R			3.3	NS	20	NS	NS	0.4	0.2	74	NS	108
Insecticide (I)			0.9	0.1	6	0.7	0	0.1	0.1	20	12	31
T x I			NS	NS	NS	NS	0	0.2	NS	NS	NS	NS
R x I			2.4	0.4	15	NS	0	NS	NS	52	31	81
T x R x I			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)			5	4	5	5	28	1	2	5	6	5

Table C-51. Corn/Soybean Rotation and Tillage Study - Corn Quality. Arlington, WI - 2005

Tillage	Rotation	Insecticide	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
		Force	3.4	58.8	7.5	2.89	528
		Poncho	3.3	58.6	7.5	2.89	513
		Prescribe	3.4	58.9	7.6	2.88	512
	1st Year Corn		3.5	58.7	7.4	2.90	630
	2nd Year Corn		3.3	58.2	7.6	2.89	461
	3rd Year Corn		3.4	58.6	7.7	2.87	460
	4th Year Corn		3.4	58.5	7.5	2.89	514
	5th Year Corn		3.4	58.8	7.5	2.88	499
	Continuous Corn		3.3	58.8	7.6	2.88	476
	Rotated Corn		3.4	59.7	7.6	2.89	582
	1st Year Corn	Force	3.5	59.0	7.4	2.91	636
	1st Year Corn	Poncho	3.5	58.6	7.4	2.90	626
	1st Year Corn	Prescribe	3.4	58.6	7.3	2.90	626
	2nd Year Corn	Force	3.3	58.2	7.5	2.90	503
	2nd Year Corn	Poncho	3.3	58.2	7.6	2.89	451
	2nd Year Corn	Prescribe	3.3	58.0	7.7	2.88	430
	3rd Year Corn	Force	3.4	59.1	7.8	2.87	460
	3rd Year Corn	Poncho	3.4	58.0	7.7	2.88	463
	3rd Year Corn	Prescribe	3.4	58.6	7.7	2.87	458
	4th Year Corn	Force	3.4	58.2	7.5	2.88	511
	4th Year Corn	Poncho	3.3	58.8	7.4	2.89	509
	4th Year Corn	Prescribe	3.4	58.6	7.5	2.88	521
	5th Year Corn	Force	3.4	59.0	7.6	2.88	507
	5th Year Corn	Poncho	3.3	58.6	7.5	2.88	498
	5th Year Corn	Prescribe	3.4	59.0	7.6	2.89	494
	Continuous Corn	Force	3.3	58.9	7.6	2.88	486
	Continuous Corn	Poncho	3.3	58.2	7.5	2.89	469
	Continuous Corn	Prescribe	3.3	59.3	7.7	2.88	474
	Rotated Corn	Force	3.4	59.3	7.5	2.90	592
	Rotated Corn	Poncho	3.3	59.7	7.5	2.89	574
	Rotated Corn	Prescribe	3.4	59.9	7.7	2.88	579
Conventional			3.4	58.8	7.4	2.90	508
NoTill			3.3	58.7	7.7	2.88	527
Conventional		Force	3.4	58.8	7.4	2.90	516
Conventional		Poncho	3.4	58.6	7.4	2.90	508
Conventional		Prescribe	3.4	59.1	7.4	2.90	500
NoTill		Force	3.3	58.8	7.6	2.88	540
NoTill		Poncho	3.3	58.6	7.6	2.88	518
NoTill		Prescribe	3.4	58.6	7.8	2.87	523
Conventional	1st Year Corn		3.5	58.7	7.3	2.90	590
Conventional	2nd Year Corn		3.3	58.4	7.4	2.90	489
Conventional	3rd Year Corn		3.4	59.0	7.5	2.89	467
Conventional	4th Year Corn		3.4	58.9	7.3	2.90	529
Conventional	5th Year Corn		3.4	58.6	7.4	2.90	483
Conventional	Continuous Corn		3.3	58.8	7.5	2.89	444
Conventional	Rotated Corn		3.4	59.5	7.5	2.90	555
NoTill	1st Year Corn		3.4	58.8	7.4	2.90	669
NoTill	2nd Year Corn		3.3	57.9	7.8	2.87	434
NoTill	3rd Year Corn		3.4	58.2	8.0	2.86	454
NoTill	4th Year Corn		3.3	58.2	7.7	2.87	498
NoTill	5th Year Corn		3.4	59.1	7.7	2.87	515
NoTill	Continuous Corn		3.3	58.8	7.7	2.88	509
NoTill	Rotated Corn		3.4	59.8	7.7	2.88	608

(continued)

Table C-51. Corn/Soybean Rotation and Tillage Study - Corn Quality.
(continued) **Arlington, WI - 2005**

Tillage	Rotation	Insecticide	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
Conventional	1st Year Corn	Force	3.5	59.0	7.4	2.91	586
Conventional	1st Year Corn	Poncho	3.4	58.2	7.4	2.89	600
Conventional	1st Year Corn	Prescribe	3.5	59.0	7.3	2.90	584
Conventional	2nd Year Corn	Force	3.3	58.5	7.3	2.91	544
Conventional	2nd Year Corn	Poncho	3.4	58.3	7.4	2.89	473
Conventional	2nd Year Corn	Prescribe	3.4	58.4	7.4	2.90	449
Conventional	3rd Year Corn	Force	3.4	59.5	7.6	2.88	471
Conventional	3rd Year Corn	Poncho	3.3	58.5	7.4	2.90	479
Conventional	3rd Year Corn	Prescribe	3.4	58.9	7.5	2.88	451
Conventional	4th Year Corn	Force	3.5	58.5	7.4	2.90	519
Conventional	4th Year Corn	Poncho	3.4	58.8	7.3	2.91	530
Conventional	4th Year Corn	Prescribe	3.4	59.3	7.3	2.90	537
Conventional	5th Year Corn	Force	3.4	58.4	7.5	2.89	489
Conventional	5th Year Corn	Poncho	3.3	58.3	7.4	2.89	474
Conventional	5th Year Corn	Prescribe	3.4	59.0	7.3	2.91	487
Conventional	Continuous Corn	Force	3.3	58.9	7.5	2.89	440
Conventional	Continuous Corn	Poncho	3.3	58.3	7.5	2.90	450
Conventional	Continuous Corn	Prescribe	3.3	59.3	7.6	2.89	442
Conventional	Rotated Corn	Force	3.4	59.0	7.4	2.91	560
Conventional	Rotated Corn	Poncho	3.3	59.9	7.5	2.90	552
Conventional	Rotated Corn	Prescribe	3.4	59.7	7.5	2.90	554
NoTill	1st Year Corn	Force	3.4	59.0	7.3	2.90	686
NoTill	1st Year Corn	Poncho	3.5	59.0	7.4	2.90	652
NoTill	1st Year Corn	Prescribe	3.4	58.2	7.4	2.89	669
NoTill	2nd Year Corn	Force	3.3	58.0	7.7	2.88	461
NoTill	2nd Year Corn	Poncho	3.3	58.1	7.7	2.88	429
NoTill	2nd Year Corn	Prescribe	3.2	57.7	7.9	2.87	411
NoTill	3rd Year Corn	Force	3.3	58.6	8.0	2.86	450
NoTill	3rd Year Corn	Poncho	3.4	57.6	7.9	2.85	448
NoTill	3rd Year Corn	Prescribe	3.5	58.3	8.0	2.85	465
NoTill	4th Year Corn	Force	3.4	58.0	7.7	2.87	502
NoTill	4th Year Corn	Poncho	3.2	58.8	7.5	2.88	489
NoTill	4th Year Corn	Prescribe	3.3	57.9	7.7	2.87	504
NoTill	5th Year Corn	Force	3.4	59.5	7.6	2.87	524
NoTill	5th Year Corn	Poncho	3.3	58.8	7.5	2.87	521
NoTill	5th Year Corn	Prescribe	3.4	59.0	7.9	2.86	502
NoTill	Continuous Corn	Force	3.3	59.0	7.6	2.88	533
NoTill	Continuous Corn	Poncho	3.3	58.2	7.6	2.88	488
NoTill	Continuous Corn	Prescribe	3.3	59.3	7.8	2.87	506
NoTill	Rotated Corn	Force	3.4	59.6	7.6	2.89	624
NoTill	Rotated Corn	Poncho	3.3	59.6	7.6	2.89	596
NoTill	Rotated Corn	Prescribe	3.4	60.1	8.0	2.86	603
Mean			3.4	58.8	7.6	2.89	517
Probability(%)							
Tillage (T)			30.1	56.1	0.3	0.1	3.1
Rotation (R)			1.4	0.3	0.1	0.3	0.0
T x R			45.3	32.7	6.4	6.8	2.5
Insecticide (I)			47.6	34.2	2.9	17.6	6.2
T x I			72.5	41.1	1.7	26.8	54.8
R x I			82.5	53.9	68.1	87.3	50.1
T x R x I			87.3	93.0	90.6	71.7	88.5
LSD(0.10)							
Tillage (T)			NS	NS	0.1	0.01	13
Rotation (R)			0.1	0.5	0.1	0.01	37
T x R			NS	NS	0.1	0.01	27
Insecticide (I)			NS	NS	0.1	NS	12
T x I			NS	NS	0.1	NS	NS
R x I			NS	NS	NS	NS	NS
T x R x I			NS	NS	NS	NS	NS
CV(%)			3	2	3	1	8

Table C-52. Corn/Soybean Rotation and Tillage Study - Corn Quality. Arlington, WI - 2004

Tillage	Rotation	Insecticide	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
		Force	3.5	61.3	7.2	2.90	543
		Poncho	3.5	61.3	7.1	2.90	526
		Prescribe	3.5	61.2	7.2	2.89	520
	1st Year Corn		3.5	61.1	7.4	2.90	588
	2nd Year Corn		3.5	61.4	7.0	2.91	519
	3rd Year Corn		3.5	61.4	7.0	2.90	524
	4rd Year Corn		3.4	61.4	7.0	2.90	509
	5th Year Corn		3.4	61.3	7.2	2.89	502
	Continuous Corn		3.5	61.3	7.2	2.89	508
	Rotated Corn		3.4	61.0	7.4	2.88	555
	1st Year Corn	Force	3.5	61.0	7.4	2.90	581
	1st Year Corn	Poncho	3.4	61.2	7.2	2.90	610
	1st Year Corn	Prescribe	3.5	61.0	7.4	2.90	574
	2nd Year Corn	Force	3.5	61.4	7.1	2.90	517
	2nd Year Corn	Poncho	3.5	61.5	7.0	2.92	527
	2nd Year Corn	Prescribe	3.4	61.4	7.0	2.91	514
	3rd Year Corn	Force	3.5	61.6	7.0	2.89	557
	3rd Year Corn	Poncho	3.4	61.5	6.9	2.90	517
	3rd Year Corn	Prescribe	3.5	61.0	7.2	2.90	499
	4rd Year Corn	Force	3.4	61.5	7.0	2.91	531
	4rd Year Corn	Poncho	3.5	61.3	7.0	2.89	495
	4rd Year Corn	Prescribe	3.5	61.4	7.0	2.90	503
	5th Year Corn	Force	3.4	61.3	7.2	2.89	525
	5th Year Corn	Poncho	3.4	61.4	7.1	2.89	494
	5th Year Corn	Prescribe	3.5	61.3	7.3	2.88	487
	Continuous Corn	Force	3.5	61.2	7.3	2.89	512
	Continuous Corn	Poncho	3.5	61.3	7.1	2.90	508
	Continuous Corn	Prescribe	3.5	61.2	7.2	2.88	505
	Rotated Corn	Force	3.4	61.3	7.3	2.89	575
	Rotated Corn	Poncho	3.4	60.9	7.5	2.88	532
	Rotated Corn	Prescribe	3.5	60.8	7.5	2.87	558
Conventional			3.5	61.1	7.4	2.89	544
NoTill			3.4	61.5	6.9	2.90	515
Conventional		Force	3.5	61.2	7.4	2.89	558
Conventional		Poncho	3.5	61.1	7.4	2.89	544
Conventional		Prescribe	3.5	61.0	7.5	2.89	530
NoTill		Force	3.4	61.5	7.0	2.90	528
NoTill		Poncho	3.4	61.5	6.8	2.90	508
NoTill		Prescribe	3.4	61.4	7.0	2.90	509
Conventional	1st Year Corn		3.5	60.9	7.5	2.89	589
Conventional	2nd Year Corn		3.5	61.3	7.2	2.92	515
Conventional	3rd Year Corn		3.6	61.1	7.4	2.89	555
Conventional	4rd Year Corn		3.5	61.1	7.4	2.90	536
Conventional	5th Year Corn		3.5	61.1	7.5	2.88	525
Conventional	Continuous Corn		3.5	61.1	7.5	2.88	518
Conventional	Rotated Corn		3.4	60.9	7.6	2.88	572
NoTill	1st Year Corn		3.4	61.3	7.2	2.91	588
NoTill	2nd Year Corn		3.5	61.5	6.9	2.90	523
NoTill	3rd Year Corn		3.4	61.6	6.6	2.90	494
NoTill	4rd Year Corn		3.4	61.7	6.6	2.91	479
NoTill	5th Year Corn		3.4	61.6	6.9	2.89	479
NoTill	Continuous Corn		3.4	61.4	6.9	2.90	496
NoTill	Rotated Corn		3.4	61.1	7.2	2.88	538

(continued)

Table C-52. Corn/Soybean Rotation and Tillage Study - Corn Quality.
(continued) **Arlington, WI - 2004**

			Grain Composition			Ethanol	
Tillage	Rotation	Insecticide	Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
Conventional	1st Year Corn	Force	3.5	60.8	7.5	2.90	578
Conventional	1st Year Corn	Poncho	3.5	60.9	7.5	2.89	616
Conventional	1st Year Corn	Prescribe	3.5	61.0	7.5	2.89	572
Conventional	2nd Year Corn	Force	3.4	61.3	7.2	2.91	506
Conventional	2nd Year Corn	Poncho	3.5	61.3	7.1	2.94	525
Conventional	2nd Year Corn	Prescribe	3.4	61.1	7.3	2.90	515
Conventional	3rd Year Corn	Force	3.5	61.4	7.3	2.89	590
Conventional	3rd Year Corn	Poncho	3.5	61.3	7.4	2.89	549
Conventional	3rd Year Corn	Prescribe	3.7	60.6	7.6	2.90	525
Conventional	4rd Year Corn	Force	3.4	61.4	7.4	2.91	573
Conventional	4rd Year Corn	Poncho	3.5	60.9	7.4	2.88	507
Conventional	4rd Year Corn	Prescribe	3.5	61.1	7.4	2.89	528
Conventional	5th Year Corn	Force	3.5	61.1	7.4	2.89	543
Conventional	5th Year Corn	Poncho	3.5	61.0	7.5	2.88	528
Conventional	5th Year Corn	Prescribe	3.5	61.2	7.5	2.89	503
Conventional	Continuous Corn	Force	3.5	61.0	7.6	2.88	522
Conventional	Continuous Corn	Poncho	3.5	61.1	7.5	2.89	524
Conventional	Continuous Corn	Prescribe	3.5	61.1	7.5	2.87	509
Conventional	Rotated Corn	Force	3.4	61.1	7.5	2.89	592
Conventional	Rotated Corn	Poncho	3.5	60.9	7.7	2.88	561
Conventional	Rotated Corn	Prescribe	3.4	60.6	7.6	2.87	561
NoTill	1st Year Corn	Force	3.4	61.3	7.3	2.90	583
NoTill	1st Year Corn	Poncho	3.4	61.6	7.0	2.91	604
NoTill	1st Year Corn	Prescribe	3.4	61.1	7.4	2.90	576
NoTill	2nd Year Corn	Force	3.5	61.4	7.1	2.89	527
NoTill	2nd Year Corn	Poncho	3.4	61.6	6.9	2.90	529
NoTill	2nd Year Corn	Prescribe	3.5	61.6	6.7	2.92	513
NoTill	3rd Year Corn	Force	3.5	61.7	6.7	2.90	524
NoTill	3rd Year Corn	Poncho	3.4	61.7	6.4	2.91	485
NoTill	3rd Year Corn	Prescribe	3.4	61.4	6.8	2.90	474
NoTill	4rd Year Corn	Force	3.5	61.6	6.5	2.91	476
NoTill	4rd Year Corn	Poncho	3.4	61.6	6.5	2.91	484
NoTill	4rd Year Corn	Prescribe	3.4	61.7	6.6	2.91	478
NoTill	5th Year Corn	Force	3.4	61.6	6.9	2.89	507
NoTill	5th Year Corn	Poncho	3.4	61.7	6.8	2.89	460
NoTill	5th Year Corn	Prescribe	3.4	61.4	7.0	2.88	470
NoTill	Continuous Corn	Force	3.4	61.4	7.0	2.89	498
NoTill	Continuous Corn	Poncho	3.4	61.4	6.8	2.91	493
NoTill	Continuous Corn	Prescribe	3.4	61.4	6.9	2.89	499
NoTill	Rotated Corn	Force	3.4	61.4	7.1	2.90	557
NoTill	Rotated Corn	Poncho	3.4	61.0	7.3	2.88	503
NoTill	Rotated Corn	Prescribe	3.5	61.0	7.3	2.87	554
Mean			3.5	61.3	7.2	2.90	530
Probability(%)							
Tillage (T)			2.6	0.1	0.0	11.4	0.1
Rotation (R)			22.2	1.5	0.2	0.3	0.0
T x R			18.0	74.6	11.7	46.0	4.6
Insecticide (I)			28.9	0.9	3.3	25.1	0.0
T x I			23.8	47.0	23.9	74.2	37.3
R x I			56.5	2.7	50.9	35.2	0.7
T x R x I			16.6	43.7	74.6	15.2	60.6
LSD(0.10)							
Tillage (T)			0.0	0.1	0.1	NS	9
Rotation (R)			NS	1.7	1.9	0.01	20
T x R			NS	NS	NS	NS	28
Insecticide (I)			NS	0.1	0.1	NS	9
T x I			NS	NS	NS	NS	NS
R x I			NS	0.2	NS	NS	24
T x R x I			NS	NS	NS	NS	NS
CV(%)			2	0	3	1	5

FIELD EXPERIMENT HISTORY

Title: **Corn/Soybean/Wheat Rotation Study**

Experiment: 09 CSW - Corn, Soybean, Silage **Trial ID:** 2921 **Year:** 2006

Personnel: J. G. Lauer, J.M. Gaska, K. D. Kohn, J.H. Hopf

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS335 **Previous Crop:** Corn/Soybean/Wheat **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 5 /6 /04 **pH** 6.9 **OM (%)** 2.9 **P (ppm)** 32 **K (ppm)** 150

Plot Management

Tillage Operations: No-Till

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	N/A	N/A	N/A
	Post plant :	28-0-0 34-0-0	70 gpa 150 lb/a	5/5/06 6/23/06
	Manure:	N/A	N/A	

Herbicide: 2,4-D 12 oz/a 4/27/06
Dual II Mag 24 oz/a 4/27/06
Mirage Plus 32 oz/a 6/13/06

Insecticide: Force 3G 4.4 lbs/A 4/27/06
Prozap 10 lb/a 4/27/06

Irrigation: None

Hybrid: Corn: LH244RRxLH 273 Bt
Soy: Kaltenberg KB206RR

Planting Date: Corn: 4/28/06
Soybean: 5/6/06

Planting Depth: Corn: 1.5"
Soybean: 1"

Row Width: 30"

Target Plant Density: Corn: 32500
Soybean:150000

Planting Method: Kinze 2000 Interplant planter

Harvest Date: Corn: 10/26/06
Soybean: 10/9/06
Silage: 9/13/06

Harvest Method: C: Kincaid Soy: Almaco Sil: 707 silage harvester

Experimental Design

Design: RCB split plot

Replications: 3

Plot Size Seeded: 60' x 60'

Experiment Size: 3.5 Acres

Harvest Plot Size: 5' x 56'

Factors/Treatments:

Rotation:
Livestock System - Corn(silage)/Winter Wheat(straw removed)/Soybean
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

Seed Treatment:
C: Maxim XL
Maxim + Apron XL
Maxim + Azoxystrobin
Captan + Apron XL
S: UTC
SoyGard
Rival/alleg
ApronMaxx

Results: Table C-53, 54 and 55.

Table C-53.Corn, Soybean, and Wheat Rotation-Corn
Arlington, WI - 2006.

Rotation	Fungicide	Yield	Moisture	Test Weight	Grower Return	Lodged			Harvest	Grain Composition			Ethanol	
						Total	Stalk	Root	plants	Oil	Starch	Protein	per bu	per A
		bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
	Captan+Apron XL	178	22.1	51.8	540	10	0	10	31114	3.8	59.6	7.5	2.86	510
	Maxim+Apron XL	188	21.5	51.3	570	7	0	6	31529	3.8	59.4	7.5	2.85	537
	Maxim+Azoxystrobin	191	21.2	51.3	578	3	0	3	31944	3.8	59.4	7.5	2.86	546
	Maxim XL	198	21.5	51.2	600	5	0	5	31529	3.8	59.4	7.5	2.85	563
Continuous Corn		167	29.1	51.3	484	10	0	9	29870	3.8	59.9	7.5	2.84	475
Corn/Soybean		211	24.8	52.6	627	1	0	1	32774	3.8	60.1	7.5	2.85	602
Grain System I		200	26.1	52.9	591	13	0	13	30782	3.8	59.9	7.7	2.84	570
Grain System II		175	6.2	48.8	587	1	0	1	32691	3.6	57.8	7.2	2.89	507
Continuous Corn	Captan+Apron XL	145	31.0	50.8	412	14	0	14	28874	3.8	60.2	7.4	2.84	410
Continuous Corn	Maxim+Apron XL	156	29.0	51.3	450	11	2	9	30533	3.8	59.6	7.6	2.84	442
Continuous Corn	Maxim+Azoxystrobin	182	28.1	51.5	529	4	0	4	30202	3.9	59.7	7.7	2.83	514
Continuous Corn	Maxim XL	187	28.1	51.5	544	9	0	9	29870	3.8	60.2	7.3	2.85	534
Corn/Soybean	Captan+Apron XL	212	25.0	53.2	630	0	0	0	31529	3.8	60.2	7.5	2.86	606
Corn/Soybean	Maxim+Apron XL	205	24.4	52.4	612	0	0	0	33520	3.8	60.2	7.7	2.84	584
Corn/Soybean	Maxim+Azoxystrobin	215	24.6	52.6	641	0	0	0	33520	3.8	60.1	7.4	2.87	617
Corn/Soybean	Maxim XL	211	25.3	52.2	625	2	0	2	32525	3.8	59.9	7.6	2.84	600
Grain System I	Captan+Apron XL	190	26.2	53.4	560	22	0	22	30865	3.8	60.0	7.7	2.84	540
Grain System I	Maxim+Apron XL	190	26.4	52.9	560	16	0	16	31197	3.9	59.8	7.6	2.84	540
Grain System I	Maxim+Azoxystrobin	211	25.8	52.5	624	8	0	8	30865	3.8	60.1	7.4	2.86	605
Grain System I	Maxim XL	210	26.2	52.8	619	7	0	7	30202	3.9	59.8	8.0	2.82	593
Grain System II	Captan+Apron XL	166	6.1	49.7	556	2	0	2	33189	3.62	57.9	7.2	2.90	482
Grain System II	Maxim+Apron XL	209	6.2	48.5	701	0	0	0	30865	3.6	58.1	7.1	2.89	607
Grain System II	Maxim+Azoxystrobin	155	6.2	48.5	518	1	0	1	33189	3.6	57.7	7.4	2.89	448
Grain System II	Maxim XL	182	6.3	48.4	610	1	0	1	33520	3.7	57.7	7.1	2.89	526
Mean		189	21.6	51.4	572	6	0	6	31529	3.8	59.4	7.5	2.86	539
Probability(%)														
Rotation (R)		2.5	0.0	0.2	5.2	40.3	45.7	41.7	9.6	0.2	0.0	1.7	0.2	3.4
Fungicide (F)		0.5	0.6	10.9	0.8	1.3	48.0	1.4	81.0	66.1	23.0	96.7	22.4	0.5
R x F		1.6	0.1	20.6	1.8	7.5	51.9	7.7	73.9	46.8	0.7	7.5	2.7	1.3
LSD (0.10)														
Rotation (R)		23	0.8	1.2	77	NS	NS	NS	2032	0.1	0.2	0.2	0.02	68
Fungicide (F)		6	0.4	NS	27	3	NS	3	NS	NS	NS	NS	NS	24
R x F		17	0.8	NS	55	6	NS	6	NS	NS	0.3	0.3	0.02	49
CV(%)		6	3	1	7	70	693	72	7	2	0	3	0	6

Table C-54. Corn, Soybean, and Wheat Rotation-Silage
Arlington, WI - 2006.

		Whole Plant										
	Plant	Dry Matter		Kernel	Crude			*In Vitro*			Milk per	
Fungicide	population	Yield	Moisture	Milk	Protein	ADF	NDF	Digest	NDFD	Starch	Ton	Acre
	plants/A	tons/A	%	%	%	%	%	%	%	%	lbs/T	lbs/T
Captan+Apron XL	33520	7.2	68.5	36.7	7.0	23.9	45.6	78.3	52.5	35.0	3007	21775
Maxim+Apron XL	33852	7.9	68.9	48.3	6.8	24.6	46.6	77.5	51.6	33.4	2951	23473
Maxim+Azoxystrobin	35180	7.5	68.8	38.3	6.7	24.3	44.8	76.7	48.0	37.0	2928	22001
Maxim+XL	34848	7.6	68.3	40.0	6.6	24.6	46.1	77.3	50.8	34.3	2948	22460
Mean	34350	7.6	68.6	40.8	6.8	24.3	45.8	77.5	50.7	34.9	2959	22427
Probability(%)												
Fungicide	12.0	37.5	96.8	27.8	29.9	93.1	83.7	39.9	8.5	48.9	68.5	57.7
LSD (0.10)												
Fungicide	NS	NS	NS	NS	NS	NS	NS	NS	1.1	NS	NS	NS
CV(%)	2	6	2	17	3	7	5	1	3	8	3	7

Table C-55. Corn, Soybean, and Wheat Rotation-Soybean

Arlington, WI - 2006.

Rotation	Fungicide	Yield	Moisture	Grower return	Height	Lodging	Seed Composition		Protein	Oil	Protein + Oil
							Oil	Protein			
		bu/A	%	$/A	inches	1 to 5	%	%	lbs/A	lbs/A	lbs/A
	ApronMaxx	60.8	14.0	373	37.4	1	18.6	34.6	1262	679	1941
	Rival/Allegience	60.9	14.1	374	37.4	1	18.6	34.6	1266	679	1945
	Soyguard	61.7	14.0	379	37.7	1	18.5	34.9	1291	684	1975
	UTC	61.0	13.9	375	36.5	1	18.5	34.9	1277	677	1955
Continuous Soybean		55.0	13.8	338	37.3	1	18.6	35.3	1166	613	1779
Grain System I		65.1	14.2	400	35.6	1	18.5	34.4	1345	723	2068
Grain System II		61.5	14.0	378	39.3	1	18.7	34.3	1266	689	1955
Livestock System		66.4	14.0	408	35.3	1	18.5	35.0	1395	734	2129
Soybean/Corn		57.5	14.0	353	38.9	1	18.6	34.7	1198	640	1839
Continuous Soybean	ApronMaxx	56.2	13.9	345	37.3	1	18.5	35.3	1190	625	1815
Continuous Soybean	Rival/Allegience	53.7	14.1	330	39.0	1	18.6	35.0	1129	600	1728
Continuous Soybean	Soyguard	55.0	13.6	337	37.7	1	18.5	35.5	1171	610	1781
Continuous Soybean	UTC	55.2	13.7	339	35.3	1	18.6	35.5	1175	617	1793
Grain System I	ApronMaxx	65.5	14.1	402	36.7	1	18.8	34.1	1341	737	2079
Grain System I	Rival/Allegience	65.4	14.3	401	35.7	1	18.4	34.6	1360	720	2079
Grain System I	Soyguard	67.6	14.5	415	35.7	1	18.5	34.5	1399	749	2148
Grain System I	UTC	61.9	13.8	380	34.3	1	18.5	34.5	1279	685	1965
Grain System II	ApronMaxx	59.8	14.1	367	39.3	1	18.7	34.1	1223	671	1893
Grain System II	Rival/Allegience	62.2	14.0	382	38.7	1	18.8	34.0	1269	703	1973
Grain System II	Soyguard	62.1	13.8	381	39.0	1	18.4	34.7	1291	687	1978
Grain System II	UTC	62.0	13.9	381	40.0	1	18.7	34.4	1282	695	1976
Livestock System	ApronMaxx	65.4	13.9	402	35.3	1	18.5	34.8	1367	727	2094
Livestock System	Rival/Allegience	65.5	14.0	402	34.3	1	18.6	34.8	1371	731	2101
Livestock System	Soyguard	67.3	14.2	413	37.3	1	18.5	34.9	1412	747	2159
Livestock System	UTC	67.3	14.0	413	34.0	1	18.2	35.4	1430	733	2163
Soybean/Corn	ApronMaxx	57.1	14.1	351	38.3	1	18.5	34.7	1188	635	1823
Soybean/Corn	Rival/Allegience	57.7	13.8	354	39.3	1	18.6	34.7	1203	642	1844
Soybean/Corn	Soyguard	56.6	13.9	348	39.0	1	18.5	34.7	1181	629	1810
Soybean/Corn	UTC	58.7	14.2	361	39.0	2	18.7	34.6	1220	656	1877
Mean		61.1	14.0	375	37.3	1	18.6	34.7	1274	680	1954
Probability(%)											
Rotation (R)		1.1	26.0	1.1	29.0	46.1	90.4	6.0	2.4	0.4	1.3
Fungicide (F)		71.0	46.9	71.0	46.4	40.6	39.8	8.1	43.5	86.8	59.3
R x F		29.9	10.5	29.9	67.3	47.2	22.6	49.6	28.8	14.9	24.0
LSD (0.10)											
Rotation (R)		NS	NS	30	NS	NS	NS	0.6	112	45	155
Fungicide (F)		NS	NS	NS	NS	NS	NS	0.2	NS	NS	NS
R x F		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		4	2	4	6	11	1	1	4	4	4

FIELD EXPERIMENT HISTORY

Title: **Corn/Soybean/Wheat Rotation Study**

Experiment: 09 CSW - Wheat **Trial ID:** 2923 **Year:** 2006

Personnel: J. G. Lauer, J.M. Gaska, K. D. Kohn, J.H. Hopf

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS335 **Previous Crop:** Corn/Soybean/Wheat **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 5 /6 /04 **pH** 6.9 **OM (%)** 2.9 **P (ppm)** 32 **K (ppm)** 150

Plot Management

Tillage Operations: No-Till

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	N/A	N/A	N/A
	Post plant :	See Factors	N/A	N/A
	Manure:	N/A	N/A	

Herbicide: 2,4-d 12 oz/a 4/27/06 **Insecticide:** N/A

Irrigation: None **Hybrid:** Kaskaskia

Planting Date: 10/5/05 **Planting Depth:** 1" **Row Width:** 7.5"

Target Plant Density: 1.5 million plants/acre

Planting Method: JD 750 No-Till Drill

Harvest Date: 7/24/06 **Harvest Method:** Almaco Plot Combine

Experimental Design

Design: RCB split plot **Replications:** 3

Plot Size Seeded: 60' x 60' **Experiment Size:** 3.5 Acres

Harvest Plot Size: 5' x 26'

Factors/Treatments:

Rotation:	Nitrogen Application:
Livestock System - Corn(silage)/Winter Wheat(straw removed)/Soybean	00 lbs.
Continuous - Corn, Soybean, or Winter Wheat	25 lbs.
Alternating - Corn/Soybean	50 lbs.
Grain System I - Corn/Soybean(early)/Winter Wheat(red clover)	75 lbs.
Grain System II - Corn(early)/Winter Wheat(red clover)/Soybean	100 lbs.
	125 lbs.

Results: Table C-56.

Table C-56. Corn, Soybean, and Wheat Rotation - Wheat Arlington, WI - 2006.

Rotation	Nitrogen	Yield	Moisture	Test Weight	Grower return	Height	Lodging	Residue Cover
	lbs/A	bu/A	%	lbs/bu	$/A	inches	1 to 5	%
	0	65.2	13.7	57.4	248	36.1	1	49.5
	25	70.3	13.4	56.9	268	37.4	1	49.5
	50	70.6	13.4	56.2	269	36.8	2	49.5
	75	74.4	13.1	57.1	283	38.2	3	49.5
	100	73.3	13.2	57.0	279	37.9	3	49.5
	125	66.1	12.9	56.9	252	37.6	4	49.5
Grain System I		74.0	13.3	57.1	282	38.4	2	54.3
Grain System II		66.0	13.2	56.6	252	35.9	2	66.4
Livestock System		69.9	13.3	57.1	266	37.7	2	27.8
Grain System I	0	69.8	13.8	57.9	266	36.3	1	54.3
Grain System I	25	73.6	13.5	56.9	280	38.5	1	54.3
Grain System I	50	75.5	13.2	56.1	288	38.3	3	54.3
Grain System I	75	76.9	13.2	57.4	293	39.2	3	54.3
Grain System I	100	77.5	13.3	56.9	295	39.2	3	54.3
Grain System I	125	71.0	13.0	57.2	270	38.8	4	54.3
Grain System II	0	64.8	13.6	57.1	247	34.7	1	66.4
Grain System II	25	63.6	13.3	56.3	242	36.2	1	66.4
Grain System II	50	63.0	13.5	56.2	240	34.5	1	66.4
Grain System II	75	74.4	12.9	56.8	283	37.0	2	66.4
Grain System II	100	68.4	12.9	56.7	261	37.0	3	66.4
Grain System II	125	61.9	12.9	56.6	236	36.3	3	66.4
Livestock System	0	60.9	13.6	57.2	232	37.2	1	27.8
Livestock System	25	73.6	13.5	57.5	281	37.7	1	27.8
Livestock System	50	73.4	13.4	56.3	279	37.7	2	27.8
Livestock System	75	71.9	13.1	57.1	274	38.5	2	27.8
Livestock System	100	73.9	13.4	57.3	282	37.5	3	27.8
Livestock System	125	65.5	12.9	57.1	249	37.5	4	27.8
Mean		70.0	13.3	56.9	267	37.3	2	49.5
Probability(%)								
Rotation (R)		2.6	85.5	60.4	2.6	2.4	61.1	0.0
Nitrogen (N)		0.1	0.1	2.6	0.1	4.7	0.0	0.0
R x N		34.0	88.5	88.9	34.0	90.2	6.2	0.0
LSD (0.10)								
Rotation (R)		3.7	NS	NS	14	1.1	NS	0.0
Nitrogen (N)		3.5	0.3	1.0	15	1.2	0	0.0
R x N		NS	NS	NS	NS	NS	1	0.0
CV(%)		10	4	2	10	6	26	0

Table C-57. Corn, Soybean, and Wheat Rotation - Wheat 100 lb. N/acre Arlington, WI - 2006.

Rotation	Yield	Moisture	Test Weight	Grower return	Height	Lodging	Residue cover
	bu/A	%	lbs/bu	$/A	inches	1 to 5	%
Continuous Wheat	45.0	13.3	55.8	171	35.7	2	67.9
Grain System I	77.5	13.3	56.9	295	39.2	3	54.3
Grain System II	68.4	12.9	56.3	261	37.0	3	66.4
Livestock System	73.9	13.4	57.5	282	37.5	3	27.8
	66.2	13.2	56.6	252	37.3	3	54.1
Probability(%)							
Rotation	0.5	33.9	36.8	0.5	8.8	27.6	0.0
LSD (0.10)							
Rotation	11.0	NS	NS	42	2.1	NS	5.9
CV(%)	10	3	2	10	4	38	7

Table C-58. Corn, Soybean, and Wheat Rotation. Corn Quality. Arlington, WI - 2005.

			Grain Composition			Ethanol	
Crop	Rotation	Fungicide	Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
Corn		Captan + Apron XL	3.5	60.5	7.9	2.86	504
Corn		Maxim + Apron XL	3.5	60.5	8.0	2.87	524
Corn		Maxim + Azoxystrobin	3.5	60.6	8.0	2.87	531
Corn		Maxim XL	3.5	60.6	7.9	2.87	534
Corn	Continuous		3.5	60.5	8.2	2.85	488
Corn	Alternating		3.5	60.3	8.2	2.84	467
Corn	Grain System I		3.5	60.8	7.6	2.89	604
Corn	Grain System II		3.5	60.7	7.7	2.88	535
Corn	Continuous	Captan + Apron XL	3.5	60.4	8.3	2.85	496
Corn	Continuous	Maxim + Apron XL	3.5	60.3	8.3	2.85	485
Corn	Continuous	Maxim + Azoxystrobin	3.5	60.8	8.1	2.86	466
Corn	Continuous	Maxim XL	3.5	60.3	8.1	2.86	503
Corn	Alternating	Captan + Apron XL	3.5	60.2	8.1	2.84	418
Corn	Alternating	Maxim + Apron XL	3.5	60.2	8.3	2.83	467
Corn	Alternating	Maxim + Azoxystrobin	3.5	60.4	8.3	2.84	517
Corn	Alternating	Maxim XL	3.6	60.2	8.2	2.84	465
Corn	Grain System I	Captan + Apron XL	3.5	60.7	7.6	2.89	566
Corn	Grain System I	Maxim + Apron XL	3.5	60.8	7.6	2.90	614
Corn	Grain System I	Maxim + Azoxystrobin	3.5	60.6	7.7	2.89	604
Corn	Grain System I	Maxim XL	3.5	61.0	7.5	2.90	632
Corn	Grain System II	Captan + Apron XL	3.5	60.7	7.7	2.87	536
Corn	Grain System II	Maxim + Apron XL	3.5	60.7	7.7	2.88	529
Corn	Grain System II	Maxim + Azoxystrobin	3.5	60.7	7.8	2.88	538
Corn	Grain System II	Maxim XL	3.5	60.7	7.7	2.88	537
Mean			3.5	60.6	7.9	2.87	523
Probability(%)							
Rotation (R)			51.4	2.5	1.5	0.1	3.8
Fungicide (F)			96.6	84.3	64.7	81.9	46.1
R x F			97.8	79.0	96.0	95.1	64.0
LSD (0.10)							
Rotation (R)			NS	0.2	0.3	0.01	72
Fungicide (F)			NS	NS	NS	NS	NS
R x F			NS	NS	NS	NS	NS
CV(%)			2	1	3	1	10

Table C-59. Corn, Soybean, and Wheat Rotation. Corn Quality. Arlington, WI - 2004.

Crop	Rotation	Fungicide	Grain Composition			Ethanol	
			Oil	Starch	Protein	per bu	per A
			%	%	%	gallons	gallons
Corn		Captan + Allegiance	3.4	61.1	7.0	2.90	574
Corn		Maxim XL	3.4	60.9	7.1	2.90	555
Corn		Maxim XL + Apron XL	3.5	60.9	7.1	2.89	560
Corn		Maxim XL + Azoxystrobin	3.4	61.1	7.1	2.90	587
Corn	Continuous		3.4	61.4	6.7	2.91	530
Corn	Alternating		3.4	61.3	6.8	2.92	590
Corn	Grain system I		3.5	60.7	7.3	2.89	644
Corn	Grain system II		3.4	60.6	7.6	2.87	552
Corn	Continuous	Captan + Allegiance	3.4	61.4	6.7	2.90	542
Corn	Continuous	Maxim XL	3.4	61.5	6.5	2.92	532
Corn	Continuous	Maxim XL + Apron XL	3.4	61.3	6.7	2.91	525
Corn	Continuous	Maxim XL + Azoxystrobin	3.4	61.5	6.9	2.90	520
Corn	Alternating	Captan + Allegiance	3.4	61.3	6.6	2.92	603
Corn	Alternating	Maxim XL	3.3	61.1	7.0	2.90	573
Corn	Alternating	Maxim XL + Apron XL	3.4	61.4	6.8	2.91	589
Corn	Alternating	Maxim XL + Azoxystrobin	3.4	61.2	6.8	2.92	592
Corn	Grain system I	Captan + Allegiance	3.4	60.6	7.4	2.89	648
Corn	Grain system I	Maxim XL	3.5	60.7	7.0	2.90	585
Corn	Grain system I	Maxim XL + Apron XL	3.6	60.6	7.3	2.88	589
Corn	Grain system I	Maxim XL + Azoxystrobin	3.4	60.8	7.4	2.89	730
Corn	Grain system II	Captan + Allegiance	3.4	60.8	7.5	2.88	554
Corn	Grain system II	Maxim XL	3.4	60.3	7.9	2.86	546
Corn	Grain system II	Maxim XL + Apron XL	3.5	60.3	7.7	2.86	555
Corn	Grain system II	Maxim XL + Azoxystrobin	3.4	61.0	7.5	2.88	553
Mean			3.4	61.0	7.1	2.90	569
Probability(%)							
Rotation (R)			63.2	0.7	0.5	7.1	8.2
Fungicide (F)			34.3	49.8	73.1	71.6	20.4
R x F			95.3	52.8	54.2	67.2	33.1
LSD (0.10)							
Rotation (R)			NS	0.3	0.3	0.03	47
Fungicide (F)			NS	NS	NS	NS	NS
R x F			NS	NS	NS	NS	NS
CV(%)			3	1	5	1	6

FIELD EXPERIMENT HISTORY

Title: **The Evaluation of Early Applied Headline in Corn.**

Experiment: 10 The Evaluation of Early Applied Headline in Corn. **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn **Trial ID:** 2904

Location: Arlington, WI **County:** Columbia

Supported By: BASF Corporation

Site Information

Field: ARS427 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/15/06 **pH** 7.2 **OM (%)** 3.7 **P (ppm)** 75 **K (ppm)** 254

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/14/06

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:** 325	**Date:**	4 /22/06
Starter Analysis:	none	**Rate lbs/A:** N/A	**Date:**	N/A
Post plant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Manure: N/A				

Herbicide: Outlook 20 oz/A
Hornet 4.0 oz/A
Roundup 22.0 oz/A

Insecticide: None

Hybrid: Dekalb DKC50-20(RR2YG)

Irrigation: None

Planting Date: 5/22/06 **Planting Depth:** 1.5" **Row Width** 30"

Target Plant Density: 32000 **plants per acre** **Planting Method:** Kinze 2000 Inter-Row Planter

Harvest Date: 10/30/07 **Harvest Method:** Massey 8XP

Notes: Method of Application: CO2 Backpack sprayer, 10' boom, 15" spacing, TeeJet 8002VS nozzles, 30 lb pressure, 3.5 mph, 19.6 gal H2O/Acre.

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 10' x 100' **Experiment Size:** 0.92 Acre

Harvest Plot Size: 5' x 100' **Harvest Plant Density:** 31975 **plants per acre**

Factors/Treatments:

Application:

1. Headline@ 3.0 oz/A; NIS @ 0.125 g/A @ 2 ft corn
2. Headline@ 6.0 oz/A; NIS @ 0.125 g/A @ 2 ft corn
3. Headline@ 3.0 oz/A; NIS @ 0.125 g/A @ 4 ft corn
4. Headline@ 6.0 oz/A; NIS @ 0.125 g/A @ 4 ft corn
5. Headline@ 3.0 oz/A; NIS @ 0.125 g/A @ 6 ft corn
6. Headline@ 6.0 oz/A; NIS @ 0.125 g/A @ 6 ft corn
7. Headline@ 6.0 oz/A ; NIS @ 0.125 g/A @VT corn
8. Headline@ 3.0 oz/A; NIS @ 0.125 g/A @ 2 ft corn fb Headline@ 6.0 oz/A; NIS @ 0.125 g/A @VT
9. Headline@ 3.0 oz/A; NIS @ 0.125 g/A @ 2 ft corn fb Headline@ 3.0 oz/A; NIS @ 0.125 g/A @ VT
10. UTC

Application Dates:

2 ft @ 6/27
4 ft @ 7/10
6 ft @ 7/14
VT @ 7/24

Observation Ratings:

Stay Green
1. Completely Brown
3. 25% Green
5. 50% Green
7. 75% Green
9. Completely Green

Disease (Based on leaf area affected).
1. Poor (diseased)
5. Moderate
9. Best (healthy)

Results: Table C-60.

Table C-60. Headline Evaluation Trial - Grain
Arlington, WI - 2006

							DOY 200		DOY 213		DOY 223		DOY 241	
Fungicide	Yield	Moisture	Test weight	Stalk lodging	Harvest population	Grower return	Stay Green rating	Disease rating	Stay Green rating	Disease rating	Stay Green rating	Disease rating	Stay Green rating	Disease rating
	bu/A	%	lbs/bu	%	plants/A	$/A	1-9	1-9	1-9	1-9	1-9	1-9	1-9	1-9
Headline@ 3.0 oz/A 2 ft corn	220	20.1	55.6	4.7	32000	653	9.0	9.0	9.0	9.0	8.8	8.8	8.0	7.8
Headline@ 3.0 oz/A 2 ft corn fb Headline@ 3.0 oz/A @VT	228	21.3	55.2	2.3	31250	670	9.0	9.0	9.0	9.0	8.5	8.8	8.0	7.8
Headline@ 3.0 oz/A 2 ft corn fb Headline@ 6.0 oz/A @VT	232	21.0	54.9	8.4	32000	684	9.0	9.0	9.0	9.0	9.0	9.0	8.0	8.0
Headline@ 3.0 oz/A 4 ft corn	218	20.5	55.5	7.0	32500	647	9.0	9.0	9.0	9.0	8.8	8.5	8.0	7.5
Headline@ 3.0 oz/A 6 ft corn	218	20.9	55.5	7.5	32750	644	9.0	9.0	9.0	9.0	8.8	9.0	8.0	7.8
Headline@ 6.0 oz/A 2 ft corn	224	20.4	56.0	3.2	31000	663	9.0	9.0	9.0	9.0	8.5	8.8	8.0	7.5
Headline@ 6.0 oz/A 4 ft corn	230	20.8	55.5	11.7	31750	680	9.0	9.0	9.0	8.8	8.8	9.0	8.0	7.8
Headline@ 6.0 oz/A 6 ft corn	219	20.9	55.0	13.1	32750	648	9.0	9.0	9.0	9.0	9.0	9.0	8.3	8.3
Headline@ 6.0 oz/A VT corn	229	20.8	55.1	3.8	32500	677	9.0	9.0	9.0	9.0	9.0	8.8	8.0	7.5
UTC	226	20.3	56.0	5.6	31250	671	9.0	9.0	9.0	8.8	8.5	8.8	8.0	7.3
Mean	224	20.7	55.4	6.7	31975	664	9.0	9.0	9.0	9.0	8.8	8.8	8.0	7.7
Probability(%)														
Fungicide (F)	0.8	15.6	5.3	32.9	65.1	1.6	---	---	---	---	60.5	57.3	46.4	62.5
LSD(0.10)														
Fungicide (F)	7	0.7	0.5	NS	NS	21	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)	3	3	1	97	5	3	---	---	---	---	5	3	2	4

FIELD EXPERIMENT HISTORY

Title: **Headline Evaluation and Hybrid Comparison Trial - Grain**

Experiment: 10 Headline Evaluation and Hybrid Comparison Trial - Grain **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn **Trial ID:** 2903

Location: Arlington, WI **County:** Columbia

Supported By: BASF Corporation

Site Information

Field: ARS367 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/15/06 **pH** 7.2 **OM (%)** 3.2 **P (ppm)** 151 **K (ppm)** 327

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/14/06

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:** 325	**Date:**	4 /22/06
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	5 /22/06
Post plant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Manure: N/A				

Herbicide: Outlook 20 oz/A
Hornet 4.0 oz/A

Insecticide: Force 3G @ 4.4 lbs/A

Hybrid: See Factors

Irrigation: None

Planting Date: 5/22/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 10/30/06 **Harvest Method:** Massey Ferguson 8XP

Notes: Method of Application: CO2 Backpack sprayer, 10' boom, 15" spacing, TeeJet 8002VS nozzles, 30 lb pressure, 3.5 mph, 19.6 gal H2O/Acre.

Experimental Design

Design: Split plot **Replications:** 4

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.31 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 30096 **plants per acre**

Factors/Treatments:

Hybrids

1. Dekalb DKC58-78(YGCB)
2. NK Brand N58-D1
3. Kruger K5504YGCB
4. High Cycle 7560Bt

Application:

1. UTC
2. Headline @ 6.0 g a.i. /A; NIS @ 0.125 g/A @ VT on 7/24/06

Observation Ratings:

Stay Green
1. Completely Brown
3. 25% Green
5. 50% Green
7. 75% Green
9. Completely Green

Disease (Based on leaf area affected).
1. Poor (diseased)
5. Moderate
9. Best (healthy)

Results: Table C-61.

Table C-61. Headline Evaluation and Hybrid Comparison Trial - Grain Arlington, WI - 2006

Hybrid	Fungicide	Yield	Moisture	Test weight	Stalk lodging	Harvest population	Grower return	Stay Green rating	Disease rating
		bu/A	%	lbs/bu	%	plants/A	$/A	1-9	1-9
	UTC	214	23.3	53.2	3	30344	622	7.6	7.8
	Headline	217	23.9	53.2	3	29849	629	7.7	7.9
Dekalb DKC58-78(YGCB)		223	25.3	51.8	3	29898	638	7.5	8.0
NK Brand N58-D1		212	25.2	53.4	4	30393	609	8.0	7.9
Kruger K5504YGCB		205	22.7	54.7	2	30294	599	7.1	7.8
High Cycle 7560Bt		223	21.2	52.9	3	29799	657	7.9	7.8
Dekalb DKC58-78(YGCB)	UTC	221	24.7	52.3	1	30294	636	7.5	8.0
Dekalb DKC58-78(YGCB)	Headline	224	25.8	51.4	4	29502	640	7.5	8.0
NK Brand N58-D1	UTC	215	25.0	53.3	5	30492	616	8.0	7.8
NK Brand N58-D1	Headline	210	25.3	53.6	4	30294	601	8.0	8.0
Kruger K5504YGCB	UTC	203	22.2	54.5	3	30492	595	7.0	7.8
Kruger K5504YGCB	Headline	207	23.3	54.9	1	30096	602	7.3	7.8
High Cycle 7560Bt	UTC	218	21.1	52.8	1	30096	642	7.8	7.5
High Cycle 7560Bt	Headline	228	21.2	53.1	4	29502	671	8.0	8.0
Mean		216	23.6	53.2	3	30096	626	7.6	7.8
Probability(%)									
Hybrid (H)		9.8	0.0	0.0	83.5	54.9	7.9	0.8	43.6
Fungicide (F)		62.5	1.8	96.3	67.3	10.6	73.1	37.3	20.5
H x F		86.6	31.1	41.0	76.2	89.2	86.0	83.5	55.2
LSD(0.10)									
Hybrid (H)		13	0.4	0.6	NS	NS	39	0.4	NS
Fungicide (F)		NS	0.4	NS	NS	NS	NS	NS	NS
H x F		NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		8	3	1	125	3	8	5	5

FIELD EXPERIMENT HISTORY

Title: **Headline Evaluation and Hybrid Comparison Trial - Silage**

Experiment: 10 Headline Evaluation and Hybrid Comparison Trial - Silage **Year:** 2006

Personnel: J.G. Lauer, P.J. Flannery, and K.D. Kohn **Trial ID:** 2902

Location: Arlington, WI **County:** Columbia

Supported By: BASF Corporation

Site Information

Field: ARS367 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/15/06 **pH** 7.2 **OM (%)** 3.2 **P (ppm)** 151 **K (ppm)** 327

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/14/06

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:** 325	**Date:**	4 /22/06
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	5 /22/06
Post plant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Manure: N/A				

Herbicide: Outlook 20 oz/A
Hornet 4.0 oz/A

Insecticide: Force 3G @ 4.4 lbs/A

Hybrid: See Factors

Irrigation: None

Planting Date: 5/22/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: 10/3/06 **Harvest Method:** New Holland 707

Notes: Method of Application: CO2 Backpack sprayer, 10' boom, 15" spacing, TeeJet 8002VS nozzles, 30 lb pressure, 3.5 mph, 19.6 gal H2O/Acre.

Experimental Design

Design: Split plot **Replications:** 4

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.36 Acre

Harvest Plot Size: 2.5' x 22' **Harvest Plant Density:** 31012 **plants per acre**

Factors/Treatments:

Hybrids

1. Dekalb DKC58-78(YGCB)
2. NK Brand N58-D1
3. NK Brand N48-V8
4. Mycogen F2F444

Application:

1. UTC
2. Headline @ 6.0 g a.i. /A; NIS @ 0.125 g/A @ VT on 7/24/06

Observation Ratings:

Stay Green
1. Completely Brown
3. 25% Green
5. 50% Green
7. 75% Green
9. Completely Green

Disease (Based on leaf area affected).
1. Poor (diseased)
5. Moderate
9. Best (healthy)

Results: Table C-62.

Table C-62. Headline Evaluation and Hybrid Comparison Trial - Silage
Arlington, WI - 2006

															DOY 241		DOY 276	
		Dry Matter		Root	Stalk	Harvest							Milk Per		Disease	Stay Green	Disease	Stay Green
Hybrid	Fungicide	Yield	Moisture	Lodging	Lodging	pop	CP	ADF	NDF	IVD	NDFD	Starch	Ton	Acre	rating	rating	rating	rating
		T/A	%	%	%	plants/A	%	%	%	%	%	%	lbs/T	lbs/A	1-9	1-9	1-9	1-9
	UTC	8.7	60.9	6	0	30888	6.8	24.0	47.7	78.9	55.6	29.5	3072	26752	7.6	7.8	3.9	5.9
	Headline	8.9	62.6	5	0	31136	6.8	24.0	47.6	79.4	56.7	28.8	3091	27431	7.6	7.6	4.3	5.9
Dekalb DKC58-78(YGCB)		9.9	60.5	2	0	31284	7.0	21.2	42.8	80.2	53.8	36.3	3197	31846	7.8	7.9	4.8	6.0
NK Brand N58-D1		9.1	61.9	9	0	31086	6.7	24.1	47.2	77.8	52.8	30.8	3020	27398	8.0	7.8	4.3	6.0
NK Brand N48-V8		8.5	63.6	5	0	30789	6.5	29.2	56.0	75.9	57.0	16.0	2797	24013	7.5	7.9	3.6	6.0
Mycogen F2F444		7.6	60.9	5	0	30888	6.9	21.5	44.5	82.6	60.9	33.5	3311	25108	7.3	7.4	3.6	5.6
Dekalb DKC58-78(YGCB)	UTC	10.0	59.5	1	0	31086	7.0	20.8	41.9	80.2	52.9	37.2	3206	32280	7.8	7.8	4.5	6.0
Dekalb DKC58-78(YGCB)	Headline	9.8	61.5	3	1	31482	7.0	21.7	43.7	80.2	54.7	35.4	3188	31413	7.8	8.0	5.0	6.0
NK Brand N58-D1	UTC	8.8	61.0	8	0	31284	6.8	24.4	48.3	77.5	53.3	29.8	2995	26280	8.0	8.0	4.0	6.0
NK Brand N58-D1	Headline	9.4	62.9	10	0	30888	6.6	23.7	46.2	78.0	52.4	31.7	3045	28517	8.0	7.5	4.5	6.0
NK Brand N48-V8	UTC	8.2	63.4	7	0	30492	6.7	29.1	55.8	75.9	56.8	16.4	2813	23357	7.8	8.0	4.0	6.0
NK Brand N48-V8	Headline	8.8	63.8	3	0	31086	6.4	29.3	56.2	76.0	57.2	15.6	2781	24670	7.3	7.8	3.3	6.0
Mycogen F2F444	UTC	7.7	59.8	7	0	30690	6.7	21.7	44.6	81.9	59.4	34.4	3273	25090	7.0	7.5	3.0	5.5
Mycogen F2F444	Headline	7.5	62.0	3	0	31086	7.1	21.3	44.5	83.3	62.3	32.5	3348	25125	7.5	7.3	4.3	5.8
Mean		8.8	61.8	5	0	31012	6.8	24.0	47.6	79.1	56.1	29.1	3081	27091	7.6	7.7	4.1	5.9
Probability(%)																		
Hybrid (H)		2.2	1.8	45.0	43.6	85.0	79.5	0.0	0.0	0.0	0.0	0.0	0.0	2.1	33.2	15.0	25.1	13.0
Fungicide (F)		60.3	14.0	42.0	33.7	42.7	97.1	99.7	98.5	18.3	18.6	64.5	58.3	62.0	100.0	17.5	35.8	33.7
H x F		75.8	92.1	18.9	42.6	66.9	45.7	84.7	71.3	47.2	36.9	76.1	61.7	85.1	42.6	27.4	38.0	42.6
LSD(0.10)																		
Hybrid (H)		1.1	1.5	NS	NS	NS	NS	2.3	3.4	1.7	1.7	2.9	136	3878	NS	NS	NS	NS
Fungicide (F)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
H x F		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		11	5	69	566	3	7	8	7	1	4	14	3	14	8	5	27	3

FIELD EXPERIMENT HISTORY

Title: **Corn Rootworm Hybrid Comparison Trial**

Experiment: 10 Corn Rootworm Hybrid Comparison **Trial ID:** 2928 **Year:** 2006

Personnel: J. G. Lauer, E. Cullen, and K. D. Kohn

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS520 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/15/04 **pH** 6.2 **OM (%)** 3.9 **P (ppm)** 70 **K (ppm)** 159

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated 6/14/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	82-0-0	195 lbs/A	N/A
	Starter :	9-23-30	150 lbs/A	5 /22/06
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Outlook 20 oz/A
Hornet 3.0 oz/A

Insecticide: See Factors

Hybrid: See Factors

Irrigation: None

Planting Date: 5/22/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/23/06 **Harvest Method:** Massey Ferguson 8XP

Notes: The ISU 0 to 3 node-injury root rating scale was used. A rating of 0.50 or below is considered acceptable economic root protection. 5 roots per replicate were evaluated.

Experimental Design

Design: Split-Plot **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.32 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 29700

Factors/Treatments:

Hybrids:

Dekalb DKC51-41(RR2YGRW)
Dekalb DKC51-45(RR2)
Dekalb DKC58-78(YGCB)
Dekalb DKC60-13(RR2YGRW)
Dekalb DKC60-15

Soil Applied Insecticide:

Untreated
Force 3G @ 4.4 lbs/A

Results: Table C-63.

Table C-63. Corn Rootworm Hybrid Comparison Trial (Heavy Rootworm Pressure) Arlington, WI - 2006

Insecticide	Brand	Hybrid	Traits	Yield	Moisture	Test weight	Root lodging	Stalk lodging	Grower Return	Root rating
				bu/A	%	lbs/bu	%	%	$/A	0 to 3
	Dekalb	DKC51-41(RR2YGRW)	CR,RR	255	23.4	54.9	1	0	767	0.05
	Dekalb	DKC51-45		217	24.0	54.0	12	0	649	1.29
	Dekalb	DKC58-78(YGCB)	CB	230	29.6	52.4	8	0	662	1.26
	Dekalb	DKC60-13(RR2YGRW)	CR,RR	277	29.2	53.4	3	1	801	0.04
	Dekalb	DKC60-15		237	29.8	52.9	4	7	681	0.85
UTC				233	27.2	53.4	10	3	681	1.01
Force 3G				254	27.1	53.6	1	1	742	0.39
UTC	Dekalb	DKC51-41(RR2YGRW)	CR,RR	254	23.2	54.8	0	0	764	0.10
UTC	Dekalb	DKC51-45		198	24.8	53.6	24	0	588	1.75
UTC	Dekalb	DKC58-78(YGCB)	CB	214	29.6	52.2	16	0	617	1.68
UTC	Dekalb	DKC60-13(RR2YGRW)	CR,RR	277	28.7	53.4	3	0	801	0.06
UTC	Dekalb	DKC60-15		222	29.9	52.9	8	13	638	1.48
Force 3G	Dekalb	DKC51-41(RR2YGRW)	CR,RR	257	23.5	55.0	1	0	770	0.00
Force 3G	Dekalb	DKC51-45		236	23.2	54.3	0	1	709	0.83
Force 3G	Dekalb	DKC58-78(YGCB)	CB	245	29.6	52.5	0	0	707	0.85
Force 3G	Dekalb	DKC60-13(RR2YGRW)	CR,RR	278	29.6	53.5	2	2	801	0.01
Force 3G	Dekalb	DKC60-15		252	29.7	52.8	0	2	724	0.23
Mean				243	27.2	53.5	6	2	712	0.70
Probability(%)										
Insecticide (I)				3.5	69.7	19.1	2.4	15.6	4.2	0.4
Hybrid (H)				0.0	0.0	0.0	6.4	0.0	0.0	0.0
I x H				0.6	36.0	52.7	2.6	0.0	0.4	0.0
LSD(0.10)										
Insecticide (I)				12	NS	NS	4	NS	37	0.11
Hybrid (H)				9	0.5	0.4	7	2	28	0.15
I x H				13	0.6	NS	10	3	39	0.21
CV(%)				4	2	1	125	102	4	21

FIELD EXPERIMENT HISTORY

Title: **Corn Rootworm Hybrid Comparison Trial**

Experiment: 10 Corn Rootworm Hybrid Comparison **Trial ID:** 2929 **Year:** 2006

Personnel: J. G. Lauer, E. Cullen, and K. D. Kohn

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS427 **Previous Crop:** Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/01/06 **pH** 7.1 **OM (%)** 4 **P (ppm)** 88 **K (ppm)** 278

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Soil Finisher Cultivated 6/14/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325 lbs/A	4 /20/06
	Starter :	9-23-30	150 lbs/A	5 /22/06
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Outlook 20 oz/A
Hornet 3.0 oz/A

Insecticide: See Factors

Hybrid: See Factors

Irrigation: None

Planting Date: 5/22/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/23/06 **Harvest Method:** Massey Ferguson 8XP

Notes: The ISU 0 to 3 node-injury root rating scale was used. A rating of 0.50 or below is considered acceptable economic root protection. 5 roots per replicate were evaluated.

Experimental Design

Design: Split-Plot **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.32 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 28710

Factors/Treatments:

Hybrids:

Dekalb DKC51-41(RR2YGRW)
Dekalb DKC51-45(RR2)
Dekalb DKC58-78(YGCB)
Dekalb DKC60-13(RR2YGRW)
Dekalb DKC60-15

Soil Applied Insecticide:

Untreated
Force 3G @ 4.4 lbs/A

Results: Table C-64.

Table C-64. Corn Rootworm Hybrid Comparison Trial (Light Rootworm Pressure) Arlington, WI - 2006

Insecticide	Brand	Hybrid	Traits	Yield	Moisture	Test weight	Root lodging	Stalk lodging	Grower Return	Root rating
				bu/A	%	lbs/bu	%	%	$/A	0 to 3
	Dekalb	DKC51-41(RR2YGRW)	CR,RR	235	22.7	54.1	3	4	710	0.00
	Dekalb	DKC51-45		241	23.2	53.6	3	2	725	0.00
	Dekalb	DKC58-78(YGCB)	CB	255	28.5	52.5	1	0	739	0.00
	Dekalb	DKC60-13(RR2YGRW)	CR,RR	249	29.1	53.2	4	7	719	0.00
	Dekalb	DKC60-15		251	30.0	53.0	3	7	720	0.00
UTC				247	27.0	53.4	4	5	724	0.00
Force 3G				245	26.4	53.2	1	3	722	0.00
UTC	Dekalb	DKC51-41(RR2YGRW)	CR,RR	239	23.2	54.1	3	6	719	0.00
UTC	Dekalb	DKC51-45		244	23.9	53.5	6	3	731	0.00
UTC	Dekalb	DKC58-78(YGCB)	CB	256	29.0	52.7	0	1	740	0.01
UTC	Dekalb	DKC60-13(RR2YGRW)	CR,RR	249	29.2	53.5	7	4	717	0.00
UTC	Dekalb	DKC60-15		247	29.8	53.1	5	9	711	0.01
Force 3G	Dekalb	DKC51-41(RR2YGRW)	CR,RR	232	22.2	54.2	2	1	701	0.00
Force 3G	Dekalb	DKC51-45		238	22.6	53.7	0	0	718	0.00
Force 3G	Dekalb	DKC58-78(YGCB)	CB	254	28.1	52.3	1	0	739	0.00
Force 3G	Dekalb	DKC60-13(RR2YGRW)	CR,RR	250	29.0	52.9	0	10	721	0.00
Force 3G	Dekalb	DKC60-15		254	30.1	53.0	1	6	728	0.00
Mean				246	26.7	53.3	3	4	723	0.00
Probability(%)										
Insecticide (I)				82.5	3.2	33.9	9.5	75.6	92.4	43.4
Hybrid (H)				0.4	0.0	0.0	88.5	3.7	28.6	42.5
I x H				51.6	44.3	3.2	63.6	26.0	66.1	42.5
LSD(0.10)										
Insecticide (I)				NS	0.3	NS	3	NS	NS	NS
Hybrid (H)				8	0.8	0.2	NS	4	NS	NS
I x H				NS	NS	0.3	NS	NS	NS	NS
CV(%)				3	3	0	202	101	3	288

FIELD EXPERIMENT HISTORY

Title: **Corn Rootworm Hybrid Comparison Trial**

Experiment: 10 Corn Rootworm Hybrid Comparison **Trial ID:** 2930 **Year:** 2006

Personnel: J. G. Lauer, E. Cullen, and K. D. Kohn

Location: Janesville, WI **County:** Rock

Supported By: HATCH

Site Information

Field: R-5C **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/1 /03 **pH** 6.7 **OM (%)** 3.3 **P (ppm)** 62 **K (ppm)** 188

Plot Management

Tillage Operations: Fall Chisel Plow Field Cultivator Cultivated 6/12/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	28-0-0	535 lbs/A	N/A
	Starter :	9-23-30	150 lbs/A	4 /25/06
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Dual II Magnum 1.8 pt/A
Hornet 4.0 oz/A

Insecticide: See Factors

Hybrid: See Factors

Irrigation: None

Planting Date: 4/25/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/16/06 **Harvest Method:** Massey Ferguson 8XP

Notes: The ISU 0 to 3 node-injury root rating scale was used. A rating of 0.50 or below is considered acceptable economic root protection. 5 roots per replicate were evaluated.

Experimental Design

Design: Split-Plot **Replications:** 3

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.32 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 27562

Factors/Treatments:

Hybrids:

Dekalb DKC51-41(RR2YGRW)
Dekalb DKC51-45(RR2)
Dekalb DKC58-78(YGCB)
Dekalb DKC60-13(RR2YGRW)
Dekalb DKC60-15

Soil Applied Insecticide:

Untreated
Force 3G @ 4.4 lbs/A

Results: Table C-65.

Table C-65. Corn Rootworm Hybrid Comparison Trial (Normal Rootworm Pressure) Janesville, WI - 2006

Insecticide	Brand	Hybrid	Traits	Yield	Moisture	Test weight	Root lodging	Stalk lodging	Grower Return	Root rating
				bu/A	%	lbs/bu	%	%	$/A	0 to 3
	Dekalb	DKC51-41(RR2YGRW)	CR,RR	202	18.8	56.6	1	0	626	0.01
	Dekalb	DKC51-45		166	17.7	56.7	13	0	517	0.89
	Dekalb	DKC58-78(YGCB)	CB	169	22.8	53.4	14	0	510	0.98
	Dekalb	DKC60-13(RR2YGRW)	CR,RR	220	26.3	54.4	2	0	647	0.04
	Dekalb	DKC60-15		198	26.5	54.0	9	0	582	0.32
UTC				182	22.5	55.1	15	0	549	0.77
Force 3G				200	22.3	54.9	0	0	604	0.13
UTC	Dekalb	DKC51-41(RR2YGRW)	CR,RR	197	18.9	56.7	1	0	609	0.02
UTC	Dekalb	DKC51-45		149	17.5	56.9	27	0	465	1.58
UTC	Dekalb	DKC58-78(YGCB)	CB	150	23.3	53.3	27	0	451	1.54
UTC	Dekalb	DKC60-13(RR2YGRW)	CR,RR	233	26.4	54.8	5	0	687	0.07
UTC	Dekalb	DKC60-15		182	26.6	54.0	17	0	534	0.63
Force 3G	Dekalb	DKC51-41(RR2YGRW)	CR,RR	208	18.7	56.5	1	0	644	0.00
Force 3G	Dekalb	DKC51-45		183	18.0	56.6	0	0	568	0.20
Force 3G	Dekalb	DKC58-78(YGCB)	CB	188	22.3	53.4	0	0	569	0.43
Force 3G	Dekalb	DKC60-13(RR2YGRW)	CR,RR	206	26.1	54.0	0	0	607	0.00
Force 3G	Dekalb	DKC60-15		214	26.5	54.0	0	0	631	0.01
Mean				191	22.4	55.0	8	0	576	0.45
Probability(%)										
Insecticide (I)				25.4	60.2	42.8	2.8	-	24.9	1.8
Hybrid (H)				0.0	0.0	0.0	0.7	-	0.1	0.0
I x H				3.4	39.5	72.3	0.4	-	3.7	0.2
LSD(0.10)										
Insecticide (I)				NS	NS	NS	8	-	NS	0.25
Hybrid (H)				18	0.7	0.6	6	-	55	0.29
I x H				26	NS	NS	9	-	78	0.41
CV(%)				10	3	1	79	-	10	64

FIELD EXPERIMENT HISTORY

Title: **Progress of Whole Plant Drydown on Corn Silage.**

Experiment: 15 Silage Dry-Down **Trial ID:** 2931 **Year:** 2006

Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS369 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/1 /06 **pH** 7.2 **OM (%)** 3.2 **P (ppm)** 151 **K (ppm)** 327

Plot Management

6/14/06

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher

Fertilizer:

Preplant Analysis:	46-0-0	**Rate lbs/A:** 325	**Date:**	4 /22/06
Starter Analysis:	9-23-30	**Rate lbs/A:** 150	**Date:**	5 /22/06
Post plant Analysis:	N/A	**Rate lbs/A:** N/A	**Date:**	N/A
Manure: N/A				

Herbicide: Outlook 20.0 oz/A
Hornet 4.0 oz/A

Insecticide: Force 3G @ 4.4 lbs/A

Hybrid: NK Brand N58-D1

Irrigation: None

Planting Date: 5/22/06 **Planting Depth:** 1.5" **Row Width** 30"

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

Harvest Date: See Factors **Harvest Method:** Hand Harvest

Notes: Method of Application: CO2 Backpack sprayer, 10' boom, 15" spacing, TeeJet 8002VS nozzles, 30 lb pressure, 3.5 mph, 19.6 gal H2O/Acre.

Experimental Design

Design: Random **Replications:** 3

Plot Size Seeded: 1.5 Acres **Experiment Size:** 0.5 Acres

Harvest Plot Size: 2.5' x 2' **Harvest Plant Density:** 30000 **plants per acre**

Factors/Treatments:

Harvest Dates:

Aug. 25, Sept. 5, Sept. 8, Sept. 14,
Sept. 18, Sept. 21, Sept. 25, Sept. 28, and Oct. 3

Fungicide Treatment:

Untreated Check
Headline @ 6.0 g a. i./A; NIS @ 0.125 g/A @VT on7/24/06

Results: Table C-66.

Table C-66. Silage Dry-Down
Arlington, WI - 2006.

			Stover		Grain				Whole Plant			
Treatment	Day of year	Sample Date	SMR 0-5	Moisture	KMR 0-5	VMR 0-10	Kernel milk	Moisture	KMR 0-5	VMR 0-10	Kernel milk	Moisture
				%			%	%			%	%
	241	August 29	4.5	79.2	5.0	9.5	100.0	57.7	5.0	9.5	100.0	71.1
	248	September 5	3.2	79.9	4.6	7.8	91.7	51.4	4.6	7.8	91.7	69.9
	251	September 8	3.1	79.4	3.9	6.9	77.5	48.7	4.0	7.1	80.8	69.5
	257	September 14	3.1	79.9	3.5	6.6	70.0	48.2	3.6	6.7	72.5	68.7
	261	September 18	3.0	78.9	3.2	6.2	63.3	44.2	3.2	6.2	63.3	67.1
	264	September 21	2.2	79.6	2.6	4.8	52.5	43.2	2.6	4.8	51.7	63.8
	268	September 25	2.4	82.5	2.4	4.8	47.5	41.8	2.1	4.5	42.5	66.0
	271	September 28	1.8	73.7	1.7	3.5	33.8	37.8	1.7	3.5	34.2	64.9
	276	October 3	1.0	75.0	1.3	2.3	25.8	38.5	1.4	2.4	27.5	62.8
Headline			2.8	78.2	3.1	5.9	62.4	45.4	3.1	5.9	62.2	67.7
Untreated			2.6	79.1	3.1	5.7	62.5	46.0	3.2	5.8	63.1	66.5
Headline	241	August 29	4.5	79.0	5.0	9.5	100.0	56.5	5.0	9.5	100.0	70.6
Headline	248	September 5	3.2	79.8	4.6	7.8	91.7	50.4	4.7	7.9	93.3	71.3
Headline	251	September 8	3.2	79.8	3.9	7.1	78.3	48.1	3.9	7.1	78.3	69.5
Headline	257	September 14	3.2	79.4	3.8	7.0	75.0	48.7	3.4	6.6	68.3	67.7
Headline	261	September 18	3.2	78.9	3.1	6.3	61.7	44.6	3.2	6.4	63.3	66.9
Headline	264	September 21	2.4	80.3	2.6	5.0	51.7	42.9	2.6	5.0	51.7	64.2
Headline	268	September 25	2.4	77.7	2.3	4.7	45.0	41.5	2.1	4.5	41.7	66.9
Headline	271	September 28	1.8	74.6	1.6	3.4	31.7	36.8	1.7	3.5	33.3	71.4
Headline	276	October 3	1.0	74.4	1.3	2.3	26.7	39.3	1.5	2.5	30.0	61.3
Untreated	241	August 29	4.5	79.4	5.0	9.5	100.0	58.8	5.0	9.5	100.0	71.7
Untreated	248	September 5	3.2	80.0	4.6	7.8	91.7	52.5	4.5	7.7	90.0	68.6
Untreated	251	September 8	2.9	79.0	3.8	6.8	76.7	49.3	4.2	7.1	83.3	69.6
Untreated	257	September 14	2.9	80.3	3.3	6.2	65.0	47.8	3.8	6.8	76.7	69.8
Untreated	261	September 18	2.8	79.0	3.3	6.1	65.0	43.9	3.2	6.0	63.3	67.4
Untreated	264	September 21	2.0	78.9	2.7	4.7	53.3	43.6	2.6	4.6	51.7	63.5
Untreated	268	September 25	2.4	87.2	2.5	4.9	50.0	42.1	2.2	4.6	43.3	65.0
Untreated	271	September 28	1.8	72.8	1.8	3.6	36.0	38.8	1.8	3.6	35.0	58.3
Untreated	276	October 3	1.0	75.5	1.3	2.3	25.0	37.7	1.3	2.3	25.0	64.3
Mean			2.7	78.7	3.1	5.8	62.5	45.7	3.1	5.8	62.7	67.1
Probability(%)												
Treatment (T)			0.0	38.9	88.1	0.6	88.1	24.7	24.8	8.8	24.8	46.5
Sample Date (S)			0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0
T x S			0.3	37.2	0.1	0.1	0.1	61.5	1.5	20.9	1.5	57.1
LSD (0.10)												
Treatment (T)			0.1	NS	NS	0.1	NS	NS	NS	0.1	NS	NS
Sample Date (S)			0.1	3.8	0.1	0.2	2.6	1.9	0.1	0.2	2.8	NS
T x S			0.2	NS	0.2	0.2	3.7	NS	0.2	NS	4.0	NS
CV(%)			4	2	4	3	4	4	5	4	5	10

FIELD EXPERIMENT HISTORY

Title: **17 Tillage in Corn and Soybean Production Systems**

Experiment: 17 Tillage **Trial ID:** 2920 **Year:** 2006

Personnel: J. G. Lauer, J.M. Gaska, K. D. Kohn, J.H. Hopf

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS396 **Previous Crop:** Corn / Soybean **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 5 /6 /04 **pH** 6.8 **OM (%)** 3.0 **P (ppm)** 22 **K (ppm)** 139

Plot Management

Tillage Operations: See Factors

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	N/A	N/A	N/A
	Starter :	N/A	N/A	N/A
	Post plant :	28-0-0 34-0-0	70 gpa 150 lb/a	5/5/06 6/23/06
	Manure:	N/A	N/A	N/A

Herbicide: 2,4-D Ester 12 oz/a 4/26/06
Dual II Mag 24 oz/a 4/26/06
Mirage Plus 32 oz/a 6/14/06

Insecticide: Force 3G 4.4 lbs/A 4/28/06

Irrigation: None

Hybrid/Variety: C: Dekalb DKC5020
S: Asgrow AG2203

Planting Date: Corn: 4/28/06
Soybean: 5/6/06

Row Width: 30"

Planting Method: Kinze 2000 Interplant planter

Planting Depth: Corn:
1.5"

Harvest Date: Corn: 10/24/06
Soybean: 10/9/06

Harvest Method: C: Kincaid plot combine
S: Almaco plot combine

Experimental Design

Design: RCB split plot **Replications:** 4

Plot Size Seeded: 20' x 100' **Experiment Size:** 4.5 Acres

Harvest Plot Size: 5' x 96'

Factors/Treatments:

Rotation:

Continuous Corn
Corn / Soybean
Soybean / Corn

Tillage For All Rotation:

CP: Fall chisel plow +2 spring field cultivator. Spring 1-13 wave coulter with trash whippers
T1: Spring Strip-Till 4-inch berm - Spring 1-13 wave coulter
T2: Spring Strip-Till 2-inch berm - Spring 1-13 wave coulter
T3: Spring Strip-Till 0-inch berm - Spring 1-13 wave coulter
T4: Spring chisel plow +2 spring field cultivator. Spring 1-13 wave coulter with trash whippers
NT: Spring 1-13 wave coulter

Results: Tables C-67 and C-68.

Table C-67. Tillage in Corn and Soybean Production Systems - Corn. Arlington, WI - 2006.

Rotation	Tillage treatment	Yield	Moisture	Test Weight	Grower return	Lodged			Harvest	Grain Composition			Ethanol	
						Total	Stalk	Root	plants	Oil	Starch	Protein	per bu	per A
		bu/A	%	lbs/bu	$/A	%	%	%	plants/A	%	%	%	gallons	gallons
	CP	220	18.6	56.2	682	0.4	0.4	0.0	29000	3.5	60.8	7.2	2.92	642
	NT	208	20.4	54.5	637	3.5	0.0	3.5	32250	3.4	60.7	7.2	2.91	607
	T1	214	20.0	55.1	657	26.1	0.0	26.1	31000	3.4	60.8	7.2	2.91	624
	T2	217	20.2	54.8	666	11.4	0.4	11.0	30125	3.4	60.8	7.1	2.92	633
	T3	232	17.9	56.9	721	1.1	0.0	1.1	32500	3.5	60.7	7.3	2.91	675
	T4	210	19.2	55.6	647	0.8	0.0	0.8	31125	3.4	61.0	7.1	2.93	613
CC		210	20.3	54.8	644	7.7	0.3	7.4	30708	3.4	60.7	7.2	2.91	612
SC		223	18.5	56.2	693	6.7	0.0	6.7	31292	3.5	60.8	7.2	2.92	652
CC	CP	218	18.9	56.2	673	0.8	0.8	0.0	27750	3.5	60.8	7.1	2.92	635
CC	NT	204	22.0	53.3	618	6.2	0.0	6.2	32000	3.4	60.4	7.3	2.91	593
CC	T1	207	21.1	53.9	632	18.6	0.0	18.6	30750	3.4	60.7	7.3	2.90	602
CC	T2	211	21.3	54.0	642	16.9	0.8	16.1	29500	3.4	60.7	7.1	2.91	614
CC	T3	226	18.3	56.5	702	2.2	0.0	2.2	33000	3.4	60.8	7.3	2.91	659
CC	T4	195	20.0	54.8	600	1.6	0.0	1.6	31250	3.4	61.0	7.1	2.93	571
SC	CP	223	18.3	56.3	692	0.0	0.0	0.0	30250	3.4	60.8	7.4	2.91	649
SC	NT	212	18.9	55.6	656	0.8	0.0	0.8	32500	3.5	60.9	7.2	2.92	621
SC	T1	221	19.0	56.2	682	33.5	0.0	33.5	31250	3.5	60.8	7.1	2.92	646
SC	T2	223	19.0	55.6	690	5.9	0.0	5.9	30750	3.4	60.9	7.1	2.92	652
SC	T3	238	17.6	57.4	741	0.0	0.0	0.0	32000	3.5	60.6	7.2	2.91	692
SC	T4	224	18.4	56.4	694	0.0	0.0	0.0	31000	3.4	60.9	7.0	2.93	655
Mean		217	19.4	55.5	668	7.2	0.1	7.1	31000	3.4	60.8	7.2	2.92	632
Probability(%)														
Rotation (R)		18.4	1.2	1.7	12.8	82.8	18.2	87.7	35.8	45.7	10.7	74.4	18.4	16.7
Tillage (T)		0.3	0.0	0.0	0.1	1.3	59.2	1.3	4.3	90.1	20.5	54.2	48.4	0.5
R x T		44.3	0.0	0.3	44.3	66.6	59.2	68.5	72.6	82.6	11.0	43.9	25.9	44.4
LSD (0.10)														
Rotation (R)		NS	0.7	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Tillage (T)		10	0.4	0.5	31	12.9	NS	12.9	1935	NS	NS	NS	NS	28.8
R x T		NS	0.5	0.7	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
CV(%)		5	2	1	5	211	506	216	7	2	0	3	0	5

Table C-68. Tillage in Corn and Soybean Production Systems - Soybean. Arlington, WI - 2006.

Rotation	Tillage treatment	Yield	Moisture	Grower return
		bu/A	%	$/A
SC	CP	53.2	14.2	327
SC	NT	52.8	13.7	324
SC	T1	54.1	14.1	332
SC	T2	54.4	13.9	334
SC	T3	55.1	14.4	338
SC	T4	51.7	14.1	317
Mean		53.5	14.1	329
Probability(%)				
Tillage		3.2	13.7	3.2
LSD (0.10)				
Tillage		1.7	NS	10
CV(%)		3	2	3

Table C-69. Tillage in Corn and Soybean Production Systems - Corn Quality. Arlington, WI - 2005.

Rotation	Tillage treatment	Grain Composition			Ethanol	
		Oil	Starch	Protein	per bu	per A
		%	%	%	gallons	gallons
	CP	3.4	60.8	7.6	2.90	497
	NT	3.4	60.2	8.1	2.86	450
	T1	3.4	60.3	8.2	2.85	447
	T2	3.3	60.6	8.0	2.87	486
	T3	3.4	60.9	7.8	2.88	519
	T4	3.4	60.9	7.6	2.89	513
CC		3.4	60.5	8.0	2.87	443
CS		3.4	60.7	7.8	2.88	528
CC	CP	3.4	60.8	7.6	2.90	475
CC	NT	3.4	59.9	8.4	2.84	372
CC	T1	3.4	60.1	8.3	2.85	411
CC	T2	3.3	60.5	8.2	2.86	434
CC	T3	3.3	61.0	7.7	2.88	524
CC	T4	3.4	60.9	7.7	2.88	444
CS	CP	3.4	60.8	7.7	2.89	520
CS	NT	3.4	60.6	7.7	2.88	528
CS	T1	3.4	60.6	8.0	2.86	494
CS	T2	3.4	60.7	7.9	2.88	537
CS	T3	3.4	60.7	7.9	2.88	515
CS	T4	3.4	60.9	7.5	2.90	566
Mean		3.4	60.6	7.9	2.88	486
Probability(%)						
Rotation (R)		24.0	32.5	20.0	19.4	9.4
Tillage (T)		41.2	2.7	0.0	0.1	3.5
R x T		59.5	35.0	1.8	12.8	1.6
LSD (0.10)						
Rotation (R)		NS	NS	NS	NS	40
Tillage (T)		NS	0.2	0.1	0.01	19
R x T		NS	NS	1.5	NS	27
CV(%)		2	1	3	1	9

Table C-70. Tillage in Corn/Soybean Production Systems - Corn Quality Arlington, WI - 2004.

Rotation	Tillage treatment	Grain Composition			Ethanol	
		Oil	Starch	Protein	per bu	per A
		%	%	%	gallons	gallons
	CP	3.3	60.5	7.6	2.86	451
	NT	3.3	60.8	7.2	2.87	390
	T1	3.3	60.9	7.3	2.87	415
	T2	3.3	60.8	7.0	2.88	434
	T3	3.3	60.7	7.4	2.87	431
	T4	3.3	60.7	7.7	2.86	432
CC		3.3	60.9	7.3	2.87	391
SC		3.3	60.6	7.4	2.87	462
CC	CP	3.3	60.6	7.6	2.85	422
CC	NT	3.3	61.1	7.1	2.88	365
CC	T1	3.4	61.0	7.1	2.87	373
CC	T2	3.3	61.0	7.1	2.88	405
CC	T3	3.3	60.8	7.5	2.86	392
CC	T4	3.3	60.8	7.6	2.85	384
SC	CP	3.3	60.5	7.6	2.87	479
SC	NT	3.3	60.5	7.3	2.87	424
SC	T1	3.3	60.8	7.4	2.87	446
SC	T2	3.4	60.6	7.0	2.88	463
SC	T3	3.3	60.6	7.3	2.87	470
SC	T4	3.3	60.5	7.8	2.86	480
Mean		3.3	60.7	7.4	2.87	427
Probability(%)						
Rotation (R)		55.8	10.5	54.5	60.8	0.9
Tillage (T)		93.1	57.1	0.0	0.7	1.2
R x T		3.8	82.5	35.8	13.0	69.1
LSD (0.10)						
Rotation (R)		NS	NS	NS	NS	13
Tillage (T)		NS	NS	0.1	0.00	13
R x T		0.0	NS	NS	NS	NS
CV(%)		1.9	0.63	3.5	0.4	6.9

FIELD EXPERIMENT HISTORY

Title: **Corn Tillage Study**

Experiment: 17 Corn Tillage Study **Trial ID:** 06C53 **Year:** 2006

Personnel: M.G. Bertram

Location: Marshfield, WI **County:** Wood

Supported by: Marshfield Ag. Research Station

Site Information

Field: 4 **Soil Type:** Withee silt loam

Soil Test : **Date:** 10/13/04 **pH** 6.2 **SOM (%)** 3.5 **P (ppm)** 65 **K (ppm)** 145

Plot Management

Tillage Operations: varies Cultivate 6/14/06

Fertilizer:

	Analysis	Rate	Date
Preplant	none	N/A	N/A
Starter	9-11-30	150 lb/A	5/5/2006
Post plant	28-0-0	27 gal/A	6/14/2006
Manure	none	N/A	N/A

Herbicide: Outlook 14 oz/A
Hornet 2.4 oz/A
Atrazine 1 qt/A

Insecticide: None

Irrigation: None **Hybrid:** Dekalb DKC37-14

Planting Date: 5/5/2006 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 35,000 **plants per acre** **Planting Method:** John Deere 1750 planter

Harvest Date: 11/15/2006 **Harvest Method:** John Deere combine

Notes:

Experimental Design

Design: RCB **Replications:** 4

Plot Size Seeded: 600' x 30' **Experiment Size:** 10.12 A

Harvest Plot size: 580' x 30'

Factors/Treatments:

Tillage	Fall	Spring
Fall chisel	Chisel plow	Field Cultivator
Fall strip till	Strip Till	Field Cultivator
Spring chisel	None	Chisel plow, Field Cultivator
Spring field cultivate	None	Field Cultivator

Results: Table C-71.

Table C-71. Corn Tillage Study Marshfield, WI - 2006.

Tillage	Emergence Population 24-May	26-May	30-May	1-Jun	Harvest Population	Broken Stalks	Test Weight	Grain Moisture	Grain Yield	Partial Return*
	--- ppa ---				ppa	%	lb/bu	%		
Fall chisel	21,954	31,102	32,234	32,409	32,409	5	57	20.6	154	438
Fall strip till	17,947	30,579	32,583	32,583	33,106	5	56	20.7	154	437
Spring chisel	20,386	30,928	32,844	33,018	33,280	5	57	20.5	153	437
Spring field cultivate	23,261	32,147	33,541	33,541	33,803	4	56	20.8	152	447
Mean	20,887	31,189	32,801	32,888	33,149	5	57	20.6	153	440
Probability (%)										
Tillage	38.9	>50	43.9	>50	22.7	>50	17.1	>50	>50	42.2
LSD 10%										
Tillage	NS	NS	NS	NS	NS	NS	1	NS	NS	NS
C.V. (%)	21	6	3	4	3	64	1	2	2	2

** Partial return after tillage assumes $3/bu corn price. Tillage prices from 2004 WI Ag. Custom Rate Guide Chisel plow- $13.30/A; Strip till- $14.90-A; Field cultivate- $10.20/A*

FIELD EXPERIMENT HISTORY

Title: **Corn Cropping Systems**

Experiment: 19 Corn Cropping Systems **Trial ID:** 2935 **Year:** 2006

Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery

Location: Arlington, WI **County:** Columbia

Supported By: HATCH

Site Information

Field: ARS413 **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 11/1 /06 **pH** 7.1 **OM (%)** 3.7 **P (ppm)** 39 **K (ppm)** 113

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Cultivated 6/19/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	46-0-0	325 lbs/A	4 /20/06
	Starter :	9-23-30	150 lbs/A	4 /27/06
	Post plant :	34-0-0	175 lbs/A	6 /19/06
	Manure:	N/A	N/A	N/A

Herbicide: Outlook 20 oz/A
Hornet 4.0 oz/A
Callisto 3.0 oz/A

Insecticide: See Factors

Irrigation: None

Hybrid: See Factors

Planting Date: 4/27/06 **Planting Depth:** 1.5" **Row Width:** 30"

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

Harvest Date: 10/17/06 **Harvest Method:** Massey Ferguson 8XP

Notes: Seeds planted: 30,000 target density = 41184 planted; 45,000 target density = 60984 planted

Experimental Design

Design: RCB **Replications:** 1

Plot Size Seeded: 10' x 25' **Experiment Size:** 0.95 Acre

Harvest Plot Size: 5' x 22' **Harvest Plant Density:** 34359

Factors/Treatments:

Hybrids:	Plant Density:	Nitrogen Rate:
Dekalb DKC58-78(YGCB)	30000	160
NK Brand N58-D1	45000	220

Seed Strobilurins:	Seed Insecticide:	Leaf Fungicide:
Untreated Check	Untreated Check	Untreated Check
Dynasty (azoxystrobin)	Poncho 1250 (clothianidin)	Headline (pyraclostrobin) at V12
		Headline at V18
		Headline at V12 and V18

Results: Table C-72.

Table C-72. Corn Cropping Systems.
Arlington, WI - 2006.

Brand	Hybrid	Target density	Nitrogen rate	Seed strobilurins	Seed insecticide	Fungicide Timing	Yield	Moisture	Test Weight	Lodged Stalk	Grower Return	Harvest plants	Plants emerged
		plants/A					bu/A	%	lbs/bu	%	$/A	plants/A	plants/A
						UTC	227	28.0	52.3	4	661	34761	41320
						HeadlineV12	225	28.2	52.2	4	653	34192	41085
						HeadlineV18	227	28.6	52.7	3	659	35306	41914
						HeadlineV12V18	229	28.1	51.9	3	667	33177	40689
					UTC		222	28.2	51.9	3	645	32986	36389
					Poncho1250		232	28.2	52.7	4	675	35733	46115
					UTC	UTC	222	28.3	52.7	3	645	33140	36605
					UTC	HeadlineV12	215	28.0	51.4	5	624	32794	36581
					UTC	HeadlineV18	224	28.9	52.7	3	648	34081	37323
					UTC	HeadlineV12V18	227	27.6	50.7	3	662	31928	35046
					Poncho1250	UTC	232	27.6	52.0	5	676	36383	46035
					Poncho1250	HeadlineV12	235	28.4	53.0	3	683	35591	45590
					Poncho1250	HeadlineV18	231	28.2	52.7	4	670	36531	46505
					Poncho1250	HeadlineV12V18	231	28.6	53.1	4	671	34427	46332
				UTC			226	28.3	52.3	4	655	33901	41500
				Dynasty			229	28.2	52.2	3	664	34817	41005
				UTC		UTC	225	28.5	52.9	4	652	34304	42050
				UTC		HeadlineV12	225	28.5	53.0	5	652	34130	41308
				UTC		HeadlineV18	223	28.4	52.5	3	645	34749	41555
				UTC		HeadlineV12V18	231	27.6	51.0	3	673	32423	41085
				Dynasty		UTC	229	27.4	51.8	3	669	35219	40590
				Dynasty		HeadlineV12	225	27.9	51.4	3	655	34254	40862
				Dynasty		HeadlineV18	232	28.7	52.9	3	673	35863	42273
				Dynasty		HeadlineV12V18	228	28.6	52.8	3	661	33932	40293
				UTC	UTC		223	28.2	51.8	4	647	32621	36568
				UTC	Poncho1250		229	28.3	52.9	3	664	35182	46431
				Dynasty	UTC		221	28.2	52.0	2	643	33351	36209
				Dynasty	Poncho1250		236	28.1	52.5	4	686	36284	45800
				UTC	UTC	UTC	220	28.6	52.7	3	639	32621	36680
				UTC	UTC	HeadlineV12	219	28.6	52.9	7	633	32670	36333
				UTC	UTC	HeadlineV18	222	28.8	52.6	3	644	33413	37571
				UTC	UTC	HeadlineV12V18	229	26.7	48.9	3	670	31779	35690
				UTC	Poncho1250	UTC	229	28.5	53.0	5	666	35987	47421
				UTC	Poncho1250	HeadlineV12	231	28.3	53.1	3	670	35591	46283
				UTC	Poncho1250	HeadlineV18	223	28.1	52.5	3	647	36086	45540
				UTC	Poncho1250	HeadlineV12V18	233	28.5	53.1	3	675	33066	46481
				Dynasty	UTC	UTC	224	28.0	52.6	2	651	33660	36531
				Dynasty	UTC	HeadlineV12	211	27.3	49.9	4	616	32918	36828
				Dynasty	UTC	HeadlineV18	225	28.9	52.9	2	651	34749	37076
				Dynasty	UTC	HeadlineV12V18	226	28.5	52.6	2	655	32076	34403
				Dynasty	Poncho1250	UTC	234	26.8	51.0	5	687	36779	44649
				Dynasty	Poncho1250	HeadlineV12	240	28.5	52.9	2	695	35591	44897
				Dynasty	Poncho1250	HeadlineV18	239	28.4	52.9	5	694	36977	47471
				Dynasty	Poncho1250	HeadlineV12V18	230	28.7	53.1	5	667	35789	46184
			160				226	28.3	52.2	4	658	34285	41469
			220				228	28.1	52.4	4	662	34433	41036
			160			UTC	226	28.0	52.0	5	657	34155	41382
			160			HeadlineV12	223	27.9	51.4	2	648	33982	40664
			160			HeadlineV18	231	28.5	52.5	4	669	35269	42026
			160			HeadlineV12V18	227	28.7	52.7	4	657	33734	41803
			220			UTC	228	28.0	52.7	3	664	35368	41258
			220			HeadlineV12	227	28.5	52.9	6	659	34403	41506
			220			HeadlineV18	224	28.6	52.9	3	649	35343	41803
			220			HeadlineV12V18	232	27.5	51.1	3	677	32621	39575
			160		UTC		222	28.3	52.0	3	644	32856	36605
			160		Poncho1250		231	28.3	52.4	5	672	35714	46332
			220		UTC		222	28.1	51.8	4	646	33116	36172
			220		Poncho1250		233	28.2	53.0	3	678	35751	45899
			160		UTC	UTC	225	28.5	52.8	3	654	32621	35987
			160		UTC	HeadlineV12	212	27.1	49.9	2	619	32076	36234
			160		UTC	HeadlineV18	222	28.8	52.5	3	643	33710	37472
			160		UTC	HeadlineV12V18	228	28.8	52.6	3	660	33017	36729
			160		Poncho1250	UTC	226	27.5	51.1	6	661	35690	46778
			160		Poncho1250	HeadlineV12	234	28.7	53.0	2	677	35888	45095
			160		Poncho1250	HeadlineV18	239	28.3	52.5	5	695	36828	46580
			160		Poncho1250	HeadlineV12V18	226	28.7	52.9	6	654	34452	46877
			220		UTC	UTC	219	28.2	52.5	2	636	33660	37224
			220		UTC	HeadlineV12	217	28.8	52.8	9	629	33512	36927
			220		UTC	HeadlineV18	226	29.0	52.9	2	652	34452	37175
			220		UTC	HeadlineV12V18	227	26.5	48.9	2	665	30839	33363

continued

Table C-72. Corn Cropping Systems.

(continued) **Arlington, WI - 2006.**

Brand	Hybrid	Target density	Nitrogen rate	Seed strobilurins	Seed insecticide	Fungicide Timing	Yield	Moisture	Test Weight	Lodged Stalk	Grower Return	Harvest plants	Plants emerged
		plants/A					bu/A	%	lbs/bu	%	$/A	plants/A	plants/A
			220		Poncho1250	UTC	237	27.8	52.9	3	691	37076	45293
			220		Poncho1250	HeadlineV12	237	28.2	53.0	3	688	35294	46085
			220		Poncho1250	HeadlineV18	222	28.2	52.8	3	646	36234	46431
			220		Poncho1250	HeadlineV12V18	237	28.5	53.3	3	688	34403	45788
			160	UTC			226	28.7	52.7	3	654	33685	41803
			160	Dynasty			227	27.9	51.6	4	661	34885	41135
			220	UTC			225	27.8	52.0	4	656	34118	41196
			220	Dynasty			230	28.5	52.8	3	668	34749	40875
			160	UTC		UTC	223	28.8	52.9	4	646	32918	41531
			160	UTC		HeadlineV12	225	28.5	53.0	1	652	34205	41531
			160	UTC		HeadlineV18	231	28.7	52.4	3	668	34304	41679
			160	UTC		HeadlineV12V18	226	28.9	52.7	4	653	33314	42471
			160	Dynasty		UTC	228	27.1	51.1	5	669	35393	41234
			160	Dynasty		HeadlineV12	221	27.3	49.9	2	645	33759	39798
			160	Dynasty		HeadlineV18	231	28.4	52.7	4	670	36234	42372
			160	Dynasty		HeadlineV12V18	228	28.6	52.8	4	661	34155	41135
			220	UTC		UTC	227	28.3	52.8	4	659	35690	42570
			220	UTC		HeadlineV12	225	28.4	53.0	8	652	34056	41085
			220	UTC		HeadlineV18	215	28.2	52.7	3	623	35195	41432
			220	UTC		HeadlineV12V18	236	26.3	49.4	3	692	31532	39699
			220	Dynasty		UTC	229	27.7	52.5	1	669	35046	39947
			220	Dynasty		HeadlineV12	230	28.6	52.8	4	665	34749	41927
			220	Dynasty		HeadlineV18	233	29.0	53.0	3	675	35492	42174
			220	Dynasty		HeadlineV12V18	228	28.6	52.9	3	661	33710	39452
			160	UTC	UTC		222	28.9	52.6	3	642	32472	37026
			160	UTC	Poncho1250		230	28.5	52.8	4	667	34898	46580
			160	Dynasty	UTC		222	27.6	51.3	2	646	33239	36185
			160	Dynasty	Poncho1250		232	28.1	52.0	6	676	36531	46085
			220	UTC	UTC		223	27.4	50.9	5	651	32769	36110
			220	UTC	Poncho1250		228	28.2	53.0	3	662	35467	46283
			220	Dynasty	UTC		221	28.8	52.7	2	641	33462	36234
			220	Dynasty	Poncho1250		239	28.1	53.0	3	695	36036	45515
		30000					218	27.4	51.9	2	636	27949	33598
		45000					237	29.0	52.7	5	684	40769	48906
		30000				UTC	220	27.4	52.2	2	643	27992	33883
		30000				HeadlineV12	215	27.4	51.6	4	629	27893	33437
		30000				HeadlineV18	212	28.0	52.6	1	618	28413	34279
		30000				HeadlineV12V18	223	27.0	51.1	2	653	27497	32794
		45000				UTC	234	28.6	52.5	5	678	41531	48758
		45000				HeadlineV12	234	29.0	52.8	4	678	40491	48733
		45000				HeadlineV18	242	29.1	52.7	6	700	42199	49550
		45000				HeadlineV12V18	236	29.2	52.8	5	681	38858	48584
		30000			UTC		212	27.3	51.1	3	619	26730	28747
		30000			Poncho1250		224	27.6	52.7	2	653	29168	38449
		45000			UTC		232	29.1	52.7	4	671	39241	44030
		45000			Poncho1250		241	28.8	52.7	6	697	42298	53782
		30000			UTC	UTC	212	28.1	53.0	2	616	26532	29354
		30000			UTC	HeadlineV12	204	26.7	49.9	7	600	26681	28661
		30000			UTC	HeadlineV18	213	28.3	52.6	0	619	27869	29502
		30000			UTC	HeadlineV12V18	218	26.0	48.8	2	641	25839	27473
		30000			Poncho1250	UTC	228	26.7	51.3	2	669	29453	38412
		30000			Poncho1250	HeadlineV12	226	28.0	53.3	2	659	29106	38214
		30000			Poncho1250	HeadlineV18	212	27.8	52.7	1	617	28958	39056
		30000			Poncho1250	HeadlineV12V18	229	28.0	53.3	2	665	29156	38115
		45000			UTC	UTC	232	28.6	52.3	3	674	39749	43857
		45000			UTC	HeadlineV12	225	29.2	52.9	4	649	38907	44501
		45000			UTC	HeadlineV18	235	29.5	52.8	5	676	40293	45144
		45000			UTC	HeadlineV12V18	237	29.2	52.7	3	684	38016	42620
		45000			Poncho1250	UTC	236	28.6	52.6	8	683	43313	53658
		45000			Poncho1250	HeadlineV12	244	28.8	52.7	3	706	42075	52965
		45000			Poncho1250	HeadlineV18	250	28.7	52.7	6	724	44105	53955
		45000			Poncho1250	HeadlineV12V18	234	29.2	52.9	7	677	39699	54549
		30000		UTC			216	27.5	52.0	3	629	27683	33326
		30000		Dynasty			220	27.4	51.7	1	642	28215	33870
		45000		UTC			236	29.0	52.7	4	682	40120	49673
		45000		Dynasty			237	28.9	52.7	5	687	41419	48139
		30000		UTC		UTC	218	28.3	53.1	3	632	27770	34601
		30000		UTC		HeadlineV12	212	28.2	53.0	6	617	27819	32868
		30000		UTC		HeadlineV18	202	27.7	52.5	1	588	27918	33809
		30000		UTC		HeadlineV12V18	231	25.8	49.3	3	680	27225	32027

continued

Table C-72. Corn Cropping Systems.

(continued) **Arlington, WI - 2006.**

Brand	Hybrid	Target density	Nitrogen rate	Seed strobilurins	Seed insecticide	Fungicide Timing	Yield	Moisture	Test Weight	Lodged Stalk	Grower Return	Harvest plants	Plants emerged
		plants/A					bu/A	%	lbs/bu	%	$/A	plants/A	plants/A
		30000		Dynasty		UTC	222	26.4	51.2	2	653	28215	33165
		30000		Dynasty		HeadlineV12	219	26.5	50.1	3	642	27968	34007
		30000		Dynasty		HeadlineV18	223	28.3	52.8	1	648	28908	34749
		30000		Dynasty		HeadlineV12V18	215	28.3	52.8	1	626	27770	33561
		45000		UTC		UTC	232	28.7	52.6	6	672	40838	49500
		45000		UTC		HeadlineV12	237	28.7	53.0	3	687	40442	49748
		45000		UTC		HeadlineV18	243	29.2	52.6	5	703	41580	49302
		45000		UTC		HeadlineV12V18	231	29.4	52.7	4	665	37620	50144
		45000		Dynasty		UTC	236	28.4	52.4	5	685	42224	48015
		45000		Dynasty		HeadlineV12	232	29.3	52.6	4	668	40541	47718
		45000		Dynasty		HeadlineV18	241	29.0	52.9	6	697	42818	49797
		45000		Dynasty		HeadlineV12V18	241	29.0	52.8	6	696	40095	47025
		30000		UTC	UTC		213	27.1	50.9	5	624	26804	28685
		30000		UTC	Poncho1250		218	27.9	53.1	1	635	28562	37967
		30000		Dynasty	UTC		210	27.4	51.3	1	614	26656	28809
		30000		Dynasty	Poncho1250		229	27.3	52.2	2	670	29774	38932
		45000		UTC	UTC		232	29.3	52.7	4	669	38437	44451
		45000		UTC	Poncho1250		240	28.7	52.7	5	694	41803	54896
		45000		Dynasty	UTC		233	29.0	52.6	4	672	40046	43610
		45000		Dynasty	Poncho1250		242	28.9	52.7	6	701	42793	52668
		30000	160				218	27.5	51.8	2	637	27757	33635
		30000	220				217	27.4	52.0	2	635	28141	33561
		45000	160				235	29.1	52.6	5	679	40813	49302
		45000	220				238	28.9	52.8	5	690	40726	48510
		30000	160			UTC	218	27.2	51.4	3	638	27621	34254
		30000	160			HeadlineV12	212	26.5	50.3	2	622	27324	32324
		30000	160			HeadlineV18	221	28.2	52.6	1	644	28265	33957
		30000	160			HeadlineV12V18	221	28.2	52.9	2	644	27819	34007
		30000	220			UTC	222	27.5	53.0	1	648	28364	33512
		30000	220			HeadlineV12	219	28.3	52.9	7	637	28463	34551
		30000	220			HeadlineV18	203	27.9	52.7	0	592	28562	34601
		30000	220			HeadlineV12V18	225	25.8	49.3	1	662	27176	31581
		45000	160			UTC	234	28.7	52.6	6	677	40689	48510
		45000	160			HeadlineV12	234	29.3	52.6	1	675	40640	49005
		45000	160			HeadlineV18	240	28.9	52.5	6	694	42273	50094
		45000	160			HeadlineV12V18	232	29.3	52.6	6	670	39650	49599
		45000	220			UTC	234	28.4	52.4	4	680	42372	49005
		45000	220			HeadlineV12	235	28.7	52.9	6	680	40343	48461
		45000	220			HeadlineV18	245	29.2	53.0	5	707	42125	49005
		45000	220			HeadlineV12V18	239	29.1	53.0	4	691	38066	47570
		30000	160		UTC		209	27.4	51.3	2	611	26260	28339
		30000	160		Poncho1250		227	27.6	52.2	3	663	29255	38932
		30000	220		UTC		214	27.2	50.8	4	627	27200	29156
		30000	220		Poncho1250		220	27.6	53.1	1	642	29081	37967
		45000	160		UTC		235	29.2	52.6	3	677	39452	44872
		45000	160		Poncho1250		235	29.0	52.5	6	681	42174	53732
		45000	220		UTC		230	29.1	52.7	4	665	39031	43189
		45000	220		Poncho1250		247	28.7	52.9	6	714	42422	53831
		30000	160	UTC			217	28.4	52.9	3	629	27374	33190
		30000	160	Dynasty			219	26.7	50.7	2	644	28141	34081
		30000	220	UTC			215	26.7	51.1	4	629	27992	33462
		30000	220	Dynasty			220	28.1	52.8	1	640	28289	33660
		45000	160	UTC			235	29.1	52.6	4	680	39996	50416
		45000	160	Dynasty			235	29.1	52.5	6	678	41630	48188
		45000	220	UTC			236	28.9	52.8	5	684	40244	48931
		45000	220	Dynasty			240	28.8	52.8	5	696	41209	48089
Dekalb	DKC58-78(YGCB)						233	27.5	52.3	2	679	33858	40670
NK Brand	N58-D1						222	28.9	52.2	5	641	34860	41834
Dekalb	DKC58-78(YGCB)					UTC	231	27.2	52.5	2	677	34625	41729
Dekalb	DKC58-78(YGCB)					HeadlineV12	230	27.1	51.5	4	673	33611	40367
Dekalb	DKC58-78(YGCB)					HeadlineV18	236	27.8	52.7	2	687	35120	40838
Dekalb	DKC58-78(YGCB)					HeadlineV12V18	233	27.8	52.7	1	680	32076	39749
NK Brand	N58-D1					UTC	222	28.7	52.2	5	644	34898	40912
NK Brand	N58-D1					HeadlineV12	220	29.3	52.9	4	634	34774	41803
NK Brand	N58-D1					HeadlineV18	219	29.3	52.7	4	631	35492	42991
NK Brand	N58-D1					HeadlineV12V18	226	28.4	51.1	6	654	34279	41630
Dekalb	DKC58-78(YGCB)				UTC		222	27.6	51.9	3	648	31284	33227
Dekalb	DKC58-78(YGCB)				Poncho1250		243	27.3	52.8	2	710	36432	48114
NK Brand	N58-D1				UTC		222	28.8	51.9	4	641	34687	39551
NK Brand	N58-D1				Poncho1250		222	29.1	52.6	6	640	35034	44117

continued

Table C-72. Corn Cropping Systems.

(continued) **Arlington, WI - 2006.**

Brand	Hybrid	Target density	Nitrogen rate	Seed strobilurins	Seed insecticide	Fungicide Timing	Yield	Moisture	Test Weight	Lodged Stalk	Grower Return	Harvest plants	Plants emerged
		plants/A					bu/A	%	lbs/bu	%	$/A	plants/A	plants/A
Dekalb	DKC58-78(YGCB)				UTC	UTC	224	27.5	52.4	3	653	31581	34947
Dekalb	DKC58-78(YGCB)				UTC	HeadlineV12	216	26.9	49.9	6	632	31037	33116
Dekalb	DKC58-78(YGCB)				UTC	HeadlineV18	226	28.0	52.7	3	656	33066	33314
Dekalb	DKC58-78(YGCB)				UTC	HeadlineV12V18	224	28.1	52.5	1	653	29453	31532
Dekalb	DKC58-78(YGCB)				Poncho1250	UTC	239	27.0	52.6	1	701	37670	48510
Dekalb	DKC58-78(YGCB)				Poncho1250	HeadlineV12	244	27.2	53.0	2	714	36185	47619
Dekalb	DKC58-78(YGCB)				Poncho1250	HeadlineV18	246	27.6	52.7	2	717	37175	48362
Dekalb	DKC58-78(YGCB)				Poncho1250	HeadlineV12V18	242	27.6	52.9	1	707	34700	47966
NK Brand	N58-D1				UTC	UTC	221	29.2	52.9	3	637	34700	38264
NK Brand	N58-D1				UTC	HeadlineV12	214	29.0	52.8	5	617	34551	40046
NK Brand	N58-D1				UTC	HeadlineV18	222	29.7	52.8	3	639	35096	41333
NK Brand	N58-D1				UTC	HeadlineV12V18	230	27.2	49.0	4	672	34403	38561
NK Brand	N58-D1				Poncho1250	UTC	224	28.2	51.4	8	651	35096	43560
NK Brand	N58-D1				Poncho1250	HeadlineV12	226	29.7	53.0	4	651	34997	43560
NK Brand	N58-D1				Poncho1250	HeadlineV18	216	28.9	52.6	5	623	35888	44649
NK Brand	N58-D1				Poncho1250	HeadlineV12V18	221	29.7	53.3	7	635	34155	44699
Dekalb	DKC58-78(YGCB)			UTC			233	27.6	52.7	3	679	33215	41023
Dekalb	DKC58-78(YGCB)			Dynasty			232	27.3	52.0	2	679	34502	40318
NK Brand	N58-D1			UTC			219	28.9	52.0	5	632	34588	41976
NK Brand	N58-D1			Dynasty			225	29.0	52.5	5	650	35133	41691
Dekalb	DKC58-78(YGCB)			UTC		UTC	232	27.3	52.7	2	679	33215	41184
Dekalb	DKC58-78(YGCB)			UTC		HeadlineV12	232	27.5	53.0	6	677	33809	41679
Dekalb	DKC58-78(YGCB)			UTC		HeadlineV18	235	27.9	52.4	3	686	34650	41135
Dekalb	DKC58-78(YGCB)			UTC		HeadlineV12V18	232	27.8	52.7	1	676	31185	40095
Dekalb	DKC58-78(YGCB)			Dynasty		UTC	231	27.1	52.2	2	675	36036	42273
Dekalb	DKC58-78(YGCB)			Dynasty		HeadlineV12	228	26.6	49.9	1	669	33413	39056
Dekalb	DKC58-78(YGCB)			Dynasty		HeadlineV18	236	27.7	52.9	2	688	35591	40541
Dekalb	DKC58-78(YGCB)			Dynasty		HeadlineV12V18	235	27.8	52.8	2	684	32967	39402
NK Brand	N58-D1			UTC		UTC	218	29.7	53.0	6	626	35393	42917
NK Brand	N58-D1			UTC		HeadlineV12	218	29.4	53.0	3	627	34452	40937
NK Brand	N58-D1			UTC		HeadlineV18	210	29.0	52.6	3	605	34848	41976
NK Brand	N58-D1			UTC		HeadlineV12V18	230	27.4	49.4	6	669	33660	42075
NK Brand	N58-D1			Dynasty		UTC	227	27.7	51.3	4	663	34403	38907
NK Brand	N58-D1			Dynasty		HeadlineV12	222	29.2	52.8	5	641	35096	42669
NK Brand	N58-D1			Dynasty		HeadlineV18	228	29.6	52.8	5	658	36135	44006
NK Brand	N58-D1			Dynasty		HeadlineV12V18	221	29.5	52.9	5	638	34898	41184
Dekalb	DKC58-78(YGCB)			UTC	UTC		224	27.8	52.7	5	654	30863	33809
Dekalb	DKC58-78(YGCB)			UTC	Poncho1250		241	27.4	52.8	1	705	35566	48238
Dekalb	DKC58-78(YGCB)			Dynasty	UTC		220	27.4	51.1	1	643	31705	32645
Dekalb	DKC58-78(YGCB)			Dynasty	Poncho1250		244	27.3	52.8	2	715	37298	47990
NK Brand	N58-D1			UTC	UTC		221	28.5	50.9	4	639	34378	39328
NK Brand	N58-D1			UTC	Poncho1250		216	29.3	53.1	6	624	34799	44624
NK Brand	N58-D1			Dynasty	UTC		223	29.0	52.8	3	643	34997	39773
NK Brand	N58-D1			Dynasty	Poncho1250		227	29.0	52.1	7	656	35269	43610
Dekalb	DKC58-78(YGCB)		160				230	27.5	51.9	2	672	34031	41122
Dekalb	DKC58-78(YGCB)		220				235	27.5	52.8	3	686	33685	40219
NK Brand	N58-D1		160				223	29.1	52.4	5	644	34539	41815
NK Brand	N58-D1		220				221	28.8	52.0	4	638	35182	41852
Dekalb	DKC58-78(YGCB)		160			UTC	232	27.5	52.6	2	679	34155	41333
Dekalb	DKC58-78(YGCB)		160			HeadlineV12	225	26.6	50.1	1	661	33561	40244
Dekalb	DKC58-78(YGCB)		160			HeadlineV18	232	27.9	52.4	3	677	35640	41481
Dekalb	DKC58-78(YGCB)		160			HeadlineV12V18	231	28.0	52.5	1	671	32769	41432
Dekalb	DKC58-78(YGCB)		220			UTC	230	26.9	52.4	1	675	35096	42125
Dekalb	DKC58-78(YGCB)		220			HeadlineV12	235	27.6	52.9	7	685	33660	40491
Dekalb	DKC58-78(YGCB)		220			HeadlineV18	239	27.8	53.0	2	697	34601	40194
Dekalb	DKC58-78(YGCB)		220			HeadlineV12V18	236	27.6	52.9	1	688	31383	38066
NK Brand	N58-D1		160			UTC	219	28.4	51.4	7	636	34155	41432
NK Brand	N58-D1		160			HeadlineV12	220	29.2	52.8	3	636	34403	41085
NK Brand	N58-D1		160			HeadlineV18	229	29.2	52.6	4	661	34898	42570
NK Brand	N58-D1		160			HeadlineV12V18	223	29.5	52.9	7	642	34700	42174
NK Brand	N58-D1		220			UTC	226	29.0	53.0	4	653	35640	40392
NK Brand	N58-D1		220			HeadlineV12	220	29.4	53.0	6	632	35145	42521
NK Brand	N58-D1		220			HeadlineV18	209	29.4	52.8	4	602	36086	43412
NK Brand	N58-D1		220			HeadlineV12V18	228	27.4	49.3	4	665	33858	41085

continued

Table C-72. Corn Cropping Systems.

(continued) **Arlington, WI - 2006.**

Brand	Hybrid	Target density	Nitrogen rate	Seed strobilurins	Seed insecticide	Fungicide Timing	Yield	Moisture	Test Weight	Lodged Stalk	Grower Return	Harvest plants	Plants emerged
		plants/A					bu/A	%	lbs/bu	%	$/A	plants/A	plants/A
Dekalb	DKC58-78(YGCB)		160		UTC		221	27.4	51.2	2	644	31631	34106
Dekalb	DKC58-78(YGCB)		160		Poncho1250		240	27.6	52.6	2	700	36432	48139
Dekalb	DKC58-78(YGCB)		220		UTC		224	27.8	52.6	4	653	30938	32348
Dekalb	DKC58-78(YGCB)		220		Poncho1250		246	27.1	53.0	1	720	36432	48089
NK Brand	N58-D1		160		UTC		223	29.1	52.7	4	644	34081	39105
NK Brand	N58-D1		160		Poncho1250		223	29.0	52.1	7	644	34997	44525
NK Brand	N58-D1		220		UTC		220	28.4	51.0	4	639	35294	39996
NK Brand	N58-D1		220		Poncho1250		221	29.2	53.0	5	637	35071	43709
Dekalb	DKC58-78(YGCB)		160	UTC			230	27.9	52.6	2	669	33140	41803
Dekalb	DKC58-78(YGCB)		160	Dynasty			230	27.1	51.2	2	674	34922	40442
Dekalb	DKC58-78(YGCB)		220	UTC			236	27.3	52.9	4	689	33289	40244
Dekalb	DKC58-78(YGCB)		220	Dynasty			234	27.6	52.7	2	683	34081	40194
NK Brand	N58-D1		160	UTC			222	29.5	52.9	5	640	34229	41803
NK Brand	N58-D1		160	Dynasty			224	28.6	52.0	6	648	34848	41828
NK Brand	N58-D1		220	UTC			215	28.3	51.1	5	624	34947	42149
NK Brand	N58-D1		220	Dynasty			226	29.3	52.9	4	652	35417	41555
Dekalb	DKC58-78(YGCB)	30000					224	26.8	52.1	3	658	27435	32979
Dekalb	DKC58-78(YGCB)	45000					241	28.1	52.6	2	701	40281	48362
NK Brand	N58-D1	30000					211	28.0	51.6	2	614	28463	34217
NK Brand	N58-D1	45000					232	29.8	52.8	8	668	41258	49451
Dekalb	DKC58-78(YGCB)	30000				UTC	224	26.8	52.8	2	658	27918	33858
Dekalb	DKC58-78(YGCB)	30000				HeadlineV12	222	26.1	50.2	7	655	27572	33413
Dekalb	DKC58-78(YGCB)	30000				HeadlineV18	225	27.3	52.7	1	658	27275	32670
Dekalb	DKC58-78(YGCB)	30000				HeadlineV12V18	226	27.2	52.8	1	660	26978	31977
Dekalb	DKC58-78(YGCB)	45000				UTC	239	27.7	52.2	2	696	41333	49599
Dekalb	DKC58-78(YGCB)	45000				HeadlineV12	237	28.0	52.7	1	691	39650	47322
Dekalb	DKC58-78(YGCB)	45000				HeadlineV18	246	28.3	52.7	4	716	42966	49005
Dekalb	DKC58-78(YGCB)	45000				HeadlineV12V18	241	28.4	52.7	1	699	37175	47520
NK Brand	N58-D1	30000				UTC	215	27.9	51.5	2	628	28067	33908
NK Brand	N58-D1	30000				HeadlineV12	208	28.6	52.9	2	604	28215	33462
NK Brand	N58-D1	30000				HeadlineV18	200	28.8	52.6	0	578	29552	35888
NK Brand	N58-D1	30000				HeadlineV12V18	221	26.9	49.3	3	646	28017	33611
NK Brand	N58-D1	45000				UTC	229	29.5	52.8	9	661	41729	47916
NK Brand	N58-D1	45000				HeadlineV12	231	30.0	52.9	6	664	41333	50144
NK Brand	N58-D1	45000				HeadlineV18	238	29.9	52.8	8	684	41432	50094
NK Brand	N58-D1	45000				HeadlineV12V18	230	30.0	52.9	9	662	40541	49649
Dekalb	DKC58-78(YGCB)	30000			UTC		211	26.7	51.2	4	619	25319	25889
Dekalb	DKC58-78(YGCB)	30000			Poncho1250		237	27.0	53.1	2	696	29552	40070
Dekalb	DKC58-78(YGCB)	45000			UTC		234	28.5	52.6	2	678	37249	40565
Dekalb	DKC58-78(YGCB)	45000			Poncho1250		248	27.7	52.6	2	724	43313	56158
NK Brand	N58-D1	30000			UTC		212	27.8	50.9	2	619	28141	31606
NK Brand	N58-D1	30000			Poncho1250		210	28.3	52.3	2	609	28784	36828
NK Brand	N58-D1	45000			UTC		231	29.7	52.8	5	664	41234	47495
NK Brand	N58-D1	45000			Poncho1250		234	29.9	52.9	10	671	41283	51406
Dekalb	DKC58-78(YGCB)	30000		UTC			226	27.2	52.8	4	661	27126	32596
Dekalb	DKC58-78(YGCB)	30000		Dynasty			223	26.5	51.4	1	655	27745	33363
Dekalb	DKC58-78(YGCB)	45000		UTC			240	28.1	52.6	1	698	39303	49451
Dekalb	DKC58-78(YGCB)	45000		Dynasty			242	28.1	52.5	2	703	41258	47273
NK Brand	N58-D1	30000		UTC			206	27.9	51.1	2	598	28240	34056
NK Brand	N58-D1	30000		Dynasty			217	28.2	52.1	2	630	28685	34378
NK Brand	N58-D1	45000		UTC			232	29.9	52.8	7	665	40937	49896
NK Brand	N58-D1	45000		Dynasty			233	29.7	52.9	8	670	41580	49005
Dekalb	DKC58-78(YGCB)	30000	160				222	26.5	51.5	2	653	27101	32249
Dekalb	DKC58-78(YGCB)	30000	220				226	27.2	52.8	4	662	27770	33710
Dekalb	DKC58-78(YGCB)	45000	160				238	28.5	52.3	2	691	40961	49995
Dekalb	DKC58-78(YGCB)	45000	220				244	27.8	52.8	2	710	39600	46728
NK Brand	N58-D1	30000	160				214	28.5	52.0	3	621	28413	35021
NK Brand	N58-D1	30000	220				208	27.6	51.2	1	607	28512	33413
NK Brand	N58-D1	45000	160				232	29.7	52.8	8	667	40664	48609
NK Brand	N58-D1	45000	220				233	30.0	52.9	8	669	41852	50292
Mean							227	28.2	52.3	4	660	34359	41252

continued

Table C-72. Corn Cropping Systems.

(continued) **Arlington, WI - 2006.**

Probability(%)	Yield bu/A	Moisture %	Test Weight lbs/bu	Lodged Stalk %	Grower Return $/A	Harvest plants plants/A	Plants emerged plants/A
Hybrid (H)	0.6	0.0	84.2	2.6	0.2	2.9	5.1
Plant Density (D)	0.0	0.0	18.2	3.5	0.0	0.0	0.0
H x D	54.7	48.9	51.9	0.5	63.5	95.6	98.9
Nitrogen Rate (N)	73.5	68.5	71.0	98.2	70.9	74.0	46.1
H x N	36.8	76.5	29.3	38.9	38.5	27.1	42.4
D x N	58.4	91.2	95.8	95.4	58.3	60.0	54.1
H x D x N	73.3	11.3	49.0	51.8	90.7	8.6	0.1
Seed Strobilurins (S)	45.7	78.4	82.6	64.6	44.2	4.5	40.0
H x S	37.6	61.5	32.2	58.3	41.8	40.8	72.0
D x S	75.1	91.8	84.9	27.2	73.9	39.3	8.0
H x D x S	34.8	37.5	36.8	58.4	41.8	52.5	46.1
N x S	63.2	5.2	12.1	32.2	84.1	52.5	76.8
H x N x S	43.9	57.5	55.2	74.4	49.8	63.9	41.2
D x N x S	90.4	3.9	12.8	93.6	69.2	91.2	37.7
Seed Insecticide (I)	1.0	94.4	18.6	62.7	1.2	0.0	0.0
H x I	1.0	41.6	87.7	9.8	0.9	0.0	0.0
D x I	67.5	38.0	22.1	14.7	75.9	49.0	96.6
H x D x I	25.5	58.1	78.3	49.7	30.7	17.9	24.8
N x I	81.1	96.4	51.6	24.3	82.9	80.3	100.0
H x N x I	88.5	28.0	13.5	73.9	77.1	30.8	14.9
D x N x I	7.3	80.3	64.0	60.8	7.8	32.2	13.2
S x I	29.7	74.0	59.7	24.2	29.3	67.8	81.6
H x S x I	92.2	47.4	7.5	56.3	86.4	56.2	21.4
D x S x I	45.8	33.7	56.3	38.5	38.7	27.1	34.4
N x S x I	53.1	15.4	34.9	98.9	42.9	58.1	59.8
Leaf Fungicide (F)	87.3	72.1	84.6	96.6	87.8	1.0	51.4
H x F	84.7	51.7	38.6	54.1	82.8	39.6	26.9
D x F	38.2	71.2	77.7	34.8	35.9	21.8	95.8
H x D x F	74.8	73.8	32.6	82.6	70.7	10.0	42.7
N x F	68.0	35.8	34.4	16.5	65.4	32.6	31.1
H x N x F	39.9	55.5	36.9	91.8	44.2	88.5	57.4
D x N x F	52.3	19.0	24.9	99.9	62.9	80.3	59.8
S x F	69.9	21.9	21.0	95.9	66.5	73.3	61.1
H x S x F	57.2	31.9	46.5	40.7	51.8	23.8	3.3
D x S x F	14.1	7.5	33.6	84.6	10.9	86.5	45.0
N x S x F	57.2	90.0	76.2	82.9	56.7	22.8	51.0
I x F	45.4	31.6	28.0	38.5	48.9	91.8	49.0
H x I x F	86.1	34.8	23.7	83.2	81.5	77.7	74.8
D x I x F	48.6	37.5	24.7	83.3	49.9	40.0	86.7
N x I x F	31.4	27.6	23.4	90.2	41.1	36.2	51.1
S x I x F	83.7	48.3	29.1	97.5	92.1	62.2	38.2
LSD(0.10)							
Hybrid (H)	6	0.6	NS	1.9	19	745	975
Plant Density (D)	6	0.6	NS	1.9	19	745	975
H x D	NS	NS	NS	5.4	NS	NS	NS
Nitrogen Rate (N)	NS	NS	NS	NS	NS	NS	NS
H x N	NS	NS	NS	NS	NS	NS	NS
D x N	NS	NS	NS	NS	NS	NS	NS
H x D x N	NS	NS	NS	NS	NS	1489	1950
Seed Strobilurins (S)	NS	NS	NS	NS	NS	745	NS
H x S	NS	NS	NS	NS	NS	NS	NS
D x S	NS	NS	NS	NS	NS	NS	1379
H x D x S	NS	NS	NS	NS	NS	NS	NS
N x S	NS	0.9	NS	NS	NS	NS	NS
H x N x S	NS	NS	NS	NS	NS	NS	NS
D x N x S	NS	1.3	NS	NS	NS	NS	NS
Seed Insecticide (I)	6	NS	NS	NS	19	745	975
H x I	9	NS	NS	2.7	27	1053	1379
D x I	NS	NS	NS	NS	NS	NS	NS
H x D x I	NS	NS	NS	NS	NS	NS	NS
N x I	NS	NS	NS	NS	NS	NS	NS
H x N x I	NS	NS	NS	NS	NS	NS	NS
D x N x I	13	NS	NS	NS	39	NS	NS
S x I	NS	NS	NS	NS	NS	NS	NS
H x S x I	NS	NS	2.1	NS	NS	NS	NS
D x S x I	NS	NS	NS	NS	NS	NS	NS
N x S x I	NS	NS	NS	NS	NS	NS	NS
Leaf Fungicide (F)	NS	NS	NS	NS	NS	745	NS
H x F	NS	NS	NS	NS	NS	NS	NS
D x F	NS	NS	NS	NS	NS	NS	NS
H x D x F	NS	NS	NS	NS	NS	NS	NS
N x F	NS	NS	NS	NS	NS	NS	NS
H x N x F	NS	NS	NS	NS	NS	NS	NS
D x N x F	NS	NS	NS	NS	NS	NS	NS
S x F	NS	NS	NS	NS	NS	NS	NS
H x S x F	NS	NS	NS	NS	NS	NS	2757
D x S x F	NS	1.8	NS	NS	NS	NS	NS
N x S x F	NS	NS	NS	NS	NS	NS	NS
I x F	NS	NS	NS	NS	NS	NS	NS
H x I x F	NS	NS	NS	NS	NS	NS	NS
D x I x F	NS	NS	NS	NS	NS	NS	NS
N x I x F	NS	NS	NS	NS	NS	NS	NS
S x I x F	NS	NS	NS	NS	NS	NS	NS
CV(%)	10	8	7	181	10	7	8

FIELD EXPERIMENT HISTORY

Title: **Monsanto Bt Systems Trial.**

Experiment: 19 Monsanto Bt Systems **Trial ID:** 2932 **Year:** 2006

Personnel: J. G. Lauer, K.D. Kohn, P.J. Flannery

Location: Arlington, WI **County:** Columbia

Supported By: Monsanto

Site Information

Field: ARS368 North **Previous Crop:** Corn **Soil Type:** Plano Silt Loam

Soil Test: **Date:** 10/15/05 **pH** 6.3 **OM (%)** 3.2 **P (ppm)** 30 **K (ppm)** 162

Plot Management

Tillage Operations: Chisel Plow Field Cultivator Soil Finisher Cultivated 6/26/06

		Analysis:	Rate lbs/A:	Date:
Fertilizer:	**Preplant :**	28-0-0	165 Actual/A	N/A
	Starter :	N/A	N/A	N/A
	Post plant :	N/A	N/A	N/A
	Manure:	N/A	N/A	N/A

Herbicide: Harness Xtra @ 1.2 qts/A fb Roundup Weather Max 22.0 oz/A Lumax @ 2.5 qt/A

Insecticide: Force 3G @ 4.4 lbs/A

Irrigation: None

Hybrid: See Factors

Planting Date: 5/22/06 **Planting Depth:** 1.5" **Row Width:** 30"

Target Plant Density: 30000 **Planting Method:** Kinze 2000 InterRow Planter

Harvest Date: 10/24/06 **Harvest Method:** Massey Ferguson 8XP

Experimental Design

Design: RCB Factorial **Replications:** 4

Plot Size Seeded: 10' x 100' **Experiment Size:** 0.65 Acre

Harvest Plot Size: 5' x 100' **Harvest Plant Density:** 31758

Factors/Treatments:

Hybrids:

Treatment:
1) Dekalb DKC5145(RR2)
2) Dekalb DKC5020(YGCBRR2))
3 & 4) Dekalb DKC5139(YGPLRR2)
5) Dekalb DKC5141(YGRWRR2)
6) Pioneer 38H62(HXRWLLRR2)
7) Pioneer 38H65(HXILLRR2)

Herbicide System:

Treatments 1,2, & 3:
Roundup System- Harness Xtra fb Roundup
Treatments 4,5,6 & 7:
Conventional System- Lumax

Insecticide:

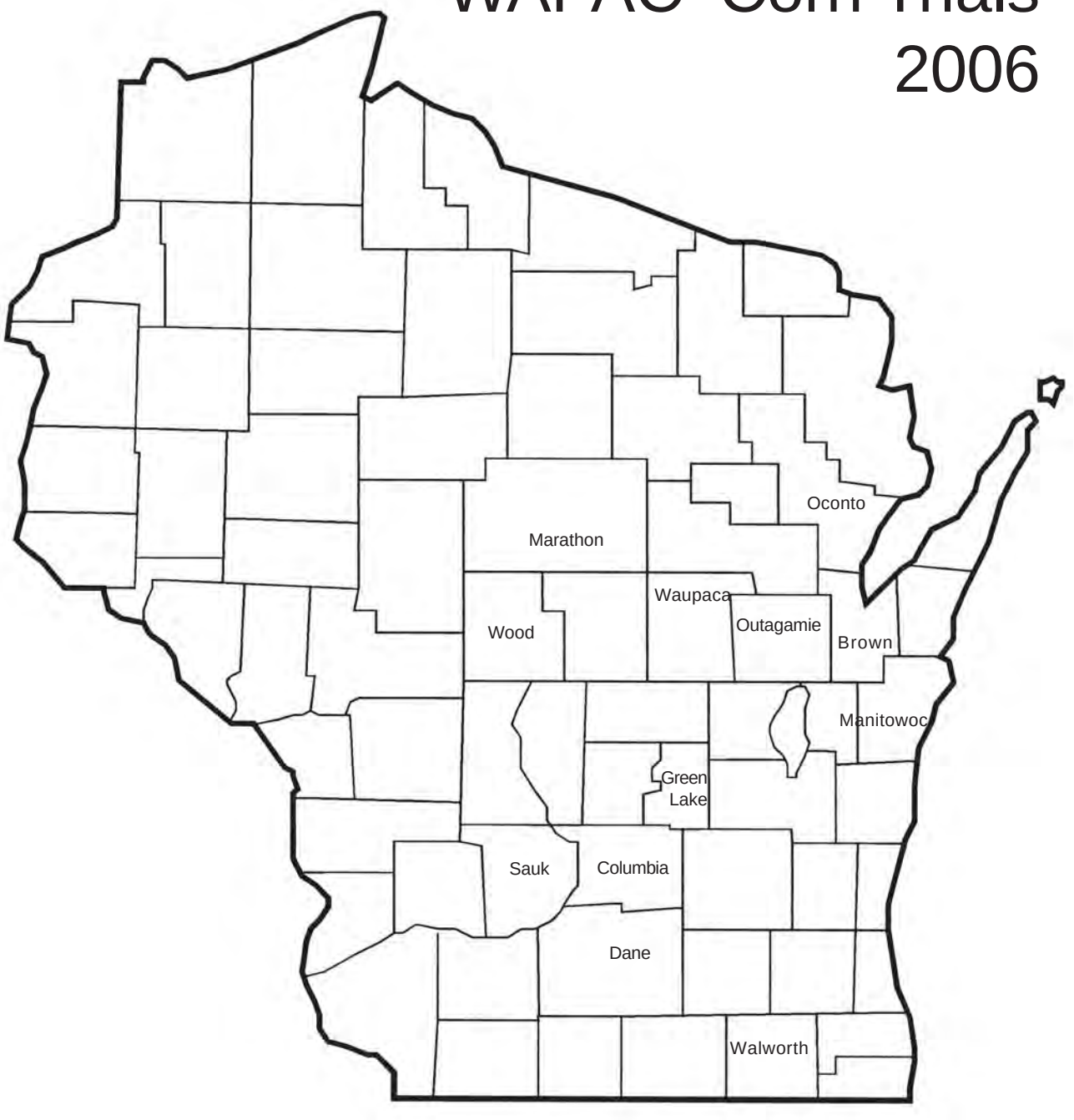
Treatments 1,3,4,5, & 6:
None
Treatments 2 & 7:
Force 3G

Results: Table C-73.

Table C-73. Monsanto Bt Systems Trial. Arlington, WI - 2006.

Hybrid	Herbicide	Inseciticide	Yield	Moisture	Test Weight	Lodged			Harvest plants	Grower Return	Emerged plants	Root Sample: Plant population	Root Sample: Root lodged	Root Sample: Injury rating
						Total	Stalk	Root						
			bu/A	%	lbs/bu	%	%	%	plants/A	$/A	plants/A	plants/A	%	0 to 3
DeKalb DKC5145(RR2)	Harness fb Roundup	None	198	23.6	53.3	44	0	44	33046	595	33797	34297	0.6	1.4
DeKalb DKC5020(YGCB/RR2)	Harness fb Roundup	Force 3G	226	22.7	53.8	1	1	0	30792	683	31919	32044	0.0	0.1
DeKalb DKC5139(YGPL/RR2)	Harness fb Roundup	None	223	23.1	54.6	11	0	11	32044	670	32294	-	-	-
DeKalb DKC5139(YGPL/RR2)	Lumax	None	234	22.8	54.7	10	0	10	32795	706	31794	-	-	-
DeKalb DKC5141(YGRW/RR2)	Lumax	None	225	22.8	54.2	12	0	12	32545	677	33421	31543	0.4	0.1
Pioneer 38H62(HXRW/LL/RR2)	Lumax	None	214	21.4	54.4	10	1	10	32044	651	30918	29541	0.2	0.1
Pioneer 38H65(HXI/LL/RR2)	Lumax	Force 3G	214	21.9	53.9	2	0	2	29040	649	31293	-	-	-
Mean			219	22.6	54.1	13	0	13	31758	661	32205	31856	0.3	0.4
Probability(%)														
Treatment (T)			0.0	0.0	0.6	2.6	45.5	2.5	28.9	0.0	2.5	0.2	0.2	0.0
LSD (0.10)														
Treatment (T)			8	0.6	0.6	20	NS	20	NS	25	2896	1392	0.2	0.3
CV(%)			3	2	1	126	342	129	8	3	3.7	4	49	49

Wisconsin On-Farm Testing
WAPAC Corn Trials
2006



University of Wisconsin - Extension
Wisconsin Association of Professional Ag Consultants
Independent, Replicated, On-Farm Research

2006 WAPAC Corn Performance Trials

Analyzed and Compiled by Joe Lauer (University of Wisconsin) in cooperation with the Wisconsin Association of Professional Ag Consultants (WAPAC)

Introduction

Before the time of universities, industry research programs or crop consultants, farmers implemented changes in their production practices through a myriad of methods with some success. The process of incremental change and gradual improvements has evolved into an impressive system of research, development and production never imagined just decades ago. This production system, while impressive and productive can attribute much of its success on the recurring question asked by the farmer: “What am I going to do differently next season?”

The answer to the question hopefully results in an improvement of efficiency and profitability that is real and a result of the changes implemented. Our production system is dependent on selecting the inputs and operations that achieve a desired outcome. The process of testing a hypothesis and using the information gained in a cooperative, systematic manner has been highly successful in providing viable options for producing food, feed and fiber on the farm. However, that success has created what can be a bewildering mix of options that leave the farmer and farm advisor struggling with the answer to the question above. As a result, the Wisconsin Association of Professional Agricultural Consultants (WAPAC) and UW-Extension have worked together with farm clients across the state to develop a network for the purpose of conducting applied research trials.

This network consists of crop consultants, local and statewide extension faculty and most importantly farmers cooperating in a coordinated effort across Wisconsin. The objective of this program is to evaluate new technologies and management practices. Trials are conducted across a wide range of environments and management schemes in replicated plots using production scale equipment. This publication summarizes the results of on-farm hybrid trials conducted during 2006.

Identifying the source of variability in yield is a primary objective in any hybrid trial. The use of statistical methods including replication and means comparisons improves the reliability and confidence of results and outcome from the implemented practice. On-farm testing with field scale equipment has traditionally been used for demonstration in non-replicated trials. An overriding strength of on-farm evaluations is the credibility of the results in the eyes of the end user, the farmer by showing how the practice responds within his production system. Often the power of these trials can be enhanced with simple modifications such as replication within locations and across multiple sites with coordinated effort. That coordination is what the membership of WAPAC and UW Extension provide in the execution of the trials. The advent of effective tools for collecting data related to crop production such as weigh wagons, on farm scales and yield monitors have removed many of the traditional barriers of on-farm trials. The increased incidence of having a trained specialist such as a crop consultant on the farm enables the coordination of multi-site evaluations that address production concerns in a real time manner. The evolution of all components of the production process will likely increase the need for more on-farm data collection and analysis as agriculture moves into the future. Collaborative efforts such as this will be necessary to utilize the wealth of information residing in the data collected at the farm.

Methodology of the On-Farm Trials

A recognized strength of field scale on-farm trials is the low coefficient of variability achieved within this type of trial as compared to smaller traditional field research trials. The coefficient of variability (CV) can be looked as a measure of quality of the trial itself. By reducing or addressing the variability of sites or practices within a trial, one can better evaluate the treatment effects of the trait or practice being tested.

The use of randomization, replication and thoughtful plot layout help improve the quality of information gleaned from the trial. The WAPAC Hybrid Trials use a minimum of 2 replications for each site and treatments (hybrids) are randomly placed within each replication. Plots are planted across sources of variability such as soil types or slopes to provide somewhat uniform representation of these sources within each replication. The plots are planted and harvested with field scale equipment. Individual plot sizes for hybrid trials are typically 6 to 12 rows wide and run distances of 500 to over 1000 feet in length. Data and observations are collected throughout the growing season and utilized in the analysis when appropriate. Information identifying plot locations, production inputs, site characteristics along with other supporting information is systematically collected and recorded in a database format to facilitate user queries and data archival.

Using the Results

Coupling the information from this publication with the UWEX Hybrid Corn Performance Trials as well as other hybrid performance trials will give the user the ability to evaluate how a particular hybrid performs in multiple environments. Predicting the performance of a hybrid in the future is done through analysis of past performance. A primary factor in the prediction is the number of locations or replications of a hybrid. This trial typically provides 6 to 12 or more replications of a hybrid at 3 to 6 locations across the state.

The results are reported in Yield per acre and Grower return.

Grower return = (Yield*Price) - [Yield * (Handling+ Hauling+ Storage+ Drying+ Trucking)]

where **Price** = $3.29 = **Weighted Price per Bushel** = 50% November 15 Average Cash price + 25% March CBOT Futures price ($0.15 basis) + 25% July CBOT Futures price ($0.10 basis). November 15 Average Cash price derived from Wisconsin Ag Statistics; CBOT Futures prices derived from closing price on first business day in December.

Handling costs = $0.02 per bushel
Hauling costs = $0.04 per bushel
Storage costs = $0.02 per bushel for 30 days
Drying costs = $0.02 per bushel per point of moisture
Trucking costs = $0.11 per bushel for 100 miles

The data tables contain the number labeled “LSD” which stands for least significant difference. LSD’s at the 10% level of probability are shown. Where the difference between two selected treatments within a column is equal to or greater than the LSD value at the bottom of the column, you can be sure that in nine out of ten chances that there is a real difference between the two treatment averages. If the difference is less than the LSD value, the difference may still be real, but the experiment has produced no evidence of real differences.

Statistics are a tool to help prevent us from deceiving others and ourselves. Growing conditions in any particular year can have large effects on certain practices. Two years of replicated data are a minimum for supporting most practices. On-farm testing is not a quick cure for anything, but it should greatly accelerate innovation and adoption of new practices by providing reliable, quantitative answers that apply directly to a producer’s situation. Treatments frequently differ in performance and these differences may vary with management practices, weather patterns, soil conditions, and other environmental and management practices. Replicated trials that take into account field variability are more reliable than non-replicated trials and improve the confidence of implementing of new practices for profitable crop production.

Bill Stangel and Joe Lauer, WAPAC Board of Directors (written December 2003)

WAPAC Trial Information: 90 day

Location Cooperator Consultant	tri_id Soil series Soil texture	Previous crop	Planting Date Row width Population	Harvest Date Population	Fall and SpringTillage Cultivation (times)	Soil test pH P K --- ppm ---	Fertilizer (lb/a) N P K manure (T/A)	Weed control	Insecticide Fungicide
Gillett	2003	Alfalfa	4/28/06			7.1 40 90	130 85 232	Volley Atz Lite @ 1.5 qt/A + Hornet WDG @ 3 oz/A on	
Horsens Homestead, Jeff & Connie Horsens	Ornaway		30		Spring Disk		Manure 9000 gal/A (116-62-187)		
Bill Schaumberg, Polenske Agronomic Consulting			29900				9 S		
Marathon	1998	Corn	5/8/06		Fall Chisel plow	6.7 17 84	92 5.5 5.5	Lumax @ 2.5 qt/A on 10May06	
Draeger Dairy Farm, Inc.	Fenwood		30		Soil finisher				
Paul Sturgis, Croptech Agronomics, LLC			27500						
No rainfall during July and early August									
Peshtigo	1142	Corn	5/9/06	12/12/06	Chisel plow		130 84 83	LuMax @ 2.5 qt/A on 5/10	
Tom Kuchta	Emmet		30		Field Cultivator (2x)				
Scott Reuss			24500						
Pittsville	2001	Soybean	5/15/06			6.7 21 75	120 14 3.5	Dual II Magnum @ 1.6 pt/A + Marksman @ 3.5 pt/A on 18May06	
Pete Peterson	Kert		30		Spring disk + Field cultivator				
Paul Sturgis, Croptech Agronomics, LLC			29000						
Spruce	2709	Corn	5/19/06	10/24/06			150 15 10	Lumax @ 3 qy/A + Atrazine @ 0.25 lb/A on 5/22/06	
Pagel Dairy Farms, Inc.	Onaway		30						
Scott Reuss			33200						

WAPAC Corn Hybrid Trial Results (90 day RM)

Entry	Plant stand	Lodging	Test Weight	Grain Moisture	Grain Yield	Grower Return	Peshtigo 1142	Marathon 1998	Pittsville 2001	Gillett 2003	Spruce 2709
	no./A	%	lb/bu	%	bu/A	$/A	bu/A	bu/A	bu/A	bu/A	bu/A
Croplan Genetics 296TS	21855	1	54	19.8	159	473	167	120	146	212	149
NK Brand N27-W8	22408	2	53	21.3	150	442	161	95	143	206	147
Croplan Genetics 294Bt	22313	1	52	21.9	152	446	163	113	124	212	149
Dekalb DKC42-88(RR2YGPL)	22408	2	52	21.9	163	476	162	113	151	229	158
Pioneer 38K35	22175	2	54	22.1	149	438	154	111	133	198	151
Kaltenberg K3535Bt	22137	2	53	22.2	153	448	162	116	130	211	147
LG Seeds LG2407Bt	21568	2	52	22.2	159	466	164	121	130	227	154
Garst 8921YG1RR	22312	1	53	22.3	159	467	156	106	149	227	160
Renk RK438YGCB	21729	1	52	22.4	154	451	155	113	124	230	151
Dairyland Stealth 7191	21762	1	52	22.5	156	457	171	102	131	210	166
Mean	22067	1	53	21.9	156	456	161	111	136	216	153
LSD(0.10)	NS	NS	1	1.2	NS	NS	NS	7	6	NS	9

Grower return = (Yield * Price) - [Yield * (Handling + Hauling + Storage + Drying + Trucking)]

where Price = $3.29 = Weighted Price per Bushel = 50% November 15 Average Cash price + 25% March CBOT Futures price ($0.15 basis) + 25% July CBOT Futures price ($0.10 basis). November 15 Average Cash price derived from Wisconsin Ag Statistics; CBOT Futures prices derived from closing price on first business day in December.

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Hauling = $0.04 per bushel
Storage = $0.02 per bushel for 30 days
Drying = $0.02 per bushel per point of moisture above 15.5%
Trucking = $0.11 per bushel for 100 miles

WAPAC Trial Information: 95 day

Location Cooperator Consultant	tri_id Soil series Soil texture	Previous crop	Planting Date Row width Population	Harvest Date Population	Fall and SpringTillage Cultivation (times)	Soil test pH	Soil test P (ppm)	Soil test K (ppm)	Fertilizer (lb/a) N	Fertilizer (lb/a) P	Fertilizer (lb/a) K	Weed control	Insecticide Fungicide
Manawa	2857	Corn	4/29/06			6	20	94	120	13	31	Lumax @ 1.75 qt/A + AMS 3 lb/A on 5/12/06	
Dan Boerst	Kennan		30		Spring chisel plow + Field cultivator (2x)								
Mike Kiddy			34000							1.4S			
May= cold and rainy, July-August= drought													
Oneida	2004	Soybean	5/6/06			7.5	28	94	205	75	127	Lumax @ 2.25 qt/A + Preference @ 1 qt/100 gal on 22May06	
Oneida Nation Farms	Onaway-Solona		30		Spring Field cultivator + Rotary harrow								
Bill Schaumberg, Polenske Agronomic Consulting			31500										
Oneida	2731	Corn	4/29/06	10/6/06	Fall chisel plow	6.3	19	82	150	75	240	Lumax 2.25 pt/A on 4/30/06	
Robertson Brothers Farms, LLC	Symco		30		Spring Field cultivator					15000 gal/A			
Jeff Polenske, Polenske Agronomic Consulting	silt loam		34000										
Field was dry.													
Peshtigo	2860	Corn	5/9/06	12/12/06	Chisel plow				130	84	83	LuMax @ 2.5 qt/A on 5/10	
Tom Kuchta	Emmet		30		Field Cultivator (2x)								
Scott Reuss			24500										
Reedsville	1999	Corn	4/27/06		Fall Chisel plow	6	22	103				Dual II Magnum @ 1.33 pt/A on 26Apr06 Distinct @ 3 oz/A + Agrox @ 1 pt/A + NIS @ 1 qt/A + AMS @ 5 lb/100 gal on 9Jun06	Force 3G @ 4.4 lb/A on 27Apr06
Larry Krepline	Kewaunee		30		Field cultivator (2x)								
Carl Buchner, Buchner Agronomy Consulting			28000										
Cool, wet conditions after planting thinned out stand in areas. Plot hurt by wet weather after planting, hail damage, and wildlife dmage.													
Seymour	2002	Corn	5/1/06		Fall Chisel plow	7.5	30	101	153	33	70	Steadfast @ 0.75 oz/A + Hornet @ 2 oz/A + Atrazine @0.75 lb/A + AMS @ 2 lb/A + NIS @ 1 qt/100 gal on 10 Jun06	
Dave Wickman	Onaway		36		Spring Field Cultivator (2x)				Solid Dairy manure @ 5 T/A (15-15-40)				
Phil Stern			29500										
Very little lodging - short corn, not attractive plot. Surprised by yield.													

WAPAC Corn Hybrid Trial Results 95 day RM)

Entry	Plant stand	Lodging	Test Weight	Grain Moisture	Grain Yield		Grower Return	Reedsville 1999	Seymour 2002	Oneida 2004	Oneida 2731	Manawa 2857	Peshtigo 2860
	no./A	%	lb/bu	%	bu/A		$/A	bu/A	bu/A	bu/A	bu/A	bu/A	
Renk RK488YGCB	22842	0	55	22.4	151	*	440	117	174	223	164	68	164
Golden Harvest H7007Bt	22817	0	56	22.4	152	*	443	112	185	219	145	77	173
Garst 8880YG1	23017	0	55	22.4	146		424	104	168	220	148	64	171
LG Seeds LG2463Bt	22500	0	55	22.6	152	*	443	113	176	229	150	68	178
Dekalb DKC44-46(RRYGCB)	22767	0	55	23.0	144		417	99	168	208	142	71	173
Kaltenberg K4012RRBt	23115	0	55	23.0	157	*	455	107	204	226	155	66	183
Dairyland Stealth 7196	22228	0	56	23.4	154	*	447	116	182	217	146	87	179
Croplan Genetics 355RRBt	23108	0	56	23.7	150		434	114	171	219	149	73	176
Pioneer 38H62	23510	0	55	24.1	148		426	108	178	215	150	59	178
NK Brand N34-F1	23075	0	54	24.8	142		406	96	171	213	137	68	169
Dekalb DKC48-53(RR2YGCB)	22758	0	54	24.8	153	*	438	102	184	220	157	78	176
Mean	22885	0	55	23.3	150		434	108	178	219	149	71	175
LSD(0.10)	545	NS	1	1.2	6		18	NS	12	NS	NS	NS	NS

Grower return = (Yield * Price) - [Yield * (Handling + Hauling + Storage + Drying + Trucking)]

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Handling = $0.02 per bushel
Hauling = $0.04 per bushel
Storage = $0.02 per bushel for 30 days
Drying = $0.02 per bushel per point of moisture above 15.5%
Trucking = $0.11 per bushel for 100 miles

WAPAC Trial Information: 100 day

Location Cooperator Consultant	tri_id Soil series Soil texture	Previous crop	Planting Date Row width Population	Harvest Date Population	Fall and SpringTillage Cultivation (times)	Soil test pH	Soil test P	Soil test K	Fertilizer (lb/a) N	Fertilizer (lb/a) P	Fertilizer (lb/a) K	Weed control	Insecticide Fungicide
						--- ppm ---			manure (T/A)				
Appleton	2856	Alfalfa	4/26/06	10/6/06		7.3	12	81	232	78	273	Cinch @ 1 pt/A+Clearout @ 1 qt/A+ AMS @ 17 lb/100 gal on 4/20/06	None
Dave McCarthy	Hortonville		30						Manure 133-60-260				
Jeff Polenske, Polenske Agronomic Consulting	fine sandy loam		33600									Basis @ 0.33 oz/A+Crop oil @ 1 gal/100 gal+AMS @ 2 lb/A+Aatrex @ 1 lb/A on 5/15/06	None
Field was drought. Yields were down compared to rest of farm.													
Deerfield	2005	Corn	4/26/06	11/17/06	Spring Disk	6.1	31	110	113	20	20	Harness @ 2 pt/A on May Distinct @ 4 oz/A on June	Force @ 4.4 lb/A on 4/26
Russ Dahl	Dodge sil		30		Spring Field cultivator								
Tom Novak, Total Crop Management, LLC			32000										
Excessive rain through mid-June and then normal weather after.													
Markesan	1994	Corn	5/8/06		Chisel				140	18	45	Harness @ 2 pt/A + Hornet @ 3 oz/A on pre-emrge	
Steve Stellmacher	Kidder - Rotman		38		Disk (2x)								
Cornerstone Crop Consulting, LLC			29800		1x				9.7 S + 0.5 Zn				
Thanks to Leystra Vue Farms for weigh wagon use!													
Readfield	1996	Soybean	4/27/06		No-Till	6.4	51	125	124	22	45	Basis @ 0.25 oz/A + Marksman @ 2.25 pt/A + Prowl @ 2.25 pt/A + Crop Oil @ 1 gal/A on June 16	
Larry Danke	Hortonville		30										
Paul Knutzen, Knutzen Crop Consulting, Inc.			32000						6 S - 0.75 Zn				
West Bloomfield	1997	Soybean	5/4/06		Fall Chisel plow	6.4	21	103	121	12	120	Lumax @ 1.75 qt/A + Atrazine @ 0.25 lb/A + Steadfast @ 0.4 oz/A on 8Jun06	
Chuck Brewer/Jay Anderson	Hortonville		30		Field Cultivated								
Paltzer Agronomy Services			32400						9 S				
Drought stressed. Very dry July and August. Cool, wet weather hurt population on some hybrids. Very dry July and August hurt plot yields. Not sure if it is a useale plot.													

WAPAC Corn Hybrid Trial Results (100 day RM)

Entry	Plant stand	Lodging	Test Weight	Grain Moisture	Grain Yield		Grower Return	Markesan 1994	Readfield 1996	W. Bloomfield 1997	Deerfield 2005	Appleton 2856
	no./A	%	lb/bu	%	bu/A		$/A	bu/A	bu/A	bu/A	bu/A	bu/A
Croplan Genetics 364RR	28110	0	56	19.2	154		460	195	166	92	166	151
AgriGold A6225Bt	29040	0	56	19.7	169	*	503	207	183	115	188	150
LG Seeds LG2475BtRR	28860	0	56	19.7	164	*	490	208	178	103	186	148
Pioneer 37R71	29150	2	54	20.8	153		452	201	164	82	171	145
Dekalb DKC51-39(RR2YGPL)	29125	1	55	21.9	169	*	496	217	180	104	192	150
NK Brand N44-M1	27225	8	53	22.1	151		444	192	177	87	167	133
Renk RK632YGPL	29465	2	55	22.2	163	*	479	210	179	96	189	141
Dairyland Stealth 5201	28485	1	55	22.5	162	*	474	219	169	93	180	149
Golden Harvest L7H67BtRR	30290	0	53	23.3	156		454	198	174	96	178	134
Kaltenberg K5215Bt	29315	0	54	25.0	156		449	211	184	102	160	120
Pioneer 36W67	29410	1	53	25.7	165	*	473	215	180	98	183	149
Mean	28952	1	55	22.0	160		470	207	176	97	178	143
LSD(0.10)	NS	NS	1	1.3	7		22	10	NS	11	8	8

Grower return = (Yield * Price) - [Yield * (Handling + Hauling + Storage + Drying + Trucking)]

where Price = $3.29 = Weighted Price per Bushel = 50% November 15 Average Cash price + 25% March CBOT Futures price ($0.15 basis) + 25% July CBOT Futures price ($0.10 basis). November 15 Average Cash price derived from Wisconsin Ag Statistics; CBOT Futures prices derived from closing price on first business day in December.

Handling = $0.02 per bushel
Hauling = $0.04 per bushel
Storage = $0.02 per bushel for 30 days
Drying = $0.02 per bushel per point of moisture above 15.5%
Trucking = $0.11 per bushel for 100 miles

WAPAC Trial Information: 105 day

Location Cooperator Consultant	tri_id Soil series Soil texture	Previous crop	Planting Date Row width Population	Harvest Date Population	Fall and SpringTillage Cultivation (times)	Soil test pH P K --- ppm ---	Fertilizer (lb/a) N P K manure (T/A)	Weed control	Insecticide Fungicide
Cambridge	2723	Alfalfa	5/7/06	10/16/06		6.8 23 84	11 20 171	Roundup @ 0.75 lb/A + 2,4-D @ 1.0 lb/A + Express @ 0.25 oz/A on 10/05 Roundup @ 0.33 lb/A + Princep @ 0.90 lb/A + Harness @ 1.5 lb/A on 4/06	Some hybrids with Poncho Maxim + Apron
Jeff Nostad	Rockton		38						
A.D. Cole, ITAC of WI	silt loam		33000						
Range of cucumber mosaic virus = 2 to 9%									
Elkhorn	1306	Soybean	5/8/06	11/14/06	Spring Soil Finisher	6.3 45 105	138 20 20 Dairy manure @ 10000 gal/A	Harness @ 2 pt/A on May Distinct @ 4 oz/A on June	Force @ 4.4 lb/A on 5/8/06
Lauderdale Farms, Inc.	Sebewa sil		30						
Tom Novak, Total Crop Management, LLC	sil		32000						
Very wet through mid June and then mid-summer drought (6 weeks).									
Lodi	2722	Corn	4/24/06	10/28/06		6.7 39 179	187 60 157	Prowl @ 4.0 pt/A + Hornet @ 4 oz/A on 5/4/06	Force @ 4.4 lb/A on 4/29/06
Lochner Dairy, LLC	Mt Carroll		30		Spring Offset disk		Manure 6000 gal/A		
A.D. Cole, ITAC of WI	silt loam		29500		1 x @ V5		0.5 Zn		Maxim + Apron
Every hybrid was lodged NW to SE. Estimate 5-10 bu/A lost. Prowl may have "nubbed" brace roots.									
Markesan	1993	Corn			Disk	6.1 73 166	157 20 37	Accent @ 0.5 oz/A + Callisto @ 2 oz/A + Atrazine 90 @ 0.6 lb/A on June 1	Force 3G @ 2.75 lb/A
Muehlenhaupt / Meilahn	Plano		30		Soil finisher				
Cornerstone Crop Consulting, LLC	Medium		29600				1.55-0.14 Zn		
Thanks to Leystra Vue Farms for weigh wagon use!									
Prairie du Sac	1298	Soybean	5/23/06	11/16/06		6.8 75 200	86 14 42	Credit @ 64 oz/A on 5/18 Camex @ 2.4 qt/A + Princep @ 32 oz/A on 6/1	
Rick Walgenach	Richwood silt loam		40				40 lb N in manure		
A.D. Cole, ITAC of WI			34500						
Crowded guess rows. Plots are marked as missing rows.									

WAPAC Corn Hybrid Trial Results (105 day RM)

Entry	Plant stand	Lodging	Test Weight	Grain Moisture	Grain Yield		Grower Return	Prairie du Sac 1298	Elkhorn 1306	Markesan 1993	Lodi 2722	Cambridge 2723
	no./A	%	lb/bu	%	bu/A		$/A	bu/A	bu/A	bu/A	bu/A	bu/A
Croplan Genetics 491RRBt	30307	12	57	21.0	183	*	541	177	169	191	195	185
Kaltenberg K5685RRBt	29434	12	56	21.5	186	*	547	182	170	203	178	196
Renk RK644YGCB	32406	7	56	21.5	183	*	538	180	166	177	198	193
NK Brand N51-T8	30496	9	57	21.8	188	*	553	195	169	201	194	183
Dairyland Stealth 5204	29516	14	55	22.1	184	*	540	180	170	188	199	184
Dekalb DKC57-79(RR2YGPL)	30680	12	55	23.5	192	*	558	184	175	211	190	201
NK Brand N58-D1	28026	12	55	24.0	178		514	169	164	188	172	195
AgriGold A6395BtRWRR	30127	14	55	24.2	176		508	161	157	199	174	189
Mean	30124	12	56	22.5	184		537	178	168	195	187	191
LSD(0.10)	1608	NS	NS	NS	9		29	9	NS	10	17	NS

Grower return = (Yield * Price) - [Yield * (Handling + Hauling + Storage + Drying + Trucking)]

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Trucking = $0.11 per bushel for 100 miles

Thank you to everyone who contributed to the success of the 2006 WAPAC Corn Trials!

Data Analysis

Dr. Joe Lauer, Extension Corn Agronomist and the Agronomy Department support staff at the University of Wisconsin - Madison

Seed Company Sponsors

Agrigold - Dave Welsh
Croplan Genetics - Pat Van Duerzen
Dairyland Seed - Tom Abraham
DeKalb Seed Company - Dan Uppena
Garst Seed Company - Nina Holte
Golden Harvest Seed - Randy Rabata
Kaltenberg Seed Company - Jim Dassow
LG Seeds - Paul Reierson
NK Seed Company - Herb Damsteegt
Pioneer - Dan Wiersma/Arnie Imholte
Renk - Jeff Renk

On-Farm Trial Coordinators and Participating Growers

•Carl Buchner - Buchner Agronomy Consulting, Whitelaw, WI
1.) 95-Day: Larry Krepline - Reedsville, WI

•Dave Cole - ITAC of Wisconsin, Inc., Prairie du Sac, WI
1.) 105-Day: Jeff Notstad - Cambridge, WI
2.) 105-Day: Dairy Forage Research Center - Prairie du Sac, WI
3.) 105-Day: Lochner Dairy, LLC - Lodi, WI

•Steve Hoffman - Hoffman Crop Consulting, Manitowoc, WI
1.) 95-Day: Mark Litz Farm - Kiel, WI
(Trial terminated due to weather.)

•Mike Kiddy - Kiddy Crop Consulting, New London, WI
1.) 95-Day: Dan Boerst - Manawa, WI

•Paul Knutzen - Knutzen Crop Consulting
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(Trial terminated due to weather.)
2.) 100-Day: Larry Danke - Readfield, WI

•Rachel Mueller - Cornerstone Crop Consulting, Princeton, WI
1.) 100-Day: Steve Stellmacher - Markesan, WI
2.) 105-Day: Muehlenhaupt Farms, Markesan,WI

On-Farm Trial Coordinators and Participating Growers, continued

•Tom Novak-Total Crop Management, Sullivan, WI
1.) 100-Day: Russ Dahl - Deerfield, WI
2.) 100-Day: Tom Hoffman - Whitewater, WI
(Trial terminated due to weather.)
3.) 105-Day: Lauderdale Farms - Elkhorn, WI

•Nathan Nysse-Polenske Agronomic Consulting, Appleton, WI
1.) 100-Day: Ryan Martin - New London, WI

•Larry Paltzer - Paltzer Agronomy Service, Omro, WI
1.) 100-Day: Chuck Brewer/Jay Anderson Farm - Weyauwega, WI

•Jeff Polenske-Polenske Agronomic Consulting, Appleton, WI
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(Trial terminated due to weather.)
2.) 95-Day: Robertson Bros. - De Pere, WI
3.) 100-Day: Dave McCarthy - Appleton, WI

•Scott Reuss, UW-Extension-Oconto/Marinette Counties, Marinette, WI
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2.) 90-Day: Kuchta Farms - Peshtigo, WI
3.) 95-Day: Kuchta Farms - Peshtigo, WI

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2.) 95-Day: Oneida Nations Farm - Seymour, WI

•Phil Stern - Stern Crop Consulting, Bonduel, WI
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•Paul Sturgis - Croptech Agronomics, Vesper, WI
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2.) 90-Day: Pete Peterson - Pittsville, WI

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